Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed **Amendment 86** to the Fishery Management Plan for Groundfish of the Bering sea/Aleutian Islands Management Area and **Amendment 76** to the Fishery Management Plan for Groundfish of the Gulf of Alaska

Restructuring the Program for Observer Procurement and Deployment in the North Pacific

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List of Abbreviations

ABC	Allowable Biological Catch
ADF&G	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AFD-UIW	Alaska Fisheries Division of the United Industrial Workers
AGO	NOAA Acquisition and Grants Office
AKR	Alaska Region (NMFS)
AP	Advisory Panel
BiOp	Biological Opinion
BSAI	Bering Sea and Aleutian Islands Management Area
CBA	Collective Bargaining Agreement
CDQ	Community Development Quota
CEY	Constant Exploitation Yield
CFEC	Commercial Fisheries Entry Commission
CH	Critical habitat
COAR	Commercial Operator's Annual Report
COTR	Contracting Officer's Technical Representative
CP	Catcher processor
CV	Catcher vessel and Coefficient of Variation
DOC	Department of Commerce
DOL	Department of Labor
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EM	Electronic Monitoring
ESA	Endangered Species Act
FFP	Federal Fisheries Permit
FLSA	Fair Labor Standards Act
FMA	Fisheries Monitoring and Analysis Division (NOAA)
FMP	Fishery Management Plan
FPP	Federal Processing Permit
FONSI	Finding of no significant impact
GCAK	NOAA General Counsel, Alaska Region
GHL	Guideline Harvest Level
GOA	Gulf of Alaska Management Area
GPS	Global Positioning System
GRS	Groundfish Retention Standard
HAPC	Habitat Area of Particular Concern
H&G	Head and gut processing
IDIQ	Indefinite Delivery/Indefinite Quantity (contract type)
IFQ	Individual Fishing Quota
IPHC	International Pacific Halibut Commission
IRFA	Initial Regulatory Flexibility Analysis
ITS	Incidental Take Statement
JPA	Joint Partnership Agreement
LASAF	Limited Access System Administration Fund
LLP	License Limitation Program
LOA	Length overall

MS	Mothership
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	Minimum Stock Size Threshold
mt	metric ton
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
OAC	Observer Advisory Committee
OIG	Office of Inspector General
P	Pilot observer deployment rate
P1	Observer deployment based on number of days funded
P2	Observer deployment based on a target coverage rate
PRA	Paperwork Reduction Act
PSC	Prohibited Species Catch
PSEIS	Programmatic Supplemental Environmental Impact Statement
PSMFC	Pacific States Marine Fisheries Commission
QS	Quota Share
RAM	Restricted Access Management Program (NMFS)
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SAFE	Stock Assessment and Fishery Evaluation Report
SBA	Small Business Act
SCA	Service Contract Act
SSC	Scientific and Statistical Committee
TAC	Total Allowable Catch
USCG	United States Coast Guard
USFWS	U.S. Fish and Wildlife Service
VMS	Vessel Monitoring System

Executive Summary

This draft Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) examines the environmental and economic effects of Amendment 86 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area and Amendment 76 the Fishery Management Plan for Goundfish of the Gulf of Alaska to change the service delivery model for the North Pacific Groundfish Observer Program (Observer Program). The recommended action is intended to address a variety of longstanding issues associated with the existing system of observer procurement and deployment. The proposed action would replace the existing observer service delivery model, in which industry contracts directly with observer providers to meet observer coverage requirements in Federal regulations, with a new system (i.e., restructuring) in which NMFS contracts directly with observer providers and determines when and where observers are deployed. Vessels and processors under the restructured observer program would pay either a fee based on a percentage of ex-vessel revenue (not to exceed 2%), or a daily observer fee, to fund the program.

At its December 2008 meeting, the North Pacific Fishery Management Council (Council) approved the following problem statement for restructuring the Observer Program:

BSAI Amendment 86/GOA Amendment 76 Problem Statement

The North Pacific Groundfish Observer Program (Observer Program) is widely recognized as a successful and essential program for management of the North Pacific groundfish fisheries. However, the Observer Program faces a number of longstanding problems that result primarily from its current structure. The existing program design is driven by coverage levels based on vessel size that, for the most part, have been established in regulation since 1990 and do not include observer requirements for either the <60' groundfish sector or the commercial halibut sector. The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries. In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data. The current program is also one in which many smaller vessels face observer costs that are disproportionately high relative to their gross earnings. Furthermore, the complicated and rigid coverage rules have led to observer availability and coverage compliance problems. The current funding mechanism and program structure do not provide the flexibility to solve many of these problems, nor do they allow the program to effectively respond to evolving and dynamic fisheries management objectives.

Proposed Alternatives

In addition to the no action alternative, four action alternatives to restructure the observer program are evaluated. The four restructuring alternatives are distinguished primarily by which fisheries or sectors would be included in the restructured program and the structure of the fee mechanism used. Two options are also evaluated, which are applicable under any of the action alternatives.

One of the primary decision points under Alternatives 2 through 5 is the ex-vessel value fee percentage to be assessed, the maximum of which can be 2% under current law. The Council selected Alternative 3 with a 1.25% ex-vessel value based fee as its preferred alternative. Option 2 was selected to require an annual report on the revised observer program as part of the Council's preferred alternative. The entire October 2010 Council motion, detailing all of the provisions of the preferred alternative, is provided as **Appendix 13**.

Alternative 1. Status quo; continue the current service delivery model.

Alternative 2. GOA-based restructuring alternative. Restructure the program in the GOA, including shoreside processors; and include all halibut and <60' vessels participating in groundfish fisheries in the GOA and BSAI. Vessels in the restructured program would pay an ex-vessel value based fee. Retain current service delivery model for vessels ≥60' and shoreside processors in the BSAI.

Alternative 3. (Council Preferred Alternative with 1.25% Ex-vessel Fee.) Coverage-based restructuring alternative. Restructure the program for all fisheries and shoreside processors with coverage of less than 100 percent. Vessels in the restructured program would pay an ex-vessel value based fee. Leave vessels and processors with at least 100 percent coverage under the current service delivery model.

Alternative 4. Comprehensive restructuring alternative with hybrid fee system. Restructure program for all groundfish and halibut fisheries off Alaska. Vessels and shoreside processors with 100 percent or greater coverage would pay a daily observer fee; vessels and shoreside processors with less than 100 percent coverage would pay an ex-vessel value based fee.

Alternative 5. Comprehensive restructuring alternative that would assess the same ex-vessel value based fee on all vessels and shoreside processors in the groundfish and halibut fisheries in the GOA and BSAI.

The following options could be selected under Alternatives 2 through 5:

Option 1: For halibut fishery landings and landings by vessels less than [40', 50', or 60' LOA] participating in groundfish fisheries (fisheries and sectors not currently subject to the observer program), vessels and shoreside processors would pay one-half the ex-vessel value based fee established under the alternative.

Option 2: **(Council Preferred Alternative.)** NMFS will release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided.

Table E-1 provides a summary of the vessels and processors included under each restructuring alternative, including the preferred alternative (Alternative 3).

Table E-1 Vessels and processors included under Alternatives 2 – 5

Area	*Vessel/Processor class*	*Alt. 2 (GOA-based)*	*Alt.3 (coverage-based)*	*Alt. 4 (comprehensive with ex-vessel & daily fees)*	*Alt. 5 (comprehensive with ex-vessel fee)*
GOA	Halibut vessels	Ex-vessel fee	Ex-vessel fee for CVs; status quo system for CPs	Ex-vessel fee for CVs; daily fee for CPs	Ex-vessel fee
	Groundfish CVs (all gears and sizes classes)	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Non-AFA inshore processors	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Pot CPs	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Trawl CPs <125’	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Hook-and-line CPs <125’	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Trawl CPs ≥125’	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Hook-and-line CPs ≥125’	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Rockfish Program	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
BSAI	Halibut vessels	Ex-vessel fee	Ex-vessel fee for CVs; status quo system for CPs	Ex-vessel fee for CVs; daily fee for CPs	Ex-vessel fee
	Groundfish vessels <60’	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Non-AFA CVs ≥60’	Status quo	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Pot CPs	Status quo	Status quo	Daily fee	Ex-vessel fee
	AFA CVs <125’	Status quo	Status quo	Daily fee	Ex-vessel fee
	non-AFA inshore processors	Status quo	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	AFA CVs ≥125’	Status quo	Status quo	Daily fee	Ex-vessel fee
	Non-AFA trawl & hook-and-line CPs 60’ - <125’	Status quo	Status quo	Daily fee	Ex-vessel fee
	Non-AFA trawl & hook-and-line CPs ≥125’	Status quo	Status quo	Daily fee	Ex-vessel fee
	AFA & CDQ pollock inshore processors	Status quo	Status quo	Daily fee	Ex-vessel fee
	Motherships	Status quo	Status quo	Daily fee	Ex-vessel fee
	AFA CPs	Status quo	Status quo	Daily fee	Ex-vessel fee
	CDQ vessels	Ex-vessel value fee for halibut	Ex-vessel value fee for halibut	Ex-vessel value fee for halibut; Daily fee for other	Ex-vessel fee

Note: Shaded cells represent inclusion in the restructured program. ‘Status quo system’ means the current system in which vessels and processors contract directly with observer providers to meet specified coverage requirements in Federal regulations.

Coverage requirements and deployment of observers

The issue of coverage levels arises with the implementation of a program that rescinds the current coverage levels based on vessel length and processing volume, and replaces them with one in which NMFS has more flexibility to decide when and where to deploy observers. This is because some type of organizational structure is still necessary to categorize vessels and processors for the purpose of determining coverage levels. The establishment of coverage categories would also assist the Council in determining what levels of coverage are necessary when new management programs are proposed. As a replacement for the existing vessel length-based categories, the following two tier system of coverage is proposed. Vessels and processors would either be in the category of <100% coverage or ≥100% coverage, based on their fishery and operating mode. The ≥100% (full coverage) category includes (a) all CPs and motherships, and (b) CVs fishing within a management system that uses prohibited species caps in conjunction with catch share programs (Table E-2). All other sectors, including halibut and sablefish IFQ fisheries, would be in the <100% (partial coverage) category. The determination of which fishery sectors are placed into which category is a decision point under any of the restructuring alternatives (Alternatives 2 through 5). The Council's preferred alternative, detailed in Section 2.10.3.2, includes the coverage stratum proposed below.

Table E-2 Summary of vessels, shoreside plants, and management programs included in the ≥100% coverage stratum

Stratum Full-coverage (≥100%)
All catcher processors and motherships[1]
All catcher vessels fishing cooperatives with transferable quotas.[2,3]
Shoreside processors taking deliveries of AFA and CDQ pollock

[1]Includes FV *Golden Fleece*.
[2]Includes all pollock trips conducted by AFA eligible CVs in the Bering Sea and Central GOA Rockfish Program.
[3]An exception to this category is the halibut and sablefish IFQ fisheries, which would be in the <100% coverage stratum under the proposed action.

This action does not propose an annual mechanism through which a fishery would change from one category to another if it is determined that coverage levels needed to be increased or decreased. Currently, all coverage levels are established in regulation and any changes to existing coverage requirements must be implemented through notice and comment rulemaking. This analysis assumes that formal rulemaking would also be necessary to change fisheries or sectors from one category to another (<100% versus ≥100%) under the new system. Agency flexibility would still be substantially increased through the proposed system, however, as the coverage levels for fisheries within the <100% (partial coverage) category could be shifted and modified on an inseason or annual basis.

The restructure of the observer program would require NMFS to efficiently allocate observer effort towards its multiple objectives within an established budget. The proposed action establishes the framework to work toward optimization of observer coverage to meet multiple objectives. The framework proposes a range of deployment allocations for the restructured observer program in the North Pacific. Under the proposed program, NMFS would expect to report regularly to the Council, with the goal of transparency with respect to the sample design and financial aspects of the program. NMFS and the Council would thus be able to track progress towards optimization. Details of program implementation, the sample design, and the proposed framework for deploying observers are provided in Chapter 3.

Funding mechanism

All of the restructuring alternatives contained within this analysis could accommodate direct Federal funding, if available. Federal funding may be necessary to get the program started, fund some direct coverage costs if industry fees are inadequate, and fund agency costs associated with implementing and maintaining the program. Therefore, any decisions related to the type of user fee would not preclude the possibility of obtaining Federal funding to cover observer deployment costs. There are several decisions related to the funding mechanism under each restructuring alternative. Section 2.9 of the analysis outlines the primary issues and concepts relevant to the funding mechanism.

Types of user fee

Two primary types of observer fee programs are authorized under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for and proposed under the restructuring alternatives. Vessels and processors not included in the restructured program would remain in the existing regulated (pay-as-you-go) service delivery model and contract directly with observer providers to receive observer services (e.g., daily rate paid directly to observer providers).

Ex-vessel value fee. An ex-vessel value fee is proposed to fund coverage for many sectors under Alternatives 2 through 4, and for all sectors under Alternative 5. Fees based on the ex-vessel value of landed catch are the most common type of fee currently used in the North Pacific. The maximum ex-vessel value fee authorized under Section 313 of the MSA for observer coverage is 2%, but the Council selected a fee of 1.25%. Under the ex-vessel value fee program, the fee amount would be paid by both vessels and processors. Catcher processors that both harvest and process their catch would pay the entire fee percentage, and the intent is that catcher vessels delivering shoreside would split the fee 50:50 with the shoreside processor. This is the same approach taken under the original research plan in 1995. (Note that the 50:50 split between catcher vessels and processors would not be in regulation as it is not possible to enforce. Section 2.10.7 discusses who would likely bear the burden of the fee, regardless of intent.) There is also an option provided under each alternative to assess an ex-vessel value fee on halibut landings and groundfish landings from vessels either <40', <50', or <60' length overall that is equal to half of the fee assessed on all other sectors subject to the fee under the preferred alternative.

Daily coverage fee. A daily observer fee is proposed to fund coverage for those sectors in the ≥100% coverage category under Alternative 4. This approach would to some extent mirror the existing 'pay-as-you-go' program, except that vessel owners and shoreside plants would be billed by NMFS for their coverage instead of contracting directly with an observer provider. Such a fee could be designed to exactly match the direct costs of observer coverage, as is currently the case with the existing pay-as-you-go program, or the fee could be set at a lower level than actual coverage costs if Federal funds become available to subsidize the program.

Setting the fee levels

Because a restructuring alternative (Alternative 3) was selected as the preferred alternative, one of the most important decision points for the Council was setting an initial fee percentage for those sectors that will operate under an ex-vessel value based fee. The fee percentage (and the level of Federal funding, if available) would determine the program's budget and would directly affect coverage levels in the fisheries covered by the program and costs paid by industry. Some of the major assumptions and decision points associated with the ex-vessel fee are:

1. Ex-vessel fees would be based on standardized ex-vessel prices calculated using data derived from COAR employing the methodology developed by the CFEC for their gross earnings estimates.

2. For the groundfish fishery, the time required to collect, analyze, and apply price data to the eLandings system would result in 2-year-old prices being applied to the harvest data.

3. It is anticipated that when an ex-vessel fee is assessed, the harvester would pay half of the fee and the processor would pay the other half. This applies to all types of processors. The processor would collect the harvester's portion of the fee at the time of landing. Under Alternatives 3 and 4, catcher vessels that deliver unsorted cod ends would not be subject to an ex-vessel fee and would not be subject to the daily fee. Catcher vessels that deliver sorted catch to a catcher processor or mothership would be subject to paying their half of the ex-vessel fee and it would be collected by the processor at the time of the landing.

4. Standardized ex-vessel prices would be set for species, port of landing, and gear. Because of data confidentiality issues, data must be aggregated if there are fewer than 3 entities in a price category. It is proposed that the prices would be set for fixed gear, pelagic trawl gear, and non-pelagic trawl gear. Ports and species would be aggregated as needed to preserve confidentiality.

5. Using a rolling average price instead of an annual price could serve to stabilize fee revenues. The Council elected to use this approach.

Contracting process

Under all of the action alternatives under consideration, private observer companies would continue to be the source of deployed observers. The main difference under the restructuring Alternatives 2 through 5 is that NMFS would be the entity responsible for contracting for observer coverage rather than the vessel owner. Complex regulations and procedures already govern the Federal contracting process. Therefore, this analysis does not examine alternatives to the process that would govern direct Federal contracting for observer services. The existing Federal contracting process is described in Section 3.1, to provide the Council, the Secretary of Commerce, and the public with an understanding of how the program would operate under any of the restructuring alternatives. This section also explores the role of contractors under a new program, and whether single or multiple contracts, and single or multiple contractors, are preferable.

Several different contract modules are possible but are difficult to develop until the scope of work is defined. In essence, there are several ways to accomplish any task and distribute work. Contracting is flexible and will accommodate various desired scenarios. For example, the work can be broken into regional components (BSAI or GOA), by gear type, or by vessel size class. Various combinations are possible. It is also possible to develop different types of work modules. One module could be for overall coverage planning and another for the provision of observers to obtain that coverage. Once the scope of work and funding are identified, NMFS can further develop alternative contract modules for consideration.

Because Federal contracting must follow well-established procurement processes, there are no Council decisions related to the contracting process. Rather, NMFS would keep the public and the Council informed of the process, as the scope of work becomes better defined.

Summary of economic effects

This amendment considers the status quo management (no action), as well as four action alternatives to restructure the observer program for the halibut IFQ fishery and the sablefish IFQ fishery and all or parts of the BSAI and GOA groundfish fisheries. Option 1 applied to Alternatives 2 through 5 would reduce the ex-vessel portion of the observer fee by half, for halibut landings and for groundfish landings by vessels less than 60' LOA, less than 50' LOA, or less than 40' LOA. Vessels that are assigned a Federal Fisheries Permit (FFP) and fish in a Federal or parallel fishery (both State and Federal oversight) would be covered under this amendment. Vessels that are not assigned an FFP and fish in parallel fisheries and vessels that only fish in State-managed fisheries are not included in this amendment. The ex-vessel observer fee would only apply to vessels and processors that are in the less than 100% coverage category in Alternatives 3 and 4. Catcher processors are in the 100% coverage category, so they would be required to continue the pay-as-you-go observer payments under Alternative 3 (Preferred Alternative). They would pay a daily fee under Alternative 4. Vessels would be classified as a catcher processor or catcher vessel based on the FFP designation, as applicable. The ex-vessel observer fee would apply to all vessels and processors under Alternative 5.

Alternative 1 would maintain the status quo. Based on 2008 fishery data, a total of 464 observers worked 39,344 days on 296 vessels and in 21 plants. Each observer day was estimated to cost \$366,[1] for a total observer cost of \$14.4 million to the harvesters and processors in the North Pacific. Halibut vessels and registered buyers, as well as vessels <60' LOA, are not required to have observers under the status quo and currently do not have observer expenses related to this program.

Alternative 2 would restructure the observer program for all halibut IFQ holders, GOA harvesters and processors, and catcher vessels <60' LOA when harvesting BSAI groundfish. BSAI CVs that are ≥60' LOA would remain under the status quo observer requirements. Vessels and processors subject to the restructured observer program would pay an ex-vessel value based fee that may not exceed 2%. The revenue estimates for each action alternative in the RIR are based on the maximum ex-vessel value fee of 2%, as this analysis proposes that the first year(s) of the program would require a 2% fee, at least until sufficient startup funding is generated to contract with observer providers for the restructured sectors.

Section 2.10 provides a detailed description of the costs to industry assuming a 2% ex-vessel fee. Under Alternative 2, the ex-vessel fee is projected to cost industry about \$6.7 million per year. Halibut and sablefish IFQ account for about 76% of the ex-vessel fee revenue (\$3.8 million), but only about 27% of the total observer costs. Shoreside groundfish deliveries account for most of the remaining ex-vessel revenue (\$1.4 million). The \$6.7 million would fund about 14,000 observer days, based on an observer cost of \$467/day.[2] Industry members that remain under the status quo were estimated to use 34,234 observer days at a cost of \$12.5 million. The total estimated annual (mean) observer cost under Alternative 2 is \$19.2 million. That represents an increased cost to the fleet and processors of about \$4.8 million per year, relative to the status quo. The increased costs would, on average, provide increased pay and benefits for observers in the restructured program. Restructuring the GOA fishery is expected to reduce sampling bias and expand coverage to improve data collected.

If Option 1 were implemented under Alternative 2, the ex-vessel fee paid by the sectors it affects would be reduced to half the estimated amount. Option 1, <60' LOA would reduce the amount halibut catcher vessels pay by about \$1.9 million annually and the total amount all sectors pay by \$2.6 million (using 2005 - 2008 ex-vessel revenue estimates). Observer days funded would be reduced from 48,619 to 42,983. The lower estimate still exceeds the 39,344 days used in 2008. Option 1, <50' LOA would reduce the observer fee percentage for halibut landings and groundfish catcher vessels <50' LOA. Because the 50' to 59.9' groundfish catcher vessels do not qualify for the reduced ex-vessel fee percentage, the revenue generated is reduced annually by \$2.0 million instead of \$2.6 million. The \$2.0 million reduction in revenue equates to about 4,303 fewer observer days than under Alternative 2 alone. Finally, Option 1, <40'LOA would reduce observer revenue annually by \$1.9 million and purchase 4,096 fewer observer days.

Alternative 3 (Council preferred alternative) restructures the observer program for vessels in the less than 100% coverage category (see Section 2.10.3, and the Council motion in Appendix 13). The

[1]Refer to Appendix 6 for the calcuations used to estimate the cost of an observer day (\$366/day) under the status quo program in which industry contracts directly with observer providers.
[2]Refer to Appendix 6 for the calculations used to estimate the cost of an observer day (\$467/day) under a restructured program in which NMFS contracts directly with observer providers.

Council's preferred alternative modifies the observer requirements for entities operating in the groundfish industry that will have <100% coverage requirements under the revised program and all entities in the commercial halibut sector. All vessels and processors in this coverage category are subject to the ex-vessel value based fee, and would be required to carry an observer as determined by NMFS. Vessels and processors operating in the ≥100% coverage category are not included under the ex-vessel fee-based program and would continue to obtain observer coverage by contracting directly with observer providers ('status quo').

The <100% coverage category is composed of catcher vessels and shoreside processors that are not participating in the Bering Sea pollock fishery or the GOA Rockfish Program. Catcher processors[3] and motherships would be in the ≥100% coverage category and remain in the status quo (pay-as-you-go) program under Alternative 3. The costs to the halibut fleet would differ only slightly under Alternative 3 compared to Alternative 2. Catcher vessel costs and coverage would remain the same, but halibut catcher processors, like groundfish catcher processors, would be subject to 100% coverage and be required to contract directly with an observer provider to obtain their required coverage. Including catcher processors in the ≥100% coverage class is expected to decrease halibut ex-vessel fee revenue by $300,000 (when calculated using the maximum 2% fee that could be applied in the future if it is needed and the Council goes through the required rulemaking process); the vessels that would be exempt from the ex-vessel fee would be required to pay the pay-as-you-go coverage costs.

The Council recommended restructuring the program such that NMFS would contract directly with observer companies to deploy observers in the restructured sectors according to a scientifically valid sampling and deployment plan, and industry would pay a fee equal to 1.25% of the ex-vessel value of the landings included under the program. **The Council's preferred alternative of 1.25% is projected to generate $4.2 million annually.** The ex-vessel fee revenue under Alternative 3 was also evaluated in this analysis using the maximum 2% fee allowed, which is projected at about $6.7 million annually. The fee is paid exclusively by catcher vessels and shoreside processors. Catcher processors and motherships are projected to use 34,477 observer days (based on 2008) at a cost of $12.6 million ($366/day).[4] The total annual mean observer cost under Alternative 3 at 2% of ex-vessel revenue is about $19.4 million or a $5.0 million per year increase over status quo (2008). A 1.25% fee on ex-vessel landings reduces the projected observer program revenue by about $2.5 million, or 9,027 observer days, relative to the 2% fee.

If the Council had selected Option 1, <60' LOA, in conjunction with Alternative 3, the revenue available for observers was projected to decline annually by $2.4 million and purchase 5,222 fewer days. This outcome is very similar to the funding and number of observer days funded using the 1.25% ex-vessel fee. Option 1, <50' LOA would require vessels in the 50' to 59.9' class to pay the full ex-vessel fee. Therefore, the reduction in annual observer revenue is only about $1.9 million (3,953 days). Option 1, <40' LOA yields results that are similar to Option 1 <50' LOA. Those two options only differ by about $100,000 (200 days). Based on projected revenue from the 2005 through 2008 fishing years, all the options under Alternative 3 are projected to fund more days than were used during 2008. However, if Option 1 <60' LOA was selected, it would not leave much reserve funding if a lower revenue year than the average were to occur.

Under Alternative 3, the 1.25% fee was determined by balancing the need for revenue to support the observer program with the need to minimize impacts on the industry sectors included in the restructured

[3] 100% coverage would not be mandated for vessels <60' LOA with a history of CP and CV activity in a single year or any catcher processor vessel with an average daily production of less than 5,000 pounds, in the most recent full calendar year of operation prior to January 1, 2010. These vessels would make a one-time election as to whether they will be in the <100% coverage and ex-vessel based fee structure or the ≥100% coverage and (status quo) fee structure category.

[4] Note that the costs to sectors that remain under status quo may be underestimated if the cost of an observer day increases to approach those in the restructured fleets ($467/day). As the costs for the status quo sectors approach $467/day, the cost estimates would approach those presented under Alternative 4.

program. As all sectors benefit from the resulting data, the Council chose to apply the same fee percentage to all restructured sectors, in order to develop a fee program that is fair and equitable across all sectors in the restructured program. A 1.25% fee was estimated to generate about $4.2 million, based on the mean estimate of average 2005 through 2008 revenues, and fund over 9,000 observer days. The amount of revenue needed to support the proposed performance standard (P2 coverage levels) of 30% observer coverage is estimated as $3.8 million, which would fund 8,093 observer days (see Section 3.2.7 and the detailed analyses in Appendices 11 and 12). This assumes there is no observer coverage on vessels <40' LOA, although they are still subject to the ex-vessel value fee and benefit from observer data. Thus, the Council determined that a 1.25% fee would fund the necessary observer days to reach the target performance standard, with a small buffer equal to roughly 10% of the estimated revenue ($4.2 million (revenue generated) - $3.8 million (revenue needed) = $0.4 million (buffer)). The Council also stated that it could modify the fee percentage through a subsequent amendment package, and will review the adequacy of the 1.25% fee, during the annual observer report included as part of the preferred alternative.

The Council's motion defines which harvesting vessels and processors would be included in the ≥100% coverage category. Vessels and processors operating in the ≥100% coverage category are not included under the ex-vessel fee-based program and would continue to obtain observer coverage by contracting directly with observer providers ('status quo'). Vessels and processors in the ≥100% coverage category include:

1. all catcher/processors and motherships participating in the groundfish or halibut fisheries;
2. all catcher vessels while fishing under a management system that uses prohibited species caps in conjunction with a catch share program; and
3. all shoreside and floating processors when taking deliveries of AFA or CDQ pollock.

Harvesting vessels that do not fall under the above criteria would be included in the <100% coverage category and be subject to the ex-vessel fee system. Catcher vessels that fish under a management system that uses prohibited species caps in conjunction with a catch share program for only part of the year would switch from the ≥100% category, as defined under point 2 above, to the <100% coverage category, based on the fishery they operate in on a trip-by-trip basis. During the part of the year they are operating in the <100% coverage category, vessels would be required to pay the ex-vessel fee for those landings and abide by the observer regulations for vessels in that fleet.

The Council emphasized that under the status quo, NMFS cannot determine when and where to deploy observers in the sectors with less than 100% coverage requirements, coverage levels are fixed in regulation, and data gaps exist for sectors without any coverage. The restructured program is intended to provide NMFS with the flexibility to deploy observers in response to fishery management needs and to reduce the bias inherent in the existing program, to the benefit of the resulting data. An additional benefit to a restructured program for fisheries with <100% coverage needs is the ability of NMFS to target coverage to address specific data needs. Under a restructured program, fishery managers would have the flexibility to adjust coverage as necessary to fill data gaps and address specific conservation or management issues; additional days of observer coverage would be available to distribute to the areas of greatest need. Alternative 3 was determined to best meet the objectives of the restructured program and the issues outlined in the problem statement. The primary advantage of Alternative 3 is that it includes all of the <100% sectors, including the <60' LOA groundfish sectors and halibut sector, which are the sectors with the most acute data quality, data gaps, and disproportionate cost issues.

Alternative 4 is structured the same as Alternative 3 in terms of which sectors pay the ex-vessel fee (Section 2.10.4). Therefore, the ex-vessel fee projections are the same under both alternatives. Because Option 1 is based on the ex-vessel fee, the change in observer days and costs under both alternatives would also be the same for those sectors. The difference between Alternative 3 and 4 is that catcher processors, motherships, and 100% covered shoreside processors are also restructured under Alternative 4. They are required to pay a daily observer fee to NMFS for each day of coverage. An observer coverage day under the restructured program is estimated to cost $467. Because the daily observer coverage rate is higher under Alternative 4 than the status quo daily coverage rate, the total estimated cost of the program is also higher (see Appendix 6). In total, Alternative 4 is projected to cost industry $22.8 million annually. This is based on a 2% ex-vessel fee, which represents an increase of about $8.4 million per year over the status quo. (Note, however, that more operations are covered under Alternative 4 than under the status quo.) Data improvements would be similar to those projected under Alternative 3.

Alternative 5 would include all industry sectors under the restructured program, and they would pay a fee based on a percentage of ex-vessel revenue. Section 2.10.5 of this analysis provides a detailed discussion of Alternative 5. The analysis of Alternative 5 projects that the annual mean cost of observer coverage would be about $18.6 million (2% ex-vessel fee revenue), or an increase of $4.2 million per year over the status quo. (Note, however, that more operations are covered under Alternative 5 than under the status quo.) That revenue would fund 39,926 observer days. If the revenue estimate of minus one standard deviation from the mean is realized, the number of days funded would decrease to 34,284. This estimate is a reduction of about 5,000 days compared to status quo (2008). Selecting any of the Option 1 suboptions would reduce the number of observer days that could be funded below 2008 levels, using the mean ex-vessel fee estimate. At the mean ex-vessel revenue, estimates of the number of days would be 3,500 to 5,000 below status quo.

The restructured observer program under Alternative 5 would provide NMFS with greater flexibility regarding the deployment of observers, and reduce the bias associated with the current program. However, it is possible that the number of days that would be funded would be below status quo (2008 levels) in some years. Reducing the number of days below status quo negatively impacts the effectiveness of this alternative.

Advantages of an ex-vessel value fee include:

• *Equity*. An ex-vessel value fee is perhaps the most equitable method of funding observer coverage, because it is based on the gross revenue actually derived from participation in the fishery.

• *Broad-based approach.* An ex-vessel value fee is the simplest to apply on a universal basis (i.e., to all participants) in the restructured observer program.

• *Predictability*. A fee that is withheld at the time of landing is likely easier for fishermen in terms of the ability to predict costs. Adminstratively, this would be more efficient, because only processors would actually remit funds to NMFS for coverage fees. Harvesters pay their fee share to the processor at the time of landing. The processor adds its share to the harvester's share, and forwards to NMFS the total amount due at the prescribed time.

Disadvantages of an ex-vessel value fee include:

• *Fee revenues not directly linked to coverage costs.* Because the fee revenues would not be directly related to observer coverage costs, it is highly likely that the program would experience revenue shortfalls or surpluses relative to the amount of observer coverage desired.

• *Data limitations.* Data that are currently available would require past years' ex-vessel prices to be applied to current year's catch. Using past prices could result in a different fee estimate than using actual gross ex-vessel revenue. Data limitations also preclude estimating seasonal standardized prices within a year. Depending on when a person harvests the fish, it could impact the difference between his or her actual ex-vessel revenue and the estimated revenue the fee was based upon. This difference could, of course, underestimate or overestimate the actual fee amount.

• *Fee percentages could not be adjusted quickly.* The fees would be established in regulation, and could only be changed through regulatory amendment. Reductions in harvest/TAC or prices could result in lower revenue for observers than projected.

Advantages of a daily observer fee based on coverage levels

• *Revenues could very closely match costs.* If the daily costs of observer coverage are known in advance (as they would be, if NMFS entered into long-term contracts with observer providers), then a daily observer fee could be designed to very closely match the costs of coverage.

• *Fees more closely match monitoring requirements.* An ex-vessel value fee charges everyone based on their revenues without regard to differences in monitoring requirements in different fisheries. A fee based on coverage means that everyone pays for the coverage they receive.

Disadvantages of a daily observer fee based on coverage levels

• *Does not address disproportionate cost issues.* One disadvantage to such an approach is that it does not address the problem of disproportionate costs.

Economic impacts on harvesters, processors, crew, and communities

The proposed observer fee is an access fee that industry would be required to pay to utilize the public fishery resource. Council intent is that the ex-vessel fee be paid equally by the harvester and processor. However, the Council realized that its desired split of the fee cannot be enforced, and thus would not be established in Federal regulations. As a result, it is anticipated that harvesters would pay the majority of the fee through reductions in the ex-vessel value of fish landed (see Section 2.10.7). The decreased cost could also impact crew through consolidation of the fleet (fewer jobs available) or reductions in crew payments. Fleet consolidation could also impact delivery patterns in communities. These impacts are primarily distributional, as the fish would be expected to be harvested by other vessels and delivered to the same or a different community.

Net benefits to the Nation

Alternative 1 would have no effect on net benefits to the Nation. The status quo observer program would continue for the >60' groundfish fleet without modification by this amendment, and halibut and <60' groundfish vessels would remain exempt from observer coverage requirements. The action alternatives, including the preferred alternative (Alternative 3), would slightly increase net benefits to the Nation for the portion of the fleet that is restructured. The restructured program is expected to increase accuracy and reduce bias in the catch, prohibited species catch (PSC), and bycatch data by placing observers in fisheries that would provide the greatest scientific and management benefit. It would also facilitate observers being placed on vessels that have low profit margins without substantially increasing their costs. Reducing the bias in the catch data is expected to improve NMFS inseason management, stock assessments, and policy decisions for groundfish and halibut in the North Pacific, facilitating the achievement of optimum yield from these valuable public resources.

Environmental assessment

An environmental assessment (EA) is intended, in a concise manner, to provide sufficient evidence of whether or not the environmental impacts of the action is significant (40 CFR 1508.9). Three of the four required components of an environmental assessment are included in Section 4. These include brief discussions of the purpose and need for the proposal, the alternatives under consideration, and the environmental impacts of the proposed action and alternatives. The fourth requirement, a list of agencies and persons consulted, is provided in Section 8.

The net effect of Alternatives 2 through 5, including the preferred alternative, is to change the system under which observers are deployed on vessels and processors, the determination of coverage on vessels and processors, and the way vessels and processors pay for observer coverage. Effects on target species should not be significant under Alternatives 2 through 5. The TACs are determined annually based on the biomass of the fish species, and effective monitoring and enforcement would continue to ensure that the overall TACs are not exceeded. Therefore, regardless of the observer deployment system in place, the total allowable catch of the target species would not increase under the proposed action. To the extent that the proposed changes to the observer program would provide managers with better estimates of target and incidental harvest, PSC, and bycatch, increase flexibility in deploying observers, and ensure harvest rates remain within TAC levels, impacts to the target species or species groups are predicted not to be significant for target fish stocks. Consequently, no adverse impact to target or incidental catch species is anticipated from the alternatives, compared to the status quo.

Changes in interactions with other fish species, including prohibited species, are tied to changes in target fishery effort. To the extent that overall fishing effort in the groundfish and halibut fisheries is not expected to change due to the proposed action, effects on mortality levels of prohibited species are not expected to be significant. Changes to the deployment of observers will likely provide managers with better estimates of incidental and directed take of prohibited species and serve to ensure harvest rates will remain below PSC limits, thus ensuring that the groundfish fisheries would not reasonably be expected to cause a conservation concern for PSC species.

Given that an overall increase in fishing activity is not expected under Alternatives 2 through 5, and there are measures currently in place to protect the physical and biological environment, the potential effect of the action on an ecosystem scale is very limited. As a result, no significant adverse impacts to marine mammals, seabirds, habitat, or ecosystem relations are anticipated.

Initial Regulatory Flexibility Analysis

The IRFA is provided in Section 5. The IRFA addresses the statutory requirements of the Regulatory Flexibility Act (RFA), and evaluates the potential adverse economic impacts on small entities directly regulated by the proposed action. Under the preferred alternative (Alternative 3), there are 1,775 entities estimated to be directly regulated by the proposed action, based on 2008 data. Large entities are categorized as such for the purpose of the RFA due to the principles of affiliation, as part of harvesting and processing cooperatives, or because they meet the $4.0 million gross annual receipts threshold.[5] The only entities considered large in this analysis are AFA vessels, BSAI Amendment 80 catcher processors,[6] AFA shoreside processors (and additional processors owned by the same companies), and individual vessels that had more than $4 million in ex-vessel gross revenues from all sources, including affiliates

[5]A business involved in both the harvesting and processing of seafood products is a small business if it is independently owned and operated, not dominant in its field of operation (including its affiliates), and if it has combined annual gross receipts not in excess of $4.0 million for all its affiliated operations worldwide.
[6]Note that three of the catcher processors that qualified under Amendment 80 have subsequently sunk, and one was sold to Russia and cannot re-enter U.S. fisheries. However, a recent court decision (*Arctic Sole Seafoods v. Gutierrez*, May 19, 2008) ruled that a qualified owner of an Am. 80 vessel may replace a 'lost' vessel with a single substitute vessel, thus, there is the potential for 28 vessels to apply for Am. 80 quota in any given year.

worldwide, in 2008. In sum, there are an estimated 80 large entities and 1,695 small entities, as defined under the RFA, directly regulated by the proposed action under the Council's preferred alternative.

An IRFA also requires a description of any significant alternatives to the proposed action(s) that accomplish the stated objectives, are consistent with applicable statutes, and that would minimize any significant adverse economic impact of the proposed rule on small entities. Significant alternatives to the proposed action, meeting this threshold criertion, have not been identified. The Council's proposed action contains several provisions expressly intended to reduce economic impacts on small entities.

Most importantly, the proposed observer deployment on vessels in the partial coverage stratum differs for the smallest vessels (Section 3.2.7). In the initial year(s) of the program, NMFS has proposed that catcher vessels using jig gear and catcher vessels ≤40' LOA using pot and/or hook-and-line gear would not be selected to carry an observer. Catcher vessels using pot and/or hook-and-line gear >40' but <57.5' LOA would be subject to a vessel selection system in which they could be randomly selected to carry an observer at the beginning of the year, for a specified period of time. In addition, there are potential alternatives to carrying an observer proposed for the class of vessels in the vessel selection list. While the vessels in the 'no selection' category and the vessel selection system would be required to pay the ex-vessel value fee for the landings subject to the new program, those with no or low selection probability would not incur the other direct or indirect costs of carrying an observer. Finally, the Council has provided an option for the <60' CPs and CPs that operate as both a CP and a CV in the same year, to select, on a one-time basis, whether they would be in the <100% coverage category and be subject to the ex-vessel value fee, or the ≥100% coverage category and pay observer providers directly to meet 100% coverage requirements.

1 Introduction

The groundfish fisheries in the Exclusive Economic Zone (EEZ) off Alaska are managed by the National Marine Fisheries Service (NMFS) under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Under the authority of the MSA, the North Pacific Fishery Management Council (Council) developed Fishery Management Plans for the groundfish fisheries of the Gulf of Alaska management area (GOA) and Bering Sea and Aleutian Islands management area (BSAI). The Pacific halibut fishery off Alaska is managed by NMFS under the authority of the Northern Pacific Halibut Act of 1982, and in coordination with annual fishery management measures adopted by the International Pacific Halibut Commission (IPHC) under the Convention between the United States and Canada for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea.

This Regulatory Impact Review (RIR) evaluates the costs and benefits of proposed BSAI Amendment 86 and GOA Amendment 76 and associated Federal regulatory amendments to restructure the North Pacific Groundfish Observer Program (observer program), to address a variety of longstanding issues. One of the primary concerns is that the existing program design establishes observer coverage levels in regulation based on vessel size or amount of fish processed, and thus, coverage levels and deployment strategies cannot be easily modified to respond to the management needs of individual fisheries or programs. In addition, the existing program does not allow NMFS to control when and where observers are deployed, which results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data for those sectors that are covered at levels less than 100% of their fishing or processing days. Finally, there are no observer coverage requirements for the <60' groundfish sector or the commercial halibut sector.

The analysis examines five alternatives, one of which is the no action alternative. The other four alternatives would create a new system for procuring and deploying observers in the groundfish and halibut fisheries of the North Pacific. All four of the restructuring alternatives, including the preferred alternative (Alternative 3), would replace the current system (in which vessels contract directly with observer providers to meet coverage levels specified in regulation) with a new deployment and fee system for the fishery sectors included under that alternative. The new program would be supported by ex-vessel value based fees and/or a daily observer fee, and/or direct Federal funding, if available. NMFS would contract directly for observer coverage with observer providers and be responsible for determining when and where observers should be deployed.

Presidential Executive Order 12866, the National Environmental Policy Act (NEPA), and the Regulatory Flexibility Act (RFA), mandate that certain issues be examined before a final decision is made. The RIR and a chapter on implementation issues associated with the proposed action are contained in Chapters 2 and 3, respectively. The environmental assessment required under NEPA is provided in Chapter 4. Chapter 5 provides an Initial Regulatory Flexibility Analysis, as required under the RFA. Chapter 6 includes a description of how the proposed action is consistent with the Magnuson-Stevens Act. References and lists of preparers and persons consulted are provided in Chapters 7 and 8, respectively.

2 Regulatory Impact Review

An RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735; October 4, 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 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.

2.1 Background

NMFS began placing observers on foreign fishing vessels operating off the Pacific Northwest and Alaska coasts in 1973, creating the North Pacific Foreign Fisheries Observer Program. Initially, observers were placed on vessels only upon invitation by host countries. In the early years of the program, the primary purpose of observers was to determine incidental catch rates of Pacific halibut in groundfish catches and to verify catch statistics in the Japanese crab fishery. Later, observers collected data on the incidence of king crab, Tanner crab, and Pacific salmon, and obtained biological data on other important species. Following the implementation of the MSA in 1976, which mandated that foreign vessels accept observers, observer coverage greatly expanded.

In 1978, U.S. fishermen began fishing for groundfish in joint ventures with foreign processing vessels. By 1986, all foreign fishing operations were halted, and, by 1991, all foreign joint-venture processing within the EEZ of the Bering Sea and Gulf of Alaska was terminated. NMFS began placing observers on domestic vessels in 1986. This was in support of an industry-funded data gathering program on domestic vessels fishing in an area of the Bering Sea where bycatch of red king crab was of concern. Other small-scale domestic observer programs were implemented during the late 1980s.

The current domestic observer program was authorized in 1989, when the Secretary approved Amendments 13 and 18 to the groundfish FMPs for the BSAI and GOA, respectively. An Observer Plan to implement the program was prepared by the Secretary, in consultation with the Council, and implemented by NMFS, effective February 7, 1990 (55 FR 4839, February 12, 1990). An EA/RIR prepared for Amendments 13/18 examined the environmental and economic effects of the new program.

In designing the observer program in 1989, NMFS and the Council had limited options, because the MSA provided no authority to charge the domestic industry fees to pay for the cost of observers, and Congress provided no funds to cover the cost of observers. The need for observers and the data they provide was sufficiently critical and urgent that the Council and NMFS decided not to wait for the MSA to be amended, and instead they proceeded with observer program regulations under Amendments 13/18. These regulations, which were considered "interim" at the time, established observer coverage requirements for vessels and processors participating in the BSAI and GOA groundfish fisheries, and required those vessels and processors to arrange for observer services from an observer provider certified by NMFS. Under this program, NMFS provides operational oversight, certification training, definition of observer sampling duties and methods, debriefing of observers, and management of the data. Although the costs associated with managing the program are paid for by the Federal government, vessels and processing plant owners pay for the direct cost of the observers.

2.1.1 Current observer coverage levels

The original 1990 Observer Plan based coverage levels on vessel length and processing volume for catcher vessels and processors of BSAI and GOA groundfish fisheries. These requirements remain largely unchanged, with the exception of requirements put in place to implement certain limited access programs with increased monitoring needs, such as the Western Alaska Community Development Quota (CDQ) Program, the AFA pollock fishery, the GOA Rockfish Program, and Amendments 79 and 80 to the BSAI FMP.

Under the plan, groundfish vessels under 60' length overall (LOA) are not required to carry observers; groundfish vessels longer than 60' but shorter than 125' are required to carry observers 30% of their fishing time; and groundfish vessels 125' and longer are required to carry observers 100% of their fishing time. Shoreside processors that process between 500 mt and 1,000 mt of groundfish in a calendar month are required to have observers 30% of the days that they receive or process groundfish. Shoreside processors that process 1,000 mt or more of groundfish in a calendar month are required to have observers 100% of the days that they receive or process groundfish. The original coverage requirements were changed to reduce coverage from 100% to 30% for vessels ≥125' using pot gear to fish groundfish.

Table 1 Number of groundfish observers, platforms observed, and observer days in the North Pacific, 2002-2009

Year	*Number of observers/vessels observed/plants observed*	*Number of observer days*
2009	380 observers, 267 vessels, 19 plants	35,681
2008	464 observers, 296 vessels, 21 plants	39,344
2007	427 observers, 296 vessels, 22 plants	35,313
2006	398 observers, 303 vessels, 24 plants	35,103
2005	366 observers, 304 vessels, 24 plants	35,677
2004	374 observers, 317 vessels, 21 plants	35,600
2003	355 observers, 325 vessels, 21 plants	36,685
2002	364 observers, 312 vessels, 20 plants	34,116

Source: NMFS, Observer Program Office.
[1]Number of observers represents the total number of distinct individuals hired for the purpose of deployment in the North Pacific groundfish fisheries during each calendar year.

Since 1990, the number of observer deployment days per year ranged from about 20,000 to over 39,000 in 2008, with recent years averaging about 35,000 to 36,000. In 2009, 380 individual observers served onboard 267 vessels and in 19 processing facilities (Table 1).

As mentioned above, coverage requirements have increased for vessels and processors participating in (rationalized) limited access privilege programs and individual quota based fisheries. In fisheries where individual entities or cooperatives receive an allocation of the TAC, observer coverage has been increased to ensure harvesters maintain catches within the annual allocations and do not exceed prohibited species catch or other harvest limits. The amount of observer coverage in these fisheries is typically higher than in the open access groundfish fisheries, and observers may be required to have additional training and experience beyond an entry level groundfish observer.

Observer endorsements and coverage levels required for each fishery are detailed in **Appendix 1**. There are three levels of observer endorsements: Level 1, Level 2, and Lead Level 2. A Level 1 observer is a NMFS certified observer. Certified observers may obtain a Level 2 endorsement by completing at least 60 days of observer data collection in the groundfish fisheries off Alaska, receiving a satisfactory evaluation for their most recent deployment by the observer program, and successfully completing NMFS-approved Level 2 observer training, which has now been incorporated into the initial 3-week training course (i.e., the separate, 4-day Level 2 training class has been eliminated). A Lead Level 2 endorsement may be obtained by a certified Level 2 observer after completing two observer cruises and sampling a minimum number of hauls or sets specified for the gear type. These endorsements help ensure that quality data are collected for these fisheries that are highly reliant on observer data for effective management.

Note that the December 2006 amendments to the Magnuson-Stevens Act (MSA) resulted in changes to CDQ observer coverage requirements. Section 305(i)(1)(B)(iv) of the MSA now requires the following for the CDQ Program:

> *REGULATION OF HARVEST.—The harvest of allocations under the program for fisheries with individual quotas or fishing cooperatives shall be regulated by the Secretary in a manner no more restrictive than for other participants in the applicable sector, including with respect to the harvest of nontarget species.*

Current regulatory observer coverage requirements for halibut, fixed gear sablefish, and pollock CDQ fisheries were more restrictive, in some cases, than requirements that apply in the comparable IFQ or pollock AFA fisheries. These regulations are now inconsistent with Section 305(i)(1)(B)(iv) of the MSA. As NMFS works to revise regulations at 50 CFR part 679, to be consistent with the MSA, NMFS cannot enforce any requirements on the harvesting of halibut, fixed gear sablefish, crab, or pollock CDQ that are more restrictive than regulations governing the harvesting of the IFQ or cooperative allocations for these species. NMFS issued a policy to this effect in 2007.[7] Observer requirements currently in effect for the IFQ or cooperative fisheries that should be followed by vessels and processors participating in the halibut, fixed gear sablefish, and pollock CDQ fisheries are indicated in Appendix 1.

In May 2007, the Observer Advisory Committee requested NMFS analyze the 2004 through 2006 groundfish fisheries off Alaska for the percent of catch observed. NMFS calculated the total catch, observed catch, and percent catch observed by year, FMP area, processing sector, gear type, trip target fishery, and vessel length for the groundfish fisheries from 2004 through 2007. The results of these analyses are provided in **Appendix 2**.

[7]Letter from R. Mecum, Acting Administrator, Alaska Region, NMFS to M. Crow, Executive Director, Western Alaska Community Development Association, March 15, 2007. http://www.alaskafisheries.noaa.gov/cdq/ltrcdqobservers.pdf.

2.1.2 Previous attempts to restructure the program

After implementation of the "interim" observer program in 1990, NMFS and the Council, recognizing its limitations, began to develop a new program (Research Plan) incorporating a concept which would require all fishery participants to pay a fee, based on the ex-vessel revenue from their catch. Collection of this fee was authorized by an amendment to the MSA. Under the Research Plan, NMFS would collect the fee and contract directly with observer companies for observer services, thus removing the direct link between the fishing industry and the observer contractors. The Council adopted the Research Plan in 1992, and NMFS approved and implemented this program in 1994. During 1995, over $5.5 million was collected to capitalize the North Pacific Fisheries Observer Fund.

Over the period the Research Plan was developed and implemented, industry concerns about the program arose. These issues included:

- Redistribution of costs for observer services that resulted from the collection of fees based on a percentage of ex-vessel revenue;

- Industry concerns about unlimited observer costs in the event observer coverage beyond that funded by fees continued to be required of some vessels participating in specific management programs;

- The amount of observer coverage that could be funded under the Research Plan fee collection program was limited and could constrain the development of programs under consideration by the Council that would require increased observer coverage; and

- Increased costs of observer coverage, due to the contractual arrangements between NMFS and observer companies that would fall under the Service Contract Act. Under this act, a company under contract to the Federal government must pay a wage at least comparable to the union wage, or if there is no established union wage for a particular type of work, the contractor must pay a wage at least as high as the wage standard established by the Department of Labor for that type of work.

After consideration of these concerns, the Council voted to repeal the Research Plan at its December 1995 meeting and refund the fees collected from the 1995 fisheries. At the same meeting, the Council requested NMFS to develop a new plan to address the data integrity issues the Research Plan was intended to resolve. Under the new concept endorsed by the Council, fishing operations required to obtain observers would continue to pay coverage costs, but payment would be made to a third party. The third party would enter into subcontracts with observer companies and direct each vessel and processor to a specified observer provider for services. Payments received by the third party would be used to pay observer contractors for providing observer services and to cover administrative costs.

At its April 1996 meeting, the Council adopted an interim groundfish observer program and authorized mandatory groundfish observer coverage requirements through 1997. The interim groundfish observer program extended 1996 groundfish observer coverage requirements, as well as vessel and processor responsibilities relating to the observer program, through December 31, 1997. The interim program continued to require that vessels and processors participating in the BSAI and GOA groundfish fisheries arrange for observer services from an observer contractor certified by NMFS.

During 1997, observers organized to bargain for better compensation and working conditions. Currently, the Alaska Fisheries Division of the United Industrial Workers (AFD-UIW) has contracts with three of the five permitted observer providers in the North Pacific. Also during 1997, NMFS began to develop, with the Pacific States Marine Fisheries Commission (PSMFC), the concept of a joint partnership agreement (JPA) under which PSMFC would provide the third party procurement functions envisioned by the Council. At its June 1997 meeting, the Council endorsed the continued development of a JPA with the goal of taking final action on the third party program early in 1998, so that a new program could be implemented by 1999. The JPA arrangement could not be developed and implemented prior to 1998, thus, the Council voted to extend the interim observer program though 1998.

At its December 1997 meeting, the Council recommended that NMFS and PSMFC continue to develop a JPA that would authorize PSMFC to provide observer procurement services. The Council also requested NMFS to work with the Council's Observer Advisory Committee (OAC) to again develop a fee collection program. The Council anticipated that the JPA would be effective by 1999, and that a fee collection program would be implemented as soon as possible thereafter.

However, an unresolvable legal issue was identified by PSMFC that forestalled efforts to proceed with the JPA. Under the JPA, PSMFC would have been responsible for providing observer services to the industry and for the deployment of observers onboard vessels and at shoreside processing facilities. NMFS also envisioned that PSMFC would have ensured that observers be available to NMFS through the completion of the debriefing process. PSMFC determined that the legal risk associated with its role as a third party to observer procurement arrangements was too high. Furthermore, NMFS could not sufficiently indemnify PSMFC against legal challenge, because (1) no statutory authority for such indemnification exists, and (2) the Anti-Deficiency Act precludes open-ended indemnification. Regulations developed to implement the JPA were thought to be able to deflect potential lawsuits away from PSMFC to NMFS, but ultimately could not sufficiently reduce the potential for lawsuit in a manner that would allow PSMFC to go forward with the JPA as endorsed by the Council.

Without the JPA as a viable alternative to the interim observer program, the OAC and the Council, as well as NMFS, continued to advocate pursuit of an appropriate program structure that would address the issues that the Research Plan and the JPA were intended to resolve. Subsequently, the interim program was extended in 1998, to expire December 31, 2000.

In 2000, the interim observer program was once again extended for two years with an expiration date of December 31, 2002. This was approved with the expectation that a restructured program would be developed and implemented by that date. The anticipated restructured program was expected to address the concerns set forth by the administrative record, which provided the justification and impetus for the development of the Research Plan and the JPA, as well as address the concerns that brought about the demise of the Research Plan and JPA initiatives. NMFS has been working with the OAC since March 2000 to develop a program structure as an alternative to the Research Plan, JPA, and the current program.

In 2002, the interim observer program was once again extended, this time with an expiration date of December 31, 2007. The 2002 amendments to the interim program were an attempt to de-link the more difficult and controversial restructuring issues from the more straightforward administrative changes to the program. The 2002 extension of the program included a variety of new measures to increase the effectiveness of the interim program, while restructuring efforts were ongoing. These included: (1) changes to the observer certification and decertification process to ensure that it is compliant with the APA; (2) changes to the observer certification criteria and standards of behavior to clarify and strengthen these regulations; (3) replacement of the observer provider (contractor) certification and decertification process with an APA compliant permitting process similar to that used for other NMFS Alaska Region permits; (4) changes to the duties and responsibilities of observer providers in order to eliminate ambiguities and to strengthen the regulations governing the relationship between NMFS and the observer providers, and (5) authorizing NMFS to place NMFS staff and other qualified persons at any plant that receives groundfish and on any vessel that currently is required to have observer coverage.

2006 restructuring effort

The Council reviewed an amendment package in June 2006, with alternatives intended to restructure the observer program. Under that proposed action, NMFS would contract directly with observer providers for observer coverage, which would be supported by a broad-based user fee and/or direct Federal funding, if available. As part of initial review in February 2006, NMFS and the Council discussed ongoing concerns with not being able to provide a definitive assessment of observer costs under a new service delivery model, due to uncertainty about the applicability of the Services Contract Act and Fair Labor Standards Act. Also at the time, NOAA General Counsel, Alaska Region advised that the current research plan authority provided in the MSA to assess a fee for observer coverage could not be applied to only a subset of the vessels in the fisheries for which the Council and NMFS have the authority to establish a fee program. Therefore, all of the 2006 restructuring alternatives, which assessed different fees against different fisheries or sectors, were likely to require new statutory authorization.

Given the cost and statutory issues, at the time of final action in June 2006, the Council approved an extension of the current program, by removing the December 31, 2007, sunset date in existing regulations, as opposed to restructuring the observer program. This action was also recommended to the Council by NMFS and the OAC, given the need for continuing the program in the short-term and the lack of control over Congressional authority and cost issues. The final rule for this action was published on June 13, 2007 (72 FR 32559).

However, as part of its June 2006 motion, the Council recommended that a new amendment proposing restructuring alternatives for the observer program should be considered by the Council at such time that: (1) legislative authority is established for fee-based alternatives; (2) the FLSA issues are clarified (by statute, regulation, or guidance) such that it is possible to estimate costs associated with the fee-based alternatives; and/or (3) the Council requests reconsideration in response to changes in conditions that cannot be anticipated at this time. Thus, the previous analysis of the restructuring alternatives was intended as a starting point for a future amendment.

Initiation of current effort to restructure the observer program

At its April 2008 meeting, the Council tasked staff to develop a discussion paper to evaluate the problem statement, issues, and alternatives in the previous 2006 observer restructuring analysis. The discussion paper was to identify any new issues that had arisen in the meantime, including MSA amendments, the status of cost information, and any relevant changes in the fisheries. Staff was also asked to provide recommendations about possible modifications to the problem statement and alternatives, if necessary. Council, NMFS, ADF&G, and IPHC staff participated in the development of the discussion paper.

The discussion paper was reviewed by the Council at its December 2008 meeting. NMFS recommendations were also provided to the Council in a letter.[8] In sum, the discussion paper addressed the primary obstacles to restructuring the observer program in 2006, as well as recommended changes to the problem statement and suite of alternatives, should the Council initiate a new analysis. Recall that the two primary obstacles to restructuring the program in 2006 were the inability to estimate industry costs, and the lack of statutory authority.

Regarding the cost estimates, during the development of the discussion paper, staff was able to estimate observer labor costs under a new service delivery model based on some relatively safe assumptions. In addition, the MSA stipulates the maximum percent ex-vessel value fee that may be charged for deploying observers (2%), which provides certainty with regard to the upper range of a vessel's fee, should the fee

[8]Letter from D. Mecum, Acting Administrator, NMFS AKR, to E. Olson, Chair, NPFMC. December 3, 2008.

be established as a percentage of ex-vessel revenues. The paper summarized that for some vessels and processors, the maximum level fee would be more than they currently pay for observer coverage, for others it would be less. Under a daily fee that is based on actual observer costs, the cost estimates would be less certain, mostly due to uncertainty in staff's estimates of non-labor costs. In sum, the discussion paper noted that it is possible to estimate costs of a restructured program; however, this may not provide sufficient certainty for everyone, and one consequence of restructuring the observer program is the probable cost increase for some industry participants and NMFS.

Regarding the statutory authority issue, the discussion paper outlined that the reauthorization of the MSA (December 2006) provided the Congressional authority necessary to assess different fees on various sectors of the fisheries, as proposed under the Council's previous restructuring analysis. Changes to Section 313(a) and (b) allow the Council to establish a system, or systems, of fees, which may vary by fishery, management area, or observer coverage level, to pay for the cost of implementing the research plan. Thus, the statutory authority now exists for all of the Council's previous restructuring alternatives; these changes represent a broad authority to assess either a flat fee, reflecting actual observer costs, or an ex-vessel value fee not to exceed 2 percent, on a subset of, or all, fishery sectors.

Upon review of the December 2008 discussion paper, the Council chose to move forward with restructuring the observer program. In addition to changes to the 2006 problem statement and suite of alternatives,[9] the Council's motion specifically requested that staff develop an agency implementation plan as the first step in developing the overall analysis for observer program restructuring. The first draft of this implementation plan was first reviewed by the OAC in September 2009, and the Council reviewed both the OAC recommendations on the plan and the plan itself at its October 2009 meeting. In October, the Council approved further revisions to the alternatives, in order to clarify that shoreside processors are included in the various restructuring alternatives. In addition, the Council concurred with the OAC recommendations for further development, discussion, and expansion of several sections of the restructuring Implementation Plan,[10] prior to the development and review of the overall analysis. The Council requested that the OAC convene prior to the February 2010 Council meeting, to review the revised implementation plan, recognizing that it would eventually fold into the overall analysis.

The OAC reviewed the revised implementation plan on January 29, and the Council reviewed both the implementation plan and the OAC report[11] at its February 2010 meeting. Upon review, the Council noted progress made on the implementation plan and concurred with the OAC recommendations, which generally requested more detail in the sample design. An additional Council recommendation in February focused on encouraging NMFS to conduct outreach meetings in coastal communities, specifically with members of the small boat and halibut sectors, so as to inform the sample design, vessel selection process, and logistical issues related to deploying observers in those sectors. In April, NMFS reported on the progress of those outreach meetings, which occurred in March in Seattle, Juneau, Petersburg, Sitka, Homer, and in late April, Kodiak.

The OAC reviewed the initial review draft analysis in May 2010, and provided recommendations to the Council during its review at the June 2010 Council meeting in Sitka. At that meeting, the Council released the analysis for public review, with several revisions and two new options, as reflected in the

[9]In effect, the Council added a phrase to the problem statement that recognizes that the existing observer program does not include observer coverage requirements for the <60' groundfish sector or the commercial halibut sector. The Council also removed Alternative 2 (remove the sunset date from regulations) from the previous suite of alternatives, as it is no longer relevant. Finally, the Council added an alternative for a comprehensive ex-vessel value fee system (Alternative 5).
[10]See Section VI of the September 2009 OAC report:
www.alaskafisheries.noaa.gov/npfmc/current_issues/observer/909_OACreport.pdf.
[11]http://www.alaskafisheries.noaa.gov/npfmc/current_issues/observer/110_OACreport.pdf

suite of alternatives (Section 2.4). The OAC also met in September 2010, to review the public review draft analysis, prior to the Council's review of the public review draft in October 2010.

2.2 Purpose and need for action

The North Pacific Groundfish Observer Program is the largest observer program in the United States and plays a critical role in the conservation and management of groundfish, other living marine resources, and their habitat. Data collected by the observer program are used for a wide variety of purposes including: (1) stock assessment; (2) monitoring groundfish quotas; (3) monitoring the bycatch of groundfish and non-groundfish species; (4) assessing the effects of the groundfish fishery on other living marine resources and their habitat; and (5) assessing methods intended to improve the conservation and management of groundfish and other living marine resources.

The mission of the observer program is to provide the highest quality data to promote stewardship of the North Pacific living marine resources for the benefit of the Nation. The goal of the observer program is to provide information essential for the management of sustainable fisheries, associated protected resources, and marine habitat in the North Pacific. This goal is supported by objectives that include:

1. Provide accurate and precise catch, bycatch, and biological information for conservation and management of groundfish resources and the protection of marine mammals, seabirds, and protected species.
2. Provide information to monitor and promote compliance with NOAA regulations and other applicable programs.
3. Support NMFS' and the Council's policy development and decision making.
4. Foster and maintain effective communications between managers, scientists, and participants in the fisheries.
5. Conduct research to support the mission of the North Pacific Groundfish Observer Program.

The observer program has an integral role in the management of North Pacific fisheries. Information collected by observers is used by managers, scientists, enforcement agents, and other agencies in supporting their own missions. Observers provide catch information for quota monitoring and management of groundfish and prohibited species, biological data and samples for use in stock assessment analyses, information to document and reduce fishery interactions with protected resources, and information and samples used in marine ecosystem research. The observer program provides information, analyses, and support in the development of proposed policy and management measures. Further, observers interact with the fishing industry on a daily basis and the observer program strives to promote constructive communication between the agency and interested parties. Observations are used by mangers and enforcement personnel to document the effectiveness of the management programs of various entities, including NMFS, the U.S. Coast Guard, and the U.S. Fish and Wildlife Service. In order to provide these services, the observer program Office routinely conducts research projects and analyses designed to assess the efficacy of management programs.

Though recognized as a successful and essential program for management of the North Pacific groundfish fisheries, a number of longstanding problems stem from the current structure of the observer program. Problems and concerns with the observer program, cited in previous restructuring analyses, remain unresolved and are not likely to be resolved without fundamental changes to the observer service delivery model. Primary concerns with the existing structure center around the disproportionate percentage of revenue paid by some sectors to fulfill observer coverage requirements, the inability of NMFS to determine when and where observers will be deployed in sectors with less than 100% coverage requirements, the inability to effectively tailor coverage levels and deployment patterns to address emergent management needs, and the lack of data from vessels not subject to observer coverage under the existing requirements.

Coverage Based on Vessel Size – Cost Disparity and Lack of Data

The current groundfish observer program throughout Alaska is one in which groundfish vessels less than 60' are not required to carry observers and vessels 60' to 125' LOA are required to carry and pay for their own observers 30% of their fishing days, regardless of gear type or target fishery.[12] These two size categories make up the majority of vessels fishing in the GOA and out of ports other than Dutch Harbor and Akutan in the BSAI. Observers deployed on vessels greater than 60' estimate total catch for a portion of the hauls or sets, and sample these hauls or sets for species composition. These data are extrapolated to make estimates of total catch by species for the entire fishery, including unobserved vessels. Observer data from observed vessels are assumed to be representative of the activity of all vessels, and are used to estimate total catch of prohibited species for the entire fishery.[13] On average, vessels less than 60' harvested 27% of the total GOA groundfish catch from 2003 through 2007. All of this catch was unobserved, in part because of concerns with the cost of observer coverage and the practical and logistical difficulties associated with placing observers on smaller vessels.

Many vessels between 60' and 125' LOA operating in the GOA pay a disproportionate percentage of their revenues towards observer costs, relative to both their under 60' counterparts and the larger offshore vessels operating in the BSAI. Not only do these vessels have far lower revenues on a per-vessel basis than do the large offshore vessels in the BSAI, the daily costs of coverage are often higher for vessels operating in the GOA, due to the logistics of deploying observers to remote ports for short periods of time. For example, the fewer the number of participants in a particular fishery, the more difficult it is for observer providers to develop cost-effective methods of rotating observers between vessels. Observer transportation costs also increase greatly in remote ports or rural locations that require chartered air service.

Vessels greater than 60' LOA also pay a disproportionate percentage of their revenues towards observer costs, relative to their counterparts outside of Alaska. The North Pacific Groundfish and the Northwest Pacific Hake Observer Program are the only programs in the U.S. in which the fishing industry pays for their own observer coverage to meet coverage requirements established in Federal regulations. Observer programs operating in other regions of the U.S. are federally funded. This means that fishermen operating in the North Pacific pay a much higher percentage of their revenues for observer coverage than do similarly-situated fishermen outside of Alaska. In addition, Alaska's coastal communities are, in general, far less economically diversified, have fewer economic opportunities, and are more dependent on commercial fishing than most fishing communities outside of Alaska.

Halibut Fisheries

In addition to the lack of observer coverage in the less than 60' fleet, there is no observer coverage in the halibut fisheries. Halibut fisheries are only observed incidentally to groundfish operations. There are a number of potential bycatch issues pertaining to the halibut fleet, of concern to managers, that could be addressed with some level of observer coverage. Most of the information gathered for management of halibut vessels (and vessels <60') currently takes place at shoreside processors, which may provide adequate retained catch accounting for target species and incidental catch species. However, discards are self-reported for all vessels in these sectors. NMFS does not currently have a verifiable measure to account for these discards, nor does it have a method for assessing the accuracy of its management

[12] Unless participating in a limited access quota program as described previously, which may require additional coverage.

[13] This has resulted in additional data problems owing to fishing behavior by some boat operators, when an observer is aboard, that is clearly not representative of fishing practices when unobserved. Referred to as "fishing for observer coverage", these resulting data, when extrapolated to other vessels that are unobserved, compound the potential catch and bycatch estimation errors, but to an unknown degree.

decisions. Additionally, current self-reporting requirements do not include information about vessel fishing behavior.

In addition, in 1998, the U.S. Fish and Wildlife Service (USFWS) prepared a Biological Opinion (BiOp) on the commercial Pacific halibut hook-and-line fishery in the GOA and BSAI, and its effects on the short-tailed albatross *(Phoebastria albatrus)* (USFWS 1998). The USFWS concluded:

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of short-tailed albatrosses which will result from this action.

> *1) The research plan required by the reasonable and prudent measures of the June 12, 1996 biological opinion on the BSAI/GOA groundfish fishery will apply also to this fishery, and will be implemented.*
>
> *2) Initial indications are that a given halibut vessel is far more likely to encounter a short-tailed albatross during a given unit of fishing effort than is a BSAI/GOA groundfish fishing vessel. Data supporting or refuting this supposition do not exist.* ***The NMFS shall prepare and implement a plan to investigate all options for monitoring the Pacific halibut fishery in waters off Alaska. It will then institute changes to the fishery appropriate to the results of this investigation*** *(emphasis added).*
>
> *3) The NMFS has done an admirable job in making commercial fishers aware of the plight of endangered birds and marine mammals. They shall continue to educate commercial fishers about seabird avoidance measures, short-tailed albatross identification, the importance of not taking short-tailed albatrosses, and ways to avoid taking them when they are sighted near bait.*
>
> *In order to be exempt from the prohibitions of section 9 of the Act, the NMFS must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.*
>
> *Terms and conditions must include reporting and monitoring requirements that assure adequate action agency oversight of any incidental take [50 CFR §402.14(I)((1)(iii) and (I)(3)]. The monitoring must be sufficient to determine if the amount or extent of take is approached or exceeded, and the reporting must assure that the USFWS will know when that happens. The NMFS must provide for monitoring the actual number of short-tailed albatrosses taken, and assure that the reasonable and prudent measures are reducing the effect of the fishery to the extent anticipated. If the anticipated level of incidental take is exceeded, the action agency must immediately stop the action causing the take and reinitiate formal consultation.*
>
> *Under these terms and conditions, the NMFS must:*
>
> *1) Apply the groundfish fishery seabird avoidance evaluation research plan (required by the reasonable and prudent measures of the June 12, 1996 biological opinion on the BSAI/GOA groundfish fishery) to this fishery, with changes appropriate to reflect differences in the timing and methodologies between the two fisheries.*
>
> *2) Implement the above seabird avoidance evaluation research plan. Implementation of this plan shall begin no later than 1999. The seabird avoidance evaluation shall be comprised of experiments to test the effectiveness of seabird deterrent devices and methods, and shall use observers to monitor the effectiveness of deterrent devices and methods used by the vessels participating in the evaluation. The NMFS will report to the USFWS on the parts of the plan that have been implemented concurrent*

with their implementation. A final report of this seabird avoidance device and methods evaluation will be made to the USFWS by December 31, 2000.

3) The NMFS will institute changes to the Pacific halibut fishery in waters off Alaska deemed appropriate based upon the evaluation of the seabird deterrent devices and methods. ***Changes may range from requiring minimal observation of the fishery due to the effectiveness of the deterrent devices to requiring extensive observer coverage and expanded or modified use of seabird deterrent devices and methods*** *(emphasis added).*

Vessel Selection

Currently, owners and operators of plants and vessels with a 30% observer requirement determine when to carry observers, to meet their mandatory coverage levels. These deliberate choices may result in biased information on the composition and temporal and spatial distribution of catch. In addition, substantial data gaps may occur in certain fisheries or areas. For fishery management purposes, NMFS needs to have a rational, scientifically-based vessel selection plan, which the fleet does not control. Under the current structure, NMFS has no means by which to assign observers to vessels and plants with 30% observer coverage requirements. For example, many 30% vessels take observers at the beginning of the fishery, to ensure they meet their coverage requirements before the fishery closes (at a future uncertain date). This may result in a relatively substantial amount of observer data available at the beginning of the fishery, tapering off toward the end of the fishery. A relatively small amount of observer data at the end of the fishery can greatly influence both the total catch and PSC estimates, which in turn influences fishery closures. This problem has been acknowledged by NMFS, the Council, and industry for many years, but has not changed.

In a March 2004 report, the U.S. Department of Commerce, Office of Inspector General (OIG) recommended that NMFS work with the Council to establish requirements for an observer program that includes a vessel selection process that is scientifically valid and unbiased. NOAA concurred that improvements in vessel selection procedures are needed for scientific data collection, and indicated that it was working with the Council to address these biases. A follow-up memorandum from the OIG to NMFS' Assistant Administrator in September 2008, documented that the OIG recommendation for this issue remains open, as fishery managers still cannot control when and where observers are placed in the North Pacific groundfish fisheries. All other recommendations in the 2004 OIG report for improving data quality, performance monitoring, and outreach efforts in NMFS observer programs have been addressed with this one exception. This is an important data quality issue that is raising public questions about the existing observer deployment system in less than 100 percent observed fisheries.

In addition, note that the Programmatic Supplemental Environmental Impact Statement (EIS) prepared for the groundfish fisheries off Alaska emphasized the importance of data collection in the management of the groundfish resources off Alaska. The preferred alternative identified improved data quality and management that would accrue under a restructured observer program with a new service delivery model (NMFS 2004c).

Observer Skill and Sampling Complexity

Work requirements for observers vary according to vessel, gear type, and target fishery. For example, monitoring and sampling onboard a pollock catcher vessel is technically straightforward, whereas sampling on some of the small "head and gut" factory trawlers can be challenging. Observer skill levels differ, and depend on experience and other factors. Observer effectiveness and efficiency, and overall data quality would be best served under a system which allows NMFS to develop observer skills progressively; first deploying observers in less challenging situations, or at locations where they can be mentored by experienced observers or NMFS staff. As observers become more experienced and skilled, they could then be deployed in more complex and challenging sampling environments and could, in turn, mentor newly-trained observers. It is not possible to implement this approach under the current service delivery model except through broad regulatory requirements for level 2 and lead level 2 observers. This approach can best be fully implemented under a restructured program that provides the flexibility necessary to properly match deployment complexity with observer skill level in all observed fisheries, and to implement a mechanism to develop observer skills consistent with the overall requirements for observers.

2.3 Problem statement

The proposed action in this amendment package is intended to address a variety of longstanding issues, as described above, associated with the existing system of observer procurement and deployment. The problem statement for this action, last revised in December 2008, is as follows:

> *The North Pacific Groundfish Observer Program (Observer Program) is widely recognized as a successful and essential program for management of the North Pacific groundfish fisheries. However, the Observer Program faces a number of longstanding problems that result primarily from its current structure. The existing program design is driven by coverage levels based on vessel size that, for the most part, have been established in regulation since 1990 and do not include observer requirements for either the <60' groundfish sector or the commercial halibut sector. The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries. In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data. The current program is also one in which many smaller vessels face observer costs that are disproportionately high relative to their gross earnings. Furthermore, the complicated and rigid coverage rules have led to observer availability and coverage compliance problems. The current funding mechanism and program structure do not provide the flexibility to solve many of these problems, nor do they allow the program to effectively respond to evolving and dynamic fisheries management objectives.*

2.4 Proposed alternatives

The alternatives considered are described in this section. In addition to the no action alternative, four action alternatives to restructure the observer program are evaluated in this analysis. The four restructuring alternatives are distinguished primarily by which fisheries or sectors would be included in the restructured program and the structure of the fee mechanism used. Two options, applicable under any of the action alternatives (Alternatives 2 through 5), were also added in June 2010. While the Council selected Alternative 3 as its preferred alternative overall, the details of the proposed action are provided in Section 2.10.3.

Note that one of the primary decision points under Alternatives 2 through 5 is the ex-vessel value fee percentage to be assessed, the maximum of which can be 2% under current law. Option 1 would assess an ex-vessel value fee on halibut landings and groundfish landings from vessels either <40', <50', or <60' length overall, equal to one-half of that selected under the overall alternative. For example, if the ex-vessel value fee selected by the Council under a specified alternative was 2%, halibut landings and groundfish landings from small vessels would be assessed a 1% fee.

Alternative 1. Status quo; continue the current service delivery model.

Alternative 2. GOA-based restructuring alternative. Restructure the program in the GOA, including shoreside processors; and include all halibut and <60’ vessels participating in groundfish fisheries in the GOA and BSAI. Vessels in the restructured program would pay an ex-vessel value based fee. Retain current service delivery model for vessels ≥60’ and shoreside processors in the BSAI.

Alternative 3. Preferred alternative with a 1.25% ex-vessel fee. Coverage-based restructuring alternative. Restructure the program for all FMP groundfish fisheries and IFQ halibut fisheries and shoreside processors with coverage of less than 100 percent. Vessels in the restructured program would pay an ex-vessel value based fee. Leave vessels and processors with at least 100 percent coverage under the current service delivery model.

Alternative 4. Comprehensive restructuring alternative with hybrid fee system. Restructure program for all groundfish and halibut fisheries off Alaska. Vessels and shoreside processors with 100 percent or greater coverage would pay a daily observer fee; vessels and shoreside processors with less than 100 percent coverage would pay an ex-vessel value based fee.

Alternative 5. Comprehensive restructuring alternative that would assess the same ex-vessel value based fee on all vessels and shoreside processors in the groundfish and halibut fisheries in the GOA and BSAI.

The following options are applicable under Alternatives 2 through 5:

Option 1: For halibut IFQ fishery landings and landings by vessels less than [40’, 50’, or 60’ LOA] participating in groundfish fisheries (fisheries and sectors not currently subject to the observer program), vessels and shoreside processors would pay one-half the ex-vessel value based fee established under the alternative.

Option 2: **(Preferred alternative).** NMFS will release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams, and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council’s choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future, through rulemaking, after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided.

Table 2 outlines the five alternatives with regard to which sectors are included in the restructuring program, the funding mechanism, and the general coverage levels (e.g., <100% versus ≥100%). A second table showing the scope of the restructuring alternatives is also provided (Table 3). The shaded cells in Table 3 denote inclusion in the restructured program.

Table 2 Description of the Observer Program Restructuring Alternatives

Alternative	General Description	Area	How pay?	Coverage levels					
				<60 ft groundfish	IFQ halibut	Shoreside processors	> or equal to 60' CVs (not in LAPPs)	Catcher processors and motherships	LAPP[1]
Alternative 1: Status quo	Status quo	GOA and BSAI	Pay for own coverage directly to observer providers, to meet coverage levels in regs (status quo)	No coverage	No coverage	Status quo coverage	Status quo coverage (generally 30% or 100%)	Status quo coverage	Status quo coverage (generally 100% or 200%)
Alernative 2: GOA-based restructuring	GOA: restructured	GOA	Fee based on % of ex-vessel value (max 2%).[2]	NMFS decides coverage amount.					100%/200%
	BSAI: >60' status quo, <60' & halibut restructured with ex-vessel fee	BSAI	Pay for your own coverage directly to observer providers (status quo), with the exception of the BSAI <60' groundfish sector and halibut sector.	NMFS decides coverage	NMFS decides coverage	Status quo coverage in regulation.			
Alternative 3: Coverage-based restructuring	>100% coverage reqmts: status quo	GOA and BSAI	Pay for own coverage directly to observer providers, to meet coverage levels in regs	n/a	Halibut CPs would be included in the status quo system	Some processors may have 100% coverage	n/a	100% coverage	100%/200%
	<100% coverage reqmts: restructured	GOA and BSAI	Fee based on % of ex-vessel value (max 2%).[2]	NMFS decides coverage amount (includes <60' vessels and IFQ halibut catcher vessels[3]).				n/a	n/a
Alternative 4: Comprehensive restructuring, hybrid fee	>100% coverage reqmts: restructured with daily fee	GOA and BSAI	Pay NMFS for your actual daily observer costs (no cap)	n/a	Halibut CPs would be subject to the daily fee	Some processors may have 100% coverage & be subject to the daily fee	n/a	100% coverage	100%/200%
	<100% coverage reqmts: restructured with ex-vessel value fee	GOA and BSAI	Fee based on % of ex-vessel value (max 2%).[2]	NMFS decides coverage amount (includes <60' vessels and IFQ halibut catcher vessels[4]).				n/a	n/a
Alternative 5: Comprehensive restructuring, ex-vessel fee	All vessels/processors: restructured	GOA and BSAI	Fee based on % of ex-vessel value (max 2%).[2]	NMFS decides coverage amount (includes <60' vessels and IFQ halibut vessels).					100%/200%

[1]The LAPP category includes all CVs fishing cooperatives with transferable quotas. This includes CVs under proposed BSAI Amendment 91 and vessels in the existing Central GOA Rockfish Pilot Program.
[2]The ex-vessel value fee under each action alternative is split 50% shoreside processor and 50% catcher vessel. Catcher processors pay both halves of the fee (e.g., if the fee is 2% of ex-vessel value, catcher processors pay 2%).
[3]Under Alt 3, halibut CVs would pay an ex-vessel value fee; halibut CPs would be 100% covered in the status quo system.
[4]Under Alt 4, halibut CVs would pay an ex-vessel value fee; halibut CPs would be 100% covered and pay a daily fee to NMFS.
Note: The proposed action does not include vessels fishing in State managed fisheries in State waters, or vessels fishing in parallel fisheries in State waters that do not have an FFP.
Note: While a restructured program under any alternative would be subject to observer wages and benefits established by the U.S. Dept. of Labor under the Service Contract Act and Fair Labor Standards Act (FLSA), the only fee amount directly affected by the FLSA would be the daily fee. The daily fee is only applicable under Alternative 4.

Table 3 Program scope: Which vessels and processors are included in each restructuring alternative?

Area	*Vessel/Processor class*	*Alt. 2 (GOA-based)*	*Alt.3 (coverage-based)*	*Alt. 4 (comprehensive with ex-vessel & daily fees)*	*Alt. 5 (comprehensive with ex-vessel fee)*
GOA	Halibut vessels	Ex-vessel fee	Ex-vessel fee for CVs; status quo system for CPs	Ex-vessel fee for CVs; daily fee for CPs	Ex-vessel fee
	Groundfish CVs (all gears and sizes classes)	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Non-AFA inshore processors	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Pot CPs	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Trawl CPs <125'	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Hook-and-line CPs <125'	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Trawl CPs ≥125'	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Hook-and-line CPs ≥ 125'	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
	Rockfish Program	Ex-vessel fee	Status quo	Daily fee	Ex-vessel fee
BSAI	Halibut vessels	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Groundfish vessels <60’	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Non-AFA CVs ≥60’	Status quo	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	Pot CPs	Status quo	Status quo	Daily fee	Ex-vessel fee
	AFA CVs <125'	Status quo	Status quo	Daily fee	Ex-vessel fee
	non-AFA inshore processors	Status quo	Ex-vessel fee	Ex-vessel fee	Ex-vessel fee
	AFA CVs ≥125'	Status quo	Status quo	Daily fee	Ex-vessel fee
	Non-AFA trawl & hook-and-line CPs <125'	Status quo	Status quo	Daily fee	Ex-vessel fee
	Non-AFA trawl & hook-and-line CPs ≥125'	Status quo	Status quo	Daily fee	Ex-vessel fee
	AFA & CDQ pollock inshore processors	Status quo	Status quo	Daily fee	Ex-vessel fee
	Motherships	Status quo	Status quo	Daily fee	Ex-vessel fee
	AFA CPs	Status quo	Status quo	Daily fee	Ex-vessel fee
	CDQ vessels	Ex-vessel value fee for halibut	Ex-vessel value fee for halibut	Ex-vessel value fee for halibut; Daily fee for other	Ex-vessel fee

Alternatives 2 and 3 present two distinct approaches to partially restructure the observer program. Alternative 2 is based on geography, with two exceptions. Under Alternative 2, all groundfish fisheries in the GOA and all <60’ groundfish vessels and halibut vessels would be covered by the new program and pay an ex-vessel value based fee to NMFS. By contrast, Alternative 3 (the Council’s preferred alternative) is based on coverage levels irrespective of geography. Under Alternative 3, all vessels and processors designated to need less than 100% coverage would be covered by the new program and pay an ex-vessel value based fee to NMFS, and all vessels and processors designated to need 100% or greater coverage would operate under the status quo (pay-as-you-go) program.[14]

Alternative 4 is also coverage based. It differs from Alternative 3 in that all groundfish and halibut vessels and processors are covered under the restructured program; the only difference among sectors is the type of fee assessed. Under Alternative 4, all subject vessels and processors designated to need less than 100% coverage would pay an ex-vessel value based fee to NMFS, and all such vessels and processors designated to need 100% or greater coverage would pay a daily observer fee to NMFS. Finally, Alternative 5 is also a comprehensive restructuring alternative, in that all groundfish and halibut vessels and processors are covered under the restructured program, and all pay the same ex-vessel value based fee.

The analysis does not include a restructuring alternative that would exclude groundfish vessels <60' LOA or halibut vessels, even though those vessels are not currently required to carry observers. In 1989, the decision was made to exclude such vessels from any coverage requirements, in part, based on the contention that coverage requirements for vessels <60' were not economically viable under the pay-as-you-go program, because average annual revenues for vessels <60' are less than one-third of average annual revenues for vessels in the 60' to 124' size range. However, a fee program based on a percentage of ex-vessel revenues mitigates the problem of disproportionate costs for smaller vessels, and makes their inclusion into the restructured observer program more economically feasible. In addition, Option 1 proposes to assess an ex-vessel value fee equal to one-half of that selected under the overall alternative, on halibut landings and groundfish landings from vessels either <40', <50', or <60' length overall. For example, if the ex-vessel value fee selected by the Council under a specified alternative was 2%, halibut landings and groundfish landings from small vessels would be assessed a 1% fee. This option was not selected as part of the Council's preferred alternative.

2.5 Analytical assumptions

There are several assumptions that feed into this analysis that have been supported by the Council in several iterations of analysis, but are not explicit in the language of the alternatives. These are discussed in more detail within the pertinent sections of the RIR, but several overarching assumptions are summarized here, so that the Council and the public understand the basis of the proposed action.

Assumption 1: Scope

Upon review of a discussion paper and in development of its motion in December 2008, the Council clarified that the commercial halibut sector is included under all of the action alternatives to restructure the observer program (see Section 2.4 above). In addition, the Council clarified that the restructuring alternatives do not propose to include the BSAI crab fisheries, which have operated under a separate program since 1988, managed by the Alaska Department of Fish & Game (ADF&G). Crab observer program development has been independent of the Federal groundfish observer program, because the crab fisheries operate under delegated authority to the State of Alaska through the BSAI Crab FMP. Both decisions – to include the halibut sector and exclude the crab sector – also mirror the restructuring alternatives proposed in 2006. Staff of NMFS, ADF&G, and the IPHC supported those decisions, as did the Council. For details, please refer to the December 2008 discussion paper.[15]

[14] Please see Section 2.5 to clarify the type of landings that are not included under any of the action alternatives (e.g., GHL groundfish species during the GHL fishery in State waters).
[15] *Observer Program Restructuring Discussion Paper*, December 2008. http://www.alaskafisheries.noaa.gov/npfmc/current_issues/observer/ObserverRest1208.pdf

In addition, the Council has recognized the limited authority of NMFS to place observers on vessels in State waters. Currently, a vessel owner's required compliance with observer coverage requirements is tied to whether or not the vessel is issued a Federal Fisheries Permit (FFP). In effect, any vessel issued an FFP must comply with Federal observer requirements in both Federal and State water fisheries, including the State managed groundfish fisheries. All days an FFP vessel fishes in the parallel fishery or a State managed groundfish fishery count towards the days a vessel must carry an observer. Similarly, the days that a FFP vessel carries an observer in the parallel fishery or a State managed groundfish fishery count toward the 30 percent coverage required under Federal regulations.[16]

Table 4 outlines the current assumptions regarding whether a vessel would be included in the restructured program and assessed a fee.

Table 4 Current assumption regarding whether observer fee would be required

Fishery/Species	FFP on vessel	
	No FFP	FFP
Federal waters groundfish	n/a	Yes
Parallel groundfish fisheries in State waters	No	Yes
GHL groundfish species during GHL fishery in State waters[1]	No	No[2]
Groundfish species landed incidental to GHL fishery in State Waters (i.e., all groundfish except pollock, P. cod, and sablefish)	No	Yes[3]
Groundfish landed in fisheries with a Federal TAC and state-oversight (e.g., SEO DSR)	No	Yes
Groundfish landed in other fisheries within State waters (e.g., salmon, bait, etc) where the groundfish are deducted from a Federal TAC	No	Yes
Halibut IFQ in Convention Waters (Federal and State)	Yes	Yes
Sablefish IFQ in Federal or State waters	Yes	Yes
Groundfish species landed in conjunction with Halibut or Sablefish IFQ in Federal or State waters, excluding GHL species	No	Yes

[1]Assumes no IFQ halibut or sablefish are landed. GHL (groundfish harvest limit) species are pollock, Pacific cod, and sablefish.
[2]This assumption reflects a policy choice. NMFS may have the legal authority to collect an observer fee from FFP vessels participating in the State-managed GHL fisheries; however the policy recommendation is not to exercise this authority.
[3]During State-managed GHL fisheries, groundfish landed in conjunction with GHL species (Pacific cod, pollock, or sablefish) are deducted from the Federal TAC. Vessels with an FFP would be assessed a fee for those non-GHL groundfish species harvested in State-managed fisheries.

Table 4 shows that vessels that carry an FFP that are participating in the Federal waters or State waters parallel fisheries would be included in the restructured program. These vessels would be assessed a fee

[16]Ken Hansen, personal communication, May 19, 2009.

based on the ex-vessel value of their groundfish and halibut landings, whether they occur in Federal waters, in State waters in a parallel fishery, or in a fishery for which a federal TAC is set.[17]

This approach explicitly excludes vessels fishing in the State managed (GHL) groundfish fisheries in State waters,[18] from observer coverage requirements and associated fees under the restructured program, regardless of whether they have an FFP. The restructured program proposes to make a clear distinction for State managed fisheries in State waters (i.e., no observer coverage required under the restructured program and no fee assessed on those landings, see Table 4). The regulated 30% coverage requirement for vessels with an FFP would no longer exist under a restructured program, except in a limited capacity under Alternative 2. Thus, NMFS would no longer be required to monitor a 30% fishing day requirement. In contrast, NMFS would choose when and where to deploy observers on vessels participating in Federal waters and in the parallel fisheries in State waters.

Table 5 below provides data on the amount of groundfish and non-groundfish[19] harvest by vessels that *carry an FFP* and participate in State waters, in either the parallel fisheries, the State managed GHL fisheries, or both. This table also shows the unique number of vessels with an FFP that participate in these fisheries in State waters. As stated above, the proposed program excludes vessels fishing in the State managed GHL groundfish fisheries in State waters, from Federal observer coverage requirements and associated fees under the restructured program, even if they have an FFP. This represents a policy decision, as NMFS may have the legal authority to collect an observer fee from FFP vessels participating in the State-managed GHL fisheries; however, the policy recommendation is not to exercise this authority. The Council requested information in February 2010 that shows the number of vessels that participate in these fisheries, as well as the level of harvest that would potentially be excluded.

The shaded column in Table 5 shows the amount of annual groundfish (Pacific cod, pollock, sablefish) harvest in the State GHL fishery from vessels which carry an FFP, from 2005 through 2008. The total annual amount of harvest ranges from 12,571 mt (2005) to 19,333 mt (2006). While not broken out by species, in all years, Pacific cod represented 99% or more of the total groundfish catch.

The table also shows the number of vessels that participated in the State waters GHL fisheries, the parallel fisheries, or both. For example, in 2008, there were 609 vessels that participated in the parallel and/or GHL fisheries in State waters that held an FFP. Only 22 of these vessels participated *only* in the GHL fisheries, and 141 participated in both the parallel and GHL fisheries. Thus, the majority of vessels (446) participated only in the parallel fisheries. The catch at issue (i.e., that which is not proposed to be included under a restructured program) is from the 163 vessels (22 + 141) with FFPs that harvested *groundfish in the GHL fisheries*. In 2008, this catch totaled 19,236 mt, 99% of which is composed of Pacific cod.

The amount of revenue this harvest represents varies with annual prices. In 2005, for example, the average Pacific cod price across all gear types used in these fisheries was about $0.25/lb.[20] Applying a GHL groundfish harvest of 12,571 mt (27.7 million pounds) equates to about $7 million in revenue. A 2%

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[17]Recall that an FFP is required for U.S. vessels that are used to fish for groundfish in the GOA or BSAI. This permit is also required for vessels used to fish for any non-groundfish species, and that are required to retain any bycatch of groundfish under 50 CFR Part 679. Non-groundfish species include, but are not limited to halibut, crab, salmon, scallops, and herring. "Fishing" is a broad term and includes, for example: harvesting, processing, tendering, and support. These are non-transferable, three-year permits, issued on request and without charge to vessel owners. These permits are authorized at 50 CFR 679.4(b).

[18]"State managed groundfish fisheries in State waters" refers to groundfish fisheries which the State of Alaska manages from 0 to 3 nautical miles, that operate off a separate total allowable catch (or guideline harvest level) than the Federal fisheries. The fisheries are managed exclusively by the State of Alaska, with rules determined independent of Federal managers. These groundfish species include Pacific cod, pollock, and sablefish.

[19]Non-groundfish includes species such as lingcod, smelts, black rockfish, eels, and greenling.

[20]Gear types used are jig, longline, trawl, and pot.

ex-vessel fee assessed on this harvest would generate approximately $141,000, which represents about 300 observer days. In 2008, the average Pacific cod price across all gear types was about $0.52/lb, the highest price in several years. Applying a GHL groundfish harvest of 19,236 mt (42.4 million pounds) equates to almost $22 million in revenue. A 2% ex-vessel fee assessed on this harvest would generate approximately $438,000, which represents about 940 observer days.

Note that the approach also excludes groundfish landed incidentally in the State managed (GHL) groundfish fisheries in State waters to those fisheries, if the vessel does not have an FFP. Vessels with an FFP would be assessed a fee for those non-GHL groundfish species harvested in State-managed fisheries, as groundfish landed in conjunction with GHL species (Pacific cod, pollock, or sablefish) are deducted from the Federal TAC. Similarly, vessels with an FFP would be assessed a fee for those non-GHL groundfish species harvested in other State-managed fisheries, such as salmon, but only if the groundfish landed in conjunction with the (salmon) fishery are deducted from the Federal TAC. Observer fees would also be assessed for groundfish species landed by vessels with an FFP in fisheries with a Federal TAC that have State oversight (e.g., Southeast Outside demersal shelf rockfish). NMFS does not have the authority to require observers on vessels that surrender their FFP and are fishing within State waters.

The restructured program also includes vessels fishing halibut IFQ or sablefish IFQ, whether in Federal or State waters. It also includes all groundfish landings taken in conjunction with halibut or sablefish IFQ in State waters, if the vessel has an FFP. If the vessel does not have an FFP, groundfish species landed incidentally with halibut and sablefish IFQ in State waters are excluded.

In sum, notwithstanding the FFP issues above, the scope of the restructuring alternatives includes commercial halibut vessels and vessels fishing groundfish, in the GOA and BSAI. Note that 'vessels' includes catcher vessels, catcher processors, motherships, and inshore floating processors. Shoreside processors are also included in each of the restructuring alternatives.

Table 5 Groundfish and non-groundfish catch (mt) by vessels with a Federal Fisheries Permit (FFP) in the State waters parallel and GHL fisheries, 2005 - 2008

Year	Fishery	Vessels	Metric Tons of Fish Reported				
			Non-Groundfish Catch in Parallel Fishery	Groundfish Catch in Parallel Fishery	Non-Groundfish Catch in GHL Fishery	Groundfish Catch in GHL Fishery	Total
2005	Both[1] – GF and non-GF	28	42	13,458	1	4,868	18,369
	Both – GF only	83		8,456	-	7,249	15,705
	GHL – Gf and non-GF	3			1	52	53
	GHL – GF only	24				402	402
	Parallel – GF and non-GF	131	116	21,811			21,927
	Parallel – GF only	294	-	7,941			7,941
2005 Total		**563**	**157**	**51,666**	**2**	**12,571**	**64,396**
2006	Both – GF and non-GF	35	*	19,369	*	5,913	25,327
	Both – GF only	75	-	16,706		13,328	30,034
	GHL – Gf and non-GF	1			*	*	*
	GHL – GF only	8				*	87
	Parallel – GF and non-GF	142	*	21,412			21,517
	Parallel – GF only	282	-	4,518			4,518
2006 Total		**543**	**132**	**62,006**	**19**	**19,333**	**81,491**
2007	Both – GF and non-GF	48	31	18,925	24	9,091	28,070
	Both – GF only	64	-	8,509	-	9,249	17,758
	GHL – GF only	12				199	199
	Parallel – GF and non-GF	139	67	13,917			13,984
	Parallel – GF only	317	-	4,061			4,061
2007 Total		**580**	**98**	**45,411**	**24**	**18,539**	**64,073**
2008	Both – GF and non-GF	43	*	10,203	*	7,164	17,397
	Both – GF only	98	-	10,607	-	11,338	21,945
	GHL – Gf and non-GF	2			*	*	*
	GHL – GF only	20				*	*
	Parallel – GF and non-GF	136	*	15,816			15,954
	Parallel – GF only	310	-	2,884			2,884
2008 Total		**609**	**155**	**39,509**	**14**	**19,236**	**58,914**

Source: NMFS groundfish eLandings data, retained catch 2005 through 2008.

[1]"Both" in this column refers to vessels that fished in both the State water GHL and parallel waters fisheries in the same year.

Note: Groundfish GHL species include pollock, Pacific cod, and sablefish. Non-groundfish includes species such as lingcod, smelts, black rockfish, eels, snails, and greenling.

Note: Pacific cod account for ≥99% of the groundfish harvested in the GHL fishery by persons with an FFP each year.

* - Data in these cells are hidden to protect confidential information.

Assumption 2: If pursued, the details and design of an electronic monitoring system should be addressed in a separate analysis

The 2006 reauthorization of the MSA included changes to Section 313(b)(2), allowing for fees collected under this section to be used for electronic monitoring (EM) systems. This language appears to anticipate the future potential of electronic monitoring technologies as part of a comprehensive monitoring plan in the North Pacific. The previous 2006 analysis on restructuring provided an appendix on fisheries monitoring technologies that could potentially be used in the North Pacific to augment observer programs, increase the accuracy of data collected by observers, and potentially replace some observers in particular applications. However, the restructuring analysis itself focused on changing the service delivery model, such that NMFS, as opposed to industry, would contract with observer providers. Thus, while the 2006 analysis recognized the future potential of electronic monitoring, the actions proposed were specific to improving the existing observer program, understanding that observers are currently, and will likely remain, a central part of the overall monitoring system.

The discussion paper reviewed by the Council in December 2008 noted that staff anticipated that it will remain necessary to focus this observer restructuring analysis on alternatives to design a fee system and to determine the scope of restructuring (i.e., which fishery sectors will pay into a specific fee program). In contrast, an analysis to regulate electronic monitoring would provide a very different set of decision points regarding the specific applications by which electronic monitoring can be used in individual fisheries. The Council supported this assessment at the outset, as alternatives for EM were not developed and included in the initial suite of alternatives for the restructuring analysis. At its June 2010 meeting, however, the Council approved a motion that requested that the OAC, NMFS, and Council staff develop electronic monitoring as an additional tool for fulfilling observer coverage requirements, with the intent that this alternative be in place at the time a restructured program is implemented. Note that the current schedule proposes that the first year operating under a restructured program is 2013.

Staff has thus proceeded with the assumption that development of electronic monitoring options for specific sectors would be addressed under a separate, but coordinated, process and timeline. While implementation of a pilot program for electronic monitoring would not require a regulatory amendment, implementing an electronic monitoring tool for specific fisheries that may result from pilot efforts may require new Federal regulations, which would be addressed in a separate, subsequent analysis. Note, however, that while the current restructuring analysis focuses on changes to the existing observer program, fees established under the new system authorized by Section 313 could be used toward EM systems, should that technology be available and recommended by the Council and NMFS in the future. Thus, establishing the fee mechanism could facilitate a future EM effort.

Note that the Council, NMFS, and the North Pacific Research Board collaborated to host a public workshop on electronic monitoring, in Seattle, with a focus on video applications (July 2008). The workshop, which garnered national and international participation, attempted to assess the current state of the technology, its potential use for research and management in the North Pacific, and future research and development needs. In general, the workshop presentations demonstrated that electronic monitoring appears to work very well for making counts of individual fish in some fisheries (e.g., in the hook-and-line fisheries) and documenting activities (e.g., discarding or not discarding fish, using or not using bird avoidance devices), but most current EM programs have limited biological data collection components (e.g., species composition). Overall, the primary issues recurring throughout the workshop were categorized as administrative, practical, and related to data quality. Refer to the proceedings of the workshop for a detailed summary:
http://www.alaskafisheries.noaa.gov/npfmc/misc_pub/EMproceedings.pdf.

More recently, NMFS and the IPHC collaborated on an electronic monitoring study in the commercial halibut fishery, sponsored by a grant from the North Pacific Research Board. The results of this study are newly available, and are scheduled to be provided to the Council at its February 2011 meeting.

Finally, the Council requested that the OAC continue to meet and one of the issues it was tasked with is determining whether electronic monitoring is a viable solution for specific fisheries. The OAC met March 22, 2011, with the primary task to determine the scope of an electronic monitoring system for small vessels. The OAC report was presented to the Council at its April 2011 meeting, during which the Council agreed with the OAC's recommendation to focus initial options for electronic monitoring options on the 40' to 60' LOA halibut and sablefish longline sector. This sector was selected because 1) the halibut sector will be newly included in the observer program; 2) it includes vessels on which it could be relatively difficult or impractical to carry an observer, and 3) it is not dependent on real-time data in order to manage the fishery (i.e., the fishery is not limited by PSC caps that the agency must monitor on a real-time basis in order to ensure the caps are not exceeded). It is expected that information resulting from the initial design will be key to expanding an EM alternative to other sectors, whether small vessels or large.

Assumption 3: Two tier system for coverage levels

In the existing program, observer coverage requirements are generally based on vessel length overall, or whether the vessel participates in a type of Limited Access Privilege Program (LAPP) that necessitates individual vessel accounting of target species and/or bycatch. This system has generally resulted in regulated coverage categories of 0%, 30%, 100%, and 200%. Currently, owners and operators of vessels and plants with a 30% observer coverage requirement determine when and where to carry observers, to meet their mandatory coverage levels. These deliberate choices may result in biased information on the composition, and temporal and spatial distribution of catch. This has been identified as one of the primary reasons for restructuring the observer program – to allow NMFS to assign observers to vessels and plants in the current 30% fleets, using a scientifically-based vessel selection plan. Another reason, discussed previously, is to allow NMFS to assign observers in the current 0% fleets (e.g., the <60' groundfish sector and halibut sector).

Similar to the previous restructuring analysis, a tier system is proposed for developing a new observer program sampling plan. Each type of vessel or sector would be categorized based on the amount of observer coverage it needs, in order to both develop an effective sampling plan and determine which fee system the sector will be subject to under the various alternatives. The previous 2006 restructuring analysis proposed a four-tier system by which to organize sectors into coverage categories. The current analysis proposes a simplified system, by which sectors are categorized as either 1) <100% observer coverage (partial coverage), or 2) ≥100% observer coverage (full coverage). Vessel length and amount of fish processed would no longer be the basis for observer coverage in the North Pacific fisheries, and regulations requiring 30% coverage levels would be removed. Implicit in this model is that observer coverage levels for sectors within the <100% covered fleet would be flexible and not codified in regulation. Coverage levels could be adjusted as needed, and within budget, to best meet the needs of science and management.

Thus, all vessels that are categorized in the <100% observer coverage category would be subject to one sampling plan with a specified vessel or trip selection process, and vessels that are categorized in the ≥100% observer coverage category would be subject to a different sampling plan, which recognizes that vessels must carry one or two observers on every trip. In addition, the results of two of the restructuring alternatives depend heavily on the coverage category determination. Under Alternative 3, the coverage assignment of either <100% or ≥100% also determines whether or not the vessel/sector is included in the restructured program or remains in the existing 'pay-as-you-go' program. Under Alternative 4, the coverage category determination also determines the type of fee assessed on the vessel (e.g., ex-vessel value based fee versus daily fee). NMFS' proposal of which vessels or sectors fall under each tier is provided in the sample design in Sections 3.2.7 and 3.2.9. This determination is based primarily on NMFS' inseason management needs, when required by program monitoring and enforcement needs (LAPPs) or when mandated, by Congress (e.g., AFA observer coverage for catcher processors). The rationale for the observer coverage categories, as well as the overall monitoring objectives, is discussed in detail under the sample design and observer deployment section (Section 3.2). Note that part of the Council's preferred alternative confirmed the overall system of coverage categories, with one minor revision (detailed in Section 2.10.3.2).

Assumption 4: Use Section 313 fee authority to assess fees for observer deployment

In December 2008, the Council reviewed a discussion paper which included a section on the statutory authority for the Council to collect fees to pay for observer coverage. Changes to Section 313(a) and (b), under the reauthorization of the MSA (December 2006), allow the Council to establish a system, or systems, of fees, which may vary by fishery, management area, or observer coverage level, to pay for the cost of implementing the research plan. These fees can be expressed as a fixed amount reflecting actual observer costs or as a percentage of ex-vessel value (not to exceed 2 percent) of the fish and shellfish harvested under the jurisdiction of the Council (with the exception of salmon), including the Northern Pacific halibut fishery. NOAA GC has provided guidance to staff regarding the research plan fee authority under Section 313 and the LAPP fee under Section 303A of the MSA. Refer to Section 2.9.2.1 for this guidance.

Assumption 5: Shoreside plants and catcher vessels would split the fee 50:50

The current assumption is that the fee amount would be paid in equal shares by both catcher vessels (CVs) and shoreside processors covered by the program; one-half of the fee collection would be paid by shoreside processors and the other half by catcher vessels, and the entire fee would be collected and remitted to NMFS by shoreside processors. This fee would pay for the cost of deploying observers on both catcher vessels and in shoreside plants. Catcher processors (CPs), which both harvest and process groundfish or halibut, would pay both halves of the ex-vessel value fee. For example, if the fee amount implemented is 1.25%, shoreside catcher vessels would pay 0.625% of their ex-vessel value, and the processor to whom they deliver would pay an identical 0.625% of ex-vessel value of the catch. However, the Council recognized that the fee split would not be established in regulation because enforcement of the regulation would be intractable[21]. Thus, while the burden of the fee is intended to be split equally between catcher vessels delivering shoreside and shoreside processors receiving their catch, it is recognized that it may not be shared equally in effect. It is reasonable to assume that the burden of the fee would fall more so on the harvester, due to the relatively elastic ex-vessel demand for groundfish and the relatively inelastic nature of the supply. A fee based on ex-vessel revenue would be expected to reduce the earnings of harvesters and have a relatively small effect on the earnings of processors. Section 2.10.7 of the RIR discusses this issue.

2.6 Related NEPA and fishery documents

The following NEPA documents have addressed the groundfish fisheries of the BSAI and GOA in general, and the North Pacific Groundfish Observer Program in specific. This analysis relies on much of the work contained within these existing documents.

[21] A processor, collecting fees from a large number of CVs and controlling delivery and production decisions, has considerable economic and commercial "leverage" over the CV operator. Defining, tracking, and enforcing all of the ways a processor could pass the cost of the fee on to the harvester would make the development of regulations that could be enforced too costly and likely ineffective.

Alaska Groundfish Fisheries Programmatic Supplemental Environmental Impact Statement (PSEIS). A PSEIS was prepared to evaluate the fishery management policies embedded in the BSAI and GOA groundfish FMPs against policy level alternatives. A draft PSEIS was circulated for public review and comment from January 25 through July 25, 2001. Revision of that analysis and publication of a second public review draft was distributed in September of 2003 (NMFS 2003). The final PSEIS was provided by NMFS in May 2004, and the public comment period ended July 3, 2004 (NMFS 2004c).

TAC-Setting EIS. The original EISs for the BSAI and GOA FMPs were completed in 1981 and 1979 respectively. The TAC setting process was not revisited in an EIS until 1998, when a Supplemental EIS on the process of TAC setting was completed (NMFS 1998a). In that document, the impacts of groundfish fishing over a range of TAC levels were analyzed. The five alternatives were very similar to current TAC levels. Setting the TAC under the status quo procedures was found not to have significant impacts on the issues evaluated.

TAC-specifications EIS and annual supplemental reports. Annual TAC specifications and PSC limits are implemented each year through proposed and final rulemaking. Those actions are informed by an EIS NMFS prepared in January 2007 (the Alaska Groundfish Harvest Specifications Final Environmental Impact Statement) for the harvest strategy used to set the annual harvest specifications. The EIS examines alternative harvest strategies for the federally managed groundfish fisheries in the GOA and the BSAI management areas that comply with Federal regulations, the FMPs, and the MSA. Supplemental reports to the EIS are prepared annually on the TAC specifications and PSC limits.

Stock Assessment and Fishery Evaluation (SAFE) reports. The guidelines for Fishery Management Plans published by NMFS require that a SAFE report be prepared and reviewed annually for each fishery management plan. The SAFE reports are intended to summarize the best available scientific information concerning the past, present, and future condition of the stocks, marine ecosystems, and fisheries under Federal management. An economic SAFE is also prepared annually, which presents the economic status of groundfish fisheries off Alaska in terms of economic activity and outputs using estimates of catch, bycatch, ex-vessel prices and value (i.e., revenue), the size and level of activity of the groundfish fleet, and the weight and gross value of processed products.

American Fisheries Act EIS. The AFA was signed into law in October of 1998. Implementation of the AFA required major provisions to the regulations and in April of 2000, a notice of intent to prepare an EIS was published in the *Federal Register*. A draft EIS was published in October 2001 and a final EIS was published in February 2002.

Extending the Interim Observer Program Beyond 2002. The Council adopted and NMFS implemented the Interim Groundfish Observer Program (Interim Program) in 1996, which superseded the *North Pacific Fisheries Research Plan (Research Plan)*. The requirements of the 1996 Interim Program were extended through 1997 (61 FR 56425, November 1, 1996), again through 1998 (62 FR 67755, December 30, 1997), again through 2000 (63 FR 69024, December 15, 1998) and once again through 2007 (67 FR 72595, December 6, 2002). An Environmental Analysis was prepared for rulemaking extending the observer program through 2007 and analyzes the biological effects of the observer program in its current form.

EA/RIR/IRFA for Proposed Amendment 86 to the BSAI FMP and Amendment 76 to the GOA FMP[22]: Extension or Modification of the Program for Observer Procurement and Deployment in the North Pacific. The Council reviewed a proposed amendment package in June 2006 to restructure the observer

[22] Because the 2006 *EA/RIR/IRFA* of the *Proposed Amendment 86 to the BSAI FMP and Amendment 76 to the GOA FMP* was never implemented, those Amendment numbers are carried over for the current amendment package.

program or extend the existing pay-as-you-go program. Due to lack of statutory authority and cost estimate issues associated with the restructuring alternatives, the Council adopted an alternative to remove the sunset date from the existing program, such that it would not expire at the end of 2007 (72 FR 32559, June 13, 2007). A seperate EA/RIR/IRFA was also prepared for rulemaking removing the sunset date, and analyzes the economic and environmental effects of the current observer program.

2.7 Magnuson-Stevens Fishery Conservation and Management Act (MSA) fee authority

The groundfish fisheries in the EEZ off Alaska are managed by NMFS under the authority of the MSA. Subsections 313(a) through 313(e) of the MSA establish the authority for the Council to prepare a fisheries research plan that requires observers to be deployed in North Pacific fisheries and that establishes a system of fees to pay the costs of observer coverage. The reauthorization of the MSA (December 2006) provides the statutory authority necessary to assess different fees on various sectors of the fisheries, as proposed under this analysis. Changes to Section 313(a) and (b) allow the Council to establish a system, or systems, of fees, which may vary by fishery, management area, or observer coverage level, to pay for the cost of implementing the research plan. These fees can be expressed as a fixed amount reflecting actual observer costs or as a percentage of ex-vessel value (not to exceed 2 percent) of the fish and shellfish harvested under the jurisdiction of the Council, including the Northern Pacific halibut fishery. Thus, these changes represent a broad authority to assess either a flat fee or an ex-vessel value based fee on a subset of, or all, fishery sectors under the jurisdiction of the Council. The revisions to Section 313 of the MSA are provided below:

SEC. 313. NORTH PACIFIC FISHERIES CONSERVATION 16 U.S.C. 1862

(a) IN GENERAL.--The North Pacific Council may prepare, in consultation with the Secretary, a fisheries research plan for ~~all fisheries under the Council's jurisdiction except salmon fisheries~~ **<u>any fishery under the Council's jurisdiction except a salmon fishery</u>** which--

(1) requires that observers be stationed on fishing vessels engaged in the catching, taking, or harvesting of fish and on United States fish processors fishing for or processing species under the jurisdiction of the Council, including the Northern Pacific halibut fishery, for the purpose of collecting data necessary for the conservation, management, and scientific understanding of any fisheries under the Council's jurisdiction; and

(2) ~~establishes a system of fees to pay for the costs of implementing the plan.~~ **<u>establishes a system, or system [*sic*], of fees, which may vary by fishery, management area, or observer coverage level, to pay for the cost of implementing the plan.</u>**

(b) STANDARDS.--

(1) Any plan or plan amendment prepared under this section shall be reasonably calculated to--

(A) gather reliable data, by stationing observers on all or a statistically reliable sample of the fishing vessels and United States fish processors included in the plan, necessary for the conservation, management, and scientific understanding of the fisheries covered by the plan;

(B) be fair and equitable to all vessels and processors;

(C) be consistent with applicable provisions of law; and

(D) take into consideration the operating requirements of the fisheries and the safety of observers and fishermen.

(2) Any system of fees established under this section shall--

(A) provide that the total amount of fees collected under this section not exceed the combined cost of (i) stationing observers**, or electronic monitoring systems,** on board fishing vessels and United States fish processors, (ii) the actual cost of inputting collected data, and (iii) assessments necessary for a risk-sharing pool implemented under subsection (e) of this section, less any amount received for such purpose from another source or from an existing surplus in the North Pacific Fishery Observer Fund established in subsection (d) of this section;

(B) be fair and equitable to all participants in the fisheries under the jurisdiction of the Council, including the Northern Pacific halibut fishery;

(C) provide that fees collected not be used to pay any costs of administrative overhead or other costs not directly incurred in carrying out the plan;

(D) not be used to offset amounts authorized under other provisions of law;

(E) be expressed as **a fixed amount reflecting actual observer costs as described in subparagraph (A) or** a percentage, not to exceed 2 percent, of the unprocessed ex-vessel value of the fish and shellfish harvested under the jurisdiction of the Council, including the Northern Pacific halibut fishery;

(F) be assessed against **some or** all fishing vessels and United States fish processors, including those not required to carry an observer **or an electronic monitoring system** under the plan, participating in fisheries under the jurisdiction of the Council, including the Northern Pacific halibut fishery;

(G) provide that fees collected will be deposited in the North Pacific Fishery Observer Fund established under subsection (d) of this section;

(H) provide that fees collected will only be used for implementing the plan established under this section; ~~and~~

(I) provide that fees collected will be credited against any fee for stationing observers or electronic monitoring systems on board fishing vessels and United States fish processors and the actual cost of inputting collected data to which a fishing vessel or fish processor is subject under Section 304(d) of this Act; and

(**J**~~I~~) meet the requirements of section 9701(b) of title 31, United States Code.

2.8 Description of the Fisheries

Observer requirements for harvesting vessels and processors that operate in federally -managed and parallel fisheries (and hold a FFP) in the GOA and BSAI are covered under this amendment. Section 2.10 provides additional detail on the vessels and processors included under each of the alternatives under consideration. This section provides a general overview of the historical participation in the fisheries.

2.8.1 Groundfish sector

Participants in the BSAI and GOA groundfish fisheries are generally placed into four broad categories. Definitions of those categories are taken from Federal regulations at 50 CFR 679.2 (http://www.alaskafisheries.noaa.gov/regs/679a2.pdf).

Catcher vessel (CV) means a vessel that is used for catching fish and that does not process fish on board. The groundfish license authorizes the license holder to deploy a vessel to conduct directed fishing for, but not process, license limitation groundfish on that vessel.

Catcher processor (CP) means: (1) With respect to groundfish recordkeeping and reporting, is a vessel that is used for catching fish and processing that fish; (2) With respect to the groundfish observer program, a processor vessel that is used for, or equipped to be used for, catching fish and processing that fish. Catcher processor vessel designation means, for purposes of the license limitation program, a license designation that authorizes the license holder to deploy a vessel to conduct directed fishing for license limitation groundfish and process license limitation groundfish on that vessel or to conduct only directed fishing for license limitation groundfish.

Shoreside processor means any person or vessel that receives, purchases, or arranges to purchase, unprocessed groundfish, except catcher/processors, motherships, buying stations, restaurants, or persons receiving groundfish for personal consumption or bait. Stationary processors are also considered shoreside processors. Stationary floating processors that hold an inshore processing endorsement on their Federal processor permit, and that process pollock and/or Pacific cod harvested in a directed fishery for those species at a single geographic location in Alaska state waters during a fishing year.

Motherships are vessels that receive and process groundfish from other vessels in the EEZ and typically move with their harvesting fleet. With respect to the observer program, a mothership is a processor vessel that receives and processes groundfish from other vessels and is not used for, or equipped to be used for, catching groundfish.

Catcher Vessels

Catcher vessels harvest fish, but are either not themselves equipped to process it or they do not hold a groundfish license that permits them to process fish on-board the vessel. They deliver their product at sea to a mothership or CP, or to a shoreside processor. There are a wide variety of CVs, distinguished in this section by target fishery and gear type.

AFA trawl CVs. The AFA established, through a minimum landings criterion during the qualifying period, the list of trawl CVs eligible to participate in the BSAI pollock fisheries. Vessels harvesting BSAI pollock deliver their catch to shoreside processing plants in western Alaska, large floating (mothership) processors, and to the offshore CP fleet. Referred to as CVs, these vessels comprise a relatively homogenous group, most of which are long-time, consistent participants in a variety of BSAI fisheries, including pollock, Pacific cod, and crab, as well as GOA fisheries for pollock and cod. There are 111 eligible trawl vessels in this sector, and they range from under 60' to 193', though most of the vessels fishing BSAI pollock are from 70'-130'. According to eLandings data only 94 of these vessels fished during 2008. There is significant ownership of this fleet (about a third) by onshore processing plants. **AFA CVs would be affected as follows: those that fish in the GOA would be affected by Alternatives 2, 3, 4 and 5; those that fish only Bering Sea (BS) pollock would be affected by Alternatives 4 and 5; those that fish only the BSAI, but target more species than BS pollock would be affected by Alternatives 3, 4, and 5.**

Non-AFA trawl CVs >60' LOA. Includes all CVs greater than or equal to 60' LOA that used trawl gear for the majority of their catch but are not qualified to fish for pollock under the AFA. They are ineligible to participate in Alaska commercial salmon fisheries with seine gear because they are longer than 58'. Non-AFA trawl CVs greater than or equal to 60' also tend to concentrate their efforts on groundfish, obtaining more than 80% of ex-vessel gross revenue from groundfish harvests. Thirty-seven vessels were greater than or equal to 60' LOA. During 2008, five of the trawl CVs fished both the GOA and BSAI, 13 fished only the BSAI and 19 fished exclusively in the GOA. **All non-AFA trawl CVs that fish in the GOA would be affected by Alternatives 2 through 5. If a non-AFA trawl CV only fished in the BSAI, it would be affected by Alternatives 3, 4, and 5.**

*Pot CV*s. These vessels rely on pot gear for participation in both crab and groundfish fisheries. All vessels included in this class are qualified to participate in the crab fisheries under the Crab License Limitation Program. Some of these vessels also use hook-and-line gear in groundfish fisheries. Vessels in this class are typically equipped with one or two large deck cranes for moving and stacking crab pots and a steel-framed pot launcher. These vessels have an average length of about 100', an average rating of about 175 gross tons, and an average horsepower rating of about 800. Historically, the pot fishery in waters off Alaska produced crab. Several factors, including diminished king and Tanner crab stocks, led crabbers to begin to harvest Pacific cod with pots, in the late 1980s and 1990s. The feasibility of fishing BSAI Pacific cod with pots was also greatly enhanced with the implementation of Amendment 24 to the BSAI FMP, which allocated the target fishery between trawl and fixed gear vessels. A total of 119 Pot CVs fished only in the GOA during 2008; 26, fished both the BSAI and GOA; and 32 fished only the BSAI (Hiatt et al., 2009). **All pot CVs that fish in the GOA would be affected by Alternatives 2 through 5. All pot CVs that fish in the BSAI would be affected by Alternatives 3, 4, and 5.**

Hook-and-line CV >60'. A large majority of the hook-and-line CVs in this class operate solely with hook-and-line fixed gear, focusing on halibut and relatively high-value groundfish, such as sablefish and rockfish. Both fisheries generate high revenue per ton, and these vessels often enter other high-value fisheries. The reliance of these vessels on groundfish fisheries sets them apart from smaller fixed gear CVs permitted to operate in Alaska salmon fisheries with multiple gear types. Overall, this fleet is quite diverse. Excluding vessels that principally participate in the halibut or salmon fishery, most vessels are between 60 and 80' long with an average length of about 70'. The larger vessels in this class can operate in the Bering Sea during most weather conditions, while smaller vessels can have trouble operating during adverse weather. Based on 2008 data, a total of 81 hook-and-line CVs fished. Twenty-four vessels fished in both the BSAI and GOA; three vessels fished only the BSAI; fifty-four vessels fished exclusively in the GOA. **All hook-and-line CVs ≥60' LOA that fish in the GOA would be affected by Alternatives 2 through 5. CVs ≥60' that fish in the BSAI would be affected by Alternatives 3, 4, and 5.**

CVs <60' LOA (all gear types). This CV class primarily uses trawl and hook-and-line gear although a few vessels also use pot gear. This group of vessels (58' or less LOA) is allowed to participate in the State of Alaska commercial seine fisheries for salmon. Alaska's limited entry program for salmon fisheries established a 58-foot length limit for seine vessels entering these fisheries after 1976. Many groundfish CVs <60 ft in length were built to be salmon purse seine vessels, while others were designed to function as both trawlers and seiners. Within this class, vessels using trawl gear tend to have larger engines, more electronics, larger fish holds, and the necessary deck gear and nets to operate in the trawl fisheries. Similar-sized fixed gear vessels that participate in commercial salmon fisheries with purse seine gear have not made the necessary investment to participate in the trawl fisheries. There are far more vessels in this class using fixed gear than trawl gear. The feasibility of fishing BSAI Pacific cod with CVs <60' LOA was enhanced with the implementation of BSAI Amendment 64 in 2000, in which this sector received a direct allocation of BSAI Pacific cod. This allocation was extended in 2004, with the implementation of BSAI Amendment 77, and was increased in 2008, under BSAI Amendment 85. A total of 1,432 vessels were <60' LOA that fished in the groundfish, IFQ, or CDQ fisheries in the GOA and BSAI. **All CVs**

<60' that fish in the GOA would be affected by Alternatives 2 through 5. CVs <60' that fish in the BSAI would be affected by Alternatives 3, 4, and 5.

A subset of the <60’ CVs are vessels less than or equal to 32’ LOA. Thirty two feet is the maximum allowable for participation in the Bristol Bay salmon drift gillnet fishery. A large number of vessels of this size have been built for the Bristol Bay fishery and other salmon fisheries in Alaska. Similar size restrictions do not apply to other salmon management areas in the State. These vessels may use a mix of hook-and-line, jig, and sometimes pot gear to harvest groundfish and hook-and-line gear to harvest halibut before or after the salmon season. Most vessels in the <60' length class participate in groundfish fisheries to augment their earnings from Alaska salmon fisheries. These vessels obtain most of their groundfish revenues from harvests of Pacific cod, sablefish, and rockfish. A total of 533 CVs, less than or equal to 32’ LOA, fished groundfish, IFQ, or CDQ fisheries in 2008.

General Summary of Catcher Vessel Data

According to the 2009 RAM list of groundfish licenses, a total of 1,680 licenses were issued that would allow a vessel to be deployed to harvest groundfish (Table 6). This represents the maximum number of vessels that could be deployed in the groundfish fisheries. The number of groundfish licenses that have been issued has declined since 2002, when 1,794 licenses were issued with a CV designation.

Table 6 Number of groundfish LLP licenses issued to catcher vessels in 2009

Vessel Length	Both Areas	BSAI Only	GOA Only	Grand Total
<60’	98	14	1,183	1,295
60’ to 125’	165	47	112	324
≥125’	27	34		61
Total	290	95	1,295	1,680

Source: The 2009 RAM list of groundfish LLP licenses that were issued as of April 18, 2010. (http://www.alaskafisheries.noaa.gov/ram/llp.htm#list).
Note: Only 1,334 of the 1,680 CV licenses listed a vessel number they were assigned to for the 2009 fishing year.

Table 7 breaks down the number of 2009 groundfish LLP licenses that were issued for use on catcher vessels, by the area’s the vessel could be deployed and the size of the vessel that may be used. Groundfish LLP licenses issued for use on vessels less than 60’ LOA and fishing only in the GOA, comprise 70 percent of the CV licenses. Overall, 77 percent of the groundfish LLP licenses for CVs were for use on vessels <60’ LOA. Groundfish CV licenses that could be used on vessels in the 60’ to 125’ LOA category accounted for over 19 percent of the CV licenses issued. The remaining 4 percent of CV groundfish licenses could be used on CVs ≥125’. All licenses issued for CVs ≥125’ LOA might be expected to be used to deploy a vessel to harvest groundfish in the BSAI.

Not all of the groundfish LLP licenses that are issued are used to harvest groundfish. The Economic Status of the Groundfish Fisheries off Alaska (Hiatt et al., 2009) reports that 834 CVs harvested groundfish from fisheries with a Federal TAC in 2008 (Table 7). Fewer CVs (782) caught groundfish in 2007. The increase in the number of vessels from 2007 to 2008 was a direct result of more vessels fishing exclusively in the GOA. GOA-only participation was about the same during 2008, as it was during 2006. Each year from 2004 through 2006, the number of CVs used to harvest groundfish was greater than the number in 2008. Over the time period considered, the greatest number of CVs that harvested groundfish was 1,062, in 2004.

Table 7 Number of catcher vessels that caught groundfish by year and area, 2004-2008

Year	*Both Areas*	*GOA Only*	*BSAI Only*	***Total***
2004	97	822	143	1,062
2005	89	758	138	985
2006	76	634	138	848
2007	85	564	133	782
2008	81	620	133	834

Source: Economic Status of the Groundfish Fisheries off Alaska, NMFS AFSC. November 2009.

Catcher Processors

Catcher processors carry the equipment and personnel they need to process the fish that they themselves catch. In some cases, CPs also process fish harvested for them by CVs and transferred to them at sea. There are many types of CPs. The largest CPs are the AFA pollock CPs that operate exclusively in the BSAI because sideboard limitations contained in the AFA prohibit such vessels from fishing for groundfish in the GOA. Twenty-one AFA permits were issued to CPs in 2008. Twenty of the vessels were listed by name in the AFA and one vessel was granted restricted access under the AFA. That AFA restricted vessel is also an Amendment 80 CP. That vessel primarily fishes flatfish and Pacific cod, but is allowed to harvest up to 0.5 percent of the BS pollock allocation in the directed pollock fishery each year.

A total of 24 Amendment 80 CPs (including the Amendment 80 CP that has limited access to the AFA pollock allotment) are also currently granted exclusive access to portions of the BSAI flatfish, Pacific cod, rockfish, and Atka mackerel TACs.[23] These vessels are generally limited to headed and gutted (H&G) products or kirimi. In general, trawl H&G CPs focus their efforts on flatfish, Pacific cod, and Atka mackerel. Non-AFA trawl CPs are generally smaller than AFA CPs and operate for longer periods than the surimi and fillet CP vessels that focus on pollock. A fishing rotation in this sector might include Atka mackerel in January; rock sole in February; rock sole, Pacific cod, and flatfish in March; rex sole in April; yellowfin sole and turbot in May; yellowfin sole in June; rockfish in July; and yellowfin sole and some Atka mackerel from August to December. The target fisheries of this sector have historically been limited by PSC regulations, or market constraints; however, the markets that have developed, and their fishing cooperatives, have recently allowed them to harvest more of the available TAC.

AFA CPs would be affected by Alternative 4, because they would be subject to the new daily fee. Under Alternative 5, they would be required to pay a fee of up to 2 percent of their estimated exvessel gross revenue. The Amendment 80 CPs would also be affected by Alternatives 4 and 5. B**ecause the Amendment 80 sideboards allow these CPs limited access to GOA fisheries, about 13 of those vessels would also be subject to a 2 percent exvessel fee on their GOA catch, under Alternative 2**. They would remain under the status quo in the BSAI. The remaining types of CPs that may be affected by some or all of the restructuring alternatives are summarized below.

Pot CPs. These vessels have been used primarily in the crab fisheries of the North Pacific, but increasingly are participating in the Pacific cod fisheries. Vessels in the pot CP sector predominantly use pot gear to harvest BSAI and GOA groundfish resources. They produce whole or headed and gutted groundfish products, some of which may be frozen in brine rather than blast frozen. Vessels average about 135' LOA and are equipped with deck cranes for moving crab pots. Most pot vessel owners use their pot gear for harvesting groundfish. However, some owners change gear and participate in hook-and-

[23] A total of 28 vessels are currently eligible under BSAI Amendment 80, but only 24 are currently permitted. Three vessels have subsequently sunk and one was sold to Russia and cannot re-enter U.S. fisheries. However, court rulings indicate that a qualified owner of an Amendment 80 vessel may replace a lost vessel with a substitute vessel.

line fisheries. Pot CPs ≥125' are currently subject to somewhat different observer requirements than other large CPs; all pot vessels ≥60' are only required to have coverage on 30% of their pots pulled for that calendar quarter, as opposed to the 100% of the fishing days coverage required on other vessels over 125'. **All pot CPs would be affected by Alternatives 4 and 5, and those fishing for groundfish in the GOA would also be affected by Alternative 2.** Hiatt (2009) reports that between two and seven pot CPs have fished for Pacific cod in the BSAI each year from 2004 and 2008. Only one has fished for GOA Pacific cod, in a given year, over that same time period.

Hook-and-line (longline) CPs. These vessels, also known as freezer longliners, use hook-and-line gear to harvest groundfish. Most hook-and-line CPs are limited to headed and gutted products and. in general, are smaller than trawl H&G CPs. The hook-and-line CP sector evolved because regulations applying to this gear type provide more fishing days than are available to other gear types. Hook-and-line CP vessels are able to produce relatively high-value products that compensate for the relatively low catch volumes associated with hook-and-line gear. These vessels average just over 130' LOA. From 2002 through 2008, about 40 longline CPs fished in the BSAI (Hiatt et al., 2009). The number of longline CPs that also fished the GOA was between 17 and 22 each year. One longline CP tended to operate exclusively in the GOA. These vessels target Pacific cod, with sablefish and certain species of flatfish (especially Greenland turbot) as important secondary target species. Many vessels reported harvesting all four groundfish species groups each year from 1991 through 1999. Most harvesting activity has occurred in the BSAI, but a few hook-and-line CP vessels operate in both the BSAI and GOA. **Hook-and-line CPs operating in the GOA would be affected by Alternatives 2, 4, and 5. Hook-and-line CPs operating exclusively in the BSAI would be affected by Alternatives 4 and 5.**

A total of 135 groundfish LLP licenses were issued that may have been used to deploy a CP during 2009. Seventy-seven of the licenses (57 percent) were endorsed to allow a CP to fish in both the GOA and BSAI. Only one of those licenses was for a vessel less than 60' LOA. Fifty-one licenses (38 percent) of the CP licenses only had a BSAI endorsement. All of those licenses were for vessels longer than 60' LOA. Only seven CP licenses were issued that could only be used to fish in the GOA. Six of the licenses were for vessels less than 60' LOA.

Table 8 Number of groundfish LLP licenses issued to catcher processors in 2009

Vessel Length	*Both Areas*	*BSAI Only*	*GOA Only*	*Total*
<60'	1		6	7
60' to 125'	30	3	1	34
≥125'	46	48		94
Total	77	51	7	135

Source: The 2009 RAM list of groundfish LLP licenses that were issued as of April 18, 2010. (http://www.alaskafisheries.noaa.gov/ram/llp.htm#list).
Note: Only 129 of the 135 CP licenses listed a vessel number they were assigned to for the 2009 fishing year.

As with the catcher vessel sector, the number of CPs that could be deployed under the groundfish LLP is larger than the number that were actually used to fish. Table 9 shows the number of CPs used to harvest groundfish from a Federal TAC fishery during the years 2004 through 2008. The number of CPs that fished did not vary by more than three vessels over that period of time. The number of vessels ranged from 83 to 86, with the most vessels fishing during 2008.

About 57 percent of the CPs that harvested groundfish from a federally managed TAC in 2008 only fished in the BSAI. About 41 percent of the vessels were used to harvest fish in both the BSAI and GOA. The remaining 2 percent of the CPs fished only in the GOA.

Table 9 Number of catcher processors that caught groundfish by area, 2004 - 2008

Year	*Both Areas*	*GOA Only*	*BSAI Only*	***Total***
2004	34	1	48	83
2005	33	2	48	83
2006	37	2	45	84
2007	35	3	45	83
2008	35	2	49	86

Source: Economic Status of the Groundfish Fisheries off Alaska, 2009

Shoreside Processors

AFA shoreside processors. There are six shoreside and two floating processors eligible to participate in the inshore sector of the BSAI pollock fishery. Three AFA shoreside processors are located in Dutch Harbor/Unalaska. The communities of Akutan, Sand Point, and King Cove are each home to one AFA shoreside processor. The shoreside processors produce primarily surimi, fillets, roe, meal, and a minced product from pollock. Other products, such as oil, are also produced by these plants but they account for relatively minor amounts of the overall production and revenue. These plants process a variety of species including other groundfish, halibut, and crab, but have historically processed very little salmon. In total, the inshore processors can take BSAI pollock deliveries from a maximum of 97 CVs, as of April 2010, according to the regulations implemented by the AFA. The two floating inshore processors have historically produced primarily fillets, roe, meal, and minced products. Hiatt et al. (2009) estimated the ex-vessel value of groundfish delivered to these processors ranged between $178 million and $224 million from 2005 through 2008. Groundfish accounted for 71 percent to 80 percent of the ex-vessel value of all species delivered to these plants. **Those AFA inshore processors that receive groundfish harvested in the GOA would be affected by Alternatives 2 through 5, and those that process groundfish, other that BS pollock from the directed fishery, harvested in the BSAI would be affected by Alternatives 3, 4, and 5**. **AFA processors that only processed groundfish harvested as part of the BS pollock fishery would only be affected under Alternatives 4 and 5.**

Non-AFA shoreside processors. Non-AFA inshore plants include shoreside plants that process Alaska groundfish and several floating processors that moor near shore in protected bays and harbors. This group includes plants engaged in primary processing of groundfish and does not include plants engaged in secondary manufacturing, such as converting surimi into analog products, such as imitation crab, or further processing of other groundfish products into ready-to-cook products. **Those shoreside processors that process groundfish harvested in the GOA or IFQ halibut would be affected by Alternatives 2 through 5, and all non-AFA inshore processors that receive BSAI groundfish would be affected by Alternatives 3, 4, and 5.** Four groups of non- AFA inshore processors are described below. The groupings are primarily based on the regional location of the facilities: (1) Alaska Peninsula and Aleutian Islands, (2) Kodiak Island, (3) Southcentral Alaska, and (4) Southeast Alaska. Information provided in the narratives below includes all inshore processors for each area collectively, and does not differentiate between size classes or coverage levels.

Alaska Peninsula and Aleutian Islands shoreside plants. In 2008, these facilities took delivery of about $51 million of groundfish (ex-vessel). Groundfish accounted for only 17 percent of the ex-vessel value of all species that were delivered. These plants also process halibut, in addition to crab and state managed species.

Kodiak Island Shoreside plants. Most Kodiak plants process all major groundfish species groups every year, although generally fewer plants process pollock than process other species. These facilities typically process Pacific cod and Atka mackerel, rockfish, sablefish, and other flatfish and most also processed pollock and flatfish. All of the plants receive fish from the Central Gulf subarea every year. Most of the plants also receive fish from the Western Gulf and Eastern Gulf subareas. In 2008, these plants took delivery of about $67 million (ex-vessel) of groundfish. Groundfish accounted for about 44 percent of the total ex-vessel value of fish delivered.

Southcentral Alaska shoreside plants. This group includes plants that border the marine waters of the GOA (east of Kodiak Island), Cook Inlet, and Prince William Sound. These plants typically process Pacific cod, flatfish, and Atka mackerel, rockfish, sablefish, and other flatfish. Many of the plants also process GOA pollock. Virtually all of the plants receive fish from the Central Gulf subarea every year. Many also receive fish from the Eastern Gulf subarea, and some receive fish from the Western Gulf subarea. These processors took groundfish deliveries of about $23 million (exvessel) in 2008. Their groundfish deliveries accounted for only about 13 percent of the ex-vessel value of all species delivered.

Southeastern Alaska shoreside plants. This group of plants includes shoreside processors from Yakutat south. In 2008, a total of 21 plants processed groundfish. Those fish were valued at about $36 million (ex-vessel). About 15 percent of the total ex-vessel value of fish delivered to these plants was from groundfish.

Shoreside processors that process between 500 mt and 1,000 mt of groundfish in a calendar month currently are required to have observers 30% of the days that they receive or process groundfish. Shoreside processors that process 1,000 mt or more of groundfish in a calendar month are required to have observers 100% of the days that they receive or process groundfish. Other regulations provide special coverage requirements for CDQ and AFA species.

The Federal definition of processors includes both land-based processors, as well as stationary floating processors. Land-based processors are defined in Table 10 by the port listed in the catch data. Some shore-based processor identification numbers were associated with more than one port (e.g., Homer and Cordova). Because both ports were in the Central GOA the processor would have only been counted once even though it was reported in more than one port in the area.

Table 10 Estimates of the number of shoreside groundfish processors, 2005-2008

Area of Operation	2005	2006	2007	2008
BSAI	14	13	12	11
Western GOA	*	*	*	*
Central GOA	15	23	25	26
Eastern GOA	10	18	19	21
Floating Processors	*	*	*	*
Other	*	*	*	*
Total	42	58	61	63

Source: NMFS shoreside catch data from 2005 - 2008 provided by NMFS AKR staff.
*To preserve confidentiality, the number of processors operating in the Western GOA, floating processors, and processors whose port was listed as being outside of Alaska were not reported.

All processors that took deliveries of groundfish harvested from a federally managed or parallel fishery (under both State of Alaska and Federal management) by a catcher vessel with a Federal Fishing Permit were included in the processor counts. Any shoreside processor that only took deliveries from vessels that were fishing in a State of Alaska fishery or vessels without a Federal Fisheries Permit in a parallel fishery was excluded from these counts.

The shoreside processors included in the above counts covered a wide range of activity in the groundfish fisheries. To illustrate that range of participation, Table 11 shows the number of shoreside processors that took groundfish deliveries of less than 1,000 lbs., 1,000 lbs. to 1,000,000 lbs., or 1,000,000 lbs. or more in a year. Between 57 percent and 60 percent of shoreside processors took deliveries of 1,000 lbs to 1,000,000 lbs. during the years 2006 through 2008. During that same time period, 29 percent to 33 percent of the processors took deliveries of 1,000,000 lbs. or more. Only 7 percent to 11 percent of the groundfish processors took deliveries of less than 1,000 lbs. those years.

Table 11 Number of processors by pounds of groundfish delivered, 2005 - 2008

Lbs of Groundfish	2005	2006	2007	2008
<1,000	*	4	7	7
1,000 - 1,000,000	19	35	35	38
≥1,000,000	*	19	19	18
Total	42	58	61	63

Source: NMFS shoreside catch data, 2005 – 2008, provided by NMFS AKR staff.

Motherships

Motherships are defined as vessels that process, but do not harvest, fish. The three motherships currently eligible to participate in the BSAI pollock fishery range in length from 305' to 688' LOA. Motherships contract with a fleet of CVs that deliver raw fish to them. As of 2010, 19 CVs were permitted to make BSAI pollock deliveries to these motherships. Substantial harvesting and processing power exists in this sector, but it is not as great as either the inshore or CP sectors. Motherships are dependent on BSAI pollock for most of their income, though small amounts of income are also derived from the Pacific cod and flatfish fisheries. In 2008, one additional vessel acted exclusively as a mothership. That vessel primarily took deliveries of Pacific cod. **To the extent that the AFA motherships process groundfish harvested in the GOA, they would be affected by Alternatives 2 through 5. AFA motherships operating exclusively in the Bering Sea pollock fishery would be affected by Alternatives 4 and 5. Motherships that are not operating in the Bering Sea pollock fishery, but are exclusively taking deliveries of BSAI groundfish or halibut, would be affected by Alternatives 3, 4, and 5.**

Because motherships are defined as vessels that do not harvest fish, any CP that took deliveries from other vessels was included in the CP section. However, to show the number of CPs that acted as a mothership during part of the year, they are also included in Table 12.

Table 12 Total number of vessels taking groundfish deliveries as a mothership, 2005 - 2008

Class	2005	2006	2007	2008
Mothership	3	7	7	4
CP acted as Mothership for some deliveries in a year	2	2	3	11
Total number of vessels reported in data as MS	5	9	10	15

Source: NMFS shoreside catch data, 2005 – 2008, provided by NMFS AKR staff.

From 2005 through 2008, three AFA motherships operated in the groundfish fishery. During 2008, one additional mothership reported taking deliveries from CVs. Four motherships in addition to the three AFA motherships took groundfish deliveries in 2006 and 2007. Three of those four motherships took deliveries of less than 5,000 lbs each year. The mothership that took deliveries of more than 5,000 lbs. primarily focused on Pacific cod. During 2005, only the three AFA motherships reported taking deliveries.

2.8.2 Halibut and sablefish IFQ sector

Only hook-and-line gear can be used in the directed halibut fishery. Participation in this fishery is controlled by the regulations for the halibut IFQ program and the halibut CDQ program. The IFQ program allows very limited participation in the halibut fishery by freezer longline vessels. Only persons that hold class "A" shares may operate as a catcher processor, and in 2008 about 2.98% of the available halibut was issued as "A" shares. Even less of the halibut was harvested and processed at-sea that year (1.80 percent[24]). Halibut CVs principally deliver their catch to inshore processors. However, a small part of the halibut catch is sold directly to restaurants, retail outlets, or the final consumers. Many of the hook-and-line fishing vessels operate solely with hook-and-line fixed gear, focusing on halibut and relatively high value groundfish, such as sablefish and rockfish. These two groundfish fisheries and the halibut fishery generate high revenue per ton, and the reliance of these vessels on the halibut and groundfish fisheries sets them apart from smaller fixed gear CVs, permitted to operate in Alaska salmon fisheries with multiple gear types. Overall, this fleet is relatively diverse. Approximately 90% of halibut vessels are <60' and 70% also participate in at least one groundfish fishery. **All halibut vessels would be affected by Alternatives 2 through 5 because they would be required to pay either the ex-vessel or pay-as-you-go fee.** The number of catcher vessels that are allowed to participate in harvesting license limitation groundfish species are constrained by the groundfish LLP.

IFQ program regulations were first published in November 1993. Those regulations allocated historical participants in the fixed gear halibut and sablefish fisheries a percentage of the available TAC, based on historical participation. The 2008 IFQ season opened at noon on March 8 and ended at noon on November 15. A total of 5,843 IFQ permits (as defined by unique combinations of species, areas, and vessel categories), including 4,266 halibut permits and 1,577 sablefish permits, were active as of year-end 2008 (RAM 2009).

When the season ended November 15, those permits had been used by IFQ holders to report 5,937 vessel landings[25] of IFQ halibut and 1,853 of sablefish, for a total harvest of approximately 99 percent of the IFQ halibut TAC and 90 percent of the IFQ sablefish TAC. Table 13 shows the number of unique vessels that landed halibut and/or sablefish, the number of registered buyers that purchased IFQ fish from harvesters[26], and the number of quota share (QS) holders. Halibut Area 4E is excluded, because 100 percent of the TAC is allocated to the CDQ fishery in that area (RAM 2009).

Table 13 Number of vessels, buyers, and QS holders in the IFQ fisheries, 2005-2008

Year	Halibut Vessels	Sablefish Vessels	Registered Buyers	QS holders
2005	1,276	378	174	3,514
2006	1,255	372	179	3,467
2007	1,211	373	173	3,303
2008	1,157	359	123	3,141

Source: RAM Program, NMFS.

[24] The percentage of halibut CP catch was estimated by matching the list of CP vessels used in this analysis to the IFQ catch reports. Their catch was assumed to all be processed at sea.

[25] Vessel landings are the number of times a vessel landed IFQ species. They are not counts of the number of vessels that made IFQ landings during 2008.

[26] Registered buyers of halibut IFQ have two options to report halibut landings. They may use the elandings system or the online "legacy" system. Both are real-time reporting systems that utilize the internet. All groundfish landings (including IFQ sablefish) must be reported using elandings, if the operator is required to hold a Federal Processing Permit (FPP). Processors must have an FPP if they receive any groundfish from a vessel with a Federal Fishing Permit (FFP).

A further breakout of the number of vessels that fished for halibut and sablefish IFQ in 2008 is provided in Table 14. That table shows a total of 1,184 vessels fished for IFQ species in 2008. An additional 243 vessels fished only for halibut CDQ, but are not included in that table.

Table 14 Activity of vessels that fished IFQ species, 2008

Both Halibut and Sablefish IFQ	329
Halibut IFQ Only	817
Sablefish IFQ Only	27
Halibut IFQ and Halibut CDQ	8
Halibut IFQ, Sablefish IFQ, and Halibut CDQ	3
Total (Unique Vessels)	1,184

Source: RAM Program, NMFS, 2008 data.

RAM estimated the ex-vessel gross value of the halibut and sablefish IFQ fishery using buyer reports. Those reports indicate that the total gross ex-vessel value of the sablefish IFQ fishery ranged from $53 million to $78 million dollars from 1999 through 2009 (Table 15). The value in 2009 was about 115% of the mean value over that period. Halibut gross ex-vessel revenue was estimated to be between $114 million and $198 million annually over that time period, and the 2009 ex-vessel halibut value was about 88% of the average over that period. The total IFQ ex-vessel revenue was estimated to be between $168 million and $269 million, annually, over that time period. The 2009 value of $210 million was about 96% of the average value for that period.

Table 15 Estimated gross ex-vessel value of the IFQ fishery, 1999-2009

Year	GOA Sablefish value <60'	GOA Sablefish value >=60'	BSAI Sablefish value <60'	BSAI Sablefish value >=60'	Total Sablefish value	Total Halibut value	Total IFQ Fishery Value
1999	$ 35,239,504	$ 35,708,452	$ 642,767	$ 4,161,505	$ 75,752,227	$ 113,841,913	$ 189,594,140
2000	$ 32,638,847	$ 27,268,389	$ 1,198,252	$ 4,552,861	$ 65,658,350	$ 128,901,754	$ 194,560,104
2001	$ 27,238,673	$ 21,844,294	$ 1,752,732	$ 3,138,035	$ 53,973,734	$ 113,631,253	$ 167,604,988
2002	$ 29,694,115	$ 21,039,183	$ 2,160,920	$ 3,410,422	$ 56,304,641	$ 125,035,173	$ 181,339,814
2003	$ 36,526,514	$ 28,084,199	$ 1,760,452	$ 5,147,783	$ 71,518,948	$ 165,281,857	$ 236,800,805
2004	$ 34,721,592	$ 26,981,089	$ 1,233,330	$ 4,548,220	$ 67,484,231	$ 168,129,437	$ 235,613,668
2005	$ 35,922,995	$ 26,696,136	$ 1,396,975	$ 5,328,786	$ 69,344,891	$ 166,616,522	$ 235,961,412
2006	$ 39,409,399	$ 28,808,526	$ 1,991,034	$ 5,319,782	$ 75,528,742	$ 193,538,637	$ 269,067,380
2007	$ 32,307,729	$ 23,548,275	$ 1,031,009	$ 5,794,965	$ 62,681,978	$ 172,184,141	$ 234,866,119
2008	$ 37,803,803	$ 24,614,241	$ 1,738,799	$ 5,215,850	$ 69,372,693	$ 175,481,745	$ 244,854,438
2009	$ 41,062,377	$ 26,786,032	$ 2,202,295	$ 7,912,304	$ 77,963,008	$ 132,506,372	$ 210,469,380
Average	$ 34,778,686	$ 26,488,983	$ 1,555,324	$ 4,957,319	$ 67,780,313	$ 150,468,073	$ 218,248,386

Source: RAM Program, NMFS.

The 2009 IFQ report to the fleet provided information on the top ports where IFQ landings were made (RAM 2009). That report indicates about 49 percent of the 2008 halibut IFQ was landed in the Central Gulf communities of Homer, Kodiak, and Seward (Table 16). These top three ports held the same rank every year, 2005 through 2008. The ports of Dutch Harbor/Unalaska, Sand Point, and Sitka all had halibut landings of about 2.8 million lbs. to 3.0 million lbs. Petersburg was the only other port that took deliveries of more than 2.0 million lbs. in 2008.

Table 16 Top 10 IFQ halibut ports for the 2008 fishing year

Port	2008 Net pounds Landed	2008 Percent of total landed	2008 Rank	2007 Rank	2006 Rank	2005 Rank
Homer	9,084,704	19.20	1	1	1	1
Kodiak	8,696,558	18.38	2	2	2	2
Seward	5,365,649	11.34	3	3	3	3
Dutch/Unalaska	2,916,441	6.16	4	5	5	4
Sand Point	*	*	5	8	8	8
Sitka	2,829,465	5.98	6	4	4	5
Petersburg	2,125,114	4.49	7	6	7	7
Juneau	1,945,415	4.11	8	7	6	6
Akutan	*	*	9	11	14	13
King Cove	*	*	10	13	11	10
All ports	***47,321,739***	***100***				

Source: RAM Program, NMFS. 2009.

The top ports for deliveries of IFQ sablefish have remained relatively constant over the past program seasons (RAM 2009). Seward remains the top port for sablefish deliveries. Seward held its top spot for the 14th year in a row. During 2008, Sitka and Dutch Harbor/Unalaska switched positions, with Sitka ranked second. Kodiak was ranked number four on the list with over 2.6 million lbs. Yakutat, Homer, Sand Point, and Petersburg all had deliveries of more than 1.2 million lbs.

Table 17 Top 10 IFQ sablefish ports for the 2008 fishing year

Port	2008 Round lbs landed	2008 Percent of total landed	2008 Rank	2007 Rank	2006 Rank	2005 Rank
Seward	4,445,903	16.54	1	1	1	1
Sitka	4,149,010	15.44	2	3	2	3
Dutch/Unalaska	3,097,052	11.52	3	2	3	2
Kodiak	2,603,499	9.69	4	4	4	4
Yakutat	*	*	5	5	7	5
Homer	1,825,752	6.79	6	6	5	8
Sand Point	*	*	7	7	6	9
Petersburg	1,206,703	4.49	8	8	8	10
Juneau	*	*	9	10	9	6
Akutan	*	*	10	12	12	14
All Ports	26,872,648	100				

Source: RAM Program, NMFS, 2009.

Landings Reports: eLandings is the standard reporting method for halibut and sablefish landings. The use of eLandings to report halibut landings is currently not required, but the use of eLandings has steadily increased since it was implemented. During 2008, registered buyers reported 8,179 vessel landings: 7,796 through eLandings, 201 by the NMFS Web, and 182 manually (RAM 2009). A total of 28 registered buyers in Alaska did not use eLandings in 2008. By 2009, the number of registered buyers in Alaska that did not use eLandings had dropped to 12. This information indicates that an increasing number of registered buyers exclusively use eLandings to report their purchases of halibut. All groundfish landings (including sablefish IFQ) are required to be reported via eLandings. The small number of persons that choose not to use eLandings for their halibut purchases must do so through the legacy system. For registered buyers using the legacy system, NMFS could provide information on their web site on the standardized halibut price that should be used to determine observer fees. It would be the responsibility of the registered buyers using the legacy system to accurately calculate and submit, in a timely fashion, any required observer fees.

2.8.3 Observer Provider Companies

Five observer provider companies are currently permitted by NMFS and are active in the North Pacific. These companies are: Alaskan Observers, Inc.; NWO, Inc.; Saltwater Observers, Inc.; TechSea International; and MRAG Americas, Inc. (MRAG). Of these, three are based in the Seattle area, one is based in Anchorage, and one is based in Florida, with a satellite office in Anchorage. The principal activity of most of these companies is providing observers for the North Pacific Groundfish Observer Program, and most of them also provide observers for other observer programs within or outside of Alaska, or are involved in other business activities. There are substantial differences among the observer providers in terms of both the proportion of their income generated by providing observers for the groundfish fishery and the proportion of the total groundfish observer deployment days they provide. Under the alternatives that would restructure the observer program, observer providers would compete for contracts awarded by NMFS to continue providing their services to the restructured portion of the industry. The industry sectors that are not restructured could continue to contract with any permitted observer provider.

2.8.4 CDQ Groups and Communities

The Community Development Quota (CDQ) program was originally established in 1992, when Bering Sea pollock was allocated to entities that represented western Alaska communities. In 1995, a portion of the IFQ halibut and sablefish allocations in the Bering Sea were also set aside for the CDQ program. Most other Bering Sea groundfish and PSC species were added to the program in 1998. Six CDQ entities were created to oversee each group's quota and manage their assets when the original pollock allocation was established. Each entity represents a number of eligible communities in their geographic area. A total of 65 communities are represented by the six CDQ entities, and these are listed in the MSA.[27]

During 2009, the fishing industry representatives of the CDQ groups harvested 137,617 mt of groundfish. Almost 100,000 mt of that catch was pollock (about 73% of catch by weight). Pacific cod (13%), Atka mackerel (5%), yellowfin sole (6%), and sablefish (<1%) are some of the other important species for the CDQ groups. During 2009, they also harvested 1.86 million pounds of halibut. CDQ groups, in aggregate, generated more than $60 million in CDQ royalties annually from 2005 through 2008 (WACDA, 2009).

2.9 Description of Observer Coverage Levels and Fees

Observer coverage levels would vary by sector, depending on whether the sector remains in the status quo or its coverage levels are restructured. The observer fees charged to harvesters and processors under the restructured program would either be based on the ex-vessel value of the groundfish and halibut they buy or sell, or it would be based on a daily fee that is different under the status quo and the restructured program.

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[27]Originally, criteria for community eligibility were established in the MSA and Federal regulations. In recent years, the MSA has been amended to include an explicit list of the 65 eligible communities and the 6 CDQ groups who represent them. Adding any communities or groups would require an MSA amendment.

2.9.1 Description of Observer Coverage Levels

One of the issues of primary interest to industry and the public is the issue of coverage levels. Under the existing program (Alternative 1), four basic coverage levels are established in regulation: 200% coverage, 100% coverage, 30% coverage, and zero coverage. Vessels and processors fall into one of these four categories, based on various criteria including vessel length, processing mode, target fishery, and participation in special programs such as the CDQ fishery (see Appendix 1). Under the restructuring alternatives (Alternatives 2 through 5), these four basic coverage levels would be replaced by 100%, 200%, or NMFS determined coverage levels for some or all of the fleet, depending on the alternative. The 100% or 200% coverage would apply to LAPP fisheries, catcher processors, AFA catcher vessels operating in the BS pollock fishery, AFA motherships, vessels operating in the GOA Rockfish catch share program, and shoreside processors when taking deliveries of Bering Sea pollock harvested by AFA catcher vessels. All other harvesting vessels and processors would operate under a NMFS determined level of coverage, if they are included in the revised observer program.

2.9.2 Description of Ex-vessel Value and Daily Fees

There are three general types of fees/costs assessed to harvesters and processors that could be used to fund the observer program under the proposed action: 1) the existing costs of an observer day under the status quo system; 2) the ex-vessel value based fee authorized under the MSA for a restructured system; and 3) the daily fee authorized under the MSA, based on the actual daily costs of observer coverage under a restructured program. This section does not address Federal funding that is currently allocated to support agency costs under the existing observer program; additional Federal funding to startup the program or for annual budgets is also excluded.

First, Section 2.9.2.1 addresses several questions about the extent to which the Council and NMFS can recover costs through the ex-vessel value based fee or daily fee under the terms of the Research Plan authority in section 313 of the MSA. The following sections describe each of the three general types of fees. Section 2.9.2.2 describes the ex-vessel value based fee, assessed as a percentage (maximum of 2%) of the ex-vessel sales price of the fish. Section 2.9.2.3 describes the status quo costs of an observer day under the current 'pay-as-you-go' delivery model. Section 2.9.2.4 describes the daily fee authorized under section 313 of the MSA.

2.9.2.1 Legal questions associated with MSA fees

Under section 313 of the MSA, the Council may prepare, in consultation with the Secretary of Commerce, a North Pacific Fisheries Research Plan (Plan) for all fisheries under the Council's jurisdiction, except salmon. Any such plan would require observers to be stationed on fishing vessels and on fish processors, or shoreside processing facilities as appropriate, to collect data necessary for the conservation, management, and scientific understanding of any fisheries under the Council's jurisdiction, including halibut, but excluding salmon. It would also establish a system of fees to pay for the cost of implementing the plan, which may vary by fishery, management area, or observer coverage level.

Pursuant to the MSA, fees collected may be expressed as a fixed amount, reflecting actual observer costs or a percentage, not to exceed 2 percent, of the unprocessed ex-vessel value of the fish harvested under the jurisdiction of the Council. Moreover, the total amount of fees collected cannot exceed the combined cost of (1) stationing observers, or electronic monitoring systems, on board fishing vessels and fish processors; (2) the actual cost of inputting collected data; and (3) assessments necessary for a risk-sharing pool, less any amount received for such purpose from another source or from an existing surplus in the

North Pacific Fishery Observer Fund.[28] Finally, the fees must be fair and equitable to all participants in the fisheries under the jurisdiction of the Council, including the Northern Pacific halibut fishery, and may not be used to pay any costs of administrative overhead or other costs not directly incurred in carrying out the plan.

This section addresses several questions about the extent to which the Council and NMFS can recover costs under the terms of the Plan authority in section 313 of the MSA.

Limitations on the use of fee proceeds

Sections 313(b)(2)(C), (H), and (I) of the MSA, provide language directing how fee proceeds can be used, but are not explicit as to what plan implementation costs can be covered by fee proceeds. For example, section 313 (b)(2)(C) states: Any system of fees shall "provide that fees collected not be used to pay any costs of administrative overhead or other costs not directly incurred in carrying out the plan." Although this does not allow for fees collected to be used to pay for administrative overhead, it is implicit that fee proceeds could then be used toward other agency costs associated with implementation.

Section 313(a)(2) states that the Plan implemented under the section may establish a system of fees "[t]o pay for the cost of implementing the plan". Although this provision initially grants broad authority to collect costs associated with implementation, section 313(b)(2) defines and appears to limit recoverable costs. According to section 313(b)(2)(A), the total amount of fees cannot exceed the combined cost of "(i) stationing observers, …, on board fishing vessels and United States fish processors, (ii) the actual cost of inputting collected data,…". Further, under Section 313(b)(2)(C), fees may "not be used to pay any costs of administrative overhead or other costs not directly incurred in carrying out the plan". The question is what costs are associated with "stationing observers" on board fishing vessels and at fish processors, and "inputting collected data". The terms "stationing observers" and "inputting collected data" are undefined in the MSA. To add to the issue, there are no regulatory definitions and none were promulgated in the earlier Research Plan.

The legislative history for this section provides limited insight to the meaning of "stationing observers" and "inputting collected data". According to the Senate Report, "[t]he level of fees would be determined by the cost of training and placing observers on-board vessels and in shoreside plants, as well as the cost of inputting collected data, but shall not include administrative overhead costs incurred by the Secretary." (S. Report No. 414, 101st Cong., 2nd Sess. 1 (1990)). With some minor differences, the House Report states that "[t]he section also limits the level of fees which can be charged to amounts necessary to cover the direct costs of the research program. Finally, it is the intent of the Committee that any fees collected under a plan shall be used for the purpose of implementing that research plan. The fees are not to be considered another revenue raising measure by any branch of the government; they are established for a particular purpose and are to be used only for that purpose." (H. Rep No. 393, 101st Cong., 1st Sess. 32 (1989)).

Read together, the House and Senate Reports reflect that Congress wanted fees to connect directly to the Research Plan's distinct, direct costs. Fearing that the agency might use the fee authority to reimburse itself for costs not directly associated with the Research Plan, Congress established barriers precluding the recovery of costs for program expenses that were shared with any other observer system operating in the North Pacific. To further ensure unassociated costs would not be recovered, NMFS is precluded from collecting fees for overhead, "administrative" expenses. Presumably, this is because these expenses flow

[28]The risk-sharing pool concept under (3) is not being considered at this time, as it appears the past insurance issues have been resolved either through the commercial market, or through the use of the MSA 403(c) language, which provides observers Federal employee status for the purposes of compensation under the Federal Employees' Compensation Act (FECA).

from the observer program's responsibility for all program tasks, not just Plan operations. It is possible that, if implemented, the Plan may not be the only observer deployment operation administered by the observer program offices. In this instance, the shared overhead costs cannot be recovered.

NMFS, using its expertise and past experience in "stationing observers" and "inputting collected data", may develop a reasonable common sense standard describing what costs are captured by these terms. Although there is broad authority to collect fees for costs associated with the Plan, NMFS should establish a nexus between implementation costs and their relationship to placing or stationing observers aboard vessels and at processors. The remainder of this section describes the general categories of responsibilities and associated costs expected under a restructured program, and NMFS' proposed use of fee proceeds.

With the implementation of a restructured service delivery model for the observer program, in which the government enters into direct contracts with observer providers for observer services, responsibilities and associated costs would fall into three categories: (1) those that are currently covered by NMFS, (2) those that are currently under the purview of the observer providers, and (3) those that are new beyond the status quo.

Under the current program, NMFS is responsible for the sampling design employed by observers on fishing vessels and at shoreside processing plants. NMFS is also responsible for the training and certification of observers in these methods, supplying gear, debriefing observers, and the management of resulting information. Under a restructured program, NMFS would continue these responsibilities as they are essential data quality control steps. NMFS does not intend to shift substantive components of its current responsibilities to observer providers.

Currently, observer providers recruit, hire, deploy, insure, and provide salaries and benefits to observers. They also communicate with the fishing industry to coordinate with their scheduling needs and supply observers to meet federally mandated observer coverage. Under a direct contracting system between NMFS and the observer providers, it is likely that the current responsibilities of the observer providers would remain under the observer provider's purview. However, observer deployment would shift from a static regulatory-driven system to a dynamic science-based system. Under this proposed system, there may be logistical efficiency challenges that impact costs.

Under a restructured observer program, there would be additional responsibilities and costs that NMFS would incur beyond those of the status quo. Some of these responsibilities would fall to NMFS, but there would also be new responsibilities that may best be accomplished by the contracted observer providers. For example, NMFS or observer providers would need to implement a vessel selection sampling plan designed by NMFS. These responsibilities could include managing a call-in system with industry and making vessel selections following NMFS design criteria.

A shift from regulatory to science-based observer deployment would also impose new analytical burdens on NMFS. These include: (1) identification and designation of appropriate sampling strata to increase sampling efficiency, (2) designing sample-size requirements for attaining adequately precise estimates of catch for species for which there are allocated quotas, (3) anticipating total sampling effort for the upcoming year, based on expected funding, and (4) final allocation of 'target-days' (sampling effort) to strata, given the aforementioned calculations. Changes in fisheries or new information system developments could require changes including database design, programming, application development and testing. Ongoing information system development is part of the existing program, and it would continue to be an essential activity in the future.

Increases in agency resources required to implement a restructured program will be associated with fee collection and government contract award and oversight. Depending on the timing and magnitude of fee collection from industry to pay for observer coverage, additional staff may be needed to implement fee collection and budgeting. A Contracting Officer's Technical Representative (COTR) would also need to be designated to provide oversight and management of the government contract(s).

NMFS views all of the activities described above, including those that would be additions to the status quo, as essential functions specific to the execution of a restructured program. In other words, these are the functions necessary to station observers on fishing vessels and input collected data. Some activities may be administrative by nature, but they are essential to program operations and NMFS would not be conducting them were it not for the observer program. Thus, NMFS views all activities noted above as falling under the fee authority in the MSA. However, NMFS would not use fee proceeds to fund other non-observer related NMFS activities or the cost of NMFS overhead. For example, NMFS would not consider Alaska Fisheries Science Center (AFSC) leadership salaries or travel to be within the scope of the fee. All funds collected would be used to pay for the direct costs of the observer program.

NMFS recognizes that the ongoing contribution of the Federal government in supporting the existing program must continue. **NMFS does not intend to use fee proceeds to offset the current government contribution to the observer program, because it recognizes that fee proceeds would best be used to procure and optimize the observer coverage needed in Alaska.** NMFS intends to continue to fund, and expand to the extent National resources are available, the agency contribution in support of the observer program. However, to the extent new activities are required of NMFS, which are not currently funded, NMFS would use fee proceeds that are available. Depending on the types of activities that must be funded, they could reduce the total number of observer days that NMFS is able to purchase.

At its September 2009 meeting, OAC members requested a description of the current tasks associated with procuring and deploying observers and the party responsible for each of those tasks. OAC members were interested in seeing which tasks would be eligible to be paid for with MSA section 313 observer fees and which tasks were envisioned to continue to be paid for by NMFS with Federal funding under a restructured observer program. This information is provided in Table 18 below.

A question was also raised at the OAC and in testimony to the Council regarding the ability of NMFS to place staff on board vessels and to use fee proceeds to do so. Under each action alternative, NMFS would have the authority to place staff or observers on vessels. To the extent NMFS staff are functioning as observers, NMFS would be able to use fee proceeds to fund this activity. NMFS does not anticipate a large-scale use of Federal staff as observers, but the authority would exist if it is necessary to address specific problems.

Table 18 Comparison of the funding source envisioned for groundfish observer program tasks under status quo and a fully restructured program

Current and Future Tasks	Responsible Party	Existing Task?	Task under a fully restructured program?	Does NMFS have authority to use fees to cover this task?	Intended source of funds to cover the task in the future
Evaluating observer provider applicants and issuing permits	NMFS	Yes	No	Yes	N/A
Training and briefing observers (includes instruction, training aids/equipment and fish/crab specimens, manuals and books)	NMFS	Yes	Yes	Yes	NMFS
Equipping observers with sampling and safety gear (purchasing, maintaining, issuing, and receiving gear)	NMFS	Yes	Yes	Yes	NMFS
Debriefing observers (checking data and interviewing observers)	NMFS	Yes	Yes	Yes	NMFS
Managing collected data (editing, storage, retrieval and analysis, as well as on-going Database Development).	NMFS	Yes	Yes	Yes	NMFS
Maintaining Observer Program field office and staff (Dutch Harbor and Kodiak)	NMFS	Yes	Yes	Yes	NMFS
Communications with observers at-sea (maintaining and developing computer software and responding to observer messages)	NMFS	Yes	Yes	Yes	NMFS
Modifying regulations that apply to contractors and observers	NMFS	Yes	No	Yes	N/A
Modifying regulations that apply to the fishing industry[29]	NMFS	Yes	Yes	Yes	NMFS
Recruiting and hiring qualified observer candidates	Observer Providers	Yes	Yes	Yes	Industry Fees
Observer deployment logistics (air travel, ground transportation, lodging, per diem)	Observer Providers	Yes	Yes	Yes	Industry Fees
Observer pay, insurance, and benefits	Observer Providers	Yes	Yes	Yes	Industry Fees
Housing observers (during training, briefing, and debriefing)	Observer Providers	Yes	Yes	Yes	Industry Fees

[29]Regulations would still apply to industry participants, but it is likely that some will be simplified, as complex coverage requirements would be removed, while new regulations governing payment and call-in requirements would be added.

Current and Future Tasks	Responsible Party	Existing Task?	Task under a fully restructured program?	Does NMFS have authority to use fees to cover this task?	Intended source of funds to cover the task in the future
Maintaining observer provider Field Coordinators as needed (Dutch Harbor and Kodiak)	Observer Providers	Yes	Yes	Yes	Industry Fees
Communication with fishing industry (coordinating observer embarkation and disembarkation)	Observer Providers	Yes	Yes	Yes	Industry Fees
Assigning observers (Level 2 and Lead Level 2) to meet vessel/plant coverage requirements	Observer Providers	Yes	Yes	Yes	Industry Fees
Replacement of lost or damaged observer gear and safety Equipment	Observer Providers	Yes	Yes	Yes	Industry Fees
Implementing a vessel selection sampling plan (managing a call-in system with industry and making vessel selections following NMFS design criteria.)	Observer Providers	No	Yes	Yes	Industry Fees
Sample Plan Design: identification and designation of appropriate sampling strata; designing sample-size requirements; calculating total sampling effort for the upcoming year, based on expected funding; allocation of 'target-days' (sampling effort) to strata, database design, programming, application development and testing, etc.	NMFS	No	Yes	Yes	NMFS or Fees
Fee determination (calculating ex-vessel value of catch); fee collection (billing, receiving and monitoring payments); and fee budgeting and accounting	NMFS	No	Yes	Yes	NMFS or Fees
Government contract development, solicitation, and award	NMFS	No	Yes	Yes	NMFS or Fees
Oversight and management of the government contract(s)	NMFS	No	Yes	Yes	NMFS or Fees

Relationship between Section 313 and Section 304(d) fee authority

A second question is whether fees authorized under the Research Plan can be added in with fees authorized under other MSA provisions. In other words, can two pools of fees be added together to increase available funds to cover observer costs, or be used to improve and increase observer coverage? In addition to Section 313's fee collection mechanism, Section 304(d)(2) authorizes collection of fees for "management, data collection and analysis, and enforcement activities" connected to Limited Access Privilege Programs (LAPPs) and the Community Development Quota (CDQ) Program. Although it has not yet issued explicit guidance, NMFS interprets "data collection and analysis" costs under Section 304(d)(2) as including, among other costs, observer coverage costs.

Thus, in considering the authority to assess a fee for observer services under Section 313, staff consulted with NOAA GC to determine if there is any overlap with the LAPP cost recovery fees authorized under Section 303A(e). While Section 313(b)(2)(D) explicitly states that the research plan fee should not offset any fees authorized under other law, Section 313(b)(2)(I) states that:

> "Any system of fees established under this section shall provide that fees collected will be *credited against any fee* for stationing observers or electronic monitoring systems on board fishing vessels and United States fish processors and the actual cost of inputting collected data to which a fishing vessel or fish processor is subject under section 304(d) of this Act" [*emphasis added*].

Section 304(d)(2) provides the authority to collect fees to recover the actual costs directly related to management, data collection and analysis, and enforcement of any LAPP and CDQ Program. This section notes that the LAPP or CDQ fee cannot exceed 3 percent of the ex-vessel value of fish harvested under any such program, and further states that fees collected under the LAPP cost recovery program shall be *in addition to* other fees charged under the MSA. Thus, both Section 313 and Section 304 are relatively clear that the fees collected under the research plan authority in Section 313 are separate from, and should not be used to offset, any other fees authorized in the MSA. However, there appears to be an exception for fees collected under Section 304(d) that are used explicitly for stationing observers or EM systems, and the actual cost of inputting collected data. Any fees collected under Section 313 must be credited against any fees collected under 304(d) for these specific purposes.

In sum, the two fees are not duplicative for observer purposes. While the 304(d) LAPP authority can fund management, enforcement, and observer costs, the 313 authority can only fund observer costs.[30] If the 304(d) fee is used for "stationing observers" or "inputting collected data", any fees collected under Section 313 must be credited against the observer fees paid under Section 304(d). Thus, theoretically, the maximum fee that could be assessed on vessels in a LAPP *for observer coverage and inputting collected data* is 3%. This assumes that the entire 304(d) fee is devoted to observer coverage and inputting collected data. The Section 313 fee authority could not be invoked on these vessels, as they are already paying the maximum fee under Section 304(d) for observer coverage.[31] In another example, consider a vessel in a LAPP being assessed the maximum LAPP fee of 3% of ex-vessel value, with 2% directed toward management and administrative costs, and 1% for observers. If a 2% fee under Section 313 is assessed on the same vessel, that fee must be credited against the 1% LAPP fee that is also funding observers. Thus, the total fee in this example would be 4% (2% LAPP fee for management costs + 2% Section 313 fee for observer costs).

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[30]Observer costs under Section 313 refers to the cost of stationing observers or electronic monitoring systems on board fishing vessels and United States fish processors and the actual cost of inputting collected data, or other costs directly incurred in carrying out the plan.

[31]Theoretically, the maximum *total* fee that could be paid by vessels in a LAPP program is 5% of ex-vessel value, assuming that the entire 304(d) fee (maximum 3%) is devoted to administrative and management costs, and the entire Section 313 fee (maximum 2%) is assessed for observers.

In sum, should a fishery or sector also be subject to a LAPP fee under Section 304(d) of the MSA under a separate action, fees collected under Section 313 would be credited against any 304(d) fee that is specific to stationing observers or electronic monitoring systems and/or the cost of inputting collected data. NMFS, in consultation with the Council, may consider using the 304(d) fee authority in lieu of the Section 313 fee authority to station observers on vessels participating in LAPPs, should budget considerations indicate it would be prudent to do so. This approach would be implemented by regulation for a particular LAPP, under a separate analytical package.

Application of 2% ex-vessel value fee limit

One further issue is found in Section 313(b)(2)(E), which states that "any fee system shall be expressed as a fixed amount reflecting actual observer costs as described in subparagraph (A) or a percentage, not to exceed 2 percent, of the unprocessed ex-vessel value of the fish and shellfish harvested under the jurisdiction of the Council…." The issue is whether the 2 percent cap applies to both the fixed amount fee and ex-vessel value based fee. This is significant in that one of the proposed restructuring alternatives (Alternative 4) would establish a daily observer fee on some industry sectors. The provision allows two methods to express or describe the fee: either as a dollar amount, or as a percentage of the value of unprocessed fish. In theory, a fixed or dollar amount could certainly be capped at a percentage of the ex-vessel value of fish; however, the grammatical structure of the sentence clearly links the 2 percent cap only to the percentage expression of fees, not the fixed or dollar amount. Thus, the 2 percent cap applies only to the ex-vessel value based fee, not the fixed amount reflecting actual observer costs.

Regulatory Discretion

Section 313(b)(2)(E), states that "any fee system shall be expressed as a fixed amount reflecting actual observer costs costs as described in subparagraph (A), or a percentage, not to exceed 2 percent, of the unprocessed ex-vessel value of the fish and shellfish harvested under the jurisdiction of the Council…." Section 313 provides explicit guidance about some provisions of the fee system and allows for agency discretion on others. This section provides answers to questions raised by the public and delineates which elements of a fee system are mandated by the MSA and which elements allow for regulatory discretion.

Aspects of the fee system that allow for regulatory discretion include, but are not limited to, the method used to establish the ex-vessel value of the fish harvested under the jurisdiction of the Council, the method in which an individual's fee liability is assessed, and the time frame over which the fee may not exceed 2 percent of the ex-vessel value. The process proposed by NMFS to calculate and collect ex-vessel value fee liabilities was designed based on experience with other fee collection programs authorized by the MSA and administered by NMFS while taking into consideration aspects unique to the section 313 authority, the universe of entities included in the fee system, and stated Congressional intent; and incorporating the best information available to determine the ex-vessel value of the fisheries. For example, the process proposed to partition the ex-vessel value-based fee liability among individual entities (i.e., using standard, average prices proportional to the amount of the resource they harvest or process) is consistent with the approach taken to implement ex-vessel value-based cost recovery fees for crab and halibut/sablefish IFQ.

Section 313(a)(2) authorizes a system of fees which may vary by fishery, management area, or observer coverage level, to pay the cost of implementing a restructured observer program. As noted in the December 2008 discussion paper on this issue, the authority to charge different fees in different sectors did not exist prior to the reauthorization of the MSA in December 2006. The authority to collect different fees in different fisheries or management areas is reflected in the Council's suite of alternatives for this action. It is envisioned that sectors subject to the same type of fee, e.g., daily or ex-vessel value based fee, would pay a uniform ex-vessel percentage or daily fee amount across fisheries or management areas. In other words, all operations subject to a daily fee would pay the same daily fee amount for a day of observer coverage and all operations subject to an ex-vessel value fee would pay the same percentage of the ex-vessel value of the fish they harvest. (As noted previously, CPs would pay the entire ex-vessel value fee percentage and CVs and processing operations would divide the fee percentage in equal portions.) This approach is designed to achieve the fair and equitable standard of Section 313 given one objective of observer program restructuring, that user fees not be directly linked to actual coverage levels when levels are less than 100%.

The Section 313 fee authority limits the fixed amount fee (daily fee) to reflect actual costs of stationing observers and inputting collected data. The process NMFS would follow to establish and collect daily fees to match the actual costs of stationing observers and inputting data is described in Section 2.9.2.4. Daily fees would be calculated to recover the actual costs of deploying observers in a given year.

Statutory authority for the fee based on a percentage of the unprocessed ex-vessel value of the fish harvested under the jurisdiction of the Council limits the percentage to 2 percent. Fee revenues generated under this type of fee system would constitute NMFS's budget and determine the level of costs that could be incurred to deploy observers. In determining the level of observer coverage needed in each impending year, NMFS would consider the revenue anticipated to be generated from the fisheries subject to the ex-vessel value fee and any surplus in the observer fund from previous years. NMFS would need to adjust observer coverage levels within the fleets subject to the ex-vessel value fee to align anticipated costs with available revenue. Section 313(d) allows for the establishment of a Fishery Observer Fund that is available without appropriation or fiscal year limitation, and extra sums may be kept on deposit. However, if the fee proceeds do not sufficiently align with anticipated costs over a period of time, a new regulatory amendment could be initiated to change the fee percentage.

Section 313 does not specify whether the ex-vessel fee percentage must correspond to an annual ex-vessel value or any other particular time frame. Should a multi-year approach be preferred (see Section 2.9.2.2.4), NMFS and the Council should ensure that the record demonstrates consideration for a fee calculation system that relies on a series of years of fishery value, including the fishery value in preceding years. Provided that the record and chosen approach reflects a nexus to conservation and management and does not overlook a material fact that suggests an alternative, more rational approach, a system that is not "annualized" for fishery value and fees would be consistent with Section 313 authority. The chosen system should ensure that fees do not exceed the costs; however, reconciliation may not occur on an annual basis.

Relationship between Section 313 and Halibut Act authority

Another issue raised by the Council is whether the Northern Pacific Halibut Act of 1982 (the "Halibut Act"), 16 U.S.C. Sec. 773-773k, authorizes placement of observers onboard vessels not covered by Section 313. Section 313 authorizes the stationing of observers in the North Pacific halibut fishery and fees to cover the related costs. Of course, there are also State-permitted groundfish vessels that fish exclusively in State waters, and do not hold FFPs, IFQ, or engage in the North Pacific halibut fishery. These vessels catch halibut incidentally and must discard halibut, by regulation. Thus, the narrower question is whether the Halibut Act authorizes the stationing of observers aboard these vessels, for the purpose of observing halibut PSC and mortality. NOAA GC guidance suggests that it does not.

The Halibut Act authorizes regulations that are necessary to carry out the purposes and objectives of the Convention, which is a conservation treaty between the United States and Canada. These regulations are also subject to the Administrative Procedure Act, ("APA"), 5 U.S.C. Sec. 551 *et seq.*, and must have a rational basis. It would be difficult to develop a nexus between the Convention, the Halibut Act, and the placement of observers aboard vessels that are not directly engaged in the halibut fisheries, therein lies the vulnerability to a legal challenge.

A related question is whether the Halibut Act provides authority to impose fees for the costs of observer stationing. In general, Congress must provide explicit authority to the Secretary for imposing fees. Section 313 is an example of explicit authority to impose fees. In contrast, the Halibut Act does not provide the authority to impose fees.

2.9.2.2 Description of Ex-vessel Value Based Fee

Alternatives 2 through 5 contain a provision for establishing and collecting an ex-vessel value based fee from a portion or all of the groundfish and halibut industry. This section describes how NMFS would establish and collect an ex-vessel value based fee from Federal groundfish and halibut fishery participants. Methods for establishing and collecting fee revenues are described in prior observer restructuring efforts, including the 1995 Research Plan (Research Plan) and the 2006 restructuring analysis, and existing cost recovery programs in the Alaska Region, including halibut/sablefish and crab IFQ (see Appendix 3).[32]

Also considered were the proposed principles of a fee program as described in the 2006 analysis:

1. User fees should be broad-based in that all participants in the program pay a share.
2. User fees should be fair and equitable.
3. User fees should not be directly linked to actual coverage levels when coverage levels are less than 100%.
4. User fees should be easy to collect without undue burden on industry.

Other principles carried over from prior restructuring analyses include:

1. Fees should be assessed on any post-season price settlements or retroactive payments in addition to fee assessments at the time of landing.
2. Fees should account for non-monetary forms of compensation.
3. Fees should be assessed based on the weight equivalents used to debit quotas, and prices should be expressed on the same weight equivalents (e.g. round weight for groundfish and headed and gutted net weight for halibut).

There are advantages and disadvantages of using actual or standardized prices as the basis for an ex-vessel value fee. Actual prices constitute the actual amount paid by a buyer for each species and landing. Standardized prices are determined by aggregating prices over all landings in specified species, gear, and area groupings to arrive at an average price per pound for each grouping.

Based on the methods-evaluation and review of the legislative history of MSA Section 313, which authorizes collection of an ex-vessel value observer fee, standardized prices are proposed, by species, gear, and delivery port, as the basis for an ex-vessel value fee. This preference is consistent with the approach taken in the Research Plan and reaffirmed in the 2006 analysis. More importantly, and as explained in the Senate Report accompanying the original 1990 legislation for Section 313, Congress recognized the difficulty of determining ex-vessel values in the absence of a documented commercial transaction between independent parties and expected that the Secretary of Commerce would develop a standardized value for harvested fish throughout the industry to implement the Section 313 ex-vessel value fee.[33] There would be no other option than to use standardized prices to determine ex-vessel prices

[32]Appendix 3 provides a description of the fee derivation and collection methods used in the halibut/sablefish IFQ and the BSAI crab cost recovery programs.
[33] See S. Rep. 414, 101st Cong., 2d Sess. 24 (1990).

for CPs, because no ex-vessel transaction occurs between a harvester and processor, any ex-vessel price must be imputed.

The extent of accounting complexities associated with basing ex-vessel value fees for groundfish observers on actual prices make their use impracticable, from an agency implementation standpoint. The existing data sources for groundfish selling and purchasing information are insufficient for NMFS to determine actual prices, including post-season adjustments, on which to base ex-vessel value-based observer fees.

Groundfish price data are collected by the State of Alaska and on a more limited basis by NMFS. Price data are collected by the State of Alaska on ADF&G fish tickets, Commercial Operators Annual Reports, and the Alaska Department of Revenue Fishery Business Tax returns. NMFS collects price data from specific LAPP recipients that are required to submit cost and earnings surveys.

All first purchasers of raw fish, and fishermen who catch and sell processed or unprocessed fish are required to record each delivery on an ADF&G fish ticket (5 AAC 39.130). Groundfish landings must be reported using the eLandings system developed by ADF&G and NMFS. Completed fish tickets must be submitted to a local representative of ADF&G in the area where the fish are landed within seven days after the fish are delivered, unless otherwise specified. This reporting requirement means that fish ticket price data could be available before the end of the calendar year.

Fish tickets collect information on the harvesting vessel, processor, species harvested, area of harvest, gear, and delivery information. A field to collect ex-vessel price data in addition to the pounds reported, is also included. However, ex-vessel prices are not required to be filled in on fish tickets and are often not reported. Price information that is reported does not include post-season price adjustments or additional compensation for deliveries. Therefore, fish tickets would underestimate the total value of the fish delivered, if post-season bonuses are given after the fish ticket is filled out or the processor provides additional compensation (e.g., ice, bait, moorage). Because of these reporting requirements, fish tickets are not intended to be used as an indication of the ex-vessel value of Alaska's fisheries.[34]

The purpose of the Commercial Operator's Annual Report (COAR) is to collect statewide buying and production information. Each year the COAR must be completed by operations that are the first buyers of fish harvested from Alaska State waters and Federal waters off the Alaska coast. The report must be completed and submitted to the Alaska Department of Fish and Game by April 1, of the year after the fishing occurred.

Fish buyers are required to report in the COAR the total amount paid to fishermen by species, area purchased, gear types, delivery codes, and weights using that company's processor code. All post-season adjustments and/or bonuses, including credit received by fishermen for fuel expenses, ice, delivery premiums, and other miscellaneous expenses must be included in the total price. If additional adjustments may be made after the COAR is filed, the price is submitted as "not final" and an additional form (Form M) must be submitted when those adjustments are paid.

COAR data are generally considered the best routinely collected information to determine the ex-vessel value of fish harvested from waters off Alaska. It must be submitted by all fish buyers and requires persons submitting the data to include post-season price adjustments and bonuses. Because the data are reported at the processor level, it is not possible to determine the actual ex-vessel price, using the current aggregated data from COAR submissions, paid to each individual harvester, when multiple harvesters deliver the same species, harvested from the same area, using the same gear. Harvest level information is,

[34] http://www.admin.adfg.state.ak.us/confluence/download/attachments/10226308/COAR+Metadata.doc

at present, inaccessible, because the processor is only required toreports the total pounds and payment for those fish, aggregated over all harvesters.

The Alaska Department of Revenue also collects ex-vessel revenue data on their Fishery Business Tax returns. The tax return for the 2009 fishing year must have been completed and returned by March 31, 2010. These data are compared to the COAR to determine the "best" estimate of the firm's tax liability. Those data have not been used in this amendment and Alaska Department of Revenue confidentiality standards would prevent their release.

In developing this amendment, one principle considered was to minimize to the extent possible additional reporting burdens on processors. Moreover, it may be difficult for processors to collect a catcher vessel's portion of the observer fees when price adjustments made after the time of landing. Notwithstanding data availability concerns, the sheer number of species and landings NMFS would have to track to verify actual price information for groundfish participants renders the use of actual prices impractical for establishing ex-vessel value fees. Additional concerns with actual prices are that they could encourage price reductions or under-reporting; and it would be difficult for NMFS to project revenues for funding observer coverage.

A combination of standardized prices and actual prices are used in the halibut/sablefish IFQ and BSAI crab cost recovery programs, which assess ex-vessel value based fees on participants. Use of standardized prices was a major point of controversy in the development of the halibut/sablefish IFQ cost recovery program. NMFS ultimately developed a flexible system, under which fishermen are given the choice of proving their actual prices differ from the standardized price. If they can prove the prices differ, they can base their fee on the actual price. The great majority of halibut/sablefish IFQ holders have elected to use NMFS standardized prices, rather than challenging that price and providing evidence of their actual prices. About 96% of IFQ holders choose to use standardized prices in 2008.[35] However, RAM staff has noticed an increasing number of persons are challenging the standardized price.[36] The increasing number of challenges was thought to be a result of increased aggregation of ex-vessel price data. Even with the increasing challenges, a great majority of persons still elect to use standardize prices.

When individuals are given the opportunity to use either standardized prices or actual prices, they would be more likely to challenge the standardized price when it is greater than their actual price. If standardized prices are lower than the actual price, the individual would probably accept the lower standardized price and pay the smaller fee.

The proposed program also differs from the halibut and sablefish IFQ fee collection program in that under that program the permit holders are billed directly by NMFS. Under the proposed observer restructuring, the processors or registered buyers would be billed for all catcher vessel deliveries of groundfish and halibut subject to the observer fee. The ex-vessel price would be based on previous year's landings that would be aggregated over multiple processors. Because the price would not be based on that year's catch, the fee would not equal the percent of ex-vessel revenue listed in the *Federal Register* for the current year. However, over time, the fee is not anticipated to exceed the 2 percent fee maximum. This issue is discussed in more detail in the next section.

[35]T. Zuniga, NMFS, personal communication, August 26, 2009.
[36] J. Gharrett, NMFS, personal communication, February, 2010.

2.9.2.2.1 Establishing standardized prices

In the September 2009 version of the Implementation Plan, NMFS proposed using the method employed by authors of the Economic SAFE to calculate standardized ex-vessel prices. Standardized prices provided in the Economic SAFE by species, vessel type (CP or CV), and gear-type represent the unfrozen landing price, and are calculated by dividing the landed value by the estimated or actual round weight (Hiatt et al. 2008). For species well represented by shoreside landings, the source for 'landed value' is the COAR. The September 2009 Implementation Plan stated that NMFS would determine appropriate species, gear, and area groupings for calculating standardized prices. In September 2009, the OAC noted that groundfish prices vary depending on the condition in which the fish are delivered, that determines the final product disposition. The OAC requested that NMFS consider how to incorporate delivery codes in standardized price determinations.

In keeping with the principles above, staff proposes to use the information collected by ADF&G through the COAR as the primary data source for establishing groundfish ex-vessel value prices. When aggregated to maintain confidentiality, the COAR has provided the best available data on ex-vessel pricing and processing information, since inception.[37,38]

Benefits of using COAR data to determine standardized ex-vessel value prices are that the data are adjusted for post-season settlements and non-monetary transactions; the need for additional industry reporting beyond what is already required is eliminated; and it maintains consistency with NMFS' AFSC and the State of Alaska Commercial Fisheries Entry Commission (CFEC) in generating estimates of the fisheries ex-vessel value. There are limitations to using the COAR data to establish standardized prices. COAR data are reported on an annual basis and represent the total amount paid by a buyer for each combination of species, area, gear, and delivery condition. This precludes the derivation of seasonal prices for groundfish fisheries where prices are different between seasons. Another disadvantage of using COAR data to determine standardized prices is the time lag between when fish are landed and when data are available. This is discussed in greater detail below; however, a two-year lag is anticipated before standardized prices from the COAR are able to be applied to landings for establishing ex-vessel fee liabilities. Notwithstanding these limitations, the COAR data currently comprise the best available information to establish the ex-vessel value of the groundfish fisheries off Alaska.

Once it was determined that the best source of groundfish ex-vessel price data (excluding IFQ sablefish) is the COAR, additional decisions were required to compile the data. Raw COAR data could be accessed and business rules developed for matching COAR data to eLandings. The development of decision rules are tedious and require several assumptions. For example, how should COAR prices be manipulated to match e-landings quantities when a port is not included in the COAR that is reported in the eLandings data? This type of mismatch is not uncommon in the data. To avoid inventing a new methodology for generating ex-vessel prices, the process established by the CFEC was reviewed. The CEFC has a long history of generating estimates of gross revenue for the commercial groundfish fleet. It has an established methodology for matching COAR ex-vessel prices to fish tickets and eLandings data using their "pricing deck" structure. After considering potential alternatives, it was determined that using final CFEC ex-vessel prices, generated using COAR data in the fall, the year after fishing occurred, was the best source of information available.

A summary of the CFEC pricing process is that each spring CFEC obtains access to ADF&G fish ticket data for the preceding year and calculates 'preliminary' ex-vessel price estimates from the fish ticket data.

[37] http://www.admin.adfg.state.ak.us/confluence/download/attachments/10226308/COAR+Metadata.doc

[38] Previously exempt CPs that operate exclusively in the EEZ and process only their own catch, have been required to complete the COAR since 2002 (Hiatt et al. 2008).

A weighted average price per pound is determined for each port, species, gear type, and delivery condition combination found in the harvest data. That weighted average price per pound is then applied to each fish ticket item with the corresponding port, species, gear type, and delivery condition.

Sometimes a port, species, gear type, and delivery condition combination does not possess any fish ticket items with pricing information. In these cases, a statewide price for a species, gear, and delivery condition, or a statewide price for a species and delivery condition are calculated and applied to fish ticket items.

A second round of pricing occurs in the fall, once ADF&G Commercial Operator Annual Report (COAR) data are available for the preceding year's harvest. CFEC determines 'final' ex-vessel price estimates based on either the COAR buying information or fish ticket data. Weighted average ex-vessel prices are calculated from the COAR and fish ticket data for each port, species, gear type, and delivery condition combination of harvest. The calculations reflect the following categories from both data sources:

1. Port, species, gear type, and delivery condition
2. Statewide, species, gear type, and delivery condition (irrespective of port)
3. Port, species, and delivery condition (irrespective of gear type)
4. Statewide, species, and delivery condition (irrespective of port and gear type)

The values are compared for each port, species, gear type, and delivery condition combination, and the 'best' price chosen. Selection of a 'best' price favors COAR data and the more specific pricing categories, but also considers the availability of a calculated value, the weighted average price per pound value, the percentage of pounds that were priced, and the discrepancy of pounds reported between fish ticket and COAR data. In some cases there is no pricing information from fish tickets and no buying information from COAR from which to base an ex-vessel price estimate. In these cases, ex-vessel price estimates for a similar species, a similar delivery condition, a less processed product form, a fish meal price, or a portion of the wholesale price may be selected. The selected price per pound for each port, species, gear type, and delivery condition is then applied to fish ticket item with that port, species, gear type, and delivery condition.

CFEC's gross earnings data are based on fish ticket data, but also contain pricing and permit holder information. One of the main strengths of CFEC's gross earnings data is that each fish ticket item has pricing information. Because gross earnings data have an estimated ex-vessel price per pound and estimated value (price per pound multiplied by pounds of harvest) with each fish ticket item, it is possible to estimate the total ex-vessel value of aggregated data. This is not always possible with fish ticket data, because not all items that are sold have pricing or value information. A second strength of the gross earnings data is that ex-vessel values may reflect post-season adjustments made by processors. These values may more closely reflect the actual value of the harvest than the initial fish ticket prices recorded at the time of the landing. A third strength of the gross earnings data is the ability to aggregate data in a variety of ways. For example, it is possible to estimate the total ex-vessel value of a fishery, the total ex-vessel value of harvest by fishermen from Alaska, the total ex-vessel value of harvest landed at a port, and the total ex-vessel value of harvest caught on vessels of a specific length class, to name just a few. The permit holder information, added to the fish ticket data allows for a variety of analyses and calculations to be performed on the aggregated data.

A major weakness of the ex-vessel pricing methodology is that it estimates prices on an annual basis, using the calendar year from January through December. In some cases, this estimate fails to reflect seasonal price variations occurring over the course of a year. For example, pollock harvested during February or March may sell for a different price than pollock harvested in September, yet the same ex-vessel price estimate is applied, since harvest occurs within the same calendar year. Given data that are currently collected, devising a method of creating seasonal prices for a species, area, gear, and port using only reported prices is not possible. Not being able to account for seasonal differences may result in fishermen that fished only when a species has a lower value to pay a higher percentage of their gross revenue than a fishermen that fished only when the ex-vessel value of a species is greater. This represents a potentially serious obsticle to a successful and equitable payment program.

To obtain CFEC ex-vessel prices, the Council Executive Director drafted a letter to the CFEC Chairman requesting that his staff provide ten years of data. The request was structured such that the data provided could be used to determine ex-vessel prices at various levels of aggregation. CFEC provided data by port, gear, species, delivery/disposition code, for the years 1999 through 2008. Those data include an estimate of ex-vessel price, as well as pounds and gross revenue used to generate those prices. Including pounds and gross revenue estimates allows the analyst to aggregate data over species, ports, gears, and delivery/disposition codes without requesting an additional data runs. Ex-vessel price estimates derived from those data are used to estimate the revenue generated by the ex-vessel fee alternatives.

The data requested from CFEC did not include a field to indicate where the fish was harvested, because prices are determined based on where the fish are landed. However, the area where fish are harvested triggers the observer coverage requirements. NMFS eLandings data was used to determine the area the fish were harvested. NMFS harvest data also include the port where the fish were landed. Using that information the fish that are subject to the observer fee could be determined and the port of landing from the catch data was matched with the port from the price data to determine the ex-vessel price that should be applied to the harvest.

CFEC staff provided documentation along with their price data. That documentation contained a detailed account of how the data were developed. A summary of their documentation is provided in **Appendix 4**.

2009 Data

At the June 2010 Council meeting, staff was asked to determine if it would be possible to obtain CFEC pricing data for the 2009 groundfish fishery so that it could be added to this analysis prior to final action in October 2010. After the meeting, CFEC was contacted and asked if those data could be generated by mid-July. CFEC staff reviewed the request and concluded that it would not be possible. CFEC stated that in recent years they have received the COAR data feed necessary to complete final pricing from ADF&G in mid-August at the very earliest. September is the earliest they have completed final pricing, but in most years it is not available until mid-October.

Because COAR data were not available, the pricing data in the analysis have not been completely updated to include 2009 data. However, Section 2.9.2.2.4 has been updated to provide observer fee estimates based on 2009 harvest data and State of Alaska standardized groundfish prices that are generated to determine tax liablility. In addition, regional prices for halibut IFQ and sablefish IFQ landings were provided by RAM for 2009.

Aggregation of CFEC Data

After the data were provided by CFEC, they were reviewed to determine appropriate levels of aggregation. The level of aggregation would impact the fees paid by individual members of the fishing industry, because the pounds of catch in the year the prices were reported would differ from the pounds of catch in the current year for all levels of aggregation. If the pounds were the same in both years, the method of aggregation would have distributional effects within the sector, but not the overall fee that would be billed. The primary issues that need to be addressed when using CFEC data are:

- over what species should the data be aggregated?
- over what gear types should the data be aggregated?
- over what areas should the data be aggregated?
- over what delivery codes should the data be aggregated?

Species: The CFEC provided price information on all species reported in their fish ticket files, except herring, salmon, and crab. Some of the finfish (e.g., lingcod) reported in the data are not managed under the BSAI or GOA FMPs. Those species are not subject to observer fees, thus, they were excluded from the dataset. All groundfish managed under the GOA or BSAI Groundfish FMPs are subject to an observer fee assessment. Ex-vessel price estimates were generated for each of those species.

The primary decisions on whether to aggregate species when setting an ex-vessel price are for the species groups defined in the FMPs. In the GOA, the main species groups are demersal shelf rockfish, deep-water flatfish, shallow-water flatfish, pelagic shelf rockfish, and "other" rockfish. Using the shallow-water flatfish species complex as an example, Table 19 shows the annual prices of three species[39] and the average complex price for Kodiak landings. The prices for all years are reported in 2008 dollars.[40] Information reported in the table indicates that the prices paid for different species in the shallow-water complex vary within the same port. Annual price data also indicates that the difference between the price paid for rock sole and other shallow-water complex species has been increasing over time.

Applying the 2008 average complex price of $0.22/lb to all species, would result in rock sole landings being charged a lower percentage of ex-vessel landings and butter sole and starry flounder being charged at higher percentage. Because the prices of individual species tend to differ, the mix of species that harvesters land over the year will affect the actual percentage of their ex-vessel value they are required to pay.

The complex's average price also indicates that more rock sole was landed in Kodiak than the other species in the complex. Based on the CFEC pricing data, about 81% of the shallow-water complex landings in Kodiak were rock sole. Because rock sole was the primary species landed, its price tends to have a substantial impact on the average complex price.

Table 19 Standardized ex-vessel prices of selected species in the shallow-water flatfish complex landed in Kodiak, 1999-2008

	1999	2000	2001	2002	2003	2004	2006	2007	2008
Rock sole	$ 0.19	$ 0.18	$ 0.15	$ 0.12	$ 0.11	$ 0.17	$ 0.23	$ 0.24	$ 0.24
Butter sole	$ 0.15	$ 0.14	$ 0.10	$ 0.09	$ 0.09	$ 0.10	$ 0.13	$ 0.13	$ 0.13
Starry flounder	$ 0.05	$ 0.06	$ 0.04	$ 0.05	$ 0.05	$ 0.06	$ 0.06	$ 0.03	$ 0.03
Shallow-water flatfish complex (Average Price)	$ 0.17	$ 0.17	$ 0.14	$ 0.12	$ 0.10	$ 0.15	$ 0.20	$ 0.22	$ 0.22

Source: CFEC data.
Note: Prices were generated by dividing the total gross revenue by the total pounds of retained and plant discarded fish.

In the BSAI, the species complexes are other species, other flatfish, and other rockfish. The TACs in 2010 were 42,500 mt for other species, 18,360 mt for other flatfish, and 880 mt for other rockfish. Most of the other species are discarded or sold for fish meal. The exceptions were skates (species code 170) and octopus (species code 870). In 2008, about 87 mt of octopus and 1,095 mt of skates were caught in

[39] These three species were selected because they represented the greatest volume of catch in the complex.
[40] All prices reported in this analysis are in 2008 dollars. They were adjusted using the annual Producer Price Index for fish as reported in Hiatt 2009.

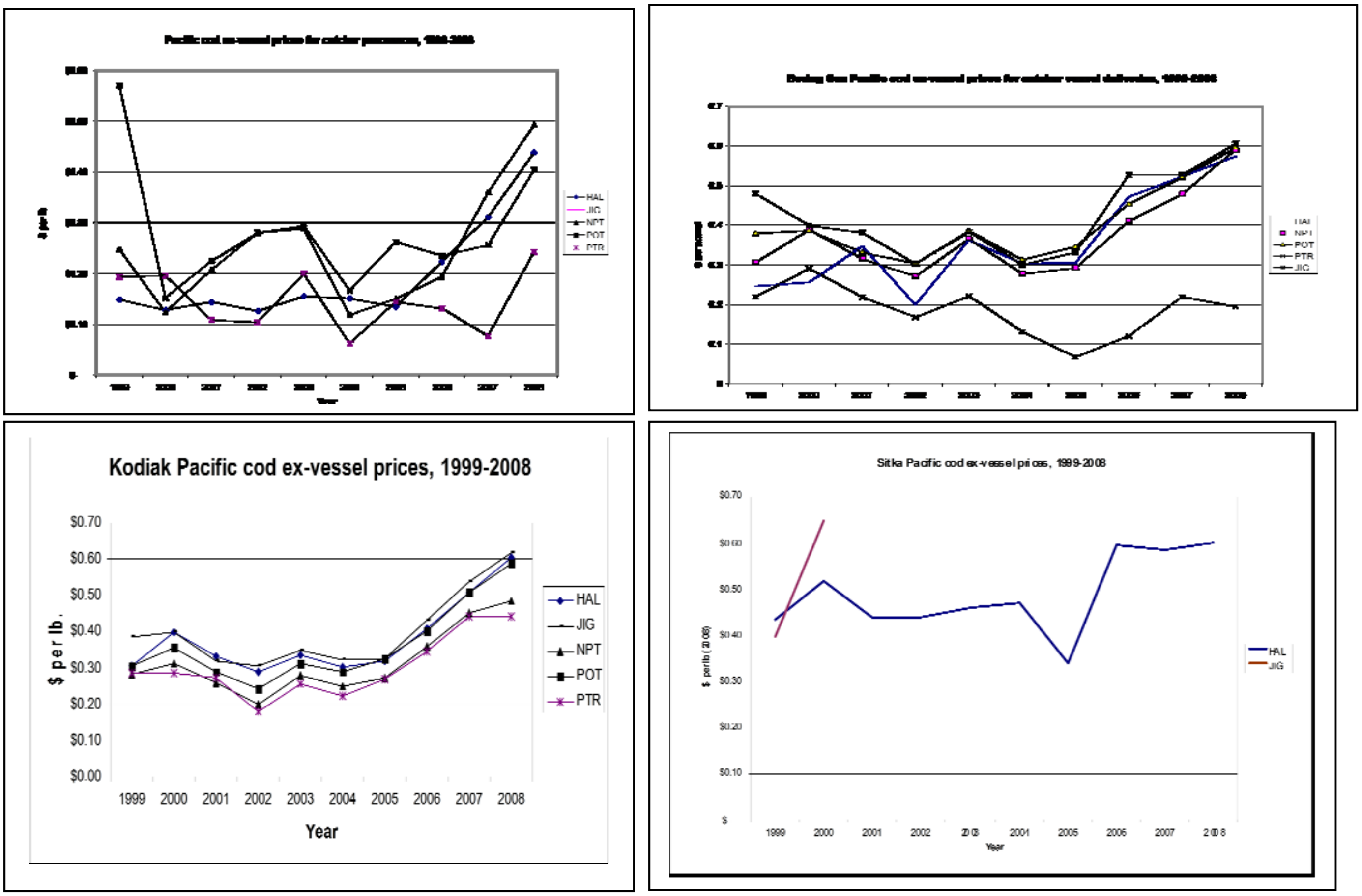
the BSAI by catcher vessels. About 62% of the octopus was sold whole or gutted, about 2% was sold for meal production, and the remaining fish were discarded. Skates were sold round (22%), for meal production (41%), or discarded (37%). All other species in this complex were either sold for meal production or discarded. Because octopus and skates tend to sell for a higher price than other species in this complex, persons landing a greater percentage of those species would pay a lower percentage of their ex-vessel revenue than persons landing other species in the complex.

Because of the variability in prices within the species complexes, it may be appropriate to generate standardized prices at the species level. This would more closely reflect the actual ex-vessel revenue harvesters receive for their catch. Developing standardized prices at the complex level would reduce the number of prices that must be generated each year. Another impact of estimating prices at a species level is that the price for species that have no market or market value would have a standardized price of zero and a fee would not be assessed. Including the catch of those species in the complex price would tend to drive down the average price of species that are sold. The overall revenue generated by the fee would not change substantially, but there would be distributional impacts on individual harvesters. (The total revenue is not expected to change if all harvesters were charged the ex-vessel fee and the same pounds were reported for each species in the catch and price data. Because the eLandings system is currently being used for state and Federal landings, the poundage amounts should be similar in both reports. However, if groundfish prices from past years are applied to current harvest amounts, different fee payments could result. This issue is discussed in greater detail in Section 2.9.2.2.4.) Those that predominantly harvest species that are discarded would tend to pay more than 2% of their ex-vessel revenue for those catches and the person that sold marketable species would pay less than 2% of the ex-vessel value of the species in that complex.

Gear: The State of Alaska recognizes a more diverse group of gear types than NMFS because of the fisheries they manage. NMFS reports harvest in eLandings as Hook-and-Line, Jig - mechanical, Pot, Trawl (nonpelgaic/bottom), Trawl (pelagic/midwater), Troll (dinglebar, hand, and power gurdy), and Other gear. The State of Alaska recognizes 22 additional types of gear. For this amendment only NMFS-authorized gear types are considered when determining prices. Any catch made with a gear that is not authorized under 50 CFR 679.2 to harvest groundfish was excluded.

To simplify implementation of the program, the goal is to aggregate gear types that yield similar ex-vessel prices. Pacific cod is a species that is harvested by all the primary gear types. Figure 1 shows Pacific cod ex-vessel prices for four example ports and five gear types. Those figures indicate that fixed gear prices in recent years are similar. The greatest difference occurs in the two trawl gear types. Non-pelagic trawl gear (NPT in the figures represented by the pink lines) prices are about the same price as fixed gear prices for CPs and the BS in recent years. In Kodiak, non-pelagic prices more closely track the pelagic trawl price through 2007. However, in 2008 the prices diverged with non-pelagic trawl landings commanding a higher price. The only Pacific cod price in the Sitka data after 2000, is for longline gear. Based on the information presented in these charts, it seems that it may be appropriate to set a fixed gear, pelagic trawl, and non-pelagic trawl standardized ex-vessel price for Pacific cod harvests.

**Figure 1	Examples of Pacific cod ex-vessel prices by year, port and gear type**



Another species that is important to the trawl fisheries is pollock. Figure 2 shows the ex-vessel prices of pollock delivered to inshore pollock processors by vessels using pelagic and non-pelagic trawl gear. The prices indicate that, from 2000 through 2008, the pelagic gear price was about double the price paid for pollock delivered by vessels using non-pelagic gear. The 1999 prices indicate that the non-pelagic gear price was greater than the pelagic price. This anomaly may be a result of 1999 being the only year in the data series when the American Fisheries Act was not implemented for the inshore sector. Ex-vessel prices after 1999 seem to indicate that pollock harvested in the directed fishery using pelagic gear commands a higher price than pollock landed as incidental catch in the Pacific cod or other fisheries that use non-pelagic trawl gear. This information reinforces the assumption that there are price differences, at the species level, for some species harvested with pelagic and non-pelagic trawl gear. These differences may justify setting separate standardized prices for the two gear types.

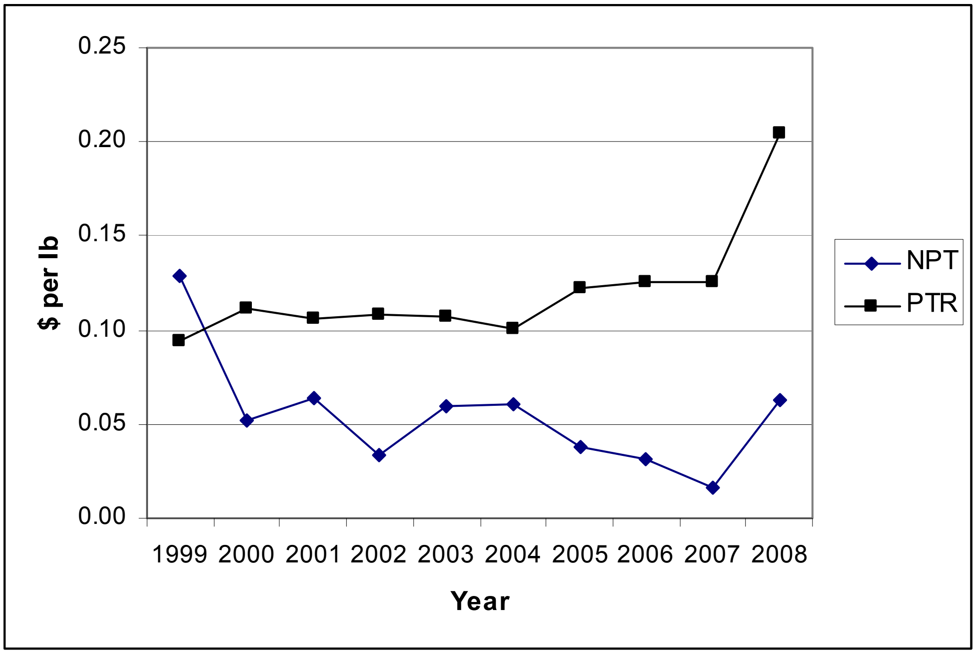


Figure 2 Ex-vessel pollock prices by pelagic and non-pelagic trawl landings delivered to Bering Sea inshore processors, 1999 - 2008

Ports: When considering geographic areas used in this analysis, it is important to distinguish between harvest areas and ports where the fish are landed. Harvest areas determine the amount of fish that will be assessed the various fees in this amendment. Landings port determines the standardized ex-vessel prices that landings would be subjected to, or the pay-as-you-go or daily fee that would be assessed. Together these two pieces of information would determine the fee that the harvesting vessel and processor would be required to pay. For example, under Alternative 2, a catcher vessel (80' LOA) makes a trip in the Western GOA and a trip in the BSAI. The harvest of both trips is delivered to Dutch Harbor. Groundfish delivered from the GOA trip would be subject to the ex-vessel observer fee. Fish caught on the BSAI trip would not be subject to the ex-vessel fee. However, the vessel owner may be required to pay the current daily observer rate for the BSAI trip, if he/she is required to carry an observer. The ex-vessel observer fee would be based on the ex-vessel prices defined for the port of Dutch Harbor and would only be applied to harvests that were taken from the GOA.

Only Alternative 2 would establish observer fee payment requirements based on whether fish were harvested in the GOA or BSAI. These broad geographic areas are defined by the Council's motion and determine which fish will be subject to the observer fee. Only fish harvested from an area subject to the observer fee would trigger the vessel and processor paying the fee.

The areas that would be used to determine ex-vessel prices were not set by the Council in the list of alternatives. Those areas could be set to cover relatively small or large geographic ranges. The smallest pricing area reported in the harvest data is port. Port codes reported in the data correspond to the location of the processing plant where the catch was delivered. The majority of the port codes represent a specific geographic area. Most of these ports are located along the coast of Alaska. However, some of the ports are cities in Alaska that are not on the coast (e.g., Fairbanks) and others are U.S. cities outside of Alaska (e.g., Seattle). Prince Rupert, Canada, is also included in the data, but no landings were delivered there after 2003. Finally, some ports are based on processor types. Catcher processors, motherships, and inshore stationary floating processors are examples of port names listed in the data that are not a single geographic location.

Table 20 indicates the number of processors that CFEC reported as taking deliveries of groundfish in a year, from 1999 through 2008. Many of the ports had fewer than four processors and, because the price data in this amendment were provided by CFEC, their confidentiality standards were applied.[41]

Table 20 Number of processors reporting deliveries by port, 1999-2008

Port	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*
Adak	*	*	*	*	*	*	*	*	*	*
Akutan	*	*	*	*	*	*	*	*	*	*
Alitak Bay	*	*	*	*	*	*	*	*	*	*
Atka	*	*	*	*	*	*	*	*	*	*
Bethel	*	*	*	*	*	*	*	*	*	*
Chignik	*	*	*	*	*	*	*	*	*	*
Cordova	*	4	4	5	4	4	4	4	*	5
Craig	*	*	*	*	*	4	4	*	*	*
Dutch Harbor	6	7	7	11	6	7	6	4	5	6
Elfin Cove	*									*
Emmonak				*			*	*	*	*
Fairbanks				*	*	*	*	*	*	*
Floating Catcher Processor	28	29	27	22	24	25	25	23	24	28
Floating Bait	10	11	8	7	5	9	4	5	4	*
Floating Mothership	5	*	*	*	*	*	*	*	*	5
False Pass		*	*	*						
Gustavus		*								*
Hyder				*			*	*	*	
Hoonah	*	8	*	*	*	*	*	*	*	*
Haines	*	2	*	*	*	*	*	*	*	*
Homer	15	12	10	9	8	10	8	10	8	8
Hydaburg							*	*	*	
Inshore Stationary Floating Processors	4	7	*	*	*	*	*	*	4	*
Juneau	5	7	5	6	4	4	4	*	*	4
Kake		*	*	*	*			*		
Kasilof			*	*						*
King Cove	4	*	*	*	*	*	*	*	*	*
Kenai	*	*	*	*	*	*	*	*	4	*
Kaltag	*				*	*		*	*	
Kodiak	11	11	9	8	8	9	11	9	9	8
Kotzebue			*	*	*	*	*			
Ketchikan	*	*	*	6	*	*	4	4	*	*
Metlakatla	*	*	*	*	*	*	*	*	*	*
Nikishka	*	*	*	*	*	*	*	*	*	
Nome								*	*	*
Other Alaska										*

[41] State of Alaska confidentiality rules require that data must be aggregated over a minimum of four entities, before they can be released to the public. If NMFS generates their own prices using their data and CFEC business rules, the number of entities could be reduced to three, under Federal confidentiality standards.

Port	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*
Port Alexander	*	*			*			*		*
Petersburg	*	4	4	*	*	*	5	*	4	4
Pelican	*	*	*	*	*		*	*	*	*
Port Protection									*	*
Prince Rupert, BC	*	*	*	*						
Seattle, WA	*					*				
Seward	8	6	5	7	8	6	4	5	4	5
Sitka	7	8	7	9	9	5	10	6	15	5
Skagway	*		*							
Sand Point	*	*	*	*	*	*	*	*	*	*
Saint Paul	*	*	*	*	*	*	*	*		*
Tenakee Springs			*						*	
Unalakleet								*		
Unknown	9	24	11	18	14	*	*	*	*	
Valdez	*	*	*	*	*	*	*	*	*	*
Washington Dept of Fisheries	*									
Whittier	*	5	4	5	4	5	4	*	*	4
Wrangell	*	*	*	*	*	*	*	*	*	*
Excursion Inlet	*	*				*	*	*	*	*
Yakutat	4	*	4	*	*	4	6	4	4	*
No processor listed	5									

Source: CFEC pricing data
* CFEC price data indicate that there were fewer than four processors in a port that year.

Catcher vessel deliveries are reported at the port level, so it is possible to aggregate the data into larger geographic areas to generate standardized ex-vessel prices. Relatively small geographic areas often better reflect the prices actually paid to the fishermen that delivered to those ports, but it is evident that data will need to be aggregated over ports to meet confidentiality requirements.

Only the ports of Dutch Harbor, Homer, Kodiak, Seward, and Sitka had at least four processors operating every year. Those ports could be reported on their own. However, by reporting their activities separate from other processors in the area, it may not be possible to report the other processors ex-vessel prices. For example, if Dutch Harbor was reported as a pricing port, the activities in Akutan and Adak may not be combined and reported every year. Therefore, it may be necessary to combine all the deliveries to Dutch Harbor, Adak, and Akutan when generating a standardized ex-vessel price. It is intended that ports in a region with the most similar prices would be aggregated when possible.

Information in the table above shows that the number of processors that are active in a port is fluid. Economic conditions and the availability of raw product will influence each processors decision to operate a plant in a given port. These annual decisions processors make will influence the level of data aggregation that is necessary. NMFS would need to determine, on an annual basis, how to "roll-up" ports into port groups to prevent the release of confidential data. It is possible that the port groupings could change each year depending on number of processors that enter and exit the groundfish and halibut fisheries. The following methodology is proposed to standardize the process.

1. Prices would be reported at the port level, if there are a sufficient number of processors in that port and the surrounding ports can be aggregated to generate a non-confidential price. It is assumed that catcher processors and motherships would be two separate port groups. Stationary floating processors would be assigned to the port they are closest to when processing.

2. If prices cannot be released to the public at the port level, they will be aggregated so that ports with similar prices in a geographic area are combined.

3. If ports in an FMP management area have similar prices, they would be grouped together. In this case, ports would be grouped as Southeast Alaska, Central Alaska, Western Alaska, the Aleutian Islands, and the Bering Sea. Ports would be assigned to the FMP management area to which they are adjacent.

4. If prices still cannot be released at the FMP level, they would be aggregated at the GOA and BSAI level.

It is assumed under point 1 that if ports cannot be reported individually within a geographic area, port in the area with similar prices would be grouped, to the extent possible. For example, members of industry have indicated that plants in King Cove and Sand Point should be grouped with Dutch Harbor and Akutan rather than Kodiak. This was suggested because members of industry felt the prices offered by the plants in King Cove and Sand Point were better represented by the Dutch Harbor and Akutan prices than they were by Kodiak.

How the ports are grouped is not expected to have a substantial impact on the total revenue generated from the ex-vessel value fee. The total ex-vessel revenue generated from the harvest delivered to a port or port group would be summed by species and gear. That dollar value would then be divided by the total number of pounds that generated that revenue to create a standardized ex-vessel price. The standardized price would then be multiplied by the pounds delivered in the current year[42] to the processors in that port or port group. The weighted average price, multiplied by the pounds delivered would be equal if the number of pounds used to generate the price is the same as the pounds used to generate the fee. However, because of the lag between the year used to generate the price and the year used to calculate the fee, there will likely be some difference in the pounds.

Delivery/Disposition Codes: Delivery codes have been used for many years to describe the condition of the fish at the point it is weighed and recorded on the fish ticket. The reporting of disposition code began with the implementation of the eLandings system. The code was first used in the groundfish fishery in 2006. Both codes are currently fully used in the groundfish fisheries. A list of all the delivery and disposition codes that were reported in the price data provided by CFEC is in Table 21. The metric tons of catch associated with each code are also provided.

OAC members, Council, and Agency staff have discussed the appropriate level of aggregation for delivery codes. Some individuals have stated a preference for prices being set for each delivery code. They contend this more closely represents the ex-vessel revenue that was generated. Others have indicated they would prefer using a weighted average of all delivery/description codes. Persons who support setting prices at the delivery code level have noted variations in prices, based on the product produced. How the fish delivered are utilized would affect the actual prices paid to a harvester. For example, fish destined for meal generally command a lower price than fish used for fillets, surimi, H&G, or sold round. Figure 3 shows CFEC prices for pollock harvested with mid-water trawl gear. The prices represent averages of all ports. It is important to note that about 82% of the pounds reported in the CFEC data for 2008 were classified as whole fish. Less than 2% of the pounds reported were classified as surimi. The small number of pounds classified as surimi may partially account for the substantial increase in price of pollock reported under that code in 2008. The weighted average price of all delivery

[42] It is anticipated that the fee will be calculated by using the current year harvests, multiplied by a percentage (no more than 2%) of ex-vessel price, determined for the species, gear, and port, from the fishery two years earlier, owing to the data availability lag. For example, the 2010 ex-vessel price would be applied to a harvest made in the 2012 fishing year.

codes was also included in the table. That is the price that is used to assess the ex-vessel fee under this amendment in the future. That price is slightly less than the weight of whole fish, because it includes the value of meal, discards, and other lower valued deliveries. The price also reflects the value of ancillary products or there would have been a greater difference in the whole fish price and the weight average price across all delivery/disposition codes.

Table 21 Pounds of all species in CFEC price data from 1999 - 2008 by delivery/description code

Code	Metric Tons Priced (all 10 years)	Code Description	Code	Metric Tons Priced (all 10 years)	Code Description
01	8,595,488	Whole Fish	19	0	Belly Flaps
02	7,722	Whole Bait	20	541	Fillets with Skin and Ribs
03	909,296	Bled Only	21	557	Fillets with Skin , No Ribs
04	2,576	Gutted Only	22	105,467	Fillets with Ribs, No Skin
05	136	H&G	23	448,945	Fillets, Skinless & Boneless
06	5,619	H&G with Roe	24	648,823	Deep Skin Fillet
07	125,353	H&G, Western Cut	30	519,295	Surimi
08	379,338	H&G, Eastern Cut	31	245,290	Minced Fish
10	29,231	H&G Tail Removed	32	17,246	Fish Meal
11	2,999	Kirimi	34	0	Milt
12	226	Salted and Split	35	0	Stomachs
13	9,785	Wings	41	205,209	Fish for Meal Production
14	0	Roe	42	4,367	Bled fish (meal) includes off-site production)
15	0	Pectoral Girdle Only	61	2,134	Bait
16	0	Heads	90	0	Missing Value
17	0	Cheeks	97	870	Other Retained Product
18	0	Chins			

Source: CFEC data, 1999-2008.

Persons that deliver a higher percentage of fish to be used in meal production or discarded (at the plant for shoreside and in total for at-sea deliveries) would pay more than their required percentage of the ex-vessel value of the fish they sold, when all delivery/disposition codes are aggregated. Persons that sell a greater percentage of their harvest to create higher valued products would generally pay less than their required percentage of their ex-vessel revenue. This is depicted where the standardized ex-vessel price is less than (every year after 1999), but closely tracks, the ex-vessel price of pollock with a delivery code for round fish.

The Implementation Plan provided to the Council in February 2010 states that ex-vessel prices for groundfish species will be based on the round weight of fish. That direction confounds the development of standardized prices at the delivery/disposition code level. Information in Table 21 highlights this issue. Ancillary products are assigned a value for the revenue they generate (in the price data), but the round pound weight is set equal to zero. The round weight of ancillary products is set at zero so that the fish's weight is not double-counted. Because the weight is zero, a standardized price for that product form cannot be calculated. Using roe as an example, the weight of the fish that produced the roe is zero in Table 21. The pounds of fish used to produce the roe are captured in one of the primary products listed in the table (i.e., surimi, minced, meal, etc). Assigning the roe value to the correct primary product is not possible, because we cannot determine the amount of each primary product that was utilized to produce the roe.

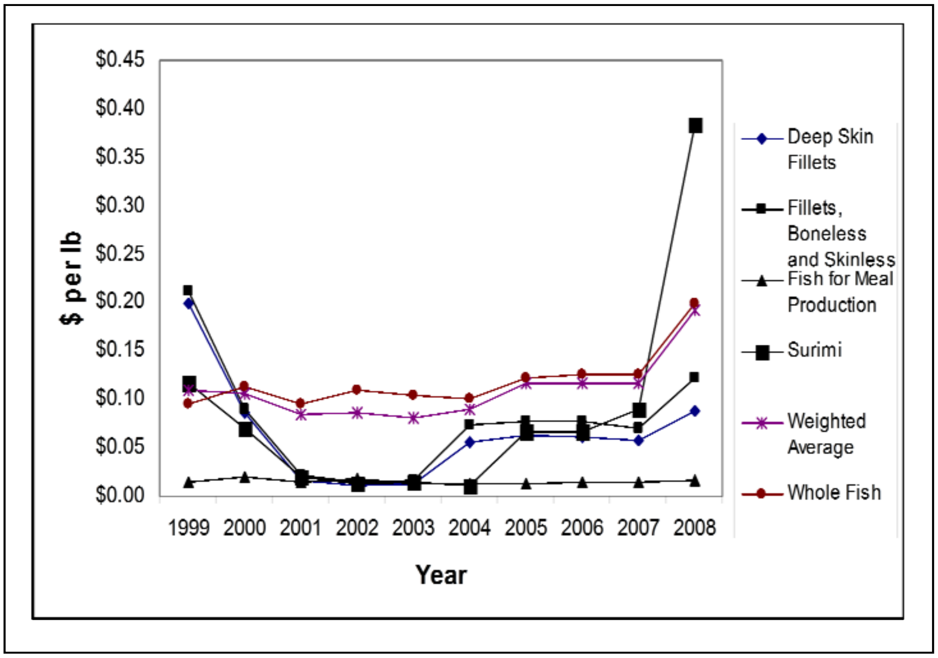


Figure 3 Ex-vessel pollock prices from vessels using mid-water trawl gear by CFEC delivery/disposition code, 1999 - 2008

Setting ex-vessel prices at the product level would conflict with the guidance presented in the Implementation Plan that indicates a fee value should be set for plant discards for shoreside deliveries and plant and at-sea discards for catcher processors and motherships. Establishing prices at the delivery/disposition code level would create a situation where catch that was not retained would have a product price of zero. The zero value means that an observer fee would not be assessed on fish that were discarded.

Thus, as the intent is to establish ex-vessel fees based on retained or total catch in round weight, this amendment proposes that ex-vessel prices be calculated based on the weighted average of all delivery and disposition codes.

Halibut and Sablefish Prices: There is also a recognized difference between the existing process for establishing standardized prices for halibut and sablefish and the proposed process for determining standardized pricing for all other groundfish species regulated under this action. NMFS calculates standardized prices for halibut and sablefish based on IFQ registered buyer's reports, submitted annually. Taking into consideration the differences in the best available information for halibut/sablefish versus other groundfish species, this analysis uses the prices established at the end of the year as the standardized price for halibut and sablefish, in the following year.

There is also a discrepancy between the methodology developed to collect halibut and sablefish fees under the IFQ cost recovery program. For purposes of calculating IFQ cost recovery fees, NMFS calculates the standard prices to closely reflect the variations in the actual ex-vessel values of IFQ halibut and IFQ sablefish landings, by month and port (or port group). The methodology proposed under the implementation plan, and proposed to be used for this program, unless otherwise directed, would set a single annual price for each species. That price would be applied to all IFQ landings and establish the observer fee each registered buyer would be required to submit to NMFS. Like the groundfish program, it is assumed that the Registered Buyer would withhold half of the ex-vessel fee, to be paid by the harvester, and submit that amount, along with his or her own half of the ex-vessel fee by the deadline determined by NMFS. Under the IFQ cost recovery program, it is the IFQ permit holder that is billed and required to submit the fee.

Under the IFQ cost recovery program, data from ports are also combined, as necessary, to protect confidentiality. The port and port groups used to collect the observer fee under this amendment may be different from the ports (or port groups) used to collect cost recovery fees under that program. One reason the port groupings may be different is because the cost recovery fees are calculated on a monthly basis and the observer fee is proposed to be an annual price. Because the observer fee is an annual price, the number of buyers and harvesters in a port may allow information to be reported where it would be confidental for some or all of the months. In the preferred alternative, the Council requested that NMFS determine, during the regulatory implementation process, if the current year price could be used to determine the ex-vessel observer fee, using a billing system similar to the halibut and sablefish IFQ cost recovery fee program, to collect fees from processors or harvesters and processors.

Regulations at § 679.45(c)(2)(i) require the Regional Administrator to publish IFQ standard prices during the last quarter of each calendar year. The standard prices are established in U.S. dollars per IFQ equivalent pound for IFQ halibut and IFQ sablefish landings made during the year. IFQ equivalent pound(s) is the weight (in pounds) for an IFQ landing, calculated as the bled weight for sablefish and headed and gutted net weight for halibut. The same weights are used to establish standard prices under both systems.

2.9.2.2.2 Setting the initial fee percentage

Under Alternatives 2 through 5, an initial ex-vessel value percentage would be established for observer fees based on recent fishery revenues and projected observer coverage levels, to a maximum extent of 2%.[43] The analysis of the various alternatives under consideration provides some guidance on the appropriate fee percentage required to attain requisite coverage days. Under Alternatives 4 and 5, the program could not be implemented without collecting sufficient start-up funding. Under those alternatives it was proposed that without outside funding the Council select the 2% maximum fee so that the program could be inplace as soon as possible. Alternatives 2 and 3 could be implemented with funding that is collected during the first year and would not necessarily require collecting the full 2% fee the first year, especially if federal startup funding were made available. The ex-vessel value-based fee percentage would be established and adjusted through proposed and final rulemaking.

Note that the halibut/sablefish IFQ and crab cost recovery fee percentages are adjusted through an annual “rule-related notice”, rather than proposed and final rulemaking. A closed framework has been established via proposed and final rulemaking for these fee programs. Annually, NMFS applies the established framework to arrive at the fee percentage required to recover costs for implementing these programs. NMFS and the Council do not have the discretion to establish an IFQ fee percentage different from that generated by the formula which has been codified in regulations. The Council and NMFS could

[43] The lack of (1) real-time data, (2) season-specific prices for species that have significantly varying values over the fishing year, (3) catch/delivery specific condition, (4) information on vertical and/or horizontal linkages between vessel and processor, and (5) non-pecuniary compensation, reduces our ablity to determine the percentage of gross ex-vessel revenue that an individual will pay. However, by setting the proposed observer fee at 1.25% of gross ex-vessel revenue, the likelihood that individuals will remain under the 2% limit is increased.

potentially use the IFQ cost-recovery program approach to provide annual adjustments to the observer fee percentage, if the formula establishing the fee percentage is explicit. However, a closed framework formula for adjusting fee percentages would eliminate any possibility for the Council and NMFS to make discretionary changes to the fee percentage, based on changing management needs, which is the most likely reason that changes to the fee percentage would be desired. Using a closed framework formula for observer fees is further complicated by the fact that observer fees would be collected in advance of expenditures, to fund subsequent observer coverage contracts; whereas the cost recovery program fee proceeds are used to refund agency costs that have already been incurred. This timing disparity may constrain the ability of NMFS and the Council to establish a closed framework. Therefore, a formal regulatory amendment is assumed to be required for any change in the observer fee percentage.

2.9.2.2.3 Fee remittal process

Catcher vessels and shoreside processors

In the 1995 Research Plan and the 2006 restructuring analysis, the fee percentage was to be split between vessel owners and processor owners, such that each entity paid one half of the total fee liability for each landing. For example, the Research Plan fee percentage established for the first year of the Research Plan was 2% of the ex-vessel value. The catcher vessel owner was liable for one percent of the ex-vessel value and the processor was liable for one percent of the ex-vessel value. The rationale for the 50:50 split in the fee liability between vessel operators and processors is based on the premise that both catcher vessels and processing plants benefit from observer coverage and both would be participants of a restructured observer program. Section 313(b)(2)(E) of MSA provides for collection of an observer fee not to exceed 2% of the unprocessed ex-vessel value of fish harvested under the jurisdiction of the Council. Given the proposed principles of an ex-vessel value-based fee program that all participants pay a share of the fees, that the fees are fair and equitable, and that user fees not be directly linked to actual coverage levels when coverage is less than 100%; and given that a maximum amount of the observer fee (2%) cannot be collected twice on the same fish, a 50:50 split in the fee liability for shoreside landings between vessel operators and processors is an equitable manner to determine respective fee liabilities that are not linked to observer coverage levels. A 50:50 split in the ex-vessel value fee liability would allow NMFS to collect up to, but not more than, 2% of the ex-vessel value from all shoreside participants and it does not charge the processing or harvesting sector a disproportionate amount of the ex-vessel value fee. A 50:50 ex-vessel value fee liability split between catcher vessels and processors is relevant to every action alternative.

Upon re-evaluation of the various methods for collecting ex-vessel value fees from vessel and plant operators, a similar approach is proposed under this action. **Specifically, the preferred method for shoreside landings would require processors to collect a vessel operator's fee liability at landing, and remit the fee to NMFS on an annual basis**. Assuming a 50:50 split in the fee liability between vessel operators and processors, processors would add their liability to that collected from the vessel operator and remit it to NMFS. Several benefits to having processors collect ex-vessel value observer fees include:

- A reduction in NMFS' administrative costs through a reduction in the number of entities submitting fee liabilities to NMFS.
- Eases budgeting and adds predictability for vessel operators by continually collecting fees as opposed to receiving an invoice for a year's worth of observer fees.
- Simplifies the tracking of the entity responsible for the fee liability of each landing (e.g., changes in vessel ownership).

- Fees could be based on settled eLandings[44] fish ticket information.
- Fee liability computation could be automated through eLandings.

This analysis employs an annual, rather than quarterly, fee submission cycle. NMFS determined that an annual fee collection cycle would be sufficient for collecting funds to pay for observer service contracts as observer contract task orders are envisioned to be a year in duration (see Section 3.1).
The shoreside fee remittal process is envisioned as follows:

1. Annually, NMFS would calculate standardized prices by port, species, and gear type, based on the most recent COAR data, using a process similar to that used by the CFEC to aggregate data and publish these prices in the *Federal Register*.
2. NMFS would program the standardized prices into eLandings at the beginning of each year.
3. Processors would enter the delivery information and the pounds of each species landed into eLandings (also referred to as the fish ticket).
4. eLandings would calculate the fee liability for each landing, based on the weights entered by the processor and the pre-programmed prices. eLandings can be programmed to display the respective liability for the vessel and the plant.
5. Processors would deduct the vessel's fee liability from their payment and add the processor's portion of the fee liability.
6. Annually, NMFS would invoice processors for the fee liability determined by the sum of the fees reported by eLandings for each processor.
7. Processors would remit the fees to NMFS electronically or via check on a date to be established in regulation.
8. NMFS would audit the payments to ensure all liabilities are paid in full. NMFS would withhold Federal Processing Permits (FPPs) for delinquent payments.[45] Because FPPs are issued for three year terms, NMFS would also revoke permits if the processor's fee payment is considered delinquent and its FPP is not due to expire that year.

As stated above, the standardized prices for each species would be programmed into eLandings at the beginning of each year, and eLandings would calculate the fee liability for each landing, based on the weights entered by the processor and the pre-programmed prices. Note that eLandings is the data entry component of the Interagency Electronic Reporting System, which was implemented for the Crab Rationalization Program in 2005 and expanded to include groundfish fisheries and the halibut and sablefish IFQ Program in 2008. The web-based, commercial fisheries harvest and production reporting system, eLandings, replaced prior harvest and production data reports, such as the Shoreside Processor Electronic Logbook Report, the shoreside processor daily cumulative production logbook, weekly production reports, daily production reports, and aggregated mothership fish tickets. The eLandings system removed reporting duplications and simplified recordkeeping and reporting, by allowing processors and others to make all three required landings reports with a single reporting system to NMFS, the IPHC, and ADF&G. The eLandings program allows processors to enter, edit, and summarize landings, production, discard, and disposition data on a web-based system, which makes catch and production records available to managers in near real-time. Additional benefits of the eLandings system include: improved accuracy through immediate verification of permits, vessel identification, and other reported data; timely catch reports for management agency use; options for processors to import or export catch and production information; and significant reduction in data entry by management agencies and processors for programs managed under any Federal program, such as IFQ. Processors report groundfish,

[44]eLandings is the internet data entry system or desktop client components of the Interagency Electronic Reporting System (IERS) for reporting commercial fishery landings and production from waters off Alaska.
[45]Similar to the BSAI crab rationalization and Amendment 80 programs, NMFS would not consider an application for an FPP permit to be complete unless the applicant has satisfied other, connected obligations, such as filing a completed economic data report. Thus, NMFS may consider an application for an FPP incomplete if the applicant is delinquent in its fee payment.

crab, halibut, and sablefish landings on the eLandings website and print landings records in the ADF&G fish ticket format. Paper copies of the reports are maintained by the submitter for purposes of enforcement audits. Clients with no web access, such as the at-sea fleet, use eLandings desktop software to create reports and then submit landing reports as e-mail attachments.

The implementation of eLandings in the groundfish and halibut fisheries provides an automated system for determining an operation's ex-vessel value-based observer fee liability. The ability to program standardized prices into eLandings at the start of a fishing year would allow an observer fee field to be populated as the shoreside or stationary floating processor enters the amount of pounds of each species landed, and the gear type used. Look-up tables would be used to apply the standardized prices for that particular port. The applicable standardized prices and ex-vessel value fee percentage would be multiplied by the number of pounds landed, yielding the fee liability for each species. A total observer fee would be generated and included on each landing report, as well. The processor would collect the harvester's portion of the fee and NMFS would invoice processors at the end of the year by compiling the totals reported in eLandings for each shoreside processor, stationary floating processor, or mothership.

Catcher processors

NMFS would employ a different approach for deriving and collecting ex-vessel fees from CPs, if applicable under the preferred alternative. Note that the Council's preferred alternative (Alternative 3) puts all CPs in the ≥100% coverage category, which means they pay a daily rate under the status quo system and are not subject to an ex-vessel value based observer fee. However, had Alternative 2 or 5 been selected, the analysis noted that NMFS would use the methods described above to calculate standardized ex-vessel prices for CPs to account for the price added due to processing, by either applying shoreside prices where available or a constant 40% price deduction for species not well represented by shoreside landings, (Hiatt et al. 2008). In contrast to shoreside landings, NMFS would use observer-reported values for total catch and species composition as the landed weight on which to assess an observer fee. Thus, fees would be levied on total round weight, rather than retained weight. The remainder of this section describes the process and rationale considered for assessing an ex-vessel value based fee on CPs.

The rationale for the different approach for CVs delivering shoreside and CPs is that different data sources are available to estimate total catch for CVs and CPs. As described in Section 3.2, CPs would have ≥100% observer coverage under the proposed plan. When available, observers rely on flow scale weights that facilitate greater sampling fractions, which reduce uncertainty in catch estimates under random sampling designs, such as those used by the observer program. Percent of retained CP catch is estimated by observers and is subject to an observer's judgment of the proportion of each species discarded. For CVs delivering shoreside, sector-wide discards are estimated based on rates derived from observer data collected across all vessels in the sector. Because CV discard/retention rates are not vessel-specific, NMFS considers the weight landed shoreside, by each vessel, to be the best available information for that vessel's catch, on which to assess an ex-vessel value-based fee. The goal is to use the best available data to determine the fee liability for each sector. The "best" data for the CP sector is the weight derived from the flow scales; and the "best" data for CVs is weight of fish landed at the processor. There is precedent for using different data to manage different sectors. Since the Council adopted the observer coverage tier structure proposed in Section 3.2, the only alternatives where CPs would pay an ex-vessel value fee is Alternative 2 (GOA CPs only) and Alternative 5. Under the other alternatives, fees would not be assessed based on CP harvest amounts.

The catch that is used to determine the ex-vessel observer fee that a firm must pay is treated differently for at-sea and shoreside deliveries. Catcher processors and catcher vessels delivering to motherships are required to include at-sea discards in the calculation. At-sea discards are excluded for shoreside deliveries. While at-sea discards are treated differently for the at-sea and shoreside components of the industry, the inclusion or exclusion of those fish does not change the overall amount of the observer fee that would be collected from the sector. However, it will have distributional impacts within the sector.

To show that including discards does not increase the ex-vessel fee the at-sea sector will be required to pay, rock sole will be used as an example. Table 22 provides information on the rock sole fishery for the years 2005 through 2008. Catch is reported for fish that were retained and those that were not. During 2008 a total of 34,921 mt of rock sole was harvested from the BSAI. Of that total, 26,828 mt was retained and 8,093 mt was discarded. Weighted average ex-vessel prices were calculated for the retained catch and the total catch. Retained catch ex-vessel prices were calculated by dividing the total revenue by the mt of rock sole that was retained. The weighted average ex-vessel price for retained rock sole in 2008 was $0.18/lb. The weighted average ex-vessel price of all rock sole caught was $0.16/lb. The price is lower because the amount of rock sole caught is greater than the amount retained, but the ex-vessel revenue generated from discarded rock sole is $0. Therefore, the numerator stays the same but the denominator increases. When the weighed average price for retained catch is multiplied by the pounds of retained catch the estimated ex-vessel revenue is equal to $17.4 million. The same amount of revenue is estimated for the total catch, again because discards do not increase gross revenue. Multiplying the estimated revenue by an example observer fee of 2% results in an observer fee of $348,641 whether retained or total catch is used to make the estimate.

Table 22 Estimated observer fee liability in the rock sole fishery using retained and total catch, 2005-2008

	Catch (mt)			Weighted Average Exvessel Price ($/mt)		Estimated Exvessel Revenue		Estimated Exvessel Fee	
Year	Discards	Retained	Total	Retained Catch	Total Catch	Retained catch	Total Catch	Retained Catch	Total Catch
2005	11,796	23,962	35,758	$ 274.07	$ 183.66	$ 6,567,365	$ 6,567,365	$ 131,347	$ 131,347
2006	7,077	27,866	34,943	$ 382.41	$ 304.96	$ 10,656,324	$ 10,656,324	$ 213,126	$ 213,126
2007	8,093	26,828	34,921	$ 445.03	$ 341.90	$ 11,939,327	$ 11,939,327	$ 238,787	$ 238,787
2008	4,371	45,162	49,533	$ 385.99	$ 351.93	$ 17,432,029	$ 17,432,029	$ 348,641	$ 348,641

Source: NMFS groundfish data reports for catch and CFEC prices.

Under the ex-vessel fee scenario, NMFS would invoice CPs in the fourth quarter of each year based on their landings from the fourth quarter of the preceding year and the first three-quarters of the current year and the relevant standardized price (by year and species).[46] Catcher processors will remit their fee liabilities directly to NMFS. NMFS would withhold FFPs if payments are delinquent. Currently FFPs are valid for three years. CP owners that do not pay their fees would not receive their FFP and would not be able to harvest and process groundfish in the following fishing year.

NMFS is required to withhold, suspend or revoke permits or other privileges for any inexcusable or willful failure of a debtor to pay a non-tax debt owed to the Commerce Department (15 CFR 19.18). In addition to permit sanctions, NMFS is instructed to assess interest, penalties, and administrative costs on outstanding debt owed to the Commerce Department (31 U.S.C. 3717(a)). NMFS administers the crab cost recovery and the halibut/sablefish IFQ cost recovery fees in accordance with these provisions. The observer fee collection would be subject to the same debt-collection provisions.

Under the current three-year FFP and FPP cycle, if a shoreside processor or CP's observer fee payment became delinquent in a non-permitting year, NMFS would suspend or revoke the Federal permit until fees were paid. An appeal forum is available to entities that have a permit suspended or revoked, whereas there is no appeal forum if an entity is not issued a permit (e.g. a permit is withheld). In sum, the proposed action would maintain the current three-year Federal permit cycle. **NMFS would suspend or revoke**

[46]This scenario is intended to be illustrative; the timeline stated here may shift depending on the timing of best available data.

permits for delinquent payments in non-permit-renewal years and withhold permits in payment-renewal years.

Cost and administrative burden for processors to submit fees

Under all of the action alternatives, shoreside processors would be responsible for remitting their portion of ex-vessel value fee liability, collecting the ex-vessel value fee from shoreside vessels at the time of landing, and submitting fee payments to NMFS on an annual basis. Under the original Research Plan, processors collected ex-vessel fees from vessels and remitted the fees to NMFS on a bi-monthly basis. This was one point of controversy with the original Research Plan. In development of this analysis, alternative methods were explored to collect ex-vessel value fees from industry. For example, staff examined the fee remittal process for the halibut/sablefish IFQ cost recovery program for feasibility of collecting observer ex-vessel value fees. Under the halibut/sablefish IFQ program, NMFS invoices each quota holder at the end of the fishing year and quota holders remit their fees directly to NMFS. IFQ fee liabilities are determined by landings weights obtained from electronic fish tickets (eLandings); standardized prices established through a program-specific, registered-buyer's report; and the fee percentage established annually, based on agency costs to administer the program. There are two primary distinctions between the existing cost recovery programs and the observer program that influenced the proposed observer fee remittal process:

1. There are different timing requirements as to when NMFS needs to receive fee revenues under the respective programs. The halibut/sablefish IFQ program collects fees at the end of a year to recover known costs the agency has already expended to implement the program; whereas, the observer fees will be used to fund contracts in the current or following year.
2. The halibut/sablefish IFQ program requires a separate registered buyer's report containing price information for IFQ species be submitted annually. This reporting requirement is in addition to the COAR. For the groundfish observer fee, an additional reporting requirement would virtually duplicate the COAR reporting requirement and increased costs without providing significant benefits.

Added administrative cost and burden for processors to collect and remit the fee should be low, since existing infrastructure can be easily extended to the new program. For example, eLandings software provided by NMFS, would calculate the fee liability for each landing and this information would be available to the processors' accounting software, as well. The fee remittal process proposed for shoreside processors, stationary floating processors, and motherships resembles the BSAI crab rationalization cost recovery fee remittal process. For each annual billing cycle, NMFS would provide each processor a landing summary, based on its finalized eLandings entries, with a statement containing its observer fee liability. Processors would be responsible for remitting the fee payment to NMFS, either by check or electronically through pay.gov. The PRA analysis for the Registered Crab Receiver fee submission form estimates a response time of 0.5 hrs per respondent, one time per year. The PRA analysis estimates the cost burden to submit the fee payment form to be about $12.50 per respondent per year. An additional efficiency of the proposed fee derivation process is that no new buyer report would be required to establish standardized prices; rather data already required through the COAR would be used for this purpose. Requiring the observer fees be placed in an escrow account would also marginally increase costs to processors, but provide increased protection for the harvesters reguarding their fees.

2.9.2.2.4 Further considerations

State Fisheries Taxes

The Council requested a discussion of how the proposed observer ex-vessel value fee derivation and collection process would compare to the fisheries taxes collected by the State of Alaska. It also requested a discussion of whether the Alaska Department of Revenue could be contracted with to more efficiently collect the ex-vessel observer fee. Information on the State's fisheries taxes, how they compare to the ex-vessel observer fee, and a discussion of using the Alaska Department of Revenue to collect the observer fee is included in **Appendix 5**.

Data Availability

The approach for collecting ex-vessel value-based fees is designed with these guiding principles in mind:

- Additional data collection programs would not be implemented.
- Processors/registered buyers would be required to collect and submit ex-vessel fees.
- Standardized prices would be used to determine the ex-vessel fee for both the groundfish and IFQ fisheries.
- Observer fees would be assessed on all strata that are defined.

In development of the preferred methods, it was not possible to optimize all desired elements simultaneously. For example, the choice of using standardized prices and requiring shoreside processors to collect and remit the fee precludes using current year prices. The use of current year prices would come at the expense of several critical aspects designed for efficiency and accuracy in the fee collection process. Not using current year prices increases the likelihood that, in a given year, a vessel or processor would pay more than the percentage selected of its ex-vessel revenue in observer fees.

Price Volatility

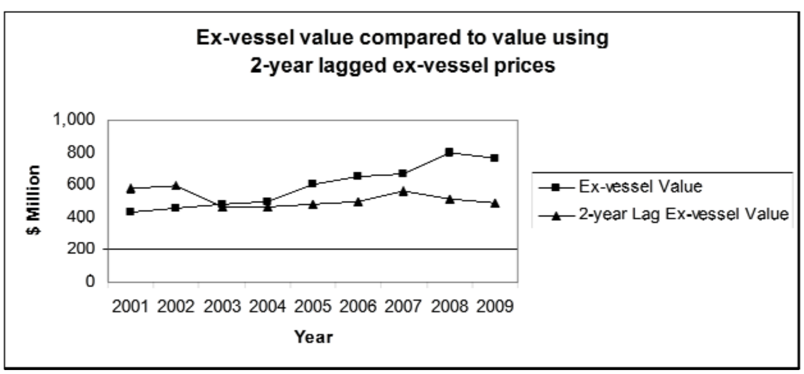
With an ex-vessel value based fee system, NMFS' observer budget would be dependent on ex-vessel prices and harvest amounts. The only variables within NMFS' control would be the fee percentage level and observer coverage levels. In the event the ex-vessel fee does not provide sufficient revenue for the level of observer coverage anticipated when the program was developed, due to declining prices or harvest amounts, observer coverage may have to be reduced or supplemented through additional Federal funding. NMFS would then need to prioritize the observer days that are available, given the funding level and the strata that have mandatory coverage levels, and assign them the strata that yield the greatest benefit.

Using a 2-year lagged ex-vessel price for groundfish species would impact the revenue generated in a year under the revised observer program. Examples of the change that would have occurred if this program were in place in 2005 through 2008, under a 2% maximum ex-vessel fee, are discussed in this section. This section will also provide a discussion of the impact that a rolling average price would have on revenue generated under an ex-vessel observer fee. The 2006 observer program restructuring analysis found that inter-annual fluctuations in ex-vessel revenue would be lessened by the use of a rolling average ex-vessel price (NPFMC 2006).

Impacts of 2-Year Lag in Groundfish Price Data

A two-year lag is anticipated before standardized prices from the COAR are able to be applied to landings for establishing ex-vessel fee liabilities. This is due to the time lapse required for operators to submit the COAR and for managers to verify the information and calculate standardized prices. It is possible the data could be available in less than two years; however, NMFS would publish the prices in the *Federal Register* such that they would become effective at the beginning of a calendar year. While the lag is sub-optimal, it allows NMFS to use the best available information, without requiring additional industry reporting. Even with additional industry reporting, it is unlikely NMFS could compile and promulgate prices from the current year by the beginning of the following year. Thus, at a minimum, there would still be a one-year lag in prices, even with additional industry reporting.

Assuming a two-year lag between when fish are landed and a standardized price for those landings can be estimated, it is important to show the impacts that lag could have on the amount of revenue generated in a year. Figure 4 shows the estimated ex-vessel value of the groundfish fishery (excluding IFQ) and the value when the price from two years earlier is applied to the catch. The values are all reported in nominal dollars. During the years 2001 ($149 million) and 2002 ($136 million) the lagged value is greater than the estimated value of the fishery, as a result of the 1999 and 2000 prices being higher than the 2001 and 2002 prices. Every year after 2002, the lagged value of the fishery is lower than the estimated annual value (calculated using the current year price and catch). The values were different by about $16 million in 2003, and the difference increases in most years, reaching a difference of $283 million in 2008. Because the lagged value was lower over most of the years considered, the 2% maximum fee would not be exceeded. For example, in 2008 harvesters and processors, on average, would pay two-thirds of the 2% fee,[47] or about 1.3% of their reported 2008 revenue. It is anticipated that, in the future, some years the revenue estimated using the lagged price will be larger. In those years the ex-vessel observer fee could be more than 2% of actual revenue, especially if some industry sectors are paying the maximum 2% fee. This lag in price data increases the uncertainty that the proposed fee percentage is collected.



Source: Annual CFEC ex-vessel price data 2005-2008 and State average prices for 2009 and NMFS catch data.

Figure 4 Estimated ex-vessel fishery revenue based on that year's ex-vessel prices and a 2-year lagged ex-vessel price

An estimate for 2009 was based on Alaska statewide average prices used to determine tax liability for the State fishery resource landing tax. The difference in revenue was about $270 million (about the same as

[47]If the ex-vessel value based fee was set at the 2% maximum allowed by law.

2008). Because the different data sources were used to determine the 2005 through 2008 and 2009 ex-vessel prices, the difference in 2009 ex-vessel values may be over or under estimated. The amount of error associated with the calculation is unknown.

If the entire groundfish fishery were subject to a (maximum) 2% fee, the approximate $350 million difference between the estimated ex-vessel revenue and the lag price revenue in 2008 would result in a $7.0 million decrease in observer program revenue that year, which would decrease the number of observer days available by about 15,000. That decrease represents about 38% of the total days needed under the status quo. That level of decrease, especially under Alterative 5, would likely result in the observer program being underfunded that year.

Table 23 provides information on the metric tons of groundfish priced, estimated ex-vessel value of the catch, and the weighted average price per pound for 1999 through 2009. Information in the table provides insights into movements of the lines in Figure 5. For example, the 2008 fishery values were very different when the price was lagged by two years. The reason for the difference is that the metric tons of fish caught decreased substantially (20%) in 2008 (compared to 2006) and the price increased substantially (over 40%). The lower price in 2006 was applied to the lower catch in 2008 to cause the total revenue estimate to be relatively small compared to the estimated 2008 revenue. In 2007, the lagged and current year estimates were relatively close, because the metric tons priced and estimated price were about the same. In the earliest two years, the average groundfish price was about $0.13 per pound and the quantity harvested was than 1.82 million pounds both years. The metric tons of groundfish caught in 2001 increased to over 2.00 million mt and the weighted average price fell to less than $0.10 per pound. Those two factors caused the 2-year lagged value to be greater than the actual value those years.

An ex-vessel revenue estimate for the 2009 fishing year is included in this table. This information was included to provide the most recent information available. Groundfish prices were based on the statewide average prices used to determine resource landing tax liability. Those prices were multiplied by catch estimates (eLandings) that would be included in the observer fee calculation. The estimated 2009 ex-vessel revenue was about $38 million less than the 2008 revenue estimate. The reduction in revenue was due to the decrease in catch (about 225,000 mt), because the prices that were available indicated that the average value of a pound of fish retained increased in 2009. Again, the reader is cautioned that comparing 2009 prices to earlier years may be misleading. For that reason, 2009 data was not included in the calculations of ex-vessel fees for each of the alternatives under consideration.

Table 23 Estimated priced catch, value, and ex-vessel price, 2005-2009

Year	Million mt (Priced)	$ million	Ex-vessel Groundfish Price/lb
1999	1.66	478.31	$0.13
2000	1.82	509.65	$0.13
2001	2.00	428.40	$0.10
2002	2.10	453.89	$0.10
2003	2.17	479.35	$0.10
2004	2.16	492.19	$0.10
2005	2.18	598.28	$0.11
2006	2.17	650.91	$0.12
2007	2.02	664.04	$0.14
2008	1.72	799.18	$0.21
2009*	1.50	760.88	$0.23

Source: CFEC gross weighted average price data (1999-2008), statewide average prices (2009), and NMFS catch data (1999-2009)
*The 2009 ex-vessel prices were derived differently than 1999-2008 prices, so comparing the prices to earlier years may provide misleading results.

Ex-vessel prices are determined, in part, by demand for Alaska groundfish, the supply of Alaska groundfish, and the supply substitutes for Alaska groundfish. In 2008, the supply of Alaska groundfish declined, which played a role in increased prices. The extent of that impact on ex-vessel prices is difficult to assess,[48] without price elasticity information for each species. Another factor which may have played a role in the higher prices in 2008 was the cost of production. Fuel prices spiked during that year (Figure 5).[49] The cost of fuel is a major component in fish harvesting costs. To enable harvesters to remain viable, the ex-vessel prices paid may have been influenced by those cost increases. Other shifts in market demand for Alaska groundfish (e.g., currency exchange rates, global economic stagnation) also likely influenced the 2008 price increase.

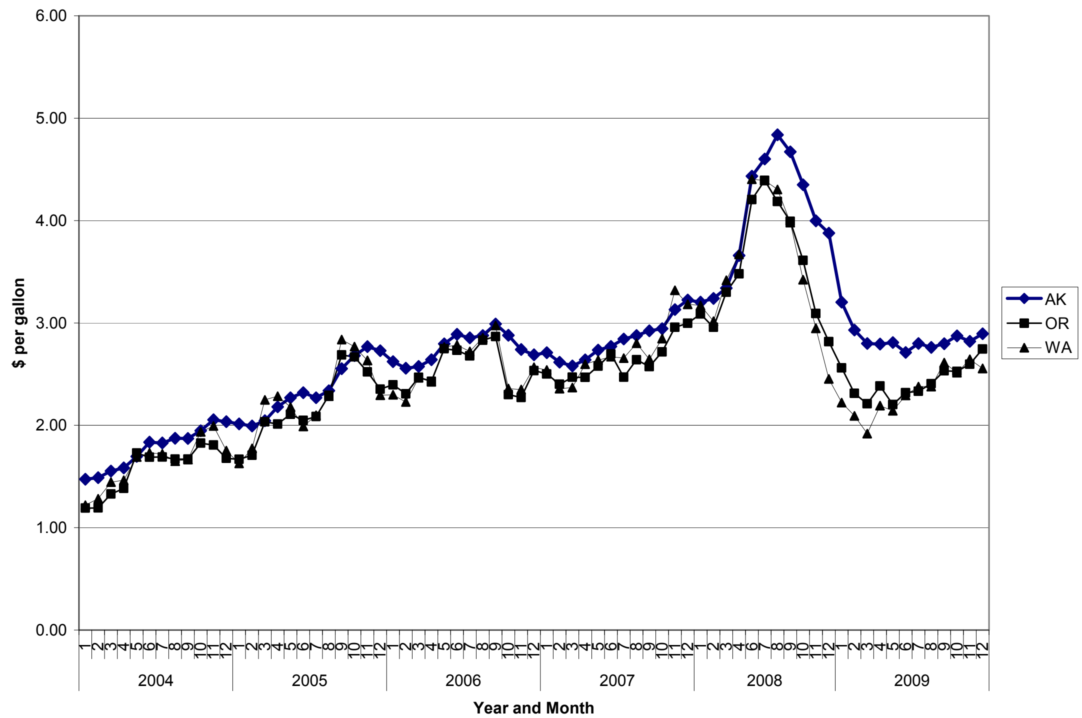


Figure 5 Fuel prices by month, 2004 through 2009

Rolling Average Standardized Ex-vessel Prices

As discussed earlier, there are two components of ex-vessel revenue that cause the ex-vessel fee to vary from year-to-year. The first is harvest changes based, at least to some degree, on the TAC for each species or species group. TAC changes are established by NMFS, but are driven by both biological and economic conditions. In the BSAI, a 2 million mt cap is placed on the total aggregate groundfish TAC, which is determined based on consideration of maximum sustainable yield, equilibrium yield, and optimum yield for the groundfish complex, as a whole. The sum of all TAC's must fall within the optimum yield range of 1.4 million mt to 2.0 million mt. In recent years, the sum of all BSAI groundfish TACs has been set at 2 million mt. GOA groundfish TACs are set for individual species or species groups, but are not constrained by an overall cap. Because of the BSAI cap, pollock and Pacific cod

[48]Appendices in the annual Economic Safe (Hiatt et al., 2009) provide an overview of the markets for several species.

[49]Fuel prices reported in the figure are based on monthly surveys conducted by the staff of the Pacific States Marine Fisheries Commission. Their EFIN division collects data on pre-tax #2 Marine Diesel by port from suppliers in Alaska, Washington, Oregon, and Calfornia. They report fuel price information by month for each port surveyed and state-wide averages. PSMFC state-wide average #2 marine diesel price (nominal) data is reported in Figure 5. http://www.psmfc.org/efin/data/fuel.html#Data

TACs often influence the size of the TACs for some flatfish and rockfish species. The PSC limits in those fisheries have also constrained harvest, so the overall amount of those species that has been harvested is subject to controlling PSC removals. Historically, when the pollock and Pacific cod TACs decline the total harvest of all BSAI species declines. Conversely, when their TACs increase, the overall catch and retained catch increases. So, while NMFS sets a combined TAC that is relatively stable over time, TAC variation for individual species (or species groups) may cause the total harvest to fluctuate.

Historical groundfish catches for the BSAI and GOA are reported in Table 24, by industry sector for the years 2005 through 2009. Information in those tables indicates that total catch has declined each year from 2006 through 2009. The metric tons attributed to CPs decrease over this time period, but they increased their percentage of total catch from 53% in 2005 to 59% in 2009. Mothership deliveries declined and, on a percentage basis, accounted for between 6% and 7% of the total harvest each year. Shoreside deliveries decreased each year and their percentage of total harvest declined from about 40% of total catch in 2005 to about 35% of total catch in 2009. Increases in CP and mothership deliveries, as a percentage of the total, would decrease observer fee revenues relative to total catch declines under Alternatives 3 and 4.

Table 24 Groundfish catch by area and industry sector, 2005 - 2009

		Year				
FMP Area	**Sector**	**2005**	**2006**	**2007**	**2008**	**2009**
BSAI	CP	1,121,164	1,113,511	1,068,472	951,370	842,083
	MS	149,653	151,720	149,324	101,081	93,102
	Shorebased	709,442	710,610	638,936	488,135	400,129
BSAI Total		*1,980,259*	*1,975,841*	*1,856,732*	*1,540,586*	*1,335,314*
GOA	CP	30,285	39,013	32,175	36,815	42,025
	CV	152,724	156,277	130,565	145,672	123,157
GOA Total		*183,009*	*195,290*	*162,740*	*182,487*	*165,182*
Total		**2,163,268**	**2,171,131**	**2,019,472**	**1,723,073**	**1,500,496**

Source: NMFS AKR annual retained and discarded catch reports 2005-2009

Table 25 BSAI and GOA total groundfish catch (mt) by species, 2005-2009

	Year				
SPECIES	**2005**	**2006**	**2007**	**2008**	**2009**
Alaska plaice	11,201	17,316	19,522	17,375	13,943
Atka mackerel	62,915	62,771	60,221	60,195	75,030
Arrowtooth flounder	33,789	41,102	37,412	51,162	55,302
Demersal shelf rockfish	187	164	180	149	138
Deep-water flatfish	408	395	274	558	457
Flatfish	4,599	3,160	5,848	3,623	2,163
Flathead sole	18,420	20,838	22,476	27,958	23,208
Greenland turbot	2,562	1,987	2,003	2,740	4,498
Longnose skate	1,016	942	1,359	993	1,145
Northern rockfish	8,746	8,787	5,398	7,341	7,036
Other groundfish	31,680	30,694	29,737	31,477	30,425
Pacific cod	240,153	226,734	210,024	209,045	213,059
Pelagic shelf rockfish	1,968	2,281	784	3,448	3,058
Pollock	1,564,690	1,558,890	1,408,665	1,043,455	854,905
Pacific ocean perch	20,963	25,583	23,919	29,157	27,244

Rex sole	2,176	3,294	2,845	2,690	4,752
Rougheye rockfish	385	560	547	586	475
Rockfish	1,169	1,626	1,250	1,398	1,479
Rock sole	37,369	36,456	37,126	51,276	48,648
Sablefish	16,433	15,381	14,597	14,299	12,893
Shallow water flatfish	4,462	7,641	8,770	9,698	8,481
Squid	1,185	1,418	1,186	1,543	354
Shortraker Rougheye rockfishes	663	930	903	748	769
Thornyhead rockfish	717	778	723	743	653
Unspecified skates	683	1,396	1,232	1,171	1,087
Yellowfin sole	94,008	98,442	120,967	148,894	107,427
Total	2,163,268	2,171,131	2,019,472	1,723,073	1,500,496

Source: NMFS AKR annual retained and discarded catch reports 2005 through 2009.

Table 25 shows the catch of each BSAI and GOA species group for the years 2005 through 2009. Information in that table indicates pollock harvest declined from about 1.57 million mt in 2005, to 855,000 mt in 2009. Pacific cod harvest also declined from 240,000 mt in 2005, to 213,000 mt in 2009. Atka mackerel harvest remained relatively stable over the 2005 through 2008 time period (about 60,000 mt), but increased to about 75,000 mt in 2009. Rock sole, yellowfin sole, and flatfish harvests in general increased over this time period. Rockfish harvest trends tended to vary by species. The increases in flatfish and Atka mackerel harvests are, in part, driven by the decline in pollock and Pacific cod TACs and the 2 million mt cap imposed on the BSAI.

Ex-vessel prices are determined by the supply and demand for species. Because the market determines ex-vessel prices, it may vary from year-to-year based on the economies of countries that buy U.S. groundfish and halibut; availability and price of substitute products and suppliers; and the quantity of the species that are available in world markets. Table 23 indicates that the weighted average ex-vessel price for all groundfish (using eLandings catch data and CFEC prices) was about $0.14/lb from 2005 through 2007. The price in 2008 increased to about $0.20/lb.

Using a rolling average price would reduce the annual variability in ex-vessel prices, but would not affect the quantity of fish that is priced. Changes in the quantity delivered could, if sufficiently large, alter the revenue estimated for the fee, even when the price remains relatively stable. Figure 6 shows the impact using rolling average prices of different time periods have on fishery ex-vessel revenue estimates. The data used in the figure were based on the 10 years of price data provided by CFEC staff. Those data, along with the quantity of groundfish caught, as reported in the economic SAFE (Hiatt et al., 2009 and Hiatt et al., 2005), were multiplied together to estimate ex-vessel revenue.

In June 2010, the SSC cautioned that using a moving average to smooth prices is problematic for time series characterized by trends. When a time series trends up or down the smoothed price will always follow the trend. The data over this time period shows an increase in revenue since 2001. Because the revenue increases over the recent years, the three, five, and seven-year moving average trend lines also increase. If the revenue in the future declines, the moving average trend lines will miss the turning point and continue to increase after total revenue declines. Because of these issues, reported trend lines may not be representative of future revenues.

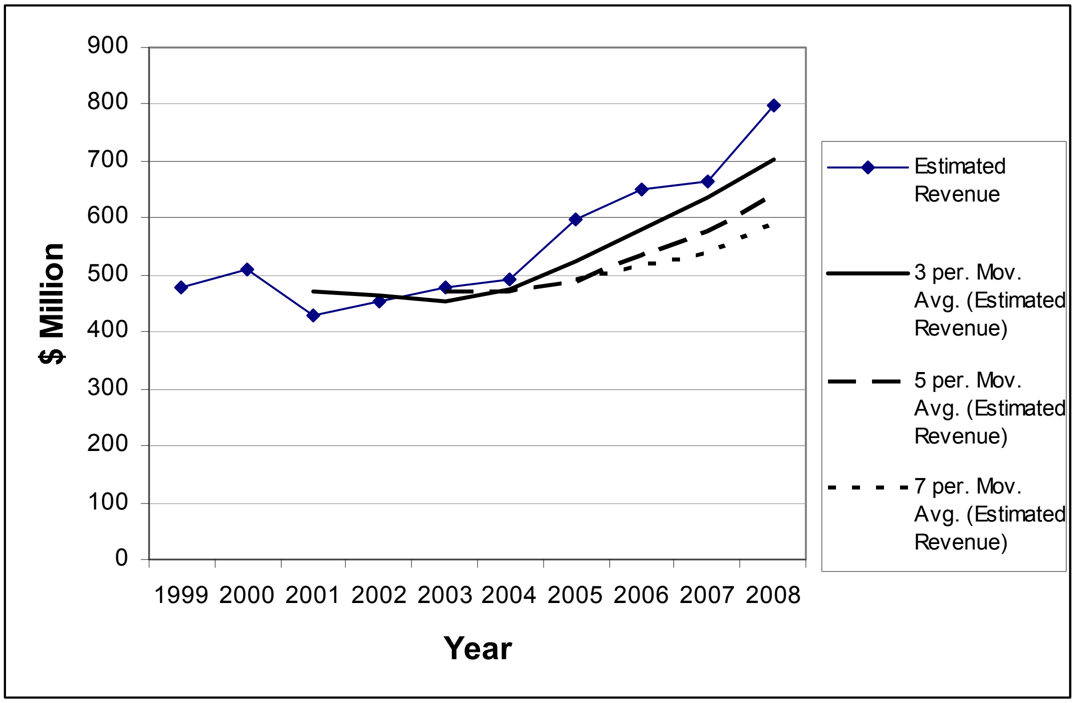


Figure 6 **Estimated ex-vessel revenue using current year's prices and rolling average prices**

The estimated fishery revenue represents the total ex-vessel value of groundfish harvests. Data for that line were generated by multiplying that year's price by the total harvest. Revenue estimates represented by that line vary from about $580 million in 2001, to about $800 million in 2008. If observer days were charged at $467/day, the $220 million revenue change would result in about 9,400 observer days. Applying a rolling average price to the harvest data reduces the revenue changes. The longer the period of time used to create the rolling average price, the less effect a price that is substantially different from other years has on the average price. Using fewer years for the rolling average allows the price to respond more quickly to increases or decreases in ex-vessel price, which may or may not be linked to changes in the TAC.

2.9.2.2.5 Summary of Ex-vessel Value Based Fee

The following are major assumptions and decision points that must be addressed to implement an ex-vessel fee:

1. Ex-vessel fees would be based on standardized ex-vessel nominal prices calculated using data derived from COAR using the methodology developed by the CFEC for their gross earnings estimates.
2. For the groundfish fishery, the time required to collect, analyze, and apply price data to the eLandings system would result in 2-year-old prices being applied to the harvest data.
3. For halibut and sablefish (IFQ species), the fee will be billed based on previous year's prices. However, it may be possible to more closely link the fee to the current cost recovery program fee and increase the percentage of ex-vessel value that is paid by the permit holder. The portion of the fee owed by the registered buyer would be billed separately.

4. It is anticipated that when an ex-vessel fee is assessed, the harvester would pay half of the fee and the processor would pay the other half. The processor would collect the harvester's portion of the fee at the time of landing. Under Alternatives 3 and 4, catcher vessels that deliver unsorted cod ends would not be subject to an ex-vessel fee and would not be subject to the daily fee. Catcher vessels that deliver sorted catch to a CP or mothership would be subject to paying their half of the ex-vessel fee and it would be collected by the processor at the time of the landing.
5. Standardized ex-vessel prices would be set for species, port of landing, and gear. Because of data confidentiality issues, data must be aggregated if there are fewer than 3 entities in a price category. It is proposed that the prices would be set for fixed gear, pelagic trawl gear, and non-pelagic trawl gear. Ports and species would be aggregated as needed to preserve confidentiality.
6. Because the data show a general increasing trend in total revenue. It is difficult to draw conclusions on the most appropriate length of time to use for a rolling-average price. However, a shorter time period will more quickly respond to changes in total fishery revenue.

The following are some of the advantages and disadvantages of using an ex-vessel value based fee.

Advantages of an ex-vessel value fee include:

• *Equity*. An ex-vessel value fee is perhaps the most equitable method of funding observer coverage because it is based on the value of the resource each operation brings to market. An ex-vessel value fee is commensurate both to each operation's ability to pay and the benefits received from the fishery. Under the existing pay-as-you-go program or daily fee program, some smaller vessel operators face observer costs that are disproportionately high relative to their revenue.

• *Broad-based approach.* An ex-vessel value fee is easy to apply on a universal basis to all participants in the restructured observer program. That is because the fee can be assessed at the time of each landing, regardless of how large or small the landing. The current system, in which vessels pay for their own coverage, exempts all vessels that do not have coverage requirements even though their fisheries are managed by data collected by observers on larger boats that do have required coverage.

• *Predictability*. A fee that is withheld at the time of landing is likely easier for fishermen to predict and plan for, because they need not worry about maintaining sufficient funds in the future to pay for coverage. Fees imposed on harvesters on a yearly or quarterly basis would require fishermen to set aside sufficient funds to pay for future coverage fees. This may be difficult for some operations that may not know how much revenue to set aside for future fee payments, because they may not know how many future fishing days to expect.

• *Ease of collection.* An ex-vessel value fee that is automatically withheld at the time of landing by the processor would likely be the easiest type of fee to assess and collect, because the processor knows how much was paid for the fish. The existing electronic reporting software used by processors to report landings to NMFS could likely be modified by or replaced with a system that automatically generate fee assessments, relieving processors of the task of calculating fee amounts. However, this advantage would not apply if the fee is collected after-the-fact on an annual or quarterly basis by NMFS through direct billing of fishermen.

Disadvantages of an ex-vessel value fee include:

• *Fee revenues not directly linked to coverage costs.* Because the fee revenues would not be directly related to observer coverage costs, it is highly likely that the program would experience revenue shortfalls or surpluses, relative to the amount of observer coverage desired. The amount of revenue generated by an ex-vessel value fee depends on a variety of factors including: (1) the fee percentage, (2) ex-vessel prices for species covered by the program, and (3) the amount of total landings. Observer coverage costs also depend on various factors including: (1) the daily rate charged by observer providers, (2) the number of vessels participating in a fishery, (3) season lengths, and (4) the desired coverage levels. Given that fee revenues and coverage costs are likely to vary independently from year to year, as a result of factors that may be difficult to predict or control, it is unlikely that an ex-vessel value fee program could be designed to exactly match coverage costs.

• *Data limitations.* Data that are currently available will require past years ex-vessel prices to be applied to current years catch. Using past prices will result in different fee estimates than using actual revenue. These differences could be small or substantial depending on how prices and harvest change from year-to-year. Data limitations also preclude estimating seasonal standardized prices within a year. Depending on when a person harvests the fish, it could impact the difference between his or her actual ex-vessel revenue and the estimated revenue the fee was based upon.

• *Fee percentages could not be adjusted quickly.* It is unlikely that an ex-vessel value observer fee could be designed such that the fee percentage could be adjusted quickly or automatically. The fee percentage would need to be established in regulation, and any change in the ex-vessel value fee percentage would require notice and comment rulemaking and economic analysis of the impacts of the proposed change. Therefore, it is unlikely that fee percentages could be adjusted in a timely manner to account for changing prices, landings, and coverage costs.

2.9.2.3 Description of status quo (pay-as-you-go) costs

Under Alternatives 1 – 3, some or all sectors would continue to operate under the existing pay-as-you-go system in which vessels and processors contract directly with observer providers for observer services. Under Alternative 1 (status quo), all sectors of the North Pacific groundfish fishery that are currently required to carry observers would continue to pay observer providers directly for observer coverage. Under Alternative 2, groundfish vessels ≥60' LOA that harvest fish from the BSAI and processors taking deliveries of BSAI groundfish would continue to pay observer providers directly for coverage. Under Alternative 3, all vessels and processors in the ≥100% coverage category would pay observer providers directly for coverage.

Vessels under Alternatives 2 and 3 that do not obtain observers under the current pay-as-you-go structure would be required to pay the ex-vessel fee. Under Alternatives 4 and 5, no members of the industry would pay observer providers directly for coverage, as all sectors would be included in the restructured program and either pay an ex-vessel value based fee or a daily fee directly to NMFS.

Appendix 6 provides a detailed estimate of the daily observer cost under the current pay-as-you-go system. The information in that appendix shows that ≥100% coverage vessels and plants pay \$323/day for observer coverage and an additional \$42.72/observer day for airfare and other observer related expenses. Adding the observer cost and other expenses yields an estimated daily observer cost of \$365.72. For the purpose of this analysis, observer days under the current pay-as-you-go system are assumed to cost \$366/observer day.

2.9.2.4 Description of Daily Fee Based on Restructured Observer Program

Alternative 4 comprises a hybrid fee system, wherein vessels with ≥100% observer coverage requirements would pay a daily fee in lieu of an ex-vessel value fee, to which all other participants would be subject. While a daily fee is not employed under the Council's preferred alternative, this section describes the methods evaluated that NMFS would use to establish and collect a daily fee. This approach would, to some extent, mirror the existing 'pay-as-you-go' program, except that vessel owners would be billed by NMFS for their coverage instead of contracting directly with an observer provider. Under this approach, NMFS would determine each vessel's fee liability, based on the number of observer deployment days. NMFS would calculate a standardized daily fee according to contractually agreed upon rates for deploying observers, which would be based on observer labor and non-labor deployment costs, such as transportation and lodging expenses. It is not possible to know actual costs of a daily fee without contracts in place. However, estimates of the daily fee are provided in the RIR and the calculations to develop those estimates are in Appendix 6.

NMFS would establish the standardized daily fee through proposed and final rulemaking. Note that a daily fee may be more amenable to a closed framework based fee formula than an ex-vessel value fee. In a closed framework, NMFS and the Council would establish a formula to derive the daily fee amount through proposed and final rulemaking. The daily fee could be updated as necessary and the public notified through a rule-related notice in the same manner as LAPP cost recovery programs (e.g., halibut/sablefish and crab IFQ).

NMFS' Fishery Monitoring and Analysis Division (FMA) would submit a report to NMFS' Alaska Regional Office (AKRO) identifying each vessel or shoreside processing plant required to pay daily observer fees and the number of observer days utilized by that vessel or plant during the billing cycle. This information is readily available and would likely require minimal additional programming by the FMA to generate this report. The AKRO would calculate each operation's observer fee liability and invoice each vessel or plant on a billing cycle established in regulation. The billing frequency would be determined, in part, by the amount of start-up funds available at the program's onset. If sufficient funds are available at the onset, NMFS would likely invoice vessels and plants on an annual basis to reduce agency administrative costs. NMFS may withhold, suspend, or revoke applicable operating permits (FFPs or FPPs) for delinquent payments.

At the September 2009 OAC meeting, there were questions about how a daily fee would be calculated and the potential for daily fees to exceed 2% of the unprocessed, ex-vessel value, if the fee was 2%. Under a daily fee, a daily observer rate would be established as explained in the RIR. An operation could estimate its observer costs under a daily fee by multiplying the daily observer rate by the number of days it would operate with an observer. Operations requiring two observers would need to multiply the daily rate by 2 and then multiply that rate by the number of days they anticipate operating. As noted, it is possible that an operation's observer fees may be greater than 2% of its unprocessed ex-vessel value under the daily fee in Alternative 4; however, Section 2.9.2.1 explains that the MSA does not provide a maximum limit on the daily fee, as it does for an ex-vessel value based fee. An operation potentially subject to a daily fee could divide its estimated observer costs by its annual ex-vessel earnings to estimate the percentage of its ex-vessel value it would pay for observer coverage.

Alternative 4 would require vessel and processing plant owners that have ≥100% observer coverage to pay NMFS a daily fee based on actual observer costs. For this analysis, NMFS has provided estimates of the total number of observer days that were used by industry sectors that would be subject to the daily fee. It has also provided a detailed discussion of how it derived the fee for an observer day. An estimate of the cost of an observer day under the daily fee along with an explanation of how the daily fee estimate is derived can be found in Appendix 6. The information shows that observer pay and observer provider overhead is estimated to be $424.35/day. The cost of airfare and miscellaneous charges for each day of observer coverage is estimated the same as under the pay-as-you-go system ($42.72/day). The sum of the two costs yields a daily fee estimate of $467.07. For the purpose of this analysis, staff assumes that the daily fee for observer coverage under Alternative 4 is $467/day. Note that this is the same estimate of the cost of an observer day under the restructured sectors under Alternatives 2, 3, and 5; however, under Alternatives 2, 3 and 5, industry would pay a percentage of ex-vessel revenues as opposed to a fee based on an estimated daily rate (Alternative 4). Recall that the cost of an observer day under the status quo system is $366/day. The increase in the cost of an observer day under a restructured program, in which NMFS directly contracts with observer providers, is due to the applicability of the Service Contract Act. Refer to Appendix 6 for details.

<u>Advantages of a daily observer fee based on coverage levels</u>

• *Revenues could exactly match costs.* If the daily costs of observer coverage are known in advance (as they would be if NMFS entered into long-term contracts with observer providers) then a daily observer fee could be designed to exactly match the costs of coverage. This is a major advantage to such an approach because it means that coverage would not be threatened by revenue shortfalls.

• *Fees more closely match monitoring requirements.* An ex-vessel value fee, if the same percentage fee is applied to all operations, charges everyone based on their revenues without regard to differences in monitoring requirements in different fisheries. A fee based on coverage means that everyone pays for the coverage they receive, whereas a fee based on ex-vessel value means that everyone pays the same percentage of the value they receive from the fisheries.

<u>Disadvantages of a daily observer fee based on coverage levels</u>

• *Does not address disproportionate cost issues.* One disadvantage to such an approach is that it does not address the problem of disproportionate costs that is of concern. In effect, vessels would be charged for their observer coverage in a very similar manner to how they are charged today, except that NMFS would be assessing the fee directly.

2.10 Estimated Effects of the Alternatives

2.10.1 Alternative 1: Status Quo

The status quo would continue the current observer coverage requirements that have been implemented to date, as well as those that have been approved by the Council and are expected to be implemented (e.g., BSAI Amendment 91). Current coverage levels are defined at 50 CFR 679.50. A summary of the status quo coverage requirements is reported in 2.1.1 and a more detailed table of coverage levels is provided in Appendix 1. For harvest vessels, coverage levels are generally based on the fishery and vessel length. Processor observer coverage levels are generally based on the amount of fish processed and the fishery in which the catch was made.

Table 26 Observer coverage levels under Alternative 1 (status quo)

Industry Segment	*Status Quo Coverage*
AFA CPs	200% coverage
CDQ CPs	200% coverage
AFA motherships	200% coverage
AFA inshore processors	1 observer for each 12 hour period (i.e. 2 observers if plant operates more than 12 hours/day)
Am 80 trawl CP vessels	200% coverage
CPs fishing for Atka mackerel in the Aleutian Islands Subarea	200% coverage
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the BSAI	200% coverage
Non-AFA and Non-Am 80 trawl CP vessels <125' in the BSAI	30% coverage
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the GOA	100% coverage
GOA Rockfish Program vessels when operating in that fishery	100% coverage
CVs ≥60' fishing Non-pollock CDQ	100% coverage
Pot CPs fishing CDQ	100% coverage
Non-AFA and Non-Am 80 Trawl CP vessels <125' in the GOA	30% coverage
Non-AFA and Non-CDQ shoreside processors	If processes <500 mt of groundfish in a calendar month – exempt from coverage. If processes between 500 mt and 1000 mt of groundfish in a calendar month – coverage for 30% of the days that they receive or process groundfish. If processes 1,000 mt or more of groundfish in a calendar month – coverage for 100% of the days that they receive or process groundfish.
AFA Trawl CVs ≥125' (including CDQ)	Inshore 100% coverage; When delivering unsorted cod ends to CPs or MS they are exempt from coverage
AFA Trawl CVs 60'- 125' (including CDQ)	100% coverage when targeting BS pollock (Am 91); 30% coverage in other fisheries when delivering inshore; exempt when delivering unsorted cod ends to MS and CP
Non-AFA Trawl CVs 60'- 125' (Including CDQ)	100% coverage if fishing CDQ pollock - 30% coverage for all other activities
Non-AFA Trawl CVs ≥125'	100% coverage
Hook-and-line CPs >125'	100% coverage
Hook-and-line CPs 60'-125'	30% coverage
Hook-and-line CVs 60'-125'	30% coverage
Hook-and-line CVs ≥125'	100% coverage
Pot CPs ≥60'	30% coverage
Pot CVs ≥60'	30% coverage
Halibut vessels	no coverage
Jig vessels (all sizes)	no coverage or 30% depending on vessel length
Groundfish vessels <60'	no coverage
Non-AFA Motherships	Processes 1,000 mt or more in round-weight equivalent of groundfish during a calendar month – 100% coverage; Processes from 500 mt to 1,000 mt in round-weight equivalent of groundfish during a calendar month – 30% coverage

Source: 50 CFR 679.50 - Groundfish Observer Program and Alaska Fisheries Science Center, Observer Program staff.

Based on the status quo coverage requirements, the number of observer days needed for the groundfish fishery during 2008 was estimated by NMFS staff and reported in Table 27. A total of 39,338 observer days were estimated to have been used in 2008. This total estimate of observer days differs by 6 days from the estimate that was presented to the Council in the June 2010 version (initial review draft) of this document. That difference is a result of the assumptions required to assign observer days to the new vessel classes. The six observer days are assumed to cost $2,196. Because the difference is very small between the two estimates, the previous number of 39,344 is used as the baseline in this document.

Because the status quo would continue the current observer coverage requirements, the industry cost of coverage is equal to the pay-as-you-go daily rate, multiplied by the number of days used by that sector. Estimates for each sector and the total industry costs for coverage are included in Table 27. A total of $14.4 million is projected to be spent annually for observer coverage. As expected, under the status quo, CPs pay the majority of observer costs. This sector's total is estimated to be $8.86 million, or about 62% of the total observer cost. Catcher vessels in the sablefish IFQ and GOA Rockfish programs ('management CVs') are estimated to pay $267,912, or about 2% of the total. 'Unspecified catcher vessels' are estimated to pay about $3.2 million (22%). Finally, processors (motherships and shoreside) are estimated to have paid $2.08 million (14% of the total) for observer coverage.

Table 27 Status quo estimated number of observer days and estimated observer cost by sector (2008)

		Fee Structure		Number of Participants			Sea-days Observed			Estimated Cost of 2008 Observer Days		
	Sector	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	366	366	0	17	17	20	4,204	4,224	$ 7,320	$ 1,538,664	$ 1,545,984
CPs	CPs in GOA Rockfish Pilot Program	366	366	7	0	7			0	$ -	$ -	$ -
CPs	Sablefish CPs >= 60'	366	366	10	15	18	213	198	411	$ 77,958	$ 72,468	$ 150,426
CPs	Sablefish CPs 50' - 59.9'	366	366	1	1	2			0	$ -	$ -	$ -
CPs	Halibut IFQ CPs	366	366	6	3	7	62	60	123	$ 22,836	$ 22,034	$ 44,870
CPs	Non-Specified Trawl CPs >=60'	366	366	14	22	24	665	12,284	12,949	$ 243,390	$ 4,495,944	$ 4,739,334
CPs	Non-Specified Fixed Gear CPs >= 60'	366	366	17	42	43	377	6,130	6,507	$ 137,982	$ 2,243,580	$ 2,381,562
CPs	Fixed Gear CPs 50' - 59.9'	366	366	2	1	2			0	$ -	$ -	$ -
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	26	0	26	311		311	$ 113,826	$ -	$ 113,826
MGT CVs	Sablefish IFQ CVs >= 60'	366	366	42	13	51	239	140	379	$ 87,474	$ 51,240	$ 138,714
MGT CVs	Sablefish CVs 50 - 59.9'	366	366	97	11	104			0	$ -	$ -	$ -
MGT CVs	Sablefish CVs 40 - 49.9'	366	366	51	3	52			0	$ -	$ -	$ -
MGT CVs	Sablefish IFQ CVs < 40'	366	366	16	0	16			0	$ -	$ -	$ -
MGT CVs	Halibut IFQ CVs	366	366	1,077	329	1,351	26	16	42	$ 9,516	$ 5,856	$ 15,372
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	366	366	0	82	82	0	5,098	5,098	$ -	$ 1,865,868	$ 1,865,868
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	366	366	20	84	84	694	1,324	2,018	$ 254,004	$ 484,584	$ 738,588
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	366	366	25	21	40	688	383	1,071	$ 251,808	$ 140,178	$ 391,986
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	366	366	27	3	27			0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' Fixed gear	366	366	104	74	138		534	534	$ -	$ 195,444	$ 195,444
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	366	366	293	43	300			0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	366	366	339	20	347			0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels < 40' Fixed gear	366	366	491	268	744			0	$ -	$ -	$ -
Unspecified CV	Total CVs (excludes IFQ - halibut and sablefish)						1,382	7,339	8,721	$ 505,812	$ 2,686,074	$ 3,191,886
Processors	Motherships AFA and Non-AFA	366	366			11	58	723	781	$ 21,228	$ 264,618	$ 285,846
Processors	Shore-based/Floating processors (AFA)	366	366			7		2,828	2,828	$ -	$ 1,035,048	$ 1,035,048
Processors	Shore-based/Floating processors (non-AFA)	366	366			24	1,645	417	2,062	$ 602,070	$ 152,622	$ 754,692
	Total						4,998	34,339	39,338	$ 1,829,412	$ 12,568,148	$ 14,397,560

Source: Derived by AFSC, Observer Program staff using NORPAC observer database.

Within each of the larger groupings, several additional vessel and processor sectors are defined. These sectors are used in all of the *detailed* alternative tables presented for the 2008 fishery in the following sections. The *summary* tables for each alternative, based on four years of catch history (2005 through 2008), break out the costs by the following general sectors: at-sea mothership and catcher processors, shoreside groundfish deliveries, halibut IFQ, and sablefish IFQ. Note that these summary tables use revenue estimates based on the four-year average and a total of 39,344 observer days (the 2008 status quo estimate from the June analysis).

The 17 AFA CPs that participated in 2008 are estimated to have paid about $1.5 million for observer coverage, or the fourth largest amount of any sector. The BSAI Amendment 80 sector ('non-specified trawl CPs') was composed of 24 vessels in 2008, and they are estimated to have paid about $4.7 million. This group paid the most of any sector for observer coverage. The 43 vessels in the 'non-specified fixed gear CP sector' (freezer longliners and pot CPs ≥60') spent about $2.4 million, the second most of any sector. AFA CVs spent about $2.6 million in all their fisheries, with about 70% being spent in the BS pollock target fishery. Non-AFA trawl CVs spent about $392,000. All of the remaining harvest sectors spent less than $200,000 on observer coverage.

AFA shoreside processors accounted for $1.0 million of the total, non-AFA shoreside processors about $755,000, and motherships about $286,000. This amount is an estimate of the total amount that they paid for observer coverage. No data exist to track how either the catcher vessel or processing payments may have caused ex-vessel prices to be adjusted to cover observer costs.

Table 28 shows the amount of halibut and sablefish harvested in the IFQ and halibut CDQ fisheries in 2005 through 2009. The pounds of halibut IFQ harvested from Alaska waters declined from 55.2 million lbs in 2005 to 42.3 million lbs in 2009 (23%). CDQ harvests also declined, but at a slower rate. CDQ harvests were 2.0 million pounds in 2005 and 1.9 million pounds in 2009, a decline of 10%. The decline of CDQ harvests were less than the IFQ halibut harvests because the amount of halibut available for harvest in western Alaska declined less than that available in southeast Alaska. Sablefish harvests also declined from 32.9 million pounds in 2005, to 24.2 million pounds in 2009 (26%).

Table 28 Estimated halibut IFQ, CDQ, and sablefish IFQ, 2005 - 2009

Year	*Halibut (lbs)*		*Sablefish (lbs)*
	IFQ	CDQ	IFQ
2005	55,192,929	2,043,262	32,877,746
2006	52,226,380	1,908,673	30,849,437
2007	49,328,713	1,846,471	30,080,328
2008	47,321,739	2,108,813	26,872,648
2009	42,274,397	1,855,979	24,202,405

Source: RAM annual reports (e.g., http://www.alaskafisheries.noaa.gov/ram/09ifqland.htm)
2007 CDQ data exclude Area 4B catch for confidentiality reasons; its allocation was 288,000 lbs.

Table 29 shows the catch (in metric tons) that is attributed to the groundfish sectors in 2008. Shoreside landings could be estimated from this table, by summing catcher vessel landings. At-sea CV deliveries are captured under the mothership or CP sectors to which they delivered their catch.

Table 29 Estimated 2008 catch (mt) by species, gear, and vessel class

Grear	Vessel Class	Flatfish	Other	Pacific cod	Pollock	Rockfish	Sablefish	Grand Total
Fixed	AFA CV 60-124	*	*	*		*	*	*
	AM 80 CP 60-124	13	7	44		25	244	332
	CP > 125	3,220	12,516	77,566	3,179	295	643	97,420
	CP 60-124	1,257	2,172	21,836	600	156	962	26,982
	CV <60	487	225	19,345	115	675	6,825	27,672
	CV > 125	18	43	3,623	0	0	39	3,723
	CV 60-124	268	239	15,761	13	237	4,022	20,541
	MS		*	*				*
Fixed Total		5,267	15,202	138,613	3,907	1,388	12,830	177,207
Non-Pelagic Trawl	AFA CP > 125	15,330	531	2,190	1,622	10		19,683
	AFA CV > 125	60	7	5,368	112	19		5,565
	AFA CV 60-124	10,672	572	21,049	3,814	2,577	234	38,917
	AM 80 CP >125	235,491	6,456	16,085	15,459	32,065	581	306,137
	AM 80 CP 60-124	27,469	996	2,304	2,341	1,184	135	34,428
	CP > 125	649	9	135	29	10	0	832
	CV <60	1,057	1	5,232	184	18	1	6,493
	CV 60-124	19,580	333	10,113	2,872	2,230	182	35,309
Non-Pelagic Trawl Total		310,307	8,905	62,475	26,433	38,113	1,132	447,365
Pelagic Trawl	AFA CP > 125	5,793	1,732	2,674	511,117	169	1	521,485
	AFA CV > 125	2,106	1,487	1,532	262,776	143	1	268,045
	AFA CV 60-124	1,793	844	1,090	170,365	1,930	0	176,021
	AFA MS	463	349	585	102,146	0		103,542
	AM 80 CP >125	5	5	9	593	910	1	1,523
	CP > 125	0	0	0	92	0		93
	CV <60	399	3	215	13,764	2	0	14,383
	CV 60-124	262	40	36	11,112	1,950	9	13,409
Pelagic Trawl Total		10,819	4,460	6,141	1,071,965	5,103	13	1,098,501
Grand Total		326,393	28,567	207,230	1,102,305	44,604	13,975	1,723,073

Source: NMFS eLandings data provided by AKR staff.

2.10.2 Alternative 2: GOA Groundfish, <60' Groundfish, and Halibut IFQ Based Restructuring

Under Alternative 2, all groundfish catch in the GOA, all BSAI groundfish catch made by vessels <60' LOA, and all halibut IFQ catch would be subject to an ex-vessel value fee, at a maximum of 2%, and the provisions of the restructured observer program (see Table 4). As currently proposed, processors and halibut registered buyers that take deliveries of fish subject to the ex-vessel fee would withhold half of the ex-vessel value fee from the harvester's payement as the harvester's portion of the ex-vessel value fee. The processor or registered buyer would also be required to fund their half of the ex-vessel value fee and remit it to NMFS. For example, if the fee is 2% of the ex-vessel value of the fish they purchased, the processor/registered buyer would withhold 1% of the ex-vessel value of the fish from the harvester and remit 2% of the total ex-vessel value of the fish to NMFS.

Option 1 under Alternative 2 would reduce the ex-vessel fee to half of the original value for the halibut IFQ and CDQ fisheries and vessels harvesting groundfish that are less than either 60', 50' or 40' in length. If Option 1 is selected, the Council would need to choose the length criteria preferred under Option 1. The impacts of each Option 1 suboption are discussed after the alternative is presented.

Table 30 provides a summary of observer coverage levels that would be implemented under Alternative 2. Note that vessels ≥60' LOA that operate in the GOA and BSAI would be required to pay an ex-vessel revenue based fee for groundfish harvested from the GOA, and pay-as-you-go daily observer costs for BSAI activity; vessels that only participate in GOA groundfish fisheries would only pay the ex-vessel revenue based fee; and vessels ≥60' LOA that only participate BSAI would only pay the pay-as-you-go daily observer costs.

Shoreside processors that take deliveries of BSAI groundfish harvested by vessels ≥60' LOA would be subject to status quo observer coverage and the pay-as-you-go daily rate. Groundfish harvested from the GOA or from the BSAI by vessels <60' LOA would be subject to the ex-vessel revenue fee. This analysis assumes that both the harvester and processor would be required to pay their portion of the ex-vessel fee for GOA harvests, regardless of whether the processor located in a BSAI port is also paying the pay-as-you-go rate directly to its observer provider. Less than 2,200 mt of groundfish was harvested in the GOA and delivered to a processing plant located in the BSAI during 2008. Because the groundfish landings subject to the ex-vessel fee that are delivered to BSAI processors are a relatively small amount of harvest and revenue, this approach is not expected to cause them to pay more than 2% of their ex-vessel revenue for observer fees.

Table 30 Observer coverage by sector under Alternative 2

Industry Segment	*Alternative 2 Coverage*	*Comments*
AFA CPs	200% coverage	Would only pay status quo costs because they do not participate in the GOA
CDQ CPs	200% coverage	CDQ is specific to the BSAI
AFA motherships	200% coverage	Would only pay status quo costs because they do not participate in the GOA
AFA inshore processors	1 observer for each 12 hour period (i.e. 2 observers if plant operates more than 12 hours/day)	These plants must collect ex-vessel fee for CV deliveries of GOA groundfish and IFQ halibut and pay status quo costs for BSAI deliveries
Am 80 trawl CP vessels	200% coverage BSAI/ NMFS determines coverage GOA	Pay status quo costs when operating in the BSAI and ex-vessel fee when operating in GOA
CPs fishing for Atka mackerel in the Aleutian Islands Subarea	200% coverage	Status quo costs
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the BSAI	200% coverage	Status quo costs in BSAI/Ex-vessel fee in GOA
Non-AFA and Non-Am 80 trawl CP vessels <125' in the BSAI	30% coverage	Status quo costs
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the GOA	NMFS determines coverage	Ex-vessel fee
GOA Rockfish Program vessels when operating in that fishery	100% coverage	Ex-vessel fee
CVs ≥60' fishing Non-pollock CDQ	100% coverage	Status quo costs
Pot CPs fishing CDQ	100% coverage	Status quo costs
Non-AFA and Non-Am 80 Trawl CP vessels <125' in the GOA	NMFS determines coverage	Ex-vessel fee
Non-AFA and Non-CDQ shoreside processors	For BSAI groundfish deliveries: If processes < 500 mt of groundfish in a calendar month – exempt from coverage. If processes between 500 mt and 1000 mt of groundfish in a calendar month – coverage for 30% of the days that they receive or process groundfish. If processes 1,000 mt or more of groundfish in a calendar month – coverage for 100% of the days that they receive or process groundfish. For GOA groundfish deliveries NMFS determines coverage	GOA deliveries would be assessed an ex-vessel fee. Status quo costs would be imposed for BSAI.
AFA Trawl CVs ≥125' (including CDQ)	**BSAI** - Inshore 100% coverage; When delivering whole cod ends to CPs or MS they are exempt from coverage. **GOA** – NMFS determines coverage level	Status quo costs in BSAI and ex-vessel fee in the GOA
AFA Trawl CVs 60'- 125' (including CDQ)	**BSAI** - 100% coverage when targeting BS pollock (Am 91); 30% coverage in other fisheries when delivering inshore; exempt when delivering cod ends to MS and CP. **GOA** – NMFS determines coverage.	Status quo costs in BSAI and ex-vessel fee in the GOA
Non-AFA Trawl CVs 60'-125' (Including CDQ)	**BSAI** - 100% coverage if fishing CDQ pollock - 30% coverage for all other activities. **GOA** – NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Non-AFA Trawl CVs ≥125'	**BSAI** - 100% coverage. **GOA** – NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA

Industry Segment	*Alternative 2 Coverage*	*Comments*
Hook-and-line CPs ≥125’	**BSAI** - 100% coverage. **GOA** - NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Hook-and-line CPs 60’-125’	**BSAI** - 30% coverage. **GOA** - NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Hook-and-line CVs 60’-125’	**BSAI** - 30% coverage. **GOA** - NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Hook-and-line CVs ≥125’	**BSAI** - 100% coverage. **GOA** – NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Pot CPs ≥60’	**BSAI** - 30% coverage. **GOA** - NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Pot CVs ≥60’	**BSAI** - 30% coverage. **GOA** – NMFS determines coverage.	Status quo costs in BSAI and ex-vessel fee in the GOA
Halibut vessels	Halibut shares fished on CVs, NMFS determines coverage.	Ex-vessel fee
Jig vessels ≥60’	**BSAI** - 30% coverage. **GOA** – NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA
Groundfish vessels <60’	NMFS determines coverage	Ex-vessel fee
Non-AFA motherships	**BSAI** - Processes 1,000 mt or more in round-weight equivalent of groundfish during a calendar month – 100% coverage; Processes from 500 mt to 1,000 mt in round-weight equivalent of groundfish during a calendar month – 30% coverage. **GOA** - NMFS determines coverage	Status quo costs in BSAI and ex-vessel fee in the GOA

Note: GOA means when harvesting GOA fish or processing fish harvested from the GOA. All catch from the GOA, catch by <60’ vessels in the BSAI, and halibut IFQ would be charged the ex-vessel fee. Vessel ≥60’ that are fishing in the BSAI would continue under the status quo system, and pay the observer provider an estimated $366/day for each observer.

Fee estimates in Table 31 are provided as estimates of the ex-vessel fee, pay-as-you-go fee, and the total observer fee that would be paid by each sector, based solely on 2008 fishery data. Note that these are not unique vessel counts, but they are sector specific (e.g., vessels in the halibut category with halibut landings may also be in the fixed gear catcher vessel category with groundfish landings). For the ex-vessel value fee, a 2% fee is used for the purpose of the analysis, as that is the maximum fee that can be assessed. The processors’ ex-vessel observer fee was included in the catcher vessel sector so that the maximum amount catcher vessels could pay is reported and the fees are not double counted. Had half of the fee been reported for the catcher vessel sectors, it may have underestimated the actual amount they would fund.[50] If half of the fee had been assigned to the processor and half to the catcher vessel, it would require that the catcher vessel fees be doubled to determine the maximum fee they could pay. Based on advice from the SSC in June, a decision was made to assign the entire fee to the catcher vessels. (Summary tables that use 2005 through 2008 data also aggregate harvester and processor fees into a single row of information.)

As expected, ex-vessel observer fee estimates for 2008 are not equal to fee estimates based on the average of 2005 through 2008 ex-vessel revenue. Changes in ex-vessel prices and harvest amounts over that time period, relative to 2008, yield different fee estimates. Ex-vessel value estimates for 2008 were used in this section of the analysis because it was the only year for which observer days were estimated by each specific sector. As a result, 2008 was used as the baseline for this analysis when considering effects on individual industry sectors. The average revenue from 2005 through 2008 was used to estimate the amount of revenue that would be generated by each alternative, and to show variation in the revenue (plus or minus one standard deviation).

[50]December 2003 SSC minutes state that “…the burden of the fee will fall mainly on the harvester. That is, a fee based on ex-vessel revenue is likely to reduce earnings of harvesters and have a relatively small effect on the earnings of processors.”

The 2008 groundfish revenues and ex-vessel prices were the largest of the 2005 - 2008 time period, which results in groundfish ex-vessel fee projections being larger than are projected to occur using lagged prices or rolling average prices. While groundfish revenues were higher in 2008, halibut ex-vessel revenues declined even more during that period, causing the combined ex-vessel revenue (and fee projections) to be higher overall using the weighted average revenue from 2005 through 2008. Alternative 2 ex-vessel fee estimates, based on average revenue from the 2005 through 2008 fishing years ($6.7 million), were slightly smaller overall than the 2008 estimate ($6.9 million).

Table 31 Number of vessels under the ex-vessel fee and projected cost of a 2% fee by industry sector, and observer days funded under Alternative 2 (2008 data)

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer Fees	% of Ex-vessel Obs Fees	Estimated Observer Days GOA	Estimated Observer Days BSAI	Estimated Observer Days Total
CPs	AFA CPs	467	366	0	17	17	$ -	$ 1,538,664	$ 1,538,664	7.9%	0.0%	0	4,204	4,204
	CPs in GOA Rockfish Pilot Program	467	467	7	0	7	$ 44,418	$ -	$ 44,418	0.2%	0.6%	95	0	95
	Sablefish CPs >= 60'	467	366	10	15	18	$ 134,395	$ 72,468	$ 206,863	1.1%	2.0%	288	198	486
	Sablefish CPs 50' - 59.9'	467	467	1	1	2	[redacted]							
	Halibut IFQ CPs	467	467	6	3	7	$ 53,364	$ 9,793	$ 63,157	0.3%	0.9%	114	21	135
	Non-Specified Trawl CPs >=60'	467	366	14	22	24	$ 137,735	$ 4,495,944	$ 4,633,679	23.9%	2.0%	295	12,284	12,579
	Non-Specified Fixed Gear CPs >= 60'	467	366	17	42	43	$ 98,087	$ 2,243,580	$ 2,341,667	12.1%	1.4%	210	6,130	6,340
	Fixed Gear CPs 50' - 59.9'	467	467	2	1	2	[redacted]							
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	26	0	26	$ 44,745	$ -	$ 44,745	0.2%	0.6%	96	0	96
	Sablefish IFQ CVs >= 60'	467	366	42	13	51	$ 416,104	$ 51,240	$ 467,344	2.4%	6.0%	891	140	1,031
	Sablefish IFQ CVs 50 - 59.9'	467	467	97	11	104	$ 563,108	$ 62,742	$ 625,850	3.2%	9.1%	1,206	134	1,340
	Sablefish IFQ CVs 40 - 49.9'	467	467	51	3	52	$ 92,251	$ 10,279	$ 102,530	0.5%	1.5%	198	22	220
	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 18,419	$ -	$ 18,419	0.1%	0.3%	39	0	39
	Halibut IFQ/CDQ CVs	467	467	1,077	329	1,351	$ 2,912,086	$ 534,392	$ 3,446,478	17.7%	50.0%	6,236	1,144	7,380
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	82	82	$ -	$ 1,865,868	$ 1,865,868	9.6%	0.0%	0	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	366	20	84	84	$ 259,993	$ 484,584	$ 744,577	3.8%	3.8%	557	1,324	1,881
	Catcher Vessels >= 60' trawl non-AFA	467	366	25	21	40	$ 520,733	$ 140,178	$ 660,911	3.4%	7.6%	1,115	383	1,498
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 244,314	$ 7,087	$ 251,401	1.3%	3.6%	523	15	538
	Catcher Vessels >= 60' Fixed gear	467	366	104	74	138	$ 177,779	$ 195,444	$ 373,223	1.9%	2.6%	381	534	915
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 330,034	$ 56,385	$ 386,419	2.0%	5.6%	707	121	827
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 86,760	$ 11,115	$ 97,875	0.5%	1.4%	186	24	210
	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 29,499	$ 999	$ 30,498	0.2%	0.4%	63	2	65
	Total CVs (excludes IFQ - halibut and sablefish)						$ 1,649,112	$ 3,425,009	$ 5,074,121	26.1%	25.0%	3,531	7,501	11,032
Processors	Motherships AFA and Non-AFA	467	366			11	$ -	$ 264,618	$ 264,618	1.4%	0.0%	0	723	723
	Shore-based/Floating processors (AFA)	467	366			7	$ -	$ 1,035,048	$ 1,035,048	5.3%	0.0%	0	2,828	2,828
	Shore-based/Floating processors (non-AFA)	467	366			24	$ -	$ 152,622	$ 152,622	0.8%	0.0%	0	417	417
	Total	[redacted]					$ 6,191,865	$ 13,236,423	$ 19,428,289	100.0%	35.5%	13,259	35,754	49,013
	Total (restructured ex-vessel fee only) ($467 cells)						$ 6,191,865	$ 696,165	$ 6,888,031	35.5%	100.0%	13,259	1,491	14,750

Source: Participants were estimated using 2008 NORPAC and eLandings data. 2008 observer costs were estimated by multiplying 2008 CFEC prices applied to 2008 eLandings reports for the restructured fleets and by multiplying the days of coverage in 2008 by the estimated daily cost $366.

Notes: "Total (restructured only) ($467)" is the amount of the ex-vessel fee paid by industry and it only includes the cells associated with the $467/day observer cost. 'Total Vessels' is the sum of all observer fees that were paid (ex-vessel fee plus the daily fee).

Recall that under Alternative 2, some sectors are included under the restructured program and would pay a percentage of ex-vessel revenue to NMFS, while others would continue to pay for observer services under the status quo system. These two systems comprise the total fees paid for observer services under Alternative 2. Catcher processors not fishing for IFQ species in 2008 are estimated to pay 44% of the total observer costs, or 4% of the restructured costs. Their percentage of total observer costs is much higher than their percentage of the restructured costs because the majority of their effort is in the BSAI, which is not restructured under Alternative 2. IFQ fisheries are estimated to fund about 26% of the total 2008 observer fees under Alternative 2, which accounts for about 70% of the ex-vessel fees that would be paid by the restructured component of the fishery. Halibut fisheries accounted for over 50% of the restructured costs because most of the IFQ fishery occurs in the GOA. Groundfish catcher vessels (excluding IFQ sablefish) delivering inshore and at-sea were estimated to pay 26% of the total observer fee, or 25% of the restructured fee. The AFA catcher vessels covered about 13% of the total observer fee, or less than 4% of the restructured ex-vessel fee, because the majority of their revenue is generated in the BS pollock fishery. Non-AFA trawl catcher vessels accounted for 5% of the total costs, or 11% of the restructured observer costs. Fixed gear catcher vessels were responsible for about 5% of the total observer costs, or about 10% of the restructured fees. As expected, this sector had substantial activity in the <60' categories.

Using average revenue data from 2005 - 2008, estimates of *the ex-vessel fee* that four general industry sectors would pay are presented in Table 32. The ex-vessel observer fee excludes any daily observer costs paid by the vessels and procesors that are not restructured. As was discussed previously, using only the 2008 data, the total percentage of observer costs funded by a sector can change substantially when daily fee observer costs are included. Only the restructured costs are reported in Table 32 because the emphasis is on determining the amount of revenue that would be available to NMFS to purchase additional days of observer coverage that are not paid directly to observer providers by vessels and processors.

Table 32 Alternative 2 estimated ex-vessel fees (only the restructured portion of the observer fee) based on 2005 - 2008 prices and catch

	- 1 StDev	*Mean*	*+1 StDev*
	Estimated ex-vessel fees		
Shorebased Groundfish Deliveries	$ 832,750	$ 1,360,657	$ 1,888,564
Motherships and Catcher Processors	$ 122,127	$ 208,175	$ 294,222
Sablefish IFQ	$ 1,211,930	$ 1,364,886	$ 1,517,841
Halibut IFQ	$ 3,492,696	$ 3,779,908	$ 4,067,121
Total	$ 5,659,503	$ 6,713,626	$ 7,767,748
	Observer days funded @ $467/day		
Shorebased Groundfish Deliveries	1,783	2,914	4,044
Motherships and Catcher Processors	262	446	630
Sablefish IFQ	2,595	2,923	3,250
Halibut IFQ	7,479	8,094	8,709
Total	12,119	14,376	16,633

Source: CFEC price data 2005-2008, eLandings catch data 2005-2008, RAM estimates of IFQ revenue.

Based on the estimates above, catcher vessel deliveries to shoreside processors would generate about $1.4 million (20% of the ex-vessel fee collected) in observer funding for NMFS. That revenue could fund 2,914 observer days at $467 per day. Catcher processors and motherships are estimated to generate about $208,000 (3%). That revenue would fund 446 days of observer coverage. Sablefish IFQ landings would generate $1.4 million (20%) and generate 2,923 days of coverage. The halibut IFQ and CDQ fleets were estimated to generate $3.8 million and 8,094 days of coverage. Their observer costs were $0 under the status quo. Based on 2008 data, their fee payments would exceed their initial projected observer coverage needs by about 1,456 days (Appendix 11). However, they would also be expected to benefit from the coverage they fund for other sectors of industry, through better bycatch accounting.

Vessels and processors that remain under the status quo observer coverage requirements under Alternative 2 would pay a daily rate directly to observer providers. The daily rate under the status quo system is estimated as $366/day for each observer.[51] The observer days for each sector are taken from the table developed for the status quo (Alternative 1) and the estimates assume that the coverage level would be the same for these sectors under the status quo and Alternative 2.[52] Days associated with vessels and processors paying the ex-vessel observer fee are removed from the table. The remaining days are pay-as-you-go days that were estimated to be used by these industry sectors during 2008 (39,344 observer days).

Table 33 Alternative 2 estimated number of observer days and estimated observer cost by sector for vessels remaining under pay-as-you-go

		Observer Cost (Observer days used in 2008)			Observer Days used 2008		
	Sector	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	$ -	$ 1,538,664	$ 1,538,664	-	4,204	4,204
	CPs in GOA Rockfish Pilot Program	$ -	$ -	$ -	-	-	-
	Sablefish CPs >= 60'	$ -	$ 72,468	$ 72,468	-	198	198
	Sablefish CPs 50' - 59.9'	$ -	$ -	$ -	-	-	-
	Halibut IFQ CPs	$ -	$ -	$ -	-	-	-
	Non-Specified Trawl CPs >=60'	$ -	$ 4,495,944	$ 4,495,944	-	12,284	12,284
	Non-Specified Fixed Gear CPs >= 60'	$ -	$ 2,243,580	$ 2,243,580	-	6,130	6,130
	Fixed Gear CPs 50' - 59.9'	$ -	$ -	$ -	-	-	-
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ -	$ -	$ -	-	-	-
	Sablefish IFQ CVs >= 60'	$ -	$ 51,240	$ 51,240	-	140	140
	Sablefish CVs 50 - 59.9'	$ -	$ -	$ -	-	-	-
	Sablefish CVs 40 - 49.9'	$ -	$ -	$ -	-	-	-
	Sablefish IFQ CVs < 40'	$ -	$ -	$ -	-	-	-
	Halibut IFQ CVs	$ -	$ -	$ -	-	-	-
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ -	$ 1,865,868	$ 1,865,868	-	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	$ -	$ 484,584	$ 484,584	-	1,324	1,324
	Catcher Vessels >= 60' trawl non-AFA	$ -	$ 140,178	$ 140,178	-	383	383
	Catcher Vessels 50' - 59.9' trawl non-AFA	$ -	$ -	$ -	-	-	-
	Catcher Vessels >= 60' Fixed gear	$ -	$ 195,444	$ 195,444	-	534	534
	Catcher Vessels 50' - 59.9' Fixed gear	$ -	$ -	$ -	-	-	-
	Catcher Vessels 40' - 49.9' Fixed gear	$ -	$ -	$ -	-	-	-
	Catcher Vessels < 40' Fixed gear	$ -	$ -	$ -	-	-	-
	Total CVs (excludes IFQ - halibut and sablefish)	$ -	$ 2,686,074	$ 2,686,074	-	7,339	7,339
Processors	Motherships AFA and Non-AFA	$ -	$ 264,618	$ 264,618	-	723	723
	Shore-based/Floating processors (AFA)	$ -	$ 1,035,048	$ 1,035,048	-	2,828	2,828
	Shore-based/Floating processors (non-AFA)	$ -	$ 152,622	$ 152,622	-	417	417
	Total	$ -	$ 12,540,258	$ 12,540,258	-	34,263	34,263

Source: NMFS Observer program staff estimates of observer days by sector.

By combining the information in the tables above, Table 34 was generated to provide a summary of the total observer days that would be funded, compared to the number of observer days that were used in 2008. This table combines the sectors subject to the pay-as-you go daily rate and those sectors subject to the ex-vessel value fee, in order to show total costs under Alternative 2. Table 34 shows that the 2% ex-vessel fee is estimated to generate about 7,000 to 11,500 more observer days annually than were used in 2008.[53,54] The total number of observer days funded ranges from 46,400 (lower estimate) to

[51] A discussion of the estimated daily rate under the status quo is provided in Appendix 6 and summarized in Section 2.9.2.4.

[52] The tables developed in Appendix 11 assume that the coverage levels are adjusted to meet a minimum threshold and the number of observer days required differ from those reported here.

[53] This range of days represents one standard deviation from the mean (2005-2008) of the ex-vessel revenue estimates for the catch that was included under the 2% fee.

[54] The comparison is imprecise because the fee revenues include hypothetical ex-vessel contributions by, in particular, halibut and <60' vessels, none of which had observer coverage in the 2008 fishing year. The observation that more days would be funded than were used follows logically.

50,900 (upper estimate), and are projected to cost the groundfish and halibut fleets between \$18.2 million and \$20.3 million annually. That is an increase of \$3.8 million to \$5.9 million per year. The increased costs are expected to improve the quality of observer data collected for the sectors that are currently less than 100% observed (many of whom have zero observer coverage under the status quo).

Table 34 Summary of observer days and costs under Alternative 2

	-1 StDev	Mean	+1 StDev
Days of observer coverage needed (2008 levels)	39,344	39,344	39,344
Pay-as-you-go funded observer days	34,243	34,243	34,243
Observer days needed to reach 2008 levels excluding pay-as-you-go days	5,101	5,101	5,101
Observer days funded from a 2% ex-vessel fee	12,119	14,376	16,633
Estimated observer days funded in excess of 2008 level	7,018	9,275	11,532
Estimated total cost of observer coverage	\$ 18,192,441	\$ 19,246,564	\$ 20,300,686

Note: The number of pay-as-you-go days listed in this table is 20 fewer than reported in Table 33 because of the assumptions needed to modify the sector list and corrections to the original data. The cost of 20 observer days is \$7,320.

2.10.2.1 Alternative 2: Option 1

Option 1 allows the Council the ability to select lower observer fee percentages for sectors of the industry (or a subset of those sectors) that are not required to carry observers under the status quo program. Under Option 1, groundfish deliveries from vessels less than the specified length (60’, 50’, or 40’ LOA) and all halibut IFQ and CDQ deliveries would be assessed an ex-vessel observer fee that is equal to half the percentage that is charged to the remainder of the fleet. Vessels included under Option 1 were thought to have smaller profit margins than some of the larger vessels and allowing them to pay a smaller percentage of their ex-vessel revenue would reduce the negative impact of imposing an observer fee. While there is no data currently available to substantiate that these sectors have lower profit margins, public testimony in opposition to the proposed action is often from these industry sectors and one of the main reasons they cite for their opposition is the cost of the program. Some members of the halibut IFQ program have stated that an additional fee, on top of the current cost recovery fee, raw fish taxes, and reductions in quota (in Area 2C for halibut and across the Gulf for sablefish) may force them to leave the fishery.

For analytical purposes, the following assumes a 2% ex-vessel value fee under Alternative 2, and applies Option 1. Table 35 shows that Option 1 with a <60’ length threshold would reduce the revenue generated by the restructured fleet in 2008 from \$6.9 million to about \$4.4 million. The number of observer days would be reduced by about 5,410. Sectors that pay half of the original fee have their costs reduced by half, so the costs reported in Table 35 represent both the amount the sector would pay and their savings from the original alternative.

Halibut catcher vessels as a group would be required to pay \$1.7 million less under Option 1, which equates to 3,690 observer days. Data for the sablefish CPs that are <60’ and fixed gear CPs <60’ LOA cannot be reported to protect confidential information. Sablefish CVs that are 50’ to 59.9’ LOA would have their fee payments reduced by about \$313,000, which results in 670 fewer observer days. Sablefish CVs that are 40’ to 49.9’ LOA would have their fee payments reduced by about \$51,000, which results in 110 fewer observer days. Sablefish catcher vessels that are less than 40’ would pay about \$9,000 less and the number of days purchased would decline by 20. Non-AFA trawl catcher vessels that are <60’ LOA would have their observer fee payments reduced by about \$126,000 (269 days). Fixed gear catcher vessels between 50’ and 59.9’ would pay about \$193,000 less in observer fees (414 days). Fixed gear catcher vessels between 40’ and 59.9’ would pay about \$49,000 less (105 days). Finally, fixed gear catcher vessels that are <40’ LOA would pay about \$15,000 less (33 fewer observer days).

Because Table 35 breaks out the vessel classes in each sector at the Option 1 level, the impact of the different suboptions (<60’, <50’, and <40’ LOA) are evident for each sector in that table. To show the changes in revenue and days that could be purchased, the information from the 2005 - 2008 fishing years is presented. A summary of those data shows that implementing Option 1 would reduce the observer program revenue from about $19.2 million to $16.6 million, a difference of $2.6 million compared to Alternative 2 without Option 1. All of that $2.6 million difference in observer fees is due to changes in the restructured sectors. The fees paid by industry in the restructured sectors would be reduced from $6.7 million to $4.1 million. Reducing the observer fee by $2.6 million would reduce the number of observer days that could be purchased by 5,636 days. That is about a 12% reduction in the total number of days that could be purchased and is about 3,000 days more than was realized in 2008. The reduction in the number of observer days purchased under the <50’ suboption is about 4,300 days. Therefore, coverage levels in the GOA could be increased by that amount, based on these estimates.

Table 35 Alternative 2, Option 1, <60’ LOA: Observer costs and observer days purchased for entities paying the daily fee and the ex-vessel observer fee, based on 2008 data using sea-days as observer days estimate

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer Fees	% of Restructured Obs Fees	Observer Days Purchased GOA	Observer Days Purchased BSAI	Observer Days Purchased Total
CPs	AFA CPs	467	366	0	17	17	$ -	$ 1,538,664	$ 1,538,664	9.1%	0.0%	0	4,204	4,204
	CPs in GOA Rockfish Pilot Program	467	467	7	0	7	$ 44,418	$ -	$ 44,418	0.3%	1.0%	95	0	95
	Sablefish CPs >= 60'	467	366	10	15	18	$ 134,395	$ 72,468	$ 206,863	1.2%	3.1%	288	198	486
	Sablefish CPs 50' - 59.9'	467	467	1	1	2	[redacted]							
	Halibut IFQ CPs	467	467	6	3	7	$ 26,682	$ 4,896	$ 31,578	0.2%	0.7%	57	10	68
	Non-Specified Trawl CPs >=60'	467	366	14	22	24	$ 137,735	$ 4,495,944	$ 4,633,679	27.4%	3.2%	295	12,284	12,579
	Non-Specified Fixed Gear CPs >= 60'	467	366	17	42	43	$ 98,087	$ 2,243,580	$ 2,341,667	13.9%	2.2%	210	6,130	6,340
	Fixed Gear CPs 50' - 59.9'	467	467	2	1	2	[redacted]							
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	26	0	26	$ 44,745	$ -	$ 44,745	0.3%	1.0%	96	0	96
	Sablefish IFQ CVs >= 60'	467	366	42	13	51	$ 416,104	$ 51,240	$ 467,344	2.8%	9.5%	891	140	1,031
	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 281,554	$ 31,371	$ 312,925	1.9%	7.2%	603	67	670
	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 46,126	$ 5,139	$ 51,265	0.3%	1.2%	99	11	110
	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 9,210	$ -	$ 9,210	0.1%	0.2%	20	0	20
	Halibut IFQ CVs	467	467	1,077	329	1,351	$ 1,456,043	$ 267,196	$ 1,723,239	10.2%	39.5%	3,118	572	3,690
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	82	82	$ -	$ 1,865,868	$ 1,865,868	11.0%	0.0%	0	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	366	20	84	84	$ 259,993	$ 484,584	$ 744,577	4.4%	6.0%	557	1,324	1,881
	Catcher Vessels >= 60' trawl non-AFA	467	366	25	21	40	$ 520,733	$ 140,178	$ 660,911	3.9%	11.9%	1,115	383	1,498
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 122,157	$ 3,544	$ 125,700	0.7%	2.9%	262	8	269
	Catcher Vessels >= 60' Fixed gear	467	366	104	74	138	$ 177,779	$ 195,444	$ 373,223	2.2%	4.1%	381	534	915
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 165,017	$ 28,193	$ 193,209	1.1%	4.4%	353	60	414
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 43,380	$ 5,558	$ 48,938	0.3%	1.1%	93	12	105
	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 14,750	$ 499	$ 15,249	0.1%	0.3%	32	1	33
	Total CVs (excludes IFQ - halibut and sablefish)	0	0	0	0	0	$ 1,303,809	$ 2,723,867	$ 4,027,676	23.8%	30.8%	2,792	7,420	10,212
Processors	Motherships AFA and Non-AFA	467	366			11	$ -	$ 264,618	$ 264,618	1.6%	0.0%	0	723	723
	Shore-based/Floating processors (AFA)	467	366			7	$ -	$ 1,035,048	$ 1,035,048	6.1%	0.0%	0	2,828	2,828
	Shore-based/Floating processors (non-AFA)	467	366			24	$ -	$ 152,622	$ 152,622	0.9%	0.0%	0	417	417
	Total	[redacted]					$ 4,012,927	$ 12,888,341	$ 16,901,268	100.0%	25.8%	8,593	35,008	43,601
	Total (restructured ex-vessel fee only) ($467 cells)						$ 4,012,927	$ 348,083	$ 4,361,010	25.8%	100.0%	8,593	745	9,338

Source: Participants were estimated using 2008 NORPAC and eLandings data. 2008 observer costs were estimated by multiplying 2008 CFEC prices applied to 2008 eLandings.

Table 36 Comparison of observer costs and days funded under Alternative 2 and the Option 1 suboptions

	Observer Cost			Days Purchased		
	- 1 StDev	Mean	+1 StDev	- 1 StDev	Mean	+1 StDev
	Alternative 2					
Total	$ 18,192,441	$ 19,246,564	$ 20,300,686	46,362	48,619	50,876
Restructured Only	$ 5,659,503	$ 6,713,626	$ 7,767,748	12,119	14,376	16,633
	Alternative 2: Option 1 < 60' LOA					
Total	$ 15,881,785	$ 16,614,489	$ 17,347,192	41,414	42,983	44,552
Restructured Only	$ 3,348,847	$ 4,081,551	$ 4,814,254	7,171	8,740	10,309
	Alternative 2: Option 1 < 50' LOA					
Total	$ 16,355,719	$ 17,237,004	$ 18,118,290	42,429	44,316	46,203
Restructured Only	$ 3,822,781	$ 4,704,066	$ 5,585,352	8,186	10,073	11,960
	Alternative 2: Option 1 < 40' LOA					
Total	$ 16,429,336	$ 17,333,503	$ 18,237,670	42,586	44,523	46,459
Restructured Only	$ 3,896,398	$ 4,800,565	$ 5,704,732	8,343	10,280	12,216

Source: 2008 CFEC ex-vessel prices and eLandings data.

Finally, when Alternative 2, Option 1, with a <40' LOA criterion is compared to Alternative 2 there is a difference of $1.9 million. That equates to a reduction of 4,096 observer days or about 8% of the total days. All of those observer days are generated by groundfish landings because the halibut landings are charged the same observer fee under both. The number of observer days generated under this option, using the average ex-vessel revenue from 2005 through 2008, is sufficient to increase the number observer coverage days above that realized in 2008.

2.10.2.2 Alternative 2: Option 2

In October 2010, the Council revised Option 2 slightly. The option requires NMFS to release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS. The original Option 2 (June 2010 public review draft version) had an approval mechanism for the Council. The revised option, as included in the preferred alternative, removes the approval mechanism and replaces it with a consultation process. The Council does not formally approve or disapprove the annual plan, but NMFS must consult with the Council on this plan on an annual basis.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the fee percentage (1.25% as recommended under the preferred alternative) would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided. The impact of Option 2 is the same under each action alternative.

Under Option 2, NMFS would annually draft a report in response to the desires of the Council similar to those provided by other observer programs.[55] The report would contain the objectives of the observer program, and the methodology used to (a) designate sampling strata, (b) deploy observers within each stratum, (c) determine the sampling rate for the allocation of observers, and, if available, (d) estimate discards and the coefficient of variation. In addition, the sampling efficiency of the restructured program would be addressed by comparing targeted and realized effort in terms of days, trips, and sample fractions, as well as discussing problems encountered and proposed solutions towards reaching the goal of an efficient optimized program. The report would also provide summary information from the past year with projected deployment and sampling plans for the coming year. In addition, NMFS will also report information on the fees collected, NMFS financial contribution, and dollars spent to the Council. The intent, as with sample design and deployment, would be transparency on the both the deployment strategy and the financial aspects of the program.

Option 2 provides the Council an opportunity to review the proposed observer program sampling design for the following year. The timeframe proposed could include Groundfish Plan Team or other committee review of a proposed annual observer plan by September 1 each year. The intent is that after these reviews, the SSC and Council would review design facets and the proposed sampling design. Presumably, the SSC would provide recommendations to the Council on the plan, and the Council would review the sampling design prior to the commencement of the new fishing year and implementation of the new observer plan. The Council would likely need to schedule this review for the October or December Council meeting.

During the discussion, questions were raised about the impact of the option, most notably the implications of the requirement for Council approval that was included in the June version of Option 2. The initial issue is whether there would be sufficient time for SSC and Council review, in order for the plan to be implemented for the upcoming fishing year. After Plan Team review, there would be a relatively short timeframe for SSC and Council review. If changes were reqested by the SSC and Council, those revisions, and possibly a second review, would require additional time. **However, because the SSC and Council do not approve the plan under the preferred alternative, observers would continue to be deployed while areas of concern are addressed. This approach removed several issues that could have occurred and would need to be addressed if the Council or SSC did not approve the plan in a given year.** Potential problems associated with an approval process that could have occurred are addressed below.

If the Council/SSC were required to approve the package before observers could be deployed - and did not, fisheries could not proceed, as it would be in violation of Federal regulations and a significant component of in-season management information would be missing.

Another possibility would be to allow fisheries to proceed under the current year's observer plan until a new plan was approved. Upon final approval, the new plan would be implemented as soon as practicable. If this approach was taken, there could be several consequences. First, there could be possible contract breaches and entanglements. An observer plan under a restructured program would require contracts with observer providers. By nature, these contracts are established prior to their performance. A contract is agreed upon prior to January 1, which is when the observer provider starts to perform under its terms. If the observer plan for January 1 and beyond is not approved, then the contract cannot be performed. The lead time and logistical planning an observer provider is required to perform under a contract could be compromised if the plan under which it has contracted to perform does not occur on an anticipated timetable. If observer providers have contracted for particular performance objectives, those objectives

[55] Examples of reports from other agency observer programs include Beerkircher et al. (2004).

may be lost. Given the implications of not approving a plan, and its downstream effect on the underlying contracts, observer providers may be unwilling to subject themselves to the associated risk.

If observer provider contracts could be maintained if the underlying plan is not approved, the possibility exists that the previous year's plan could be used in the meantime. However, implementation of the previous year's observer program sampling design and deployment plan could create a significant inconsistency in terms of the sampling and variance objectives for the current year's fisheries. The intent of an annual plan is to account for and adapt to information received during the prior year. Using the previous year's sampling and deployment plan could create a mismatch with known information. For example, the previous year's plan could mis-target areas where PSC has increased or decreased. In that eventuality, fishery conservation would not be maximized. It is also possible that the plan would be out of compliance with Section 313(b)(1) and its standard that the plan "gather reliable data, by stationing observers on all or a statistically reliable sample of the fishing vessels and United States fishing processors included in the plan...". Although the status quo plan may have met this standard for the year in which it was implemented, it would not necessarily follow that the same plan would gather reliable data on a statistically reliable sample of fishing industry during the following year.

To avoid the issues discussed above, NMFS' would have had to anticipate that a status quo plan would be carried over each year for some indeterminable period of time. If that were the case, there may not be sufficient justification for an annual observer plan, and some other periodic adjustment of the plan should be considered as an alternative. Further, observer plans that account for the risk that they would be carried over would, in order to comply with Section 313(b)(1), have to be designed with less precision than otherwise possible.

NMFS plans to provide an observer program sampling design and deployment plan on annual basis to the public and the Council. A public review and feedback process would serve to ensure NMFS's annual observer plan captures as much information, and is as transparent, as possible. However, to avoid the potential risks associated with an approval process, the Council approved a review process that does not require appproval. A Council review process is used currently for exempted fishing permits (EFP) under 50 CFR 679.6, which requires NMFS to consult with the Council on EFP applications. The Plan Team is not typically involved in EFP application reviews, and the issuance of the EFP does not require the approval of the Council. The EFP consultation consists of NMFS providing the EFP application and any relevant analysis to the Council for its review and recommendation regarding the project. After receiving the EFP application and analysis from NMFS, the Council has the flexibility to determine whether to schedule an EFP review at its meeting. Thus, although the Council could not ensure that its recommendations were adopted by NMFS if the process did not require plan approval, it could consider that NMFS would adopt those comments and recommendations that were appropriate or practicable. Furthermore, NMFS intends to use the public comment period to enhance or fine tune the plan and its compliance with national standards, including its use of the best scientific information available.

In sum, NMFS plans to provide an annual draft observer program sampling design and deployment plan to the public and Council. Option 2 mandates that the agency provide such a report by September 1, for review by the Groundfish Plan Teams, with a subsequent review by the SSC and Council.

2.10.3 Alternative 3: Coverage Based Restructuring (Council preferred alternative)

Alternative 3 restructures observer coverage for sectors of the groundfish fleet that have less than 100% coverage, including the halibut IFQ fishery and the <60' groundfish sector. Sectors of the industry in the ≥100% observer coverage category would remain under the status quo system. Table 37 shows the observer coverage levels for each sector of the industry proposed under Alternative 3. It also shows the type of fee that each sector of the industry would be required to pay.

Under the proposed sample design in Chapter 3, it is necessary to classify vessels as catcher vessels or catcher processors for implementation, as the proposed coverage and fee structure will differ. Classifying vessels as catcher vessels or catcher processors could be accomplished using various methods. One alternative is to classify vessels based on the groundfish LLP(s) attached to the vessel. For example, if the LLP has a CP designation, they would be classified as a CP for all fishing activity during the year, regardless of the actual mode(s) of operation employed. Using the LLP approach would make classifying vessels a relatively simple process. It would also make the observer program's job of assigning vessels to a stratum relatively straightforward. However, there are concerns with this approach that can be described using the AFA CV fleet as an example. During 2008, there were six AFA CVs using LLP permits with a CP endorsement that never operated as a CP during the the years analyzed (2005 through 2008).[56] The approach described above would classify them as CPs under Alternatives 3 and 4, which results in a coverage category of ≥100% (refer to Section 3.2.7.2 of the sample design). As a result, if these vessels were classified as CPs under Alternative 3, they would be in the pay-as-you-go program; under Alternative 4, they would be required to pay the daily fee. Due to BSAI Amendment 91, these vessels are required to have 100% observer coverage when they are fishing for BS pollock, regardless; thus, in that specific fishery, it does not matter if they are defined as a CP or a CV. However, when they fish in the GOA or other BSAI target fisheries, they would fall under the ex-vessel fee structure if they are defined as a CV, versus under the other fees (status quo or daily fee) if defined as a CP.

A second approach would be to consider historical catch patterns; if a vessel never acts as a CP and does not have the processing equipment necessary to be a CP, it would be classified as a CV regardless of the LLP designation. These six AFA vessels would be classified as CVs using that criterion. The analysis used this approach to classify both groundfish and halibut vessels.

Finally, vessels could be classified based on the choice they make on their Federal Fisheries Permit designation.[57] When they submit their FFP application they would be required to declare whether they will act as a CV or a CP for that time period (3 years). If they apply as a CP, they would be classified in the ≥100% coverage category under Alternatives 3 and 4 for the entire time that FFP is in effect. The Council addressed this issue in their motion for the preferred alternative. How vessels are classified determines their observer coverage costs. Vessels that can declare their operational mode may consider which designation would be the least expensive. They could then select that designation for their FFP to reduce the overall cost of meeting the observer requirements.

In this analysis, the six AFA vessels, and any other similarly situated vessels, were treated as CVs and were only included in the ≥100% coverage class when they were operating in the BS pollock fishery or the GOA Rockfish Program. It was assumed that they would declare their operating type at the time they submit their FFP application. Because they are considered CVs in this analysis, during the part of the year they were in the ≥100% coverage category (BS pollock target fishery), the analysis treats them as subject to the pay-as-you-go rate (Alternative 3) or daily fee (Alternative 4). During the part of the year they were in the <100% coverage category, those landings are treated as subject to the ex-vessel fee.

[56] NMFS eLandings reports classify these vessels as CVs for all of their deliveries during that time period.

[57] This permit (FFP) is required for U.S. vessels which are used to fish for groundfish in the GOA or BSAI. This permit is also required for vessels used to fish for any non-groundfish species and that are required to retain any bycatch of groundfish under 50 CFR Part 679. Non-groundfish species includes but is not limited to halibut, crab, salmon, scallops, and herring. "Fishing" is a broad term and includes, for example: harvesting, processing, tendering, and support. These are non-transferable, three year permits, issued on request and without charge to vessel owners. These permits are authorized at 50 CFR 679.4(b).

Table 37 Observer coverage requirements by sector under Alternative 3

Industry Segment	*Alternative 3 Observer Coverage*	*Comments*
AFA CPs	200% coverage	Status quo at $366/day for each observer
CDQ CPs	200% coverage	Status quo at $366/day for each observer
AFA motherships	200% coverage	Status quo at $366/day for each observer
AFA inshore processors	1 observer for each 12 hour period (i.e. 2 observers if plant operates more than 12 hrs/day)	Status quo at $366/day for each observer
Am 80 trawl CP vessels	200% coverage BSAI/≥100% coverage GOA	Status quo at $366/day for each observer
CPs fishing for Atka mackerel in the AI	200% coverage	Status quo at $366/day for each observer
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the BSAI	100% coverage	Status quo at $366/day for each observer
Non-AFA and Non-Am 80 trawl CP vessels <125' in the BSAI	100% coverage	Status quo at $366/day for each observer
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in GOA	100% coverage	Status quo at $366/day for each observer
GOA Rockfish Program vessels when operating in that fishery	100% coverage	Status quo at $366/day for each observer
CVs ≥60' fishing non-pollock CDQ	100% coverage	Ex-vessel revenue based fee
Pot CPs fishing CDQ	100% coverage	Status quo at $366/day for each observer
Non-AFA and non-Am 80 Trawl CP vessels <125' in GOA	100% coverage	Status quo at $366/day for each observer
Non-AFA and Non-CDQ shoreside processors	NMFS determines coverage	Ex-vessel revenue based fee
AFA Trawl CVs ≥125' (including CDQ)	Inshore 100% coverage when harvesting BS pollock; when delivering unsorted cod ends to a CP or MS they are exempt from coverage but are considered part of the 100% coverage category for restructuring. NMFS determines coverage when not in the BS pollock fishery.	Status quo at $366/day when fishing BS pollock. Ex-vessel revenue fee for other fisheries.
AFA Trawl CVs 60'- 125' (including CDQ)	Inshore 100% coverage when harvesting BS pollock; when delivering unsorted cod ends to a CP or MS they are exempt from coverage but are considered part of the 100% coverage category for restructuring. NMFS determines coverage when not in the BS pollock fishery.	Status quo at $366/day when fishing BS pollock. Ex-vessel revenue fee for other fisheries.
Non-AFA Trawl CVs 60'-125' (Including CDQ)	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA Trawl CVs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CPs ≥125'	100% coverage	Status quo at $366/day
Hook-and-line CPs 60'-125'	100% coverage	Status quo at $366/day
Hook-and-line CVs 60'-125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CVs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Pot CPs ≥60'	100% coverage	Status quo at $366/day
Pot CVs ≥60'	NMFS determines coverage	Ex-vessel revenue based fee
Halibut vessels	Halibut shares fished on CVs, NMFS determines coverage.	Ex-vessel revenue based fee for CVs/status quo system @ $366/day for CPs
Jig CVs ≥60'	NMFS determines coverage	Ex-vessel revenue based fee
Groundfish vessels <60'	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA Motherships	100% coverage	Status quo at $366/day

Note: The status quo cost (by day) is for each observer ($366/day). If two observers are on a vessel, the status quo daily observer cost paid by the vessel would double. Observer days under the ex-vessel revenue based fee are assumed to cost $467/day, because NMFS is contracting directly with observer providers, which invokes the Service Contract Act (see Appendix 6).

Under Alternative 3, vessels and processors that are in the ≥100% coverage category would remain in the status quo system, and those in the <100% coverage category would pay the ex-vessel fee to NMFS (Table 37). All catcher processors and motherships would be in the ≥100% coverage category for the entire year. Shoreside processors that are taking deliveries of BS pollock from AFA catcher vessels are also included in the ≥100% coverage category. During periods of the year they are not taking BS pollock deliveries, they are not included in the ≥100% coverage category. Catcher vessels in the GOA Rockfish program and AFA catcher vessels (when targeting BS pollock) are also included in the ≥100% coverage category, and thus subject to the status quo system (pay-as-you-go). Therefore, it is assumed that all catcher vessel deliveries not under the BS pollock target fishery or the GOA Rockfish program would be subject to the ex-vessel value fee and pay the harvester's portion of that fee (e.g., half of the fee). Shoreside processors would also pay half of the ex-vessel fee for any groundfish deliveries that are subject to the fee and are not harvested as part of either of those two target fisheries.

Using only 2008 data, and applying a 2% ex-vessel fee, a total of $19.4 million in observer fees are estimated to be paid by harvesters and processors under Alternative 3 (Table 38). About 37% of the total ($7.3 million) would be collected through the ex-vessel observer fee. The remaining $12.2 million would be paid by the ≥100% coverage fleet directly to observer providers under the status quo (pay-as-you-go) system. The two columns reporting the percent of observer costs paid by each sector show: 1) the percentage of total observer costs paid, and 2) the percentage of the ex-vessel observer fee paid. For example, the AFA CP sector is estimated to pay 8% of the total observer costs in 2008, but it would pay 0% of the ex-vessel fee, because it is in the status quo system under Alternative 3. Groundfish fixed gear CPs would pay about 12% of the total observer costs and Amendment 80 CPs ('non-specified trawl CPs') pay about 24%. Of the remaining CP sectors, halibut and sablefish CPs would pay about 1% of the total costs.

Catcher vessels operating in IFQ and GOA Rockfish program fisheries account for about $4.8 million (24%) of the total observer fees required to be paid under Alternative 3, which equates to 10,280 observer days. Ex-vessel fees paid on halibut deliveries would account for about $3.4 million (18% of the total fees, or 48% of the ex-vessel fees). IFQ sablefish deliveries account for about $1.2 million, which equates to 7% of the total observer costs, or about 17% of the ex-vessel fees.

Other catcher vessels ('unspecified CVs'), not in the IFQ or GOA Rockfish program, would pay $4.7 million in observer coverage (10,671 days). As a group, they accounted for about 25% of the total observer costs, or 36% of the ex-vessel observer fees. AFA CVs would pay about 13% of the total cost, but only 8% of the ex-vessel fees. This is because they would only be required to pay an ex-vessel delivery fee for fish caught on trips that were not classified as BS pollock targets. The other trawl CVs in the group would pay about 5% and fixed gear CVs would pay about 6% of the total observer costs.

The bottom portion of the table shows the processors' portion of observer costs. It is important to note that only the pay-as-you-go portion of the processors observer costs are reported in the tables. Motherships are estimated to have spent $286,000 to purchase 781 observer days. AFA shoreside processors were estimated to have spent about $1 million to purchase 2,828 observer days in 2008. Any ex-vessel observer fee is captured in the catcher vessel portion of the table. To estimate the amount of ex-vessel fee that the shoreside processors would be required to pay could be calculated by taking half of the value assigned to the catcher vessels that are restructured. Under this alternative, the total is about $7.3 million, so processors could be estimated to pay about $3.6 million in ex-vessel fees. The amount they actually fund would depend on how much of the cost they pay themselves and how much they pass on to the harvester in the form of lower prices.

Table 38 Number of participants under the ex-vessel fee and pay-as-you-go fee and projected cost of observer coverage by industry sector for Alternative 3 (2008 data)

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer Cost	% of Restructured Obs Cost	Observer Days Purchased GOA	Observer Days Purchased BSAI	Observer Days Purchased Total
CPs	AFA CPs	366	366	0	17	17	$ -	$ 1,538,664	$ 1,538,664	7.9%	0.0%	0	4,204	4,204
	CPs in GOA Rockfish Pilot Program	366	366	7	0	7	$ -	$ -		0.0%	0.0%			0
	Sablefish CPs >= 60'	366	366	10	15	18	$ 77,958	$ 72,468	$ 150,426	0.8%	0.0%	213	198	411
	Sablefish CPs 50' - 59.9'	366	366	1	1	2	$ -	$ -		0.0%	0.0%			0
	Halibut IFQ CPs	366	366	6	3	7	$ 22,836	$ 22,034	$ 44,870	0.2%	0.0%	62	60	123
	Non-Specified Trawl CPs >=60'	366	366	14	22	24	$ 243,390	$ 4,495,944	$ 4,739,334	24.4%	0.0%	665	12,284	12,949
	Non-Specified Fixed Gear CPs >= 60'	366	366	17	42	43	$ 137,982	$ 2,243,580	$ 2,381,562	12.3%	0.0%	377	6,130	6,507
	Fixed Gear CPs 50' - 59.9'	366	366	2	1	2	$ -	$ -		0.0%	0.0%			0
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	26	0	26	$ 113,826	$ -	$ 113,826	0.6%	0.0%	311		311
	Sablefish IFQ CVs >= 60'	467	467	42	13	51	$ 416,104	$ 46,362	$ 462,466	2.4%	6.4%	891	99	990
	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 563,108	$ 62,742	$ 625,850	3.2%	8.6%	1,206	134	1,340
	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 92,251	$ 10,279	$ 102,530	0.5%	1.4%	198	22	220
	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 18,419	$ -	$ 18,419	0.1%	0.3%	39	0	39
	Halibut IFQ CVs	467	467	1077	329	1351	$ 2,912,086	$ 534,392	$ 3,446,478	17.8%	47.5%	6,236	1,144	7,380
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	82	82	$ -	$ 1,865,868	$ 1,865,868	9.6%	0.0%	0	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	20	84	84	$ 124,039	$ 455,946	$ 579,985	3.0%	8.0%	266	976	1,242
	Catcher Vessels >= 60' trawl non-AFA	467	467	25	21	40	$ 520,733	$ 189,284	$ 710,017	3.7%	9.8%	1,115	405	1,520
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 244,314	$ 14,175	$ 258,488	1.3%	3.6%	523	30	554
	Catcher Vessels >= 60' Fixed gear	467	467	104	74	138	$ 177,779	$ 293,236	$ 471,015	2.4%	6.5%	381	628	1,009
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 330,034	$ 112,770	$ 442,804	2.3%	6.1%	707	241	948
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 86,760	$ 22,230	$ 108,990	0.6%	1.5%	186	48	233
	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 29,499	$ 1,997	$ 31,497	0.2%	0.4%	63	4	67
	Total CVs (excludes IFQ - halibut and sablefish)						$ 1,513,158	$ 3,198,896	$ 4,712,054	24.3%	35.9%	3,240	7,431	10,671
Processors	Motherships AFA and Non-AFA	366	366			11	$ 21,228	$ 264,618	$ 285,846	1.5%	0.0%	58	723	781
	Shore-based/Floating processors (AFA)	467	366			7	$ -	$ 1,035,048	$ 1,035,048	5.3%	0.0%		2,828	2,828
	Shore-based/Floating processors (non-AFA)	467	467			24	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Total						$ 6,132,346	$ 13,281,637	$ 19,413,983	100.0%	37.4%	13,496	35,258	48,755
	Total (restructured ex-vessel fee only) ($467 cells)						$ 5,515,126	$ 1,743,413	$ 7,258,539	37.4%	100.0%	11,810	3,733	15,543

Source: Participants are estimated using NORPAC and eLandings. Costs are estimated using 2008 CFEC prices applied to 2008 eLandings.
Note: This table uses a 2% ex-vessel fee as an example.

Table 39 shows the average estimated ex-vessel fees for the shoreside, at-sea, and IFQ sectors for 2005 – 2008, if the fee is set at the maximum 2% ex-vessel fee. The lower portion of the table shows the number of observer days estimated to be funded using a daily rate of $467. Information presented in this table is more aggregated than the one above and is based on the average ex-vessel observer fee paid over the 2005 - 2008 time period. This table also provides a range of revenues and observer days funded, plus or minus one standard deviation from the mean estimate. Based on the mean estimate, the IFQ fisheries are projected to fund about 69% of the observer days funded by the ex-vessel fee. Shoreside deliveries of groundfish were projected to generate $2.1 million in observer fees (4,463 days). The mothership and CP sectors only funded 57 days in this table, because most of their days are subject to the status quo (pay-as-you-go rate) under Alternative 3. If the projected ex-vessel revenue is one standard deviation below (above) the mean, it will decrease (increase) the number of observer days that could be purchased by about 2,500 from the estimated mean value.

Table 39 Alternative 3 estimated ex-vessel fees based on 2005-2008 prices and catch

	- 1 StDev	Mean	+1 StDev
Shorebased Groundfish Deliveries	$ 1,269,162	$ 2,084,439	$ 2,899,715
Motherships and Catcher Processors	$ 4,656	$ 24,853	$ 45,051
Sablefish IFQ	$ 1,073,738	$ 1,176,721	$ 1,279,704
Halibut IFQ	$ 3,231,390	$ 3,459,030	$ 3,686,670
Total	$ 5,578,945	$ 6,745,043	$ 7,911,141
Observer days funded @ $467/day			
Shorebased Groundfish Deliveries	2,718	4,463	6,209
Motherships and Catcher Processors	10	53	96
Sablefish IFQ	2,299	2,520	2,740
Halibut IFQ	6,919	7,407	7,894
Total	11,946	14,443	16,940

Source: CFEC price data 2005-2008, eLandings catch data 2005-2008, RAM estimates of IFQ revenue.
StDev = standard deviation. Note: Estimates based on a 2% ex-vessel fee.

Catcher processor and mothership vessels are included in the Alternative 3 (and Alternative 4) fee tables, because of their mothership activity when catch delivered to them was made by a catcher vessel that is not included in the ≥100% coverage category. In those cases, a 1% ex-vessel fee was charged for only the catcher vessel portion of the fee, since the mothership falls under the ≥100% coverage category and would be subject to the daily rate. Whether the catcher vessels that deliver unsorted cod ends to a mothership are subject to the ex-vessel fee under these alternatives is a policy decision (which is addressed in the Council's preferred alternative). For the purposes of this analysis, staff assumes that they would be exempt from fees because they are exempt from observer coverage. Fixed gear catcher vessels (pot and longline) that deliver sorted catch to a mothership would be subject to observer coverage and, thus, would be required to pay the ex-vessel fee for their deliveries.

Table 40 reports the estimated number of observer days during 2008 that were used by entities in the ≥100% coverage category (this includes vessels and processors that must carry more than one observer). A total of 33,212 days were estimated to be used.[58] The estimated number of observer days is multiplied by the pay-as-you-go observer rate ($366/day)[59] to project each sector's observer expenditures.

[58]The estimated number of days is 1,265 less than were estimated in the June analysis for Alternative 3. Few days were estimated because of data corrections and assumptions needed to assign observer days to the vessel classes requested by the Council.

[59] Previous discussion indicated that the cost of an observer day under the pay-as-you-go system may be expected to increase if observers are paid a higher rate on vessels in the restructured program. It is likely that the cost of an observer day would approach the $467/day that was estimated for the restructured portion of the industry.

Observer days used in 2008 (from the status quo alternative) are estimated to cost the industry about $12.2 million. Amendment 80 CPs ('non-specified trawl CPs') are estimated to pay about $4.7 million (39%). These vessels fish longer seasons than some of the other sectors and there are more vessels in this class than the AFA, but fewer than the longline CPs. When sea-days realized are compared, the fixed gear CPs have about 1 million more days at sea than the Amendment 80 trawl CPs, but they have lower coverage rates and fewer days observed. The fixed gear CPs were estimated to pay $2.4 million in observer coverage, and coverage costs would be expected to increase under the 100% coverage criteria proposed. Catcher vessels in the GOA Rockfish program were estimated to pay $114,000 under the pay-as-you-go rate of $366/day, which funds 311 observer days. Catcher vessels in the BS pollock target fishery were estimated to spend $1.9 million on 5,098 observer days.

Table 40 Alternative 3 estimated number of observer days and estimated observer cost by sector for vessels remaining under pay-as-you-go, based on sea-days realized and estimated observer days

		Observer Cost (Observer days used in 2008)			Observer Days 2008		
	Sector	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	$ -	$ 1,538,664	$ 1,538,664		4,204	4,204
	CPs in GOA Rockfish Pilot Program	$ -	$ -	$ -	-	-	-
	Sablefish CPs >= 60'	$ 77,958	$ 72,468	$ 150,426	213	198	411
	Sablefish CPs 50' - 59.9'	$ -	$ -	$ -	-	-	-
	Halibut IFQ CPs	$ 22,836	$ 22,034	$ 44,870	62	60	123
	Non-Specified Trawl CPs >=60'	$ 243,390	$ 4,495,944	$ 4,739,334	665	12,284	12,949
	Non-Specified Fixed Gear CPs >= 60'	$ 137,982	$ 2,243,580	$ 2,381,562	377	6,130	6,507
	Fixed Gear CPs 50' - 59.9'	$ -	$ -	$ -	-	-	-
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ 113,826	$ -	$ 113,826	311	-	311
	Sablefish IFQ CVs >= 60'	$ -	$ -	$ -	-	-	-
	Sablefish CVs 50 - 59.9'	$ -	$ -	$ -	-	-	-
	Sablefish CVs 40 - 49.9'	$ -	$ -	$ -	-	-	-
	Sablefish IFQ CVs < 40'	$ -	$ -	$ -	-	-	-
	Halibut IFQ CVs	$ -	$ -	$ -	-	-	-
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ -	$ 1,865,868	$ 1,865,868	-	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	$ -	$ -	$ -	-	-	-
	Catcher Vessels >= 60' trawl non-AFA	$ -	$ -	$ -	-	-	-
	Catcher Vessels 50' - 59.9' trawl non-AFA	$ -	$ -	$ -	-	-	-
	Catcher Vessels >= 60' Fixed gear	$ -	$ -	$ -	-	-	-
	Catcher Vessels 50' - 59.9' Fixed gear	$ -	$ -	$ -	-	-	-
	Catcher Vessels 40' - 49.9' Fixed gear	$ -	$ -	$ -	-	-	-
	Catcher Vessels < 40' Fixed gear	$ -	$ -	$ -	-	-	-
	Total CVs (excludes IFQ - halibut and sablefish)	$ -	$ -	$ -	-	-	-
Processors	Motherships AFA and Non-AFA	$ 21,228	$ 264,618	$ 285,846	58	723	781
	Shore-based/Floating processors (AFA)	$ -	$ 1,035,048	$ 1,035,048	-	2,828	2,828
	Shore-based/Floating processors (non-AFA)	$ -	$ -	$ -	-	-	-
	Total	$ 617,220	$ 11,538,224	$ 12,155,444	1,686	31,525	33,212

Source: Observer program staff estimates of observer days by sector.

Table 41 provides a summary of the observer days that would be funded under Alternative 3, compared to the number of observer days that were estimated to have been used in 2008. This table combines the sectors subject to the pay-as-you-go daily rate and those sectors subject to the ex-vessel value fee, in order to show total costs under Alternative 3. The table shows that the 2% ex-vessel fee is estimated to generate between 7,000 to 12,000 more observer days than were used in 2008.[60] The totals of 46,500 (lower estimate) to 51,400 observer days (upper estimate) are projected to cost the groundfish and halibut fleets between $18.2 million and $20.5 million, respectively; that is an increase of $3.8 million to $6.1 million per year, compared to the status quo.

[60] This range of days represents one standard deviation from the mean (2005-2008) of the ex-vessel revenue estimates for the catch that was included under the 2% fee.

Table 41 Summary of observer days and costs under Alternative 3

	-1 StDev	Mean	+1 StDev
Days of observer coverage needed (2008 levels)	39,344	39,344	39,344
Pay-as-you-go funded observer days	34,477	34,477	34,477
Observer days needed to reach 2008 levels excluding pay-as-you-go days	4,867	4,867	4,867
Observer days funded from a 2% ex-vessel fee	11,946	14,443	16,940
Estimated observer days funded in excess of 2008 level	7,079	9,576	12,073
Estimated total cost of observer coverage	$ 18,197,527	$ 19,363,625	$ 20,529,723

2.10.3.1 Alternative 3: Option 1

Option 1 would reduce the ex-vessel observer fee to half the amount required under Alternative 3 for halibut landings and groundfish catcher vessels <60' LOA. All catcher processors are included in the pay-as-you-go system under Alternative 3, and are thus not subject to the ex-vessel fee. Therefore, any halibut catcher processors and groundfish catcher processors that are <60' LOA would not be affected by this option. They would pay observer contractors directly for the coverage required.

For analytical purposes, this section assumes a 2% ex-vessel value fee is selected under Alternative 3, and Option 1 is applied. Thus, a 1% fee is assumed for halibut landings and groundfish catcher vessels <60'. Table 42 shows the total cost of observer coverage and the number of days funded. Compared to Alternative 3 alone, the total number of observer days purchased under the ex-vessel value observer fee under Option 1 is reduced from 15,543 to 9,648. The total number of days purchased (43,273) is about 4,000 more observer days than was used in 2008 (39,344). Total days purchased was calculated by adding the sea-days for the status quo fleet (33,625) to the ex-vessel observer days funded (9,648).

Table 42 shows Option 1 <60' LOA would reduce the ex-vessel observer fee paid by halibut catcher vessels (and the registered buyers) by $1.7 million. That same reduction would also be realized if any of the Option 1 suboptions are selected. All of the discussion of the groundfish sectors that follows describes the harvester, but the savings are realized jointly by the harvester and the processor. A discussion of who ultimately would pay the observer fee is discussed previously. The sablefish CV sector that is 50' – 59.9' LOA would pay about $313,000 less under Option 1, <60'. It would not realize that savings under Option 1, <50' or <40' LOA. Sablefish CVs 40' – 49.9' would save about $51,000 under Option 1 <60' and Option 1 <50', but would have same costs under Option 1 <40' as they would under Alternative 3. The trawl catcher vessel sector 50' – 59.9' would realize a reduction of $129,000 in observer fees under Option 1 < 60' LOA, but not under any of the other Option 1 suboptions. The fixed gear catcher vessel sector 50' – 59.9' is estimated to pay $221,000 less in ex-vessel fees under Option 1 <60', but it would not be granted that fee reduction under any of the other Option 1 suboptions. The fixed gear catcher vessel sector 40' – 49.9' LOA would have its ex-vessel observer fee reduced by about $54,000 under Option 1 <60' and Option 1 <50' LOA. Finally, the fixed gear catcher vessel sector <40' would save about $16,000 under all of the Option 1 suboptions.

Table 42 Alternative 3, Option 1, <60’ LOA, number of participants under the ex-vessel fee and pay-as-you-go fee and projected cost of observer coverage by industry sector

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer Fees	% of Restructured Obs Fees	Observer Days Purchased GOA	Observer Days Purchased BSAI	Observer Days Purchased Total
CPs	AFA CPs	366	366	0	17	17	$ -	$ 1,538,664	$ 1,538,664	9.1%	0.0%	0	4,204	4,204
	CPs in GOA Rockfish Pilot Program	366	366	7	0	7	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Sablefish CPs >= 60'	366	366	10	15	18	$ 77,958	$ 72,468	$ 150,426	0.9%	0.0%	213	198	411
	Sablefish CPs 50' - 59.9'	366	366	1	1	2	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Halibut IFQ CPs	366	366	6	3	7	$ 22,836	$ 22,034	$ 44,870	0.3%	0.0%	62	60	123
	Non-Specified Trawl CPs >=60'	366	366	14	22	24	$ 243,390	$ 4,495,944	$ 4,739,334	28.0%	0.0%	665	12,284	12,949
	Non-Specified Fixed Gear CPs >= 60'	366	366	17	42	43	$ 137,982	$ 2,243,580	$ 2,381,562	14.1%	0.0%	377	6,130	6,507
	Fixed Gear CPs 50' - 59.9'	366	366	2	1	2	$ -	$ -	$ -	0.0%	0.0%	0	0	0
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	26	0	26	$ 113,826	$ -	$ 113,826	0.7%	0.0%	311	0	311
	Sablefish IFQ CVs >= 60'	467	467	42	13	51	$ 416,104	$ 46,362	$ 462,466	2.7%	9.8%	891	99	990
	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 281,554	$ 31,371	$ 312,925	1.9%	6.6%	603	67	670
	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 46,126	$ 5,139	$ 51,265	0.3%	1.1%	99	11	110
	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 9,210	$ -	$ 9,210	0.1%	0.2%	20	0	20
	Halibut IFQ CVs	467	467	1,077	329	1,351	$ 1,456,043	$ 267,196	$ 1,723,239	10.2%	36.3%	3,118	572	3,690
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	82	82	$ -	$ 1,865,868	$ 1,865,868	11.0%	0.0%	0	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	20	84	84	$ 124,039	$ 455,946	$ 579,985	3.4%	12.2%	266	976	1,242
	Catcher Vessels >= 60' trawl non-AFA	467	467	25	21	40	$ 520,733	$ 189,284	$ 710,017	4.2%	15.0%	1,115	405	1,520
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 122,157	$ 7,087	$ 129,244	0.8%	2.7%	262	15	277
	Catcher Vessels >= 60' Fixed gear	467	467	104	74	138	$ 177,779	$ 293,236	$ 471,015	2.8%	9.9%	381	628	1,009
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 165,017	$ 56,385	$ 221,402	1.3%	4.7%	353	121	474
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 43,380	$ 11,115	$ 54,495	0.3%	1.1%	93	24	117
	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 14,750	$ 999	$ 15,748	0.1%	0.3%	32	2	34
	Total CVs (excludes IFQ - halibut and sablefish)	0	0	0	0	0	$ 1,167,855	$ 2,879,920	$ 4,047,775	24.0%	46.0%	2,501	7,269	9,770
Processors	Motherships AFA and Non-AFA	366	366			11	$ 21,228	$ 264,618	$ 285,846	1.7%	0.0%	58	723	781
	Shore-based/Floating processors (AFA)	467	366			7	$ -	$ 1,035,048	$ 1,035,048	6.1%	0.0%	0	2,828	2,828
	Shore-based/Floating processors (non-AFA)	467	467			24	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Total						$ 3,994,111	$ 12,902,344	$ 16,896,455	100.0%	28.1%	8,917	34,446	43,364
	Total (restructured ex-vessel fee only) ($467 cells)						$ 3,376,891	$ 1,364,121	$ 4,741,011	28.1%	100.0%	7,231	2,921	10,152

Source: Observer program staff estimates of observer days by sector.

Ex-vessel revenue estimates from 2005 - 2008 and the estimated number of pay-as-you-go observer days from 2008 were used to compare estimates of observer costs and observer days generated under Alternative 3 and Option 1. Table 43 indicates that under the mean ex-vessel revenue estimate, Alternative 3 is projected to cost the fishing industry $19.4 million and generate 48,920 observer days. The restructured portion of the fleet that is paying the ex-vessel observer fee is estimated to pay $6.7 million, which would fund 14,443 days ($467/day).

Under Option 1 <60' LOA, the ex-vessel observer fee would be reduced by $2.44 million and purchase 5,222 fewer observer days. If Option 1 <50' LOA was selected with Alternative 3, the ex-vessel observer fee would be reduced by $1.85 million and 3,953 few observer days would be available, compared to Alternative 3 alone. Finally, if Option 1 <40' LOA was selected, observer fees would be reduced by $1.75 million and 3,750 fewer observer days could be funded. All of these alternatives and options project that the number of observer days available would be greater than the estimated number of observer days in 2008 (39,344).

Table 43 Estimates of observer coverage costs and the number of observer days purchased using 2005-2008 ex-vessel revenue data

	Observer Cost			Days Purchased		
	- 1 StDev	Mean	+1 StDev	- 1 StDev	Mean	+1 StDev
	Alternative 3					
Total	$ 18,197,527	$ 19,363,625	$ 20,529,723	46,423	48,920	51,417
Restructured Only	$ 5,578,945	$ 6,745,043	$ 7,911,141	11,946	14,443	16,940
	Alternative 3: Option 1 < 60' LOA					
Total	$ 16,039,691	$ 16,924,892	$ 17,810,092	41,803	43,698	45,594
Restructured Only	$ 3,421,109	$ 4,306,310	$ 5,191,510	7,326	9,221	11,117
	Alternative 3: Option 1 < 50' LOA					
Total	$ 16,492,989	$ 17,517,540	$ 18,542,090	42,773	44,967	47,161
Restructured Only	$ 3,874,407	$ 4,898,958	$ 5,923,508	8,296	10,490	12,684
	Alternative 3: Option 1 < 40' LOA					
Total	$ 16,565,775	$ 17,612,207	$ 18,658,638	42,929	45,170	47,411
Restructured Only	$ 3,947,193	$ 4,993,625	$ 6,040,056	8,452	10,693	12,934

Note: The 2008 estimate of 39,344 total observer days was used.

The estimates above indicate that Alternative 3 and all of the Alternative 3, Option 1 suboptions would fund more observer days than the 2008 status quo estimate of 39,344 days. Using the mean ex-vessel revenue estimate, about 5,000 fewer observer days could be purchased under Option 1 <60', 4,000 fewer days under Option 1 <50', and 3,750 fewer days under Option 1 <40'.

2.10.3.2 Alternative 3: Preferred Alternative Summary

At its October 2010 meeting, the Council selected Alternative 3, with a 1.25% ex-vessel fee, to restructure the observer program. The final motion is included as **Appendix 13**. The Council's preferred alternative modifies the observer requirements for entities operating in the groundfish industry that will have <100% coverage requirements under the revised program and all entities in the commercial halibut sector. All vessels and processors in this coverage category are subject to the ex-vessel value based fee, and would be required to carry an observer as determined by NMFS. Vessels and processors operating in the ≥100% coverage category are not included under the ex-vessel fee-based program and would continue to obtain observer coverage by contracting directly with observer providers ('status quo').

The Council recommended restructuring the program such that NMFS would contract directly with observer companies to deploy observers in the restructured sectors according to a scientifically valid sampling and deployment plan, and industry would pay a fee equal to 1.25% of the ex-vessel value of the landings included under the program. (The Magnuson Stevens Act authorizes collection of an ex-vessel fee of up to 2%.) As all sectors benefit from the resulting data, the Council chose to apply the same fee percentage to all restructured sectors, in order to develop a fee program that is fair and equitable across all sectors in the restructured program.

The Council emphasized that under the status quo, NMFS cannot determine when and where to deploy observers in the sectors with less than 100% coverage requirements, coverage levels are fixed in regulation, and data gaps exist for sectors without any coverage. The restructured program is intended to provide NMFS with the flexibility to deploy observers in response to fishery management needs and to reduce the bias inherent in the existing program, to the benefit of the resulting data. An additional benefit to a restructured program for fisheries with <100% coverage needs is the ability of NMFS to target coverage to address specific data needs. Under a restructured program, fishery managers would have the flexibility to adjust coverage as necessary to fill data gaps and address specific conservation or management issues. Alternative 3 was determined to best meet the objectives of the restructured program and the issues outlined in the problem statement. The primary advantage of Alternative 3 is that it includes all of the <100% sectors, including the <60' LOA groundfish sectors and halibut sector, which are the sectors with the most acute data quality, data gaps, and disproporationate cost issues.

By comparison, Alternative 2 only restructures the observer program for the GOA groundfish and halibut fisheries and the <60' groundfish sector and halibut sector in the BSAI. Under this alternative, the 30% coverage regulation would still exist for vessels operating in the BSAI that are currently subject to the 30% requirement. Thus, Alternative 2 does not capture all of the sectors that have <100% observer coverage requirements. Alternative 4 creates the same scenario as Alternative 3, except that it increases costs to industry by requiring they pay a daily fee to NMFS, as opposed to observer providers. Alternative 4 does not provide additional observer days compared to Alternative 3. Alternative 5 does not appear to provide sufficient revenue to fund the number of observer days needed to meet the target performance standard, since the sectors added in under Alternative 5 (compared to Alternative 3) require 100% or 200% coverage. In order to ensure that these high coverage levels remain, the Council decided to leave the ≥100% covered sectors under the existing system in which they pay directly for each observer day.

Under Alternative 3, the 1.25% fee was determined by balancing the need for revenue to support the observer program with the need to minimize impacts on the industry sectors included in the restructured program. A 1.25% fee was estimated to generate about $4.2 million, based on the mean estimate of average 2005 – 2008 revenues, and fund over 9,000 observer days. The amount of revenue needed to support the proposed performance standard (P2 coverage levels) of 30% observer coverage is estimated as $3.8 million, which would fund 8,093 observer days (see Section 3.2.7 and the detailed analyses in Appendices 11 and 12). This assumes there is no observer coverage on vessels <40' LOA, although they are still subject to the ex-vessel value fee and benefit from observer data. Thus, the Council determined that a 1.25% fee would fund the necessary observer days to reach the target performance standard, with a small buffer equal to roughly 10% of the estimated revenue ($4.2 million (revenue generated) - $3.8 million (revenue needed) = $0.4 million (buffer)). The Council also stated that it could modify the fee percentage through a subsequent amendment package, and will review the adequacy of the 1.25% fee, during the annual observer report included as part of the preferred alternative.

The Council's motion defines which harvesting vessels and processors would be included in the ≥100% coverage category. Vessels and processors operating in the ≥100% coverage category are not included under the ex-vessel fee-based program and would continue to obtain observer coverage by contracting directly with observer providers ('status quo'). Vessels and processors in the ≥100% coverage category include:

1. all catcher/processors and motherships participating in the groundfish or halibut fisheries;
2. all catcher vessels while fishing under a management system that uses prohibited species caps in conjunction with a catch share program; and
3. all shoreside and floating processors when taking deliveries of AFA or CDQ pollock.

Harvesting vessels that do not fall under the above criteria would be included in the <100% coverage category and be subject to the ex-vessel fee system. Catcher vessels that fish under a management system that uses prohibited species caps in conjunction with a catch share program for only part of the year would switch from the ≥100% category, as defined under point 2 above, to the <100% coverage category, based on the fishery they operate in on a trip-by-trip basis. During the part of the year they are operating in the <100% coverage category, vessels would be required to pay the ex-vessel fee for those landings and abide by the observer regulations for vessels in that fleet.

Catcher Vessels

In general, catcher vessels fall into the <100% coverage category, when not fishing under Point 2 above, and would be subject to the ex-vessel fee and observer coverage. The Council noted exceptions to this general rule:

1. Vessels participating in GHL groundfish fisheries and other state managed non-groundfish fisheries (e.g., lingcod) were exempted from Federal observer coverage requirements, but non-GHL groundfish incidentally caught in the State GHL and other non groundfish managed fisheries that are landed by vessels with FFPs would be subject to the fee assessment.
2. Observers would not be required on catcher vessels delivering groundfish in unsorted codends to a mothership. Because all motherships are in the ≥100% observer coverage category, no fee would be assessed on these groundfish landings, and observer coverage of the catch would occur on the mothership under the status quo system of observer coverage requirements.

The Council also wanted to clearly note that the following catcher vessels would be subject to the revised observer program's observer requirements and the ex-vessel fee assessement:

1. Vessels with a FFP fishing in the State of Alaska parallel groundfish fisheries.
2. Landings from catcher vessels in the <100% coverage category that deliver groundfish or halibut catch that is retrieved onboard the catcher vessel before delivery to the mothership ("sorted catch") would be subject to the fee assessment and observer coverage under the restructured program.

Table 44 shows the number of catcher vessels that participated in the groundfish and/or halibut fisheries during 2008 (the base year for this analysis). The table indicates that 1,598 vessels fished as a catcher vessel during some part of the year. Only 28 of these vessels fished in fisheries that would place them in the ≥100% coverage category for the entire year. These 28 catcher vessels are all AFA qualified and only reported landings that were considered pollock targets (bottom and pelagic) in the Bering Sea. The remaining 1,570 vessels would fall under the revised observer requirements when they land halibut or groundfish subject to a Federal TAC and are not fishing under Point 2 above, if they hold an FFP.

Based on the year-end FFP files maintained by NMFS AKR, about 43% (679) of the 1,570 vessels were never assigned a FFP during the years 2007 - 2010. Because an FFP is required to fish for groundfish in Federal waters, it is assumed that those vessels were operating in the State waters groundfish fisheries or were fishing for halibut. Subtracting the number of vessels that were solely fishing for groundfish (631 of the vessels were used to land halibut or sablefish under the IFQ program) from the total that never held a

FFP, yields an estimated 48 of the 1,570 vessels that would never be subject to observer coverage or the ex-vessel fee under the proposed action. These vessels are assumed to have only fished state waters fisheries without an FFP. NMFS would have the authority under this amendment to select any of the remaining 1,522 vessels for observer coverage, and they all would be subject to the ex-vessel fee when they are operating in the <100% coverage category.

Table 44 Groundfish and halibut catcher vessels that participated in the 2008 fishery, by length and number of years they were assigned an FFP during the 2007 through 2010 time period

		Vessel Length Classes					
Classification	*Years FFP was held 2007-2010*	*Unknown*	*<40*	*40-59.9*	*60+*	*Total*	*Fished IFQ*
CP & CV	1			1		1	
	4			5	3	8	3
CP-CV Total				6	3	9	3
CV	-	2	564	106	7	679	631
	1		13	4	5	22	15
	2		28	36	4	68	56
	3		17	26	7	50	37
	4		124	418	228	770	672
CV Total		2	746	590	251	1,589	1,411
Grand Total		2	746	596	254	1,598	1,414

Source: RAM IFQ landings data (2008), NMFS AKR groundfish elandings data (2008), and Federal Fisheries Permit data 2007-2010.

Of the 679 vessels that never held a FFP, 564 of the vessels (83%) were <40' LOA. An additional 182 vessels were <40' LOA and held a FFP for at least one year during the period. Therefore, a total of 746 vessels in the <100% coverage category were <40' LOA. NMFS has proposed that vessels <40' LOA be exempt from observer coverage requirements during the first year of the program (see Section 3, *Implementation Issues*). However, if NMFS determines that coverage is needed on some of these vessels after the first year to meet the program's objectives, they have the authority to require the needed coverage. While coverage could be required on some of these vessels in the future, NMFS has emphasized that they will continue to work with industry to ensure that any mandated coverage requirements are feasible, based information collected on the vessel by the agency.

Alternative methods to obtain accurate and reliable catch information will continue to be studied and have been tasked to the Observer Advisory Committee. One catch monitoring system the OAC is assigned to consider is electronic monitoring. If the ongoing studies find that electronic monitoring or some other alternative monitoring design provides adequate data to meet NMFS' needs and is cost effective and reliable, an FMP amendment could be initiated that would allow the use of that tool to modify the proposed observer coverage requirements for specified industry sectors.

Vessels added to the observer program

Of the vessels that fished groundfish or halibut in 2008, a total of 1,344 catcher vessels were reported to be less than 60' LOA (Table 44). These vessels would not have been subject to observer coverage under the current program. So, during the first year of the program up to 598 additional vessels[61] (based on

[61] This number was calculated by subtracting the number of vessels <40' that acted as a CV (746) from the total number of vessels that were less than 60' (1,344).

2008 participation) could be subject to observer coverage. Depending on whether the vessels <40' LOA are required to carry an observer in the future, that number could increase. It is doubtful that all of these smaller vessels have the capacity to carry an observer in addition to the normal crew. So it is unlikely that all 1,344 catcher vessel <60' LOA would be required to carry an observer in the future. However, like other sectors, these vessels would be required to pay the ex-vessel fee on their landings regardless of whether they are selected to carry an observer.

In the future, the number of vessels participating in fisheries with observer coverage could increase or decrease relative to the estimates using 2008 data. The number of vessels could increase because there are groundfish licenses that are not currently being utilized. In 2010 there were just over 1,300 transferable groundfish licenses issued that must be used on vessels <60' LOA. Also, halibut IFQ landings have been made using vessels that do not have a groundfish license or Federal Fisheries Permit. During 2008, over 550 vessels were estimated to have been used to harvest halibut that did not have a Federal Fisheries Permit. These vessels would have been required to hold an FFP if they were fishing for groundfish in Federal waters. Adding the number of groundfish LLPs issued and the number of halibut vessels that have not held an FFP since 2006 indicates that it is theoretically possible to add more than 400 <60' vessels to the observer program than were estimated using 2008 data. However, current economic conditions in the halibut fishery (notably Area 2C) and the groundfish fisheries, indicate that instead of increasing the number of vessels in the fishery, catch is more likely to be consolidated onto fewer vessels. Section 2.10.7 of this analysis discusses how the increased costs associated with the ex-vessel fee could cause marginal quota share holders to sell their allocation. If they sell the quota to individuals that are already in the fishery, the vessel used by the seller could leave the fishery and the quota could be used on the same vessel(s) used by the buyer. This would cause the total number of vessels in the fishery to decline. This assumes that the quota seller does not intend to continue using his or her vessel in other fisheries that fall under the revised observer program. Therefore, while it is possible that the number of vessels in the fishery could increase, recent policy decisions, biological conditions of the stocks, and global economic conditions have resulted in a decline in the number of vessels fishing. This trend is expected to continue into the near future, specifically in the IFQ fisheries.

Catcher Processors

Table 45 indicates that 80 vessels acted only as catcher processors during 2008. Two of these vessels never held an FFP. One of the catcher processors was <60' LOA. That vessel was assigned an FFP for three of the four years from 2007 - 2010. These vessels would be required to operate in the ≥100% observer coverage, unless they met the specific criteria defined by the Council's preferred alternative outlined below.

Table 45 Groundfish and halibut catcher processors that participated in the 2008 fishery, by length and number of years they were assigned an FFP during the 2007 through 2010 time period

Classification	*Years FFP was held 2007-2010*	*40'-59.9'*	*60+'*	*Total CPs*
CP	-	-	2	2
	1			
	2		2	2
	3	1	1	2
	4		74	74
CP Total		1	79	80

Source: eLandings and RAM data 2008. Federal Fisheries Permit data, 2007 - 2010.

The Council's preferred alternative states that catcher processor vessels <60' LOA with a history of CP and CV activity in a single year or any catcher processor vessel with an average daily production of less than 5,000 pounds,[62] in the most recent full calendar year of operation prior to January 1, 2010, will be allowed to make a one-time election as to whether they will be in the <100% coverage category with the ex-vessel revenue fee structure or the ≥100% coverage and (status quo) fee structure category. This one-time election will determine their observer coverage classification in all future years.

The exemptions to the ≥100% observer coverage requirement differ based on whether the vessels are <60' or ≥60'. **From 2003 through 2009, a total of 22 <60' vessels had both a catcher processor and catcher vessel designation on their Federal Fisheries Permit in their most recent year of participation.** The owners of these vessels would be allowed to make a one-time selection that will determine whether their vessel would be in the revised program (ex-vessel fee) or the status quo pay-as-you-go program. Although all of these vessels would be eligible for the one-time selection because of their length, one of these vessels averaged more than 5,000 lbs of raw fish processed a day. Two other vessels may have averaged more than 5,000 lbs per day if they were using plate freezers. However, because production data does not always report freezer plate processing activity, it is not possible to determine when or how much production activity they have using freezer plates.

All of these vessels were assumed to fall under the pay-as-you-go, ≥100% coverage category under the analysis of Alternative 3. If any of these vessel owners elect to move their vessel to the <100% coverage category, it will increase the amount of revenue that is estimated to be generated for the observer program. The amount of the increase will depend on the ex-vessel revenue generated by the vessels that are moved into the <100% coverage category.

For groundfish landings, the impact on observer revenues is expected to be relatively small. Data for the 2008 fishery estimated that the CPs <60' LOA would generate about $2,600 in revenue for the observer program. All of these vessels were reported to be fixed gear vessels; even if all of these vessels elected to participate in the <100% coverage category they would fund less than six days of observer coverage, based on 2008 groundfish data. CP vessels that were assigned an FFP in 2008 reported 7 weeks with participation, based on NMFS weekly PSC data.[63] Depending on the number of days these vessels operate in the future and the percentage of days they would be required to carry an observer, they would require more or less than 6 days of coverage. Assuming that the coverage goal is 30% of the days fished and these vessels fished all seven days each week they had processing activity, this group of vessels would use a maximum of 9 more observer days than they would fund. On a fishery-wide basis this equates to 0.08% of the observer days that would be funded using the projected ex-vessel fee revenues.

There was also one CP ≥60' that was estimated to have processed less than 5,000 lbs per day. An assumption used to make this estimate is that catcher processors processed seven days a week, each week they had any processing activity. In some cases this may overestimate the days of processing activity, especially when a vessel is participating in a fishery that has a short duration. It will also overestimate the number of days during weeks when a fishery opens if it does not open on the first day of the reporting week, or during a week a fishery closes if it does not close so that all processing activity can be completed on the last day of the reporting week. This CP would also be given an opportunity to make a one-time election to determine its observer classification, if its participation in its most recent year is similar to 2008. Because there is only one vessel in this class, the estimated observer fees under the ex-vessel program cannot be reported because of confidentiality constraints.

[62]Staff note: The 5,000 pounds would be calculated as the round weight equivalent. The Council clarified that this would be calculated by dividing total annual production by the number of days of processing activity.
[63] http://www.alaskafisheries.noaa.gov/2008/pscinfo.htm

For all of the CP estimates of daily activity, round pounds of fish harvested were divided by the days of processing activity (weeks of processing activity reported in the production report data and multiplied by seven days). The equation used to determine whether a CP met the criteria in the Council's preferred alternative is:

$$Average\ Daily\ Production = \frac{Round\ pounds\ of\ fish\ landed}{Weeks\ of\ reported\ processing\ activity * 7}\ .$$

The one fixed gear CP that is ≥60' and averaged less than 5,000 lbs daily would have the opportunity to make a one-time choice to be in the <100% coverage class. If it elected to be in the <100% coverage category, it would be required to pay the ex-vessel fee for all landings subject to the fee. The vessel's owner would not be given the opportunity to have this vessel spend part of the year in the ex-vessel fee program and part of the year in the pay-as-you-go system. The one-time selection establishes its place in the observer program for all participation in fisheries subject to these regulations in the future.

Ex-vessel Fee Percentage

Under the Council's preferred alternative, the ex-vessel fee percentage would be set in regulation at 1.25% of the ex-vessel value of groundfish and halibut. A fee would be assessed on the ex-vessel value of the landed catch weight of groundfish and halibut. The landed catch weight would be the weight equivalents used to debit quotas (e.g., round weight for groundfish and headed and gutted net weight for halibut) which are reported on the processor's or registered buyer's landing report submitted to NMFS. The Council's motion also states that: "standard ex-vessel prices would be established for groundfish by species, port of landing, and gear. Three gear type categories would be established: pelagic trawl gear, non-pelagic trawl gear, and fixed gear (everything else besides trawl gear). Because of data confidentiality issues, standardized price data must be aggregated if there are fewer than 3 entities in a price category at either the harvester or processor level."

Ex-vessel value is determined differently for species accounted for under the IFQ fisheries (and related CDQ fisheries) and species that are not accounted for under an IFQ program. Non-IFQ species ex-vessel prices will be established using the methodology described in Section 2.9.2.2.5. IFQ species ex-vessel prices will be determined using the prices collected by the NMFS RAM Program. The Council requested that NMFS consider and determine, during the development of the proposed rulemaking, whether current year prices could be aggregated to determine an annual price by port or port group and bill entities using a structure similar to the IFQ cost recovery fee. If that is determined to not be possible during the implemention of the program, NMFS will use the annual price by port or port group as described in Section 2.9.2.2.5.

Standardized annual ex-vessel prices for halibut and sablefish IFQ and CDQ will be determined using the most recent available halibut and sablefish ex-vessel prices developed for the IFQ cost recovery program. Ex-vessel prices must also be aggregated such that they are not reported for fewer than three entities in a price category. These aggregations will differ from the monthly prices used for the cost recovery program. Annual prices will be developed, which means that prices could be reported for more ports than are currently possible under the cost recovery fee. These prices would be applied to landings by:

- catcher vessels in the <100% observer coverage category of halibut IFQ,
- halibut CDQ,
- sablefish IFQ, and
- sablefish that accrues against the fixed gear sablefish CDQ allocation.

The fee percentage will be reviewed annually by the Council after the second year of the program, through the annual report outlined in Option 2. After the review is completed, the Council may initiate an amendment package to adjust the fee percentage if too little or too much money is being collected to fund the program. Much of the information needed for the Council to determine whether an amendment package needs to be developed will come from program's annual report outlined under Option 2. A detailed discussion of the information NMFS will include in that report is provided in Section 3.2.11.

Estimates of the observer program revenue that would be generated using the 1.25% ex-vessel fee are presented in Table 46. That table shows the mean revenue estimate from the <100% coverage fleet is about $4.2 million. Assuming that an observer day costs $467, that amount of revenue would fund 9,027 observer days. If the revenue estimate was one standard deviation higher, it would fund an additional 1,561 observer days.

Table 46 Estimated annual observer program revenue generated from <100% coverage sectors paying a 1.25% ex-vessel fee

	- 1 StDev	Mean	+1 StDev
Shorebased Groundfish Deliveries	$ 793,226	$ 1,302,774	$ 1,812,322
Motherships and Catcher Processors	$ 2,910	$ 15,533	$ 28,157
Sablefish IFQ	$ 671,086	$ 735,450	$ 799,815
Halibut IFQ	$ 2,019,619	$ 2,161,894	$ 2,304,169
Total	$ 3,486,841	$ 4,215,652	$ 4,944,463
Observer days funded @ $467/day			
Shorebased Groundfish Deliveries	1,699	2,790	3,881
Motherships and Catcher Processors	6	33	60
Sablefish IFQ	1,437	1,575	1,713
Halibut IFQ	4,325	4,629	4,934
Total	7,466	9,027	10,588

Just over 31% of the total revenue would be generated by shorebased groundfish deliveries and catcher vessel deliveries to motherships and catcher processors. The remaining 69% of the observer funding would come from IFQ landings. Based on the information in Appendix 11, achieving a performance standard of 30% coverage of the IFQ vessels 40' LOA or larger would cost about $2.5 million. The fees that the IFQ fleet is estimated to pay would cover that amount and contribute about $300,000 toward observer costs in other fleets. If any coverage in the future is required on the <40' fleet, IFQ vessels would likely use all of the observer funds they generate for their own coverage. The coverage cost for the non-IFQ fisheries is projected to be about $1.5 million to achieve 30% observer coverage. Table 46 indicates they would generate $1.3 million in funding. Therefore, the extra revenue generated from the IFQ sector would just cover the shortfall projected in the groundfish fishery. It should be noted that many of the IFQ vessels also participate in the groundfish fisheries so some of their excess in the IFQ fishery will cover their needs in the groundfish fisheries. In total, the amount of revenue (mean revenue estimate) generated by a 1.25% ex-vessel fee is about $4.2 million; the amount of revenue needed to achieve the 30% performance standard proposed by NMFS is estimated at about $4.0 million (see Appendix 11).

The ≥100% coverage sectors would continue to operate under the current observer system and contract with observer providers directly to obtain their observer coverage. Table 47 shows the projected number of observer days that would be used and the cost of those days. A total of 34,477 days are projected to be used by the 100% coverage fleets. Those days are projected to cost about $12.6 million, at an estimated $366/day.

The ‘other trawl CP’ sectors in the GOA and BSAI are projected to have the greatest observer costs ($4.2 million) in the ≥100% coverage category. Fixed gear CPs and AFA trawl CVs are projected to have about $2.5 million each in observer costs. AFA CPs are projected to pay about $1.9 million in observer costs. Shorebased and floating processors are projected to pay just over $1.0 million. Motherships are estimated to pay about $286,000, annually. Finally, vessels in the GOA rockfish pilot program are projected to pay over $100,000. These costs will vary depending on the number of days that are actually spent fishing and processing in the future. The costs will also depend on how much the cost of an observer day changes from the $366 estimated for this analysis. It has been discussed that because observers are estimated to be paid more under the restructured program in which NMFS contracts for observer services, the observer costs under the pay-as-you-go program would be expected to increase over time. The amount of the increase has not been estimated in this analysis, but it would tend to approach levels established for observers in the restructured program.

Table 47 Estimated number observer days required and observer costs in the ≥100% coverage sectors

Sector	*Estimated Number of Observer Days under Pay-as-you-go*	*Estimated Observer Cost ($366/day)*
AFA CPs BSAI	5,264	$1,926,624
Other Trawl CPs BSAI	10,464	$3,829,824
Other Trawl CPs GOA	1,040	$380,640
Shorebased/Floating processors -	2,850	$1,043,100
Shorebased/Floating processors – Non	-	$ -
Catcher Vessels <60'	-	$ -
Catcher Vessels ≥60' trawl AFA*	6,733	$2,464,278
Catcher Vessels ≥60' trawl Non-AFA	-	$ -
Catcher Vessels ≥60' other gear	-	$ -
Vessels in the GOA Rockfish Pilot	311	$113,826
Fixed Gear CPs BSAI,GOA	7,034	$2,574,444
Motherships	781	$285,846
Total	34,477	$12,618,582

Source: NMFS observer program staff estimates of observer days in 2008.

Table 48 shows the estimated total cost of the observer program to industry under the Council’s preferred alternative, including both the vessels and processors paying the ex-vessel based fee and those continuing under the pay-as-you-go system. The mean estimate of the total observer cost is $16.8 million. These costs are based on the 2008 participation data and ex-vessel revenue estimates from 2005 - 2008. The table shows that the cost of the program would increase over status quo (2008) by about $2.0 million (4,160 days * $467 = $1.94 million). Those additional observer days would be used in fisheries that NMFS determines would result in the most benefit from data being collected. It is anticipated that additional days, in conjunction with deploying the current number of observer days used in the <100% coverage fisheries under a statistically valid sampling plan, will improve the quality and accuracy of the catch and bycatch data.

Table 48 Summary of observer costs and days using a 1.25% ex-vessel fee

	-1 StDev	Mean	+1 StDev
Days of observer coverage needed (2008 levels)	39,344	39,344	39,344
Pay-as-you-go funded observer days	34,477	34,477	34,477
Observer days needed to reach 2008 levels excluding pay-as-you-go days	4,867	4,867	4,867
Observer days funded from a 1.25% ex-vessel fee	7,466	9,027	10,588
Estimated observer days funded in excess of 2008 level	2,599	4,160	5,721
Estimated total cost of observer coverage	$ 16,105,423	$ 16,834,234	$ 17,563,045

Source: CFEC 2005-2008 price data, eLandings for 2005-2008, Observer program staff estimates of daily observer costs.

Obtaining Observer Coverage

Entities in the restructured program would work with NMFS to obtain their observer coverage. The selection of vessels and processors that must carry an observer under the restructured program would be determined through an annual sampling and deployment plan. Observer coverage rates (trips or vessels) would not be in regulation and NMFS would have the flexibility to modify coverage rates as determined necessary to meet conservation and management needs.

NMFS would contract with observer providers to ensure that observers are deployed on vessels and in plants when needed. NMFS would determine whether an observer must be carried using one of two selection methods: a trip selection or a vessel selection list. As part of this process, NMFS would also determine the period of time a vessel must carry the observer. It is proposed that fixed gear vessels from 40' to 57.5' would be included in the vessel selection category. Fixed gear vessels that are ≥57.5' and trawl catcher vessels would be in the trip selection category. The program was designed to give NMFS the flexibility to utilize their available resources to collect the most needed data with the funding that is available. The two systems discussed in detail in Section 3.2.7 in the implementation chapter.

Option 2: annual report

In October, the Council selected a revised Option 2 as part of its preferred alternative. This option now requires NMFS to release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS would be required to consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided, and could be combined in the same document. The specifics of the annual report are provided in Section 3.2.11.

2.10.4 Alternative 4: Comprehensive Restructuring with Hybrid Fee System

Alternative 4 would include all sectors of industry under the restructured observer program. The coverage category would determine the type of fee that individuals pay. Harvests that are made by vessels operating in the <100% coverage category would be subject to the ex-vessel fee (the maximum of which could be 2%). Harvests that are made while the vessel is operating in the ≥100% coverage category would be required to pay NMFS a daily fee for every day of observer coverage used. That fee would be billed at the end of the fishing year and be based on the average cost of an observer day.

As the same entities are included in the two coverage categories under Alternatives 3 and 4, the same funds are expected to be generated under the ex-vessel fee. Because the ex-vessel fees that were estimated under Alternative 3 also apply to Alternative 4, please refer to that section for costs for entities subject to the ex-vessel value fee (Section 2.10.3, Table 39). Vessels and processors that are estimated to be subject to the daily fee under Alternative 4 are the same as those subject to the pay-as-you-go system under Alternative 3 (i.e., the same number of observer days). However, because those days are included in the restructured program in Alternative 4, in which NMFS is contracting directly with observer providers, they would be subject to an estimated billing rate of $467/day, instead of the estimated $366/day under the pay-as-you-go program. Refer to Appendix 6 for the calculations used to derive estimates for the daily fee under a restructured program compared to the daily rate under the status quo program.

Table 49 provides the coverage requirements for each sector under Alternative 4. Restructuring the ≥100% fleets would change the underlying structure of the observer program, how companies are billed for coverage, and the daily cost of coverage, but would not impact estimates of coverage days needed that are used in this analysis.

Table 49 Observer coverage requirements by sector under Alternative 4

Industry Segment	*Alternative 4 Observer Coverage*	*Comments*
AFA CPs	200% coverage	Daily fee at $467/day for each observer
CDQ CPs	200% coverage	Daily fee at $467/day for each observer
AFA motherships	200% coverage	Daily fee at $467/day for each observer
AFA inshore processors	200% coverage when taking deliveries of BS pollock, NMFS determines coverage in other fisheries	Daily fee at $467/day for each observer
Am 80 trawl CP vessels	200% coverage	Daily fee at $467/day for each observer
CPs fishing for Atka mackerel in the Aleutian Islands Subarea	200% coverage	Daily fee at $467/day for each observer
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the BSAI	100% coverage	Daily fee at $467/day for each observer
Non-AFA and Non-Am 80 trawl CP vessels <125' in the BSAI	100% coverage	Daily fee at $467/day for each observer
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the GOA	100% coverage	Daily fee at $467/day for each observer
GOA Rockfish Program vessels when operating in that fishery	100% coverage	Daily fee at $467/day for each observer
CVs ≥60' fishing Non-pollock CDQ	100% coverage	Ex-vessel revenue based fee
Pot CPs fishing CDQ	100% coverage	Daily fee at $467/day for each observer
Non-AFA and Non-Am 80 Trawl CP vessels <125' in the GOA	100% coverage	Daily fee at $467/day for each observer
Non-AFA and Non-CDQ shoreside processors	NMFS determines coverage	Ex-vessel revenue based fee
AFA Trawl CVs >125' (including CDQ)	Inshore 100% coverage when harvesting BS pollock; When delivering unsorted cod ends to a CP or MS they are exempt from coverage but are considered part of the 100% coverage category for restructuring. NMFS determines coverage when not in the BS pollock fishery.	Daily fee at $467/day when fishing BS pollock. Ex-vessel revenue fee for other fisheries.
AFA Trawl CVs 60'- 125' (including CDQ)	Inshore 100% coverage when harvesting BS pollock; When delivering unsorted cod ends to a CP or MS they are exempt from coverage but are considered part of the 100% coverage category for restructuring. NMFS determines coverage when not in the BS pollock fishery.	Daily fee at $467/day when fishing BS pollock. Ex-vessel revenue fee for other fisheries.

Industry Segment	*Alternative 4 Observer Coverage*	*Comments*
Non-AFA Trawl CVs 60'-125' (Including CDQ)	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA Trawl CVs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CPs ≥125'	100% coverage	Daily fee at $467/day for each observer
Hook-and-line CPs 60'-125'	100% coverage	Daily fee at $467/day for each observer
Hook-and-line CVs 60'-125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CVs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Pot CPs ≥60'	100% coverage	Daily fee at $467/day for each observer
Pot CVs ≥60'	NMFS determines coverage	Ex-vessel revenue based fee
Halibut vessels	Halibut shares fished on CVs, NMFS determines coverage.	Ex-vessel revenue based fee/Daily fee at $467/day for CPs
Jig CVs ≥60'	NMFS determines coverage	Ex-vessel revenue based fee
Groundfish vessels <60'	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA motherships	100% coverage	Daily fee at $467/day

Note: Each observer day is estimated to cost $467. See Appendix 6.

Table 50 shows the estimated number of participants in each detailed sector, the total estimated observer fee based on ex-vessel fees and sea-days, and the estimated number of observer days that could be funded. The only difference in this table and the similar table (Table 42) reported under Alternative 3, is the cost of an observer day is greater for a vessel paying the daily fee under the restructured program in Alternative 4. The daily cost of observer coverage under Alternative 3 for the pay-as-you-go sectors is estimated as $366/day, while the daily cost of observer coverage under Alternative 4 for the restructured sectors is estimated as $467/day. It was noted that over time, the Alternative 3 estimate may be low if observers are being paid more in the restructured sectors. As a result, estimated impacts under Alternative 3 are expected to move closer to those estimated for Alternative 4.

Table 50 indicates that $22.8 million would have been spent on observer coverage in 2008. Of that total, $7.3 million would have been a result of ex-vessel fee payments. The remaining $15.5 million would have been paid to NMFS based on the $467 daily fee rate. As noted earlier, the ex-vessel fee estimate does not change using Alternative 3 or Alternative 4. The percentage of the ex-vessel fee paid by each sector is also the same under Alternative 3 and Alternative 4. However, the increase in the daily rate, from $366/day under pay-as-you-go, to $467/day under a daily fee, causes the percentage of the total fee to increase for those sectors paying the daily fee. The amount of the increase is 127.6% ($467/$366) of the Alternative 3 total.

Table 50 Alternative 4 estimated number of participants, observer cost, and observer days purchased based on 2008 data

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer Cost	% of Restructured Obs Cost	Observer Days Purchased GOA	Observer Days Purchased BSAI	Observer Days Purchased Total
CPs	AFA CPs	467	467	0	17	17	$ -	$ 1,963,268	$ 1,963,268	10.1%	0.0%	0	4,204	4,204
CPs	CPs in GOA Rockfish Pilot Program	467	467	7	0	7	$ -	$ -	$ -	0.0%	0.0%			0
CPs	Sablefish CPs >= 60'	467	467	10	15	18	$ 99,471	$ 92,466	$ 191,937	1.0%	0.0%	213	198	411
CPs	Sablefish CPs 50' - 59.9'	467	467	1	1	2	$ -	$ -	$ -	0.0%	0.0%			0
CPs	Halibut IFQ CPs	467	467	6	3	7	$ 29,138	$ 28,114	$ 57,252	0.3%	0.0%	62	60	123
CPs	Non-Specified Trawl CPs >=60'	467	467	14	22	24	$ 310,555	$ 5,736,628	$ 6,047,183	31.1%	0.0%	665	12,284	12,949
CPs	Non-Specified Fixed Gear CPs >= 60'	467	467	17	42	43	$ 176,059	$ 2,862,710	$ 3,038,769	15.7%	0.0%	377	6,130	6,507
CPs	Fixed Gear CPs 50' - 59.9'	467	467	2	1	2	$ -	$ -	$ -	0.0%	0.0%			0
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	26	0	26	$ 145,237	$ -	$ 145,237	0.7%	0.0%	311		311
MGT CVs	Sablefish IFQ CVs >= 60'	467	467	42	13	51	$ 416,104	$ 46,362	$ 462,466	2.4%	6.4%	891	99	990
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 563,108	$ 62,742	$ 625,850	3.2%	8.6%	1,206	134	1,340
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 92,251	$ 10,279	$ 102,530	0.5%	1.4%	198	22	220
MGT CVs	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 18,419	$ -	$ 18,419	0.1%	0.3%	39	0	39
MGT CVs	Halibut IFQ CVs	467	467	1077	329	1351	$ 2,912,086	$ 534,392	$ 3,446,478	17.8%	47.5%	6,236	1,144	7,380
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	82	82	$ -	$ 2,380,766	$ 2,380,766	12.3%	0.0%	0	5,098	5,098
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	20	84	84	$ 124,039	$ 455,946	$ 579,985	3.0%	8.0%	266	976	1,242
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	467	25	21	40	$ 520,733	$ 189,284	$ 710,017	3.7%	9.8%	1,115	405	1,520
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 244,314	$ 14,175	$ 258,488	1.3%	3.6%	523	30	554
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	467	104	74	138	$ 177,779	$ 293,236	$ 471,015	2.4%	6.5%	381	628	1,009
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 330,034	$ 112,770	$ 442,804	2.3%	6.1%	707	241	948
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 86,760	$ 22,230	$ 108,990	0.6%	1.5%	186	48	233
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 29,499	$ 1,997	$ 31,497	0.2%	0.4%	63	4	67
	Total CVs (excludes IFQ - halibut and sablefish)						$ 1,513,158	$ 3,470,404	$ 4,983,562	25.7%	35.9%	3,240	7,431	10,671
Processors	Motherships AFA and Non-AFA	467	467			11	$ 27,086	$ 337,641	$ 364,727	1.9%	0.0%	58	723	781
Processors	Shore-based/Floating processors (AFA)	467	467			7	$ -	$ 1,320,676	$ 1,320,676	6.8%	0.0%		2,828	2,828
Processors	Shore-based/Floating processors (non-AFA)	467	467			24	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Total						$ 6,302,672	$ 16,465,682	$ 22,768,354	100.0%	31.9%	13,496	35,258	48,755
	Total (restructured ex-vessel fee only) ($467 cells)						$ 5,515,126	$ 1,743,413	$ 7,258,539	31.9%	100.0%	11,810	3,733	15,543

Source: Observer program staff estimates of observer days by sector.

Table 51 provids a summary of the observer days that would be funded under Alternative 4, using the average ex-vessel revenues from 2005 – 2008 and a 2% ex-vessel value fee. This table combines the sectors subject to the daily fee and those sectors subject to the ex-vessel value fee, in order to show total costs under Alternative 4. The number of observer days expected to be realized under the *daily fee* are based on the 34,477 days from 2008. The table shows that a 2% ex-vessel fee is estimated to generate 7,079 to 12,073 more observer days than were used in 2008.[64] The total number of observer days funded is estimated to be about 46,400 (lower estimate) to 51,400 (upper estimate). The total observer costs are projected be between $21.7 million and $24.0 million; that is an increase of $7.3 million to $9.6 million per year compared to the status quo ($14.4 million). Recall, however, that halibut and <60' groundfish vessels' coverage is zero under the status quo.

Table 51 Summary of observer days and costs under Alternative 4

	-1 StDev	Mean	+1 StDev
Days of observer coverage needed (2008 levels)	39,344	39,344	39,344
Daily fee funded observer days	34,477	34,477	34,477
Observer days needed to reach 2008 levels excluding daily fee days	4,867	4,867	4,867
Observer days funded from a 2% ex-vessel fee	11,946	14,443	16,940
Estimated observer days funded in excess of 2008 level	7,079	9,576	12,073
Estimated total cost of observer coverage	$ 21,679,704	$ 22,845,802	$ 24,011,900

2.10.4.1 Alternative 4, Option 1

Alternative 4, Option 1, with a <60' length threshold reduces the ex-vessel observer fee paid for the halibut deliveries and deliveries by catcher vessels <60', relative to Alternative 4 alone. For analytical purposes, this section assumes a 2% ex-vessel value fee is selected under Alternative 4, and Option 1 is applied. The impacts are the same as under Alternative 3, Option 1, <60', please refer to that section of the document. However, the total observer costs under this alternative, based on 2008 catch and processing data and observer days, are presented in Table 52. Total costs ($20.3 million) are greater than the total costs under Alternative 3, Option 1, <60' ($16.9 million) because the daily cost of an observer was assumed to increase from $366 to $467. (As stated earlier, the actual daily cost of $366 may underestimate observer salaries if observers working on vessels and in plants are earning higher salaries in the restructured sectors. One effect of a 'hybrid' program under Alternative 3 may be that observer salaries in the two programs move closer together.)

[64]This range of days represents one standard deviation from the mean (2005-2008) of the ex-vessel revenue estimates for the catch that was included under the 2% fee.

Table 52 Alternative 4, Option 1, <60’ LOA, number of participants, estimated observer costs, percentage of costs by sector, and observer days purchased

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer Fees	% of Restructured Obs Fees	Observer Days Purchased GOA	Observer Days Purchased BSAI	Observer Days Purchased Total
CPs	AFA CPs	467	467	0	17	17	$ -	$ 1,963,268	$ 1,963,268	9.7%	41.4%	0	4,204	4,204
	CPs in GOA Rockfish Pilot Program	467	467	7	0	7	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Sablefish CPs >= 60'	467	467	10	15	18	$ 99,471	$ 92,466	$ 191,937	0.9%	4.0%	213	198	411
	Sablefish CPs 50' - 59.9'	467	467	1	1	2	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Halibut IFQ CPs	467	467	6	3	7	$ 29,138	$ 28,114	$ 57,252	0.3%	1.2%	62	60	123
	Non-Specified Trawl CPs >=60'	467	467	14	22	24	$ 310,555	$ 5,736,628	$ 6,047,183	29.9%	127.6%	665	12,284	12,949
	Non-Specified Fixed Gear CPs >= 60'	467	467	17	42	43	$ 176,059	$ 2,862,710	$ 3,038,769	15.0%	64.1%	377	6,130	6,507
	Fixed Gear CPs 50' - 59.9'	467	467	2	1	2	$ -	$ -	$ -	0.0%	0.0%	0	0	0
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	26	0	26	$ 145,237	$ -	$ 145,237	0.7%	3.1%	311	0	311
	Sablefish IFQ CVs >= 60'	467	467	42	13	51	$ 416,104	$ 46,362	$ 462,466	2.3%	9.8%	891	99	990
	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 281,554	$ 31,371	$ 312,925	1.5%	6.6%	603	67	670
	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 46,126	$ 5,139	$ 51,265	0.3%	1.1%	99	11	110
	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 9,210	$ -	$ 9,210	0.0%	0.2%	20	0	20
	Halibut IFQ CVs	467	467	1,077	329	1,351	$ 1,456,043	$ 267,196	$ 1,723,239	8.5%	36.3%	3,118	572	3,690
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	82	82	$ -	$ 2,380,766	$ 2,380,766	11.8%	50.2%	0	5,098	5,098
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	20	84	84	$ 124,039	$ 455,946	$ 579,985	2.9%	12.2%	266	976	1,242
	Catcher Vessels >= 60' trawl non-AFA	467	467	25	21	40	$ 520,733	$ 189,284	$ 710,017	3.5%	15.0%	1,115	405	1,520
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 122,157	$ 7,087	$ 129,244	0.6%	2.7%	262	15	277
	Catcher Vessels >= 60' Fixed gear	467	467	104	74	138	$ 177,779	$ 293,236	$ 471,015	2.3%	9.9%	381	628	1,009
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 165,017	$ 56,385	$ 221,402	1.1%	4.7%	353	121	474
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 43,380	$ 11,115	$ 54,495	0.3%	1.1%	93	24	117
	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 14,750	$ 999	$ 15,748	0.1%	0.3%	32	2	34
	Total CVs (excludes IFQ - halibut and sablefish)	0	0	0	0	0	$ 1,167,855	$ 3,394,818	$ 4,562,673	22.5%	96.2%	2,501	7,269	9,770
Processors	Motherships AFA and Non-AFA	467	467			11	$ 27,086	$ 337,641	$ 364,727	1.8%	7.7%	58	723	781
	Shore-based/Floating processors (AFA)	467	467			7	$ -	$ 1,320,676	$ 1,320,676	6.5%	27.9%	0	2,828	2,828
	Shore-based/Floating processors (non-AFA)	467	467			24	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Total						$ 4,164,437	$ 16,086,390	$ 20,250,826	100.0%	23.4%	8,917	34,446	43,364
	Total (restructured ex-vessel fee only) ($467 cells)						$ 3,376,891	$ 1,364,121	$ 4,741,011	23.4%	100.0%	7,231	2,921	10,152

Source: Observer program staff estimates of observer days by sector.

Comparisons of observer costs and days of observer coverage for the various length thresholds proposed under Alternative 4, Option 1 (<60', <50', or <40') are presented in Table 53. This table shows that the fishing industry is projected to pay $22.8 million and generate 48,920 observer days under Alternative 4 alone. The restructured portion of the fleet that is paying the ex-vessel fee is estimated to pay $6.7 million and fund 14,443 days (at $467/day). If Option 1, <60' LOA is selected, the ex-vessel fee revenues would be reduced by $2.44 million and fund 5,222 fewer observer days. If Option 1, <50' LOA is selected, the ex-vessel fee revenues would be reduced by $1.85 million and 3,953 fewer observer days could be funded. Finally, if Option 1, <40' LOA is selected, the ex-vessel fee revenues would be reduced by $1.75 million and 3,750 fewer observer days could be funded.

All of these options, in combination with a 2% ex-vessel fee under Alternative 4, project that the number of observer days available would be greater than the estimated number of observer days in 2008 (39,344).

Table 53 Comparison of Alternative 4, Option 1 observer costs and observer days funded

	Observer Cost			Days Purchased		
	- 1 StDev	Mean	+1 StDev	- 1 StDev	Mean	+1 StDev
	Alternative 4					
Total	$ 21,679,704	$ 22,845,802	$ 24,011,900	46,423	48,920	51,417
Restructured Only	$ 5,578,945	$ 6,745,043	$ 7,911,141	11,946	14,443	16,940
	Alternative 4: Option 1 < 60' LOA					
Total	$ 19,521,868	$ 20,407,069	$ 21,292,269	41,803	43,698	45,594
Restructured Only	$ 3,421,109	$ 4,306,310	$ 5,191,510	7,326	9,221	11,117
	Alternative 4: Option 1 < 50' LOA					
Total	$ 19,975,166	$ 20,999,717	$ 22,024,267	42,773	44,967	47,161
Restructured Only	$ 3,874,407	$ 4,898,958	$ 5,923,508	8,296	10,490	12,684
	Alternative 4: Option 1 < 40' LOA					
Total	$ 20,047,952	$ 21,094,384	$ 22,140,815	42,929	45,170	47,411
Restructured Only	$ 3,947,193	$ 4,993,625	$ 6,040,056	8,452	10,693	12,934

2.10.4.2 Alternative 4: Option 2

In October, the Council revised Option 2. This option now requires NMFS to release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided. The impact of Option 2 is the same under each action alternative. Please refer to Section 3.2.11 for this discussion.

2.10.5 Alternative 5: Comprehensive Restructuring with Ex-vessel Based Fee

Alternative 5 would restructure the observer program for the entire groundfish and commercial halibut industry. All sectors would be required to pay an observer fee based on a percentage of ex-vessel revenues, not to exceed 2%. Because the entire observer program budget would be funded by ex-vessel fees, changes in ex-vessel revenues would have a greater impact on available funding for observers than alternatives that are only partially based on ex-vessel revenues (Alternatives 2 – 4).

Table 54 provides the proposed observer coverage requirements by sector under Alternative 5. Note that Alternative 5 is the only alternative that would require BSAI CPs to pay an ex-vessel value based fee. Under Alternative 2, CPs that fish in the GOA would be required to pay an ex-vessel fee, and be projected to fund $0.2 million of the $6.7 million in ex-vessel fees paid to NMFS. Under Alternative 5, BSAI CPs would pay the majority of the total observer fees. Under all of the other action alternatives, the BSAI CPs' costs are still a substantial portion of the total observer costs, but the majority are paid either under the status quo program (Alternative 2 and 3), or a daily fee to NMFS (Alternative 4).

Table 54 Observer coverage requirements by sector under Alternative 5

Industry Segment	*Revised Observer Coverage*	*Fee Structure*
AFA CPs	200% coverage	Ex-vessel revenue based fee
CDQ CPs	NMFS determines coverage	Ex-vessel revenue based fee
AFA motherships	200% coverage	Ex-vessel revenue based fee
AFA inshore processors	200% coverage when taking deliveries of BS pollock, NMFS determines coverage in other fisheries	Ex-vessel revenue based fee
Am 80 trawl CP vessels	200% coverage	Ex-vessel revenue based fee
CPs fishing for Atka mackerel in the AI	200% coverage	Ex-vessel revenue based fee
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the BSAI	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA and Non-Am 80 trawl CP vessels <125' in the BSAI	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA and Non-Am 80 trawl CP vessels ≥125' in the GOA	NMFS determines coverage	Ex-vessel revenue based fee
GOA Rockfish Program vessels when operating in that fishery	100% coverage	Ex-vessel revenue based fee
CVs ≥60' fishing Non-pollock CDQ	NMFS determines coverage	Ex-vessel revenue based fee
Pot CPs fishing CDQ	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA and Non-Am 80 Trawl CP vessels <125' in the GOA	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA and Non-CDQ shoreside processors	NMFS determines coverage	Ex-vessel revenue based fee
AFA Trawl CVs ≥125'	**When targeting BS pollock** - Inshore 100% coverage; When delivering unsorted cod ends to CPs or MS they are exempt from coverage. **Other fisheries** – NMFS determines coverage	Ex-vessel revenue based fee. Even CVs that are exempt from coverage would be required to pay their portion of an ex-vessel fee
AFA Trawl CVs 60'- 125'	**When targeting BS pollock** - Inshore 100% coverage; When delivering unsorted cod ends to CPs or MS they are exempt from coverage. **Other fisheries** – NMFS determines coverage	Ex-vessel revenue based fee. Even CVs that are exempt from coverage would be required to pay their portion of an ex-vessel fee
Non-AFA Trawl CVs 60'-125'	NMFS determines coverage	Ex-vessel revenue based fee

Industry Segment	*Revised Observer Coverage*	*Fee Structure*
Non-AFA Trawl CVs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CPs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CPs 60'-125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CVs 60'-125'	NMFS determines coverage	Ex-vessel revenue based fee
Hook-and-line CVs ≥125'	NMFS determines coverage	Ex-vessel revenue based fee
Pot CPs ≥60'	NMFS determines coverage	Ex-vessel revenue based fee
Pot CVs ≥60'	NMFS determines coverage	Ex-vessel revenue based fee
Halibut vessels	NMFS determines coverage	Ex-vessel revenue based fee
Jig vessels (all sizes)	NMFS determines coverage	Ex-vessel revenue based fee
Groundfish vessels <60'	NMFS determines coverage	Ex-vessel revenue based fee
Non-AFA Motherships	NMFS determines coverage	Ex-vessel revenue based fee

Note: Each observer day is estimated to cost $467. See Appendix 6.

Table 55 shows the number of vessels subject to the ex-vessel fee, the estimated ex-vessel fee, and the days of observer coverage that could be funded by each sector, based on 2008 data and days at sea. A total of 45,326 observer days could be funded with the $21.2 million in fees collected, based on these projections. AFA CVs and the processors that they deliver their catch to are projected to fund the most observer days (11,873 days), or 26% of the total. AFA CPs are projected to fund the second most observer days (11,404) of any sector, and account for 25% of all days funded. Fixed gear CPs >60' LOA are projected to generate 3,548 obbserver days. Amendment 80 trawl CPs ('non-specified trawl CPs') are projected to fund 3,467 days. All of the remaining CP sectors are estimated to fund 618 days of observer coverage. Halibut CVs would fund 7,380 observer days, or 16.3% of the total. Other ('unspecified') catcher vessels, as a group, are projected to fund 16,204 observer days (36%).

The AFA sectors fund the majority of the fishing days and have the greatest observer costs. Under Alternative 5, these sectors are projected to pay over $10 million for coverage. That is an increase of about $6 million compared to their costs under the status quo. Firms/persons that harvest (1,351 entities) or are the first buyer of halibut (123 entities) would pay, in total, about $3.5 million for observer coverage. These entities are exempt from observer coverage under the status quo, so the entire $3.5 million is the increase in realized costs. About 1,500 vessels that are <60' LOA could also be subject to observer coverage and observer fees under the restructured program. About half of those vessels are <40' LOA and would not be required to carry observers (at least during the first year of the program), but vessels of all sizes would be required to pay an ex-vessel fee on their groundfish and halibut landings.

Table 55 Alternative 5 estimated number of participants, observer cost, and observer days funded based on 2008 data

	Sector	Fee Structure GOA	Fee Structure BSAI	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total	% of Total Observer	% of Restructured	Observer Days Purchased GOA	Observer Days Purchased BSAI	Observer Days Purchased Total
CPs	AFA CPs	467	467	-	17	17	$ -	$ 5,325,489	$ 5,325,489	25.2%	25.2%	0	11,404	11,404
CPs	CPs in GOA Rockfish Pilot Program	467	467	7	-	7	$ 44,418	$ -	$ 44,418	0.2%	0.2%	95	0	95
CPs	Sablefish CPs >= 60'	467	467	10	15	18	$ 134,395	$ 14,974	$ 149,370	0.7%	0.7%	288	32	320
CPs	Sablefish CPs 50' - 59.9'	467	467	1	1	2								
CPs	Halibut IFQ CPs	467	467	6	3	7	$ 53,364	$ 9,793	$ 63,157	0.3%	0.3%	114	21	135
CPs	Non-Specified Trawl CPs >=60'	467	467	14	22	24	$ 137,735	$ 1,481,211	$ 1,618,946	7.6%	7.6%	295	3,172	3,467
CPs	Non-Specified Fixed Gear CPs >= 60'	467	467	17	42	43	$ 98,087	$ 1,558,732	$ 1,656,819	7.8%	7.8%	210	3,338	3,548
CPs	Fixed Gear CPs 50' - 59.9'	467	467	2	1	2								
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	26	-	26	$ 44,745	$ -	$ 44,745	0.2%	0.2%	96	0	96
MGT CVs	Sablefish IFQ CVs >= 60'	467	467	42	13	51	$ 416,104	$ 46,362	$ 462,466	2.2%	2.2%	891	99	990
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 563,108	$ 62,742	$ 625,850	3.0%	3.0%	1,206	134	1,340
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 102,530	$ 10,279	$ 112,809	0.5%	0.5%	220	22	242
MGT CVs	Sablefish IFQ CVs < 40'	467	467	16	-	16	$ 18,419	$ -	$ 18,419	0.1%	0.1%	39	0	39
MGT CVs	Halibut IFQ CVs	467	467	1,077	329	1,351	$ 2,912,086	$ 534,392	$ 3,446,478	16.3%	16.3%	6,236	1,144	7,380
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	-	82	82	$ -	$ 4,828,565	$ 4,828,565	22.8%	22.8%	0	10,340	10,340
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	20	84	84	$ 259,993	$ 455,700	$ 715,693	3.4%	3.4%	557	976	1,533
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	467	25	21	40	$ 520,733	$ 189,284	$ 710,017	3.4%	3.4%	1,115	405	1,520
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 244,314	$ 14,175	$ 258,488	1.2%	1.2%	523	30	554
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	467	104	74	138	$ 177,779	$ 293,236	$ 471,015	2.2%	2.2%	381	628	1,009
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 330,034	$ 112,770	$ 442,804	2.1%	2.1%	707	241	948
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 86,760	$ 22,230	$ 108,990	0.5%	0.5%	186	48	233
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 29,499	$ 1,997	$ 31,497	0.1%	0.1%	63	4	67
	Total CVs (excludes IFQ - halibut and sablefish)						$ 1,649,112	$ 5,917,957	$ 7,567,069	35.7%	35.7%	3,531	12,672	16,204
Processors	Motherships AFA and Non-AFA	467	467			11	$ -	$ -	$ -	0.0%	0.0%	0	0	0
Processors	Shore-based/Floating processors (AFA)	467	467			7	$ -	$ -	$ -	0.0%	0.0%	0	0	0
Processors	Shore-based/Floating processors (non-AFA)	467	467			24	$ -	$ -	$ -	0.0%	0.0%	0	0	0
	Total						$ 6,202,144	$ 14,965,305	$ 21,167,449	100.0%	100.0%	13,281	32,046	45,326
	Total (restructured ex-vessel fee only) ($467 cells)						$ 6,202,144	$ 14,965,305	$ 21,167,449	100.0%	100.0%	13,281	32,046	45,326

Source: 2008 CFEC prices applied to 2008 eLandings reports.

Table 56 provides estimates of the ex-vessel fee revenue and days funded under Alternative 5. The fee estimates range from $16.0 million to $21.3 million, with the mean estimate of $18.6 million. This represents an increase in industry costs from $1.6 million to $6.9 million, compared to the status quo. Based on the mean estimate, the revenue generated would fund enough days to provide observer coverage at the 2008 level (39,344 days). However, if the revenue were closer to the lower estimate, the number of days funded would be substantially fewer (5,060 days) than the 2008 level. Recall that the lower estimate is minus one standard deviation from the mean value of annual ex-vessel revenue. Therefore, it is unlikely this alternative would provide sufficient funding on its own to maintain observer funding at the 2008 level.

Under Alternatives 2 through 5, any revenue generated in excess of the amount needed in a year would be saved in the observer account authorized under the MSA. The ability to save excess funds makes it more difficult to determine whether Alternative 5 would provide sufficient revenues to fund the program over the long-term. Taking a conservative approach to funding may result in concerns about this alternative providing sufficient funding over time.

In terms of days funded, Table 56 indicates that the lower estimate would fund 982 fewer observer days compared to those used in the 2008 fishery; the mean estimate would fund about 4,000 more days; the upper estimate would fund about 9,000 more observer days than were used in 2008. The range of observer days that fall within one standard deviation of the mean indicates that basing observer revenues only on ex-vessel revenue would increase the uncertainty of the number of observer days that would be funded. The concerning part of this increased uncertainty is related to the potential for 'under-funding' the observer program. Whether the likelihood of under-funding the program is acceptably low is a policy decision.

Table 56 Alternative 5 estimated ex-vessel fees based on 2005 - 2008 prices and catch

	- 1 StDev	*Mean*	*+1 StDev*
Ex-Vessel Fee Based on 2%			
Shorebased Groundfish Deliveries	$ 4,447,971	$ 5,586,220	$ 6,724,468
Motherships and Catcher Processors	$ 6,752,712	$ 7,798,627	$ 8,844,541
Sablefish IFQ	$ 1,317,064	$ 1,480,629	$ 1,644,193
Halibut IFQ	$ 3,492,696	$ 3,779,908	$ 4,067,121
Total Ex-vessel Fee	$ 16,010,444	$ 18,645,384	$ 21,280,323
Days of Observer Coverage Funded @ $467/day			
Shorebased Groundfish Deliveries	9,525	11,962	14,399
Motherships and Catcher Processors	14,460	16,699	18,939
Sablefish IFQ	2,820	3,171	3,521
Halibut IFQ	7,479	8,094	8,709
Total Days Funded	34,284	39,926	45,568
Days Of Observer Coverage Needed	39,344	39,344	39,344
Days Funded in Excess of Days Needed	(5,060)	582	6,224

Source: CFEC price data 2005-2008, eLandings catch data 2005-2008, RAM estimates of IFQ revenue.

The issue of the amount of funding NMFS needs to get the program started (year-0, prior to program implementation) and the possibility of Federal startup funding is discussed in Section 3.3. Note that NMFS would only need to collect start-up funds to cover the cost of the restructured sectors of the fishery, which varies greatly under each alternative. Because the entire fleet is restructured under Alternatives 4 and 5, NMFS would need more money for startup funding, before the program can be implemented, compared to Alternatives 2 and 3. Funding contributed to the startup fund is the difference between the annual NMFS observer fee revenue and program costs. Since the amount of startup funding generated in a year is relatively small under some of the alternatives, the total amount needed to start the program has a substantial impact on the number of years needed to collect startup funding.

2.10.5.1 Alternative 5, Option 1

The ability to generate funding under Alternative 5 to purchase enough days to reach 2008 coverage levels is questionable. Because Alternative 5 may not generate sufficient funding also means that selecting Option 1 in conjunction with Alternative 5 would not likely provide sufficient funding to reach 2008 (status quo) coverage levels.

Table 57 shows that Option 1, using the <60' threshold and 2008 data, would generate just over 39,000 observer days. While that number is about the same as the status quo number of observer days, it may not provide a sufficient number of days to meet observer coverage goals and may require reductions in observer coverage, compared to the status quo, if reductions in ex-vessel revenue occur in the future.

Table 57 Estimated observer costs, percentage of costs by sector, and observer days purchased under Alternative 5, Option 1, <60’

		Fee Structure		Number of Participants			Cost 2008			% of Total Observer Fees	% of Restructured Obs Fees	Observer Days Purchased		
	Sector	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total			GOA	BSAI	Total
CPs	AFA CPs	467	467	0	17	17	$ -	$ 5,325,489	$ 5,325,489	29.0%	29.0%	0	3,266	3,266
	CPs in GOA Rockfish Pilot Program	467	467	7	0	7	$ 44,418	$ -	$ 44,418	0.2%	0.2%	95	0	95
	Sablefish CPs >= 60'	467	467	10	15	18	$ 134,395	$ 14,974	$ 149,370	0.8%	0.8%	288	995	1,283
	Sablefish CPs 50' - 59.9'	467	467	1	1	2	[redacted]							
	Halibut IFQ CPs	467	467	6	3	7	$ 26,682	$ 4,896	$ 31,578	0.2%	0.2%	57	10	68
	Non-Specified Trawl CPs >=60'	467	467	14	22	24	$ 137,735	$ 1,481,211	$ 1,618,946	8.8%	8.8%	295	4,714	5,009
	Non-Specified Fixed Gear CPs >= 60'	467	467	17	42	43	$ 98,087	$ 1,558,732	$ 1,656,819	9.0%	9.0%	210	7,497	7,707
	Fixed Gear CPs 50' - 59.9'	467	467	2	1	2	[redacted]							
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	26	0	26	$ 44,745	$ -	$ 44,745	0.2%	0.2%	96	0	96
	Sablefish IFQ CVs >= 60'	467	467	42	13	51	$ 416,104	$ 46,362	$ 462,466	2.5%	2.5%	891	476	1,367
	Sablefish CVs 50 - 59.9'	467	467	97	11	104	$ 281,554	$ 31,371	$ 312,925	1.7%	1.7%	603	67	670
	Sablefish CVs 40 - 49.9'	467	467	51	3	52	$ 51,265	$ 5,139	$ 56,404	0.3%	0.3%	110	11	121
	Sablefish IFQ CVs < 40'	467	467	16	0	16	$ 9,210	$ -	$ 9,210	0.1%	0.1%	20	0	20
	Halibut IFQ CVs	467	467	1,077	329	1,351	$ 1,456,043	$ 267,196	$ 1,723,239	9.4%	9.4%	3,118	572	3,690
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	82	82	$ -	$ 4,828,565	$ 4,828,565	26.3%	26.3%	0	5,763	5,763
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	20	84	84	$ 259,993	$ 455,700	$ 715,693	3.9%	3.9%	557	993	1,549
	Catcher Vessels >= 60' trawl non-AFA	467	467	25	21	40	$ 520,733	$ 189,284	$ 710,017	3.9%	3.9%	1,115	1,207	2,322
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	27	3	27	$ 122,157	$ 7,087	$ 129,244	0.7%	0.7%	262	15	277
	Catcher Vessels >= 60' Fixed gear	467	467	104	74	138	$ 88,890	$ 146,618	$ 235,508	1.3%	1.3%	190	1,189	1,570
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	293	43	300	$ 165,017	$ 56,385	$ 221,402	1.2%	1.2%	353	121	474
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	339	20	347	$ 43,380	$ 11,115	$ 54,495	0.3%	0.3%	93	24	117
	Catcher Vessels < 40' Fixed gear	467	467	491	268	744	$ 14,750	$ 999	$ 15,748	0.1%	0.1%	32	2	34
	Total CVs (excludes IFQ - halibut and sablefish)	0	0	0	0	0	$ 1,214,919	$ 5,695,753	$ 6,910,672	37.6%	37.6%	2,602	9,313	12,105
Processors	Motherships AFA and Non-AFA	467	467			11	$ -	$ -	$ -	0.0%	0.0%	0	465	465
	Shore-based/Floating processors (AFA)	467	467			7	$ -	$ -	$ -	0.0%	0.0%	0	779	779
	Shore-based/Floating processors (non-AFA)	467	467			24	$ -	$ -	$ -	0.0%	0.0%	0	1,180	1,180
	Total	[redacted]					$ 3,929,177	$ 14,432,811	$18,361,988	100.0%	100.0%	8,414	30,905	39,319
	Total (restructured ex-vessel fee only) ($467 cells)						$ 3,929,177	$ 14,432,811	$18,361,988	100.0%	100.0%	8,414	30,905	39,319

Source: Observer program staff estimates of observer days by sector.

All of the Option 1 suboptions (<60’, <50’, or <40’ LOA) are projected to fund between 3,500 and 5,000 fewer days than were used in 2008 when the four-year average ex-vessel value (2005 – 2008) is compared to the status quo number of total observer days (39,344). Decreasing the number of observer days by that amount would have negative impacts on NMFS ability to fund the fleets in the <100% coverage categories. Recall that the AFA CP coverage of 200% is mandated by Congressional action, thus, it is not possible to reduce that coverage level. Other observer coverage levels for limited access privilege programs are mandated by the Secretary or Congressional action. Therefore, any funding shortfalls under Alternative 5 would be at the expense of coverage in the <100% coverage sectors. If 5,000 observer days were removed from these sectors, NMFS would not likely meet their coverage objectives.

Table 58 Alternative 5, Option 1 estimates of observer costs and observer days that could be funded

	Observer Cost			Days Purchased		
	- 1 StDev	Mean	+1 StDev	- 1 StDev	Mean	+1 StDev
Alternative 5	$ 16,010,444	$ 18,645,384	$ 21,280,323	34,284	39,926	45,568
Alt 5 - Option 1 < 60'	$ 13,645,324	$ 16,027,053	$ 18,408,782	29,219	34,319	39,419
Alt 5 - Option 1 < 50'	$ 14,165,277	$ 16,638,884	$ 19,112,491	30,332	35,629	40,926
Alt 5 - Option 1 < 40'	$ 14,246,069	$ 16,733,941	$ 19,221,813	30,506	35,833	41,160

Source: CFEC Price and NMFS (eLandings) data.

2.10.5.2 Alternative 5: Option 2

In October, the Council revised Option 2. This option now requires NMFS to release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council’s choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided. The impact of Option 2 is the same under each action alternative. Please refer to Section 3.2.11 for this discussion.

2.10.6 Impact of Various Ex-vessel Fee Percentages

Another issue of likely importance to sectors subject to the ex-vessel value fee is the impact that changes in the fee percentage would have on industry costs and agency revenues. The tables (with the exception of the application of Option 1 and the Council’s preferred alternative under Alternative 3) generated in Section 2.10 assume the fee is 2% of ex-vessel landed value of the catch under each alternative, for analytical purposes. A lower fee percentage would necessarily reduce the total amount of revenue generated for the observer program. In addition, the start-up funding table in the following chapter assumes a 2% fee is necessary for Alternatives 4 and 5 until sufficient startup funding is generated to contract with observer providers for the restructured sectors (Section 3.3). Theoretically, the Council could have selected a 2% fee for the year or years in which start-up funding is being collected, and a lower fee for the years of program implementation. However, the Council selected a 1.25% fee under Alternative 3, which is expected to allow the program to be implemented with the revenue collected in one year. The Council also requested additional Federal funding to help cover startup costs. The Council noted that it will consider whether the 1.25% fee needs to be adjusted after the second year of the program's implementation.

Table 59 shows the mean ex-vessel fee estimates resulting from a 2%, 1.5%, and 1% fee under each alternative. This table also provides the number of observer days that could be funded by the various fee percentages, and the difference (surplus or reduction) compared to the status quo (2008) level of observer days. Note that Table 59 does not include the effects of Option 1 on any of the proposed alternatives.

Table 59 Mean ex-vessel fee estimates under each alternative based on a 2%, 1.5%, and 1% fee

Alt 2	2.0%	1.5%	1.0%
Shorebased Groundfish Deliveries	$ 1,360,657	$ 1,020,493	$ 680,328
Motherships and Catcher Processors	$ 208,175	$ 156,131	$ 104,087
Sablefish IFQ	$ 1,364,886	$ 1,023,664	$ 682,443
Halibut IFQ	$ 3,779,908	$ 2,834,931	$ 1,889,954
Total Ex-vessel	$ 6,713,626	$ 5,035,219	$ 3,356,813
Pay-as-you-go	$ 12,532,938	$ 12,532,938	$ 12,532,938
Total Observer Costs	$ 19,246,564	$ 17,568,157	$ 15,889,751
Observer Days Purchased	48,619	45,025	41,431
2008 Observer Days	39,344	39,344	39,344
Observer Days Greater Than 2008	9,275	5,681	2,087
Alt 3			
Shorebased Groundfish Deliveries	$ 2,084,439	$ 1,563,329	$ 1,042,219
Motherships and Catcher Processors	$ 24,853	$ 18,640	$ 12,427
Sablefish IFQ	$ 1,176,721	$ 882,541	$ 588,360
Halibut IFQ	$ 3,459,030	$ 2,594,273	$ 1,729,515
Total Ex-vessel	$ 6,745,043	$ 5,058,782	$ 3,372,521
Pay-as-you-go	$12,618,582	$12,618,582	$12,618,582
Total Observer Costs	$ 19,363,625	$ 17,677,364	$ 15,991,103
Observer Days Purchased	48,920	45,310	41,699
2008 Observer Days	39,344	39,344	39,344
Observer Days Greater Than 2008	9,576	5,966	2,355
Alt 4			
Shorebased Groundfish Deliveries	$ 2,084,439	$ 1,563,329	$ 1,042,219
Motherships and Catcher Processors	$ 24,853	$ 18,640	$ 12,427
Sablefish IFQ	$ 1,176,721	$ 882,541	$ 588,360
Halibut IFQ	$ 3,459,030	$ 2,594,273	$ 1,729,515
Total Ex-vessel	$ 6,745,043	$ 5,058,782	$ 3,372,521
Daily Fee	$16,100,759	$16,100,759	$16,100,759
Total Observer Costs	$ 22,845,802	$ 21,159,541	$ 19,473,280
Observer Days Purchased	48,920	45,310	41,699
2008 Observer Days	39,344	39,344	39,344
Observer Days Greater Than 2008	9,576	5,966	2,355
Alt 5			
Shorebased Groundfish Deliveries	$ 5,586,220	$ 4,189,665	$ 2,793,110
Motherships and Catcher Processors	$ 7,798,627	$ 5,848,970	$ 3,899,313
Sablefish IFQ	$ 1,480,629	$ 1,110,472	$ 740,314
Halibut IFQ	$ 3,779,908	$ 2,834,931	$ 1,889,954
Total Ex-vessel	$ 18,645,384	$ 13,984,038	$ 9,322,692
Daily Fee	$ -	$ -	$ -
Total Observer Costs	$ 18,645,384	$ 13,984,038	$ 9,322,692
Observer Days Purchased	39,926	29,944	19,963
2008 Observer Days	39,344	39,344	39,344
Observer Days Greater Than 2008	582	(9,400)	(19,381)

Source: NMFS eLandings data and CFEC price data, 2005 - 2008.
Note: Option 1 is not applied to any of the alternatives in this table. Estimates are of total fee revenue paid under the various fee percentages by sector.

2.10.7 Effects on harvesters, processors, crew members, observer providers, observers, and communities

Effects on Harvesters and Processors

The proposed ex-vessel observer fee is essentially a federally mandated access fee on members of industry to fund a program that would allow NMFS to improve the information collected from the groundfish and halibut commercial fisheries. The access fee is imposed to pay the cost of monitoring the use of these public resources, by private users seeking to profit from conversion of the public's living marine resources to commercial uses. As stated earlier, it is the Council's intent that payment of the fee be shared equally by the harvester and the first buyer. However, the Council realizes that its intended outcome cannot be enforced, so the split of the fee is not proposed to be in regulation. This section considers the likely outcome of which industry sector would ultimately incur the cost of the fee, regardless of who submits the payment or Council intent.

Figure 7 represents a market where an observer fee is imposed on the ex-vessel value of fish being delivered by a catcher vessel for processing. It is assumed that the sale is an arms-length transaction between a non-vertically intergraded buyer and seller.[65] The figure provides an example of how shifting demand along the perfectly inelastic portion of the supply curve results in the entire TAC (groundfish) or IFQ allocation (halibut and fixed gear sablefish) being harvested, but at a lower ex-vessel price. The decrease in ex-vessel price from P1 to P2 represents the observer fee levied on industry. Because supply is perfectly inelastic, the quantity of fish harvested (Q) does not change. If the ex-vessel price declines to the point where the supply curve is no longer perfectly inelastic, further reductions in price would result in decreases in the quantity of fish harvested.

In the groundfish and halibut fisheries it is anticipated that harvesters would bear the majority of the observer fee, because it is assumed that the supply side of the market is more inelastic than the demand side. While ex-vessel demand has not been estimated for all groundfish species, some studies have been conducted to estimate the elasticity of groundfish demand with differing results. Bochstael (1977) found that the ex-vessel demand for New England groundfish was elastic for 20 of 21 species. Other researchers (Tsoa, 1986) have concluded that groundfish demand is inelastic. Criddle et al. (1998) stated that Pacific halibut (not technically a groundfish in the current management context) have been shown to operate in the inelastic region of their demand curves and walleye pollock demand could move from the elastic to the inelastic portion of the demand curve depending on the amount of production. They also stated that demand for most remaining groundfish stocks is inelastic, with possible exceptions for high valued species with depressed harvests.

[65]The ownership structure of the groundfish/halibut vessels and processors operating in the North Pacific is not fully documented. NMFS RAM collects information on halibut and sablefish permit holders, but does not track vessel ownership. NMFS AKR does collect information on the primary owners of vessels. However, it is often difficult to determine the ownership structure behind corporations listed in the data. MARAD (US Dept of Transportation, Maritime Administration) is charged with determining, through "rigorous review" of various documents, whether vessels of 100 feet or greater in length are at least 75% owned and controlled by U.S. citizens and eligible for documentation with a fishery endorsement. They collect detailed ownership information for these vessels. For vessels <100 feet, the Secretary of Transportation established requirements as are reasonable and necessary to demonstrate compliance with section 12103(a) of title 46, United States Code, while minimizing the administrative burden on individuals who own and operate such vessels. These data, collected by the Department of Transportation, are considered confidential information and are not readily available for use outside the purpose for which they were collected. Limited general knowledge of ownership data for the fishery indicates that it is reasonable to assume that all sales are <u>not</u> arms length transactions. However, it is not possible to determine which transaction prices were influenced by common ownership with data that are available. The assumption that all transactions are arms length could result in lower standardized prices being set for the observer fee than would have been established if those transactions could be removed from the data.

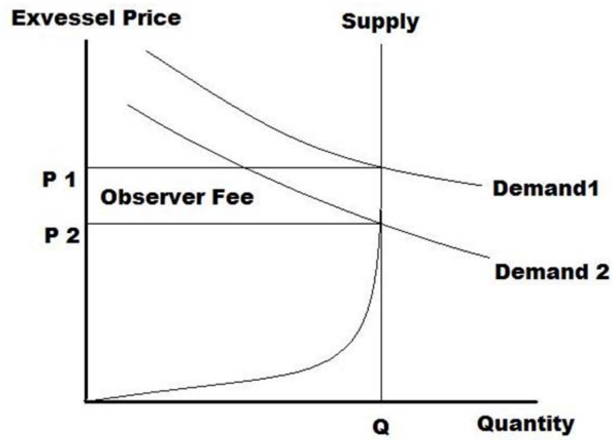


Figure 7 Example of supply and demand for halibut

If the supply curves for groundfish and halibut are assumed to be inelastic, and the quantity of fish harvested is fixed by regulation, the supply curves may each be perfectly inelastic over the region of the curve that results in a market clearing price. In most fisheries, harvesters have historically caught as much of the primary groundfish species TACs as possible, given PSC constraints. Markets for the primary species harvested in the groundfish fisheries off Alaska (e.g., pollock, Pacific cod, Atka mackerel, some rockfish species, and some flatfish species) are well established, and harvesters often contract with specific processors to deliver their catch. These relationships between buyers and sellers allow fish harvesters to know approximately the ex-vessel price they can expect to receive, before the fishing trip occurs. As a result of the highly inelastic supply curve, it is assumed that fish harvesters will bear the majority of the observer fee. However, this may not hold in all cases, depending on the relationships between buyers and sellers.

When harvesters and processors are vertically integrated,[66] the fee cannot be passed back to the harvester. In these cases, the owner of the harvester and processor must pay the entire ex-vessel fee.[67] The Council's motion recognizes this outcome for the catcher processor sector. However, there are circumstances where catcher vessels are known to be owned in whole or part by the processor to which they deliver their catch. When harvesting vessels own all or part of the processor to whom they deliver, the same result will occur. These vertically integrated firms would bear the entire observer fee, unless they can pass on some or all of the costs to other factors of production.

The economic impacts of an observer fee based on gross revenue would differ by firm. Recall that some or all segments of the industry (depending on the alternative selected) would pay an observer fee based on the ex-vessel value of groundfish or halibut deliveries, respectively. Gross revenue based fees do not account for the profitability of individual harvesters or processors. Information is currently unavailable to determine the profitability of individual owners of vessels or processors with which to conduct a quantitative analysis of net revenue impacts of the observer fee. Because that information is unavailable, the discussion of impacts is based upon "gross" revenues, supplemented by qualitative description.

[66] Examples of vertical integration are catcher processors, processors that own harvesting vessels, and harvesting vessels that own the processor to which they deliver.
[67] The elasticity of final demand will also influence whether the entire fee must be incurred by the vertically integrated firm or some portion may be passed through to the consumer.

In June, the Council's Scientific and Statistical Committee noted that:

> *"a gross revenue-based fee is an inherently regressive taxation structure that has a higher marginal impact on low-profit fisheries (or operations within a fishery) than it does on high profit fisheries (or operations within a fishery). The regressive nature of a revenue-based fee could be offset, in part, by setting different fee rates in different fisheries."* (June 2010 SSC minutes)

A firm with a low-profit margin will face a higher marginal impact than a firm with higher profit margins. Decreases in revenue or increases in costs will decrease a firm's profit margin, all other things being equal. If the observer fee is transferred to the harvester through decreases in ex-vessel revenue, the harvester's profit margin will decrease. Harvesters' trip costs (e.g., food, other consumables, insurance) may also increase, if they are required to carry an observer (or increase their current observer coverage) or are required to modify their vessels to accommodate an observer. Firms that are marginally profitable before the observer fee is imposed that could reduce ex-vessel revenue may potentially sustain operating losses to the point they are no longer viable. Firms that are more profitable before the fee is imposed would realize lower profit margins, but could remain in the fishery. Any firm that leaves the industry (in the IFQ fisheries) would presumably sell its QS to a firm that has a lower cost structure, which may lead to greater consolidation. Due to the increased costs (reduced profit) the underlying value of the QS will be reduced and the seller will be paid a lower price for QS, all else being equal. The firm that buys the QS will increase its total costs as a direct result of principle and/or interest payments, although it would not incur these costs unless it anticipated more than offsetting revenue gains from the acquisition, in the long run. The duration of the QS loan will determine the time period that costs will increase. Public testimony at the June 2010 Council meeting indicated that the typical length of a loan has increased in recent years from less than 10 years to the point where 12-year loans are commonplace.

As part of its suite of alternatives, the Council is considering an option that would set a lower observer fee rate for the participants in the halibut IFQ fishery, and for groundfish vessels less than 60', 50', or 40' LOA than they set for the other sectors. Consideration of this alternative addresses the SSC's suggestion that the Council consider scalable-fees, such that some low-profit fisheries or entities could be subject to a lower fee, to reduce the negative impacts on their operations:

> *"Other distributional consequences of a revenue based fee structure could be addressed through varying the fee-rate across fisheries in proportion to their total catches or in proportion to the volume and composition of their incidental and PSC catches."* (June 2010 SSC minutes)

Effects on Crew Members

Assuming that the majority of the observer fee would fall to the harvesting operations leads to the question of what component of the harvesting sector pays the fee. If the harvester is a competitive firm, the fee burden tends to flow back to the factors of production, depending on their relative elasticity. One factor of production is crew labor. Fishing crew members on groundfish and halibut vessels historically have been compensated on a "share" basis. Shares are calculated in a variety of ways. On halibut vessels before IFQs were implemented, it was common for vessel operators to deduct fish taxes and moorage fees from the vessel's gross revenue. A boat share of about 30% of the remaining revenue was then taken by the vessel owner. Operating costs such as food, bait, and fuel were deducted from the remaining revenue and then crew shares were calculated. In some cases, the way crew shares are now calculated has been altered as a result of implementation of the IFQ program. Some boat owners have increased the boat share from 30% to 40% or more, to charge crew for the use of the quota on the vessel that was not initially allocated to the vessel owner. Others have been reported to deduct a quota fee before either a boat or crew share is calculated. If the quota share is paid for by the vessel owner/operator, almost all are deducting a fee for the "lease" payment and treating it as they would fees or taxes. Fina (2009 unpublished) notes that most vessel owners charge a fee of between 40% and 50% for these acquired shares. In other cases, Fina notes that crew members who acquire quota fish it on a vessel for a fee at approximately a 50% rate, which is also deducted prior to paying crew. Fees in some cases are reported to be substantially higher than these rates – as high as 60% to 70%. High fees are most often realized on vessels that received little or no initial allocation of QS, and therefore, have no QS base to support the vessel's operation. Under some loan structures, these deductions in the first few years of the loan period are reported to be less than the full mortgage payment, as the high price of quota may result in mortgage payments that exceed the revenues until a portion of the principle is paid down.

The prevailing methods of crew compensation in IFQ fisheries indicate that it is likely that some hired crew could pay all or a portion of the observer fee resulting from their vessel's activity through reduced crew shares. As discussed above, there are various methods that can be used to reduce the crews' share. Crew shares may be reduced through a direct deduction of the fee before boat shares are estimated, deduction from revenue after the boat share is deducted, or by increasing the boat share. How much of the observer fee is charged to the crew depends on the method used to cover the cost. When the observer fee is taken off the top - the boat share, permit holder share, and crew share are all reduced. If the fee is deducted after the boat share and permit holder share is paid, more of the fee falls to the crew. Whether the cost of the observer fee is charged to the crew ultimately depends on the relationships that crew members have with the owner and the crew's contract with the vessel owner.

Crew could be affected by observer coverage requirements in other ways, in addition to reductions in crew shares. Public testimony at the June 2010 Council meeting indicated that when a vessel is selected for an observer in an IFQ fishery, the IFQ permit holder could take his or her quota and fish on a boat that was not selected for observer coverage (additional discussion of this issue is provided in Section 3.2.7.3). If that person historically used his or her own boat and crew, the total number of crew positions could be reduced by one to four people depending on the vessel removed from the fleet. Public testimony also indicated:

1. *Many of the southeast Alaska fishing operations are conducted by members of the operator's family. If one of the family members has to stay behind due to an observer taking his or her space on the vessel, it changes the structure of the operation. Many small boat operators view family operations as "the core fabric of many of our fishing communities."*

2. *Crew must help ensure the safety of an additional person, who may have little or no experience on small vessels in the North Pacific.* The reality of this concern depends on the experience observers have on vessels and the training they receive through the observer program. Observer program representatives have indicated that they would prefer assigning experienced observers to smaller vessels and vessels where their experience would provide the greatest benefits. However, it is still possible that inexperienced observers could be assigned to small vessels and could increase the crew's responsibility to ensure that the observer stays out of harms way, around gear and other equipment on the vessel.

3. *Space is limited.* In some instances, bunk space is limited and taking an additional person on the boat would force the vessel operator to leave a crew member home or require someone to sleep without a bunk. A specific example was of a boat that had three bunks and usually a skipper and two crew members (except when trolling). When the boat operator takes a quota permit holder aboard their boat to catch his or her quota, someone sleeps on the floor of the galley. Alternatively, one of the crew could be left off the boat. If that were to occur due to an observer being deployed on the boat, the fishing behavior of the vessel may be altered and may not be representative of a typical trip. It would also reduce the number of crew positions that are

available. In addition, some smaller vessels do not have a head. This could lead to personal privacy issues, if a person other than the regular crew members is onboard.

Each of these concerns could be valid for some members of industry, but not apply to others. Information is not available to determine the impacts of each situation. However, the concern over inexperienced observers being placed on small boats has been discussed by officials within the observer program. They have talked to members of industry about a variety of complexities associated with placing observers on small vessel. Because of the community outreach already undertaken, the agency has indicated a strong desire to work with members of industry to mitigate issues before they become problems. Trying to place experienced observers on small boats is only one solution that could be developed that would meet NMFS needs and help alleviate industry member's concerns.

In addition, as described in the implementation chapter (Section 3.2.7.2), NMFS does not intend to place observers on vessels <40', at least during the first year of the program. This approach mitigates the impacts of the concerns listed above (at least during the first year), but would not address all cases, as some vessels ≥40' may still meet some of the conditions listed above.

Effects on Observer Providers

There are no anticipated effects on observer providers and observers associated with continuing the existing program (Alternative 1) that have not previously been analyzed or vary from the status quo. The effects of the proposed restructuring alternatives on observer providers and observers are difficult to predict, without resolution of additional details such as the number and type of contracts to be issued. The following sections address some preliminary conclusions associated with the restructuring alternatives.

Many of the issues related to the design and implementation of Federal contracts for observer services under Alternatives 2 – 5 have yet to be resolved by NMFS, as most cannot be resolved until a final preferred alternative is selected and the scope of the new program is determined. These include the number and type of contracts that will be issued, contract duration, and the scope of work covered under each contract. Under a new system of Federal contracting, NMFS could choose to continue to contract for observer coverage in much the same manner that industry does today, with the observer provider companies responsible for little more than providing observers when and where requested. Alternatively, under the restructuring alternatives, NMFS could choose to contract out some of the observer support, data review, and editing tasks that are currently being conducted by NMFS.

Until these types of issues are resolved and the most likely types of contracts are identified, it is difficult to evaluate how observer providers would be affected by the alternatives. Regardless, several preliminary conclusions can be made. First, none of the restructuring alternatives contemplate a reduction in the total number of observer days that would be contracted for in the North Pacific. The 2008 estimate of observer days needed under a restructured program was expected to be the best representation of observer days in the future. Therefore, under all of the alternatives, the total amount of business available to observer providers is not expected to decrease. How those days are distributed among the current observer providers under each alternative cannot be determined until the contracting process has been completed. Under alternatives that maintain the status quo for some sectors of the industry, contractors that are not awarded a NMFS contract could potentially still provide observers to the industry members operating under the status quo.

Second, the current number of observer providers could be maintained or reduced, depending on the number of contracts NMFS accepts. (There are currently 5 certified observer providers in the North Pacific.) This is because the groundfish and halibut fisheries off Alaska can be subdivided into a number of discrete fisheries by vessel type and area, and contracts for observer services could be broken up in a similar fashion. In addition, NMFS could accommodate subcontracting such that an observer provider receiving a contract could subcontract with other providers to meet certain coverage needs. By contrast, NMFS and the Council could choose to adopt policies that would result in as few as one observer provider remaining in operation in the North Pacific. However, NMFS would likely want a number of observer providers to remain in operation to generate competitive bids when contracts are proposed. However, it is not possible to speculate on the number of observer providers that would operate in the North Pacific under each of the alternatives, or the relative effects of the various alternatives on each provider.

Effects on Observers

A majority of observers currently working in the North Pacific are members of the Alaska Fisheries Division of the United Industrial Workers, and are working under collective bargaining agreements (CBA) that have been signed with three of the five observer providers that are currently operating in the North Pacific. None of the alternatives would affect any CBA that is currently in place or that will be in place at the time the preferred alternative is implemented. As of 2009, there were 656 observers. Those observers were classified for deployment as:

- 94 - New observers (Observer Level I)
- 562 - Experienced observers (Observer Level II)

Under the restructured program, new observers (Level I) are estimated to earn about $250 per day in wages and benefits. Experienced observers (Level II) are estimated to earn about $276 per day in wages and benefits. Observers under the pay-as-you-go program are assumed to earn $171 per day (Appendix 6 details how these figures were calculated). Because the contractors compete with each other, both for industry clients and for observer employees, the salaries and benefits paid to observers are roughly comparable. Given these estimates, it is assumed that observer compensation would increase if they are employed under the restructured observer program, in which NMFS is contracting directly for observer services. Observers that contract with observer providers that do not continue to operate in the North Pacific fisheries would need to find a job with observer providers that remain in the industry or find other employment. Assuming they desire to continue working as observers, they should find demand for their services, given the anticipated expansion of coverage projected across alternatives.

There would also be distributional impacts that result from reducing overall industry income and transferring those funds to observer providers and observers. The impacts on processors, harvesters, and crew are discussed above. Observers are expected to realize additional days-at-sea. Those additional coverage days would likely result in observers that work for companies that win contracts having the opportunity to work more trips, as well as additional observers being hired.

Observers that are working on vessels or in plants that operate under the restructured program would earn higher hourly wages to meet required Federal wage standards. The current daily observer wage is estimated to be $171. This wage is assumed for the status quo alternative (Alternative 1) and for fishery sectors that are not restructured under Alternatives 2 and 3.

While these wages are assumed for analytical purposes to determine the costs of an observer day, it is anticipated that the daily wage for observers that are working in fisheries that are not restructured would increase and approach the wages earned by observers in the restructured sectors. Industry representatives testified at the June 2010 Council meeting that this would be expected, and this issue was also identified in the 2006 observer restructuring analysis. The SSC also noted that:

> *"Under [a] hybrid program, two different salary and benefits standards could be in place creating disparities in the compensation package provided to observers. How the disparity will be*

addressed by contractors, individual observers, and in any collective bargaining agreements is difficult to predict."

Effects on Communities

Expanding the observer program to currently unobserved sectors would also have economic impacts on communities. The impacts are primarily distributional, because the amount of total fish harvested as a result of the fee is not expected to change. Additional observer fees charged to vessel and processor owners would reduce the income of some individuals (harvesters, processors, crew, and observer companies that do not win Federal contracts) and potentially increase the income of others (observers and some observer companies). Persons that have less income to spend would likely decrease their purchases in the communities where they live and work. If they spend less in their local community, it would have negative economic impacts on the persons that provide goods and services. Those negative impacts may be offset, to some extent, in communities that realize an increase in spending by observers and observer providers. How individual communities are affected by restructuring the observer program would vary by year, depending on the observer deployment model (do observers live or spend time in the community), the number of observers deployed, and their average expenditures.

In addition to the general discussion above, there are other ways the observer fee could impact a community. Consolidation of fleets could occur as a result of increased costs/decreased profits. Decreasing the number of vessels in groundfish and halibut fisheries could alter the number of crew and support jobs that are available in a community. Consolidation may also occur if increased observer fees cause individuals to exit fisheries where they have a limited access privilege to harvest a percentage of the available resource. In the North Pacific, the most likely fisheries for consolidation to occur as a result of the observer fee are the halibut and sablefish IFQ fisheries. Other fisheries where harvest privileges have been granted are already included in the observer program and most of the vessels in those groundfish fisheries are currently subject to ≥100% observer coverage.[68]

Both the halibut and sablefish fisheries have realized substantial declines in the number of permit holders and the number of vessels harvesting the quota, since the program was implemented (RAM 2009). Consolidation of the fleet was anticipated when the program was implemented because the fleet was thought to be severely overcapitalized, some initial allocations would be too small to fish efficiently, and some individuals would want to take the profits from their initial allocation and leave the fishery. Reductions in fishing quota (notably in the IPHC Area 2C and 3A halibut fisheries) and increasing operating costs have also caused individuals to sell their quota and leave the fishery. Public testimony has indicated that operating margins are currently small for some IFQ holders and increasing costs through observer fees may result in persons selling their QS, which would result in more consolidation of the fleet.

If the fishery continues to consolidate, specific communities could realize negative economic impacts when vessels operating out of their port leave the fishery or change their delivery patterns. For example, if a vessel leaves the fishery and that quota is delivered to a processor located in a different port, some or all of the revenue associated with that catch would flow to the community where the fish was delivered. The new delivery patterns would benefit the community taking the deliveries and negatively impact the community where the catch was historically delivered. Anticipating which vessels would leave the fishery is not possible, so a quantitative estimate of the distributional impact is not generated.

Fish Taxes

[68] The AFA fleet, Amendment 80 vessels, and the rockfish pilot program vessels. Some persons that hold sablefish IFQ are also subject to observer coverage, but it is less than 100%.

Alaska State and regional fish taxes collected as percentage of ex-vessel revenue could also be reduced by implementing the observer fee on Federal fisheries. Fish taxes are based on gross ex-vessel revenue, so observer fees that reduce ex-vessel revenue may indirectly reduce tax revenues. The amount of the reduction would be the decrease in ex-vessel revenue, multipled by the tax rate for those landings. Persons that are already paying observer coverage costs that are equal to or greater than the proposed observer fee would not be expected to realize a reduction in ex-vessel revenue. Under the restructuring alternatives, the halibut sector and groundfish vessels less than 60' would be expected to have the greatest reductions in revenue, because they are not subject to observer coverage under the status quo. Communities that derive taxes from these sectors would be expected to realize a relatively greater reduction in tax revenue than communities that take a higher percentage of deliveries from fleets that have observer coverage requirements under the status quo.

Fisheries taxes that are currently collected on groundfish and halibut landings by the State of Alaska are described in Appendix 5 and summarized below:

- **Fisheries Business Tax,** which is levied on persons who process or export fisheries resources from Alaska. The tax is based on the price paid to commercial fishermen or fair market value, when there is not an arms length transaction. Fisheries business tax is collected primarily from licensed processors and persons who export fish from Alaska. The current tax rates are established based on whether the fishery is defined as established or developing by the State of Alaska. Established fisheries are taxed at 5% for floating processors and 3% for shore-based processors. Developing fisheries are taxed at a rate of 3% for floating processors and 1% for shore-based processors. Developing commercial fisheries are designated by the Alaska Department of Fish & Game, and can be found in the Alaska statutes at AS 16.05.050(11). Walleye pollock, Pacific cod, sablefish, halibut, yellowfin sole, Greenland turbot, rock sole, and forage fish species are the only species that are subject to the observer fee that are defined as 'established' statewide. Other species subject to the observer fee are considered established, but only in specified areas or when harvested by specific gear types.

- **Fishery Resource Landing Tax,** which is levied on fishery resources processed outside the 3-mile limit and first landed in Alaska or any processed fishery resource subject to sec. 210(f) of the American Fisheries Act. The tax is based on the unprocessed value of the resource, which is determined by multiplying a statewide average price (determined by ADF&G data) by the unprocessed weight. This tax is collected primarily from trawl catcher processors and floating processors which process fishery resources outside of the State's 3-mile limit and bring their products into Alaska for transshipment. Established fisheries are taxed at 3% and developing fisheries are taxed at a rate of 1%.

- **Seafood Marketing Assessment** is levied at a rate of 0.5% of the value of seafood products processed, first landed in, or exported from Alaska.

The estimated cost of each alternative is reported in Table 59. Alternative 1 (status quo) is estimated to cost the industry $14.4 million in observer coverage. The difference between the estimated cost under Alternative 1 and Alternative 2 is $4.8 million. If it is assumed that the ex-vessel revenue is decreased by the same amount that the observer fee increases[69] and that the fleet pays 4% in State fish taxes,[70] then the total amount of taxes paid to the State of Alaska would decrease by about $194,000. The difference between the status quo and Alternative 3 is about $5.0 million. Using the same assumptions, the tax

[69]This likely overestimates reductions in revenue because not all processors will pass the entire observer fee onto harvesters.
[70]The actual percentage of the tax will depend on the processing sector and whether the fish harvested are considered to be fully developed under the state definitions.

revenue would decline by an estimated $198,000. Alternative 4 observer costs are $8.5 million more than the status quo, or a potential estimated decline of $338,000 in State fish taxes. Finally, the difference between the status quo and Alternative 5 was estimated to be $4.2 million, which equates to a potential reduction of $170,000 in State fish taxes.

Some municipalities also levy raw fish taxes on fish landed in their ports. Municipalities that charged a raw fish tax in 2009, the population, and the tax rates are shown in Table 60. Municipalities typically set the tax rate at 2% or 3% of ex-vessel revenue.

Table 60 Municipality imposed raw fish taxes

Municipality	Population	Tax	2009 Raw Fish Tax Revenue	Est. Observer Fee (Alt. 5 at 2%)	Potential Tax Revenue Reduction
Aleutians East Borough	2,699	2%	$3,421,781	$2,050,000	$41,000
Atka	73	2%	$15,181	Confidential	
Bristol Bay Borough	1,029	3%	$1,441,628	Confidential	
Egegik	62	3%	$1,045,587	Confidential	
King Cove	750	Flat amount*	$100,000	Confidential	
Lake and Peninsula Borough	1,552	2%	$1,260,995	Confidential	
Pilot Point	72	3%	$518,349	Confidential	
Saint Paul	450	3%	$1,349,981	Confidential	
Togiak	802	2%	$53,893	Confidenital	
Unalaska	3,551	2%	$4,633,809	$2,800,000	$56,000
Yakutat (City and Borough)	592	1%	$27,967	$1,800	$18[A]

A = Excludes IFQ sablefish and halibut because of confidentiality requirements.
*Fisheries Impact Tax
Source: State of Alaska, DCCED, 2010. http://www.dced.state.ak.us/dca/osa/pub/09Taxable.pdf

2.11 Benefits of the Alternatives

2.11.1 Alternative 1: Status Quo

Alternative 1 would continue to provide observer coverage for specific sectors of the North Pacific groundfish fishery. The benefits of observer coverage to the government, industry, and public are substantial. Through observer coverage, NMFS obtains accurate information upon which to base management and conservation decisions, which may increase economic opportunities for industry. The public receives unbiased information about the use of a public resource that would otherwise occur outside the public view. These benefits include:

• **Estimates of takes of protected species.** Marine mammals and sea birds are protected by a variety of international treaties, bi-lateral agreements, and domestic statutes, aimed at minimizing potential negative interaction with fisheries, among other activities. Chief among these statutes are the Marine Mammal Protection Act and the Endangered Species Act. Observers are necessary to collect data on marine mammal and seabird interactions with the fishing fleet, to insure that protected species are not adversely impacted by fishing activity.

• **Prohibited species catch.** Many groundfish fisheries in the North Pacific are limited by prohibited species catches of crab, salmon, halibut, and herring, as much, if not more so, than by the harvest of target species. Observers are currently the only reliable method through which prohibited species catch data can be collected in most North Pacific fisheries. Without observers, the catch of prohibited species could not be managed in an effective manner.

• **Estimates of discards of fishery resources.** Catches brought aboard fishing vessels are mainly sorted for marketable species and sizes, with the unwanted or non-marketable portion of the catch discarded at sea, if allowed by fisheries regulations or other applicable law. Discards occur because prohibited or low-valued groundfish species are caught, along with the marketable target species. In some fisheries, large catches of undersized commercial species also occur and result in substantial quantities of the species catch being discarded. Accurate stock assessments require that all harvests due to the fishery, either as landings or discards, be accounted for. Measuring the effects of fishing activities on the ecosystem also requires information on catches of all species, even if they are discarded. Observer sampling provides the most reliable method of acquiring data on the quantity and species composition of discards. With these data, it is possible to better understand the effects of fishing and to estimate the potential biological and economic benefits of changes in conservation and management measures (e.g., minimum legal sizes, trip quotas for individual species).

• **Management of quota-based limited access programs.** Observers are an essential element to the management of several quota-based limited access programs in the North Pacific, including the AFA pollock fishery, in which observers monitor individual co-op quotas, and the CDQ fishery, in which observers monitor individual CDQ allocations. Without the haul-by-haul data collected by observers on vessels and processors in the AFA and CDQ fisheries, NMFS would be unable to manage the individual vessel quotas, upon which the functioning of AFA cooperatives and CDQ groups is based. Without observers, these rationalized fisheries could not operate as designed.

• **Biological sampling of the catch.** Scientific observers aboard fishing vessels also collect spatially explicit biological samples of the catch. Size and age samples and other observations taken at sea (e.g., sexual maturity) are often not obtainable by sampling dockside landings or, if so, samples may be biased towards legal sizes or higher value species. Size and age samples of discards permit the estimation of discard size age composition, which often differs considerably from that in the landings. In most cases, discard of marketable species are of small fish, although damaged legal-sized fish may also be discarded. Because observer sampling occurs throughout the year, the program affords an opportunity to collect samples of fish gonads and other parts to study seasonal cycles of sexual maturity and growth that may be difficult during annual survey cruises that occur at only one time during the year.

• **Design and monitoring of conservation gear.** Reduction in discards of finfish and protected species has been attempted using a variety of methods, including the development of more selective fishing gear. The development and deployment of such gear requires testing (i.e., to ensure the gear can be safely and efficiently used) and validation (i.e., to ensure this gear is having the intended effect). Observer data can provide important information about the use and effectiveness of fishing gear.

• **Monitoring of experimental fisheries.** Experimental fisheries have frequently occurred in the North Pacific when industry has sought to test fishing gear under controlled conditions, or develop fisheries that conflict with current regulations. Observer data gathered during experimental fisheries provides important data on the effectiveness of the gear or fishing strategy being tested.

• **Gear performance and characteristics.** To support research, scientific observers that are deployed aboard commercial vessels can be requested to make detailed measurements of various attributes of the fishing gear including how it is rigged and deployed. These measurements can be important for two reasons. First, by noting variables such as mesh size, number of hooks, and gangion length time of trawl tow in relation to the catch attributes (quantity, species composition, size distribution of catch) it is possible to conduct statistical analyses of the factors that result in high (or low) rates of discard, species mix, changes in catch rate, etc. Second, gear performance observations, when collected over time, can be used to better calibrate catch-per-unit-effort abundance measures. For example, if the average size of nets, duration of tow, or ground-cable length increases over time, these may have a direct effect on catch per day fished by the fleet (even for same sized vessels). Given sufficient information, these factors can be included in research assessment analyses to provide a more complete and accurate picture of fishing intensity and effectiveness.

• **Contact with fishermen.** Observer programs provide a channel for communication between fishermen, fishery scientists, and managers. The program is an important link between NMFS and fishermen. Ideas, complaints, and information communicated between observers, captain, and crew are important.

2.11.2 Benefits associated with Alternatives 2 through 5

Alternatives 2 and 3 present different approaches to partial restructuring of the observer program. The scope of Alternative 2 is based on geographic area. Under Alternative 2, all groundfish fisheries in the GOA and all halibut fisheries and <60’ catcher vessels throughout Alaska would be covered by the new program, in which vessels would pay an ex-vessel landed value based fee to NMFS and NMFS would directly contract for observer services. By contrast, Alternative 3 is based on coverage levels irrespective of geography. Under Alternative 3, including the Council’s preferred alternative, all vessels and processors assigned in sectors with less than 100% coverage would be covered by the new program and pay an ex-vessel value based fee, and all vessels and processors assigned to sectors with 100% or greater coverage would continue to operate under the existing pay-as-you-go system. Alternatives 4 and 5 would involve comprehensive rather than partial restructuring by including all vessels and processors operating in the North Pacific groundfish and halibut fisheries in the new program, under which NMFS would contract directly with observer providers for observer services. Under Alternative 4, vessels and processors assigned to sectors with less than 100% coverage would pay an ex-vessel value based fee, and vessels and processors assigned to sectors with 100% or greater coverage would pay a specified daily observer fee (expressed as a fixed amount reflecting actual observer costs). Under Alternative 5, all vessels and processors operating in the North Pacific groundfish and halibut fisheries would be assessed an ex-vessel value based fee. In addition, to the general benefits of the observer program outlined under Alternative 1 in Section 2.11.1 above, a partially or fully restructured program under Alternatives 2 through 5 would have additional benefits which are outlined below.

Addressing the problem of disproportionate observer costs

Alternatives 2 through 5 address some of the problems identified with disproportionate coverage costs. Under Alternatives 2 and 3, all vessels that are in the restructured portion of the industry would pay an ex-vessel revenue based fee, meaning that coverage costs would be distributed across the entire fleet based on each vessel or processor’s use of the resource. Alternatives 2 and 3 do not address the problem of disproportionate costs faced by vessels and processors that are not in the restructured program. Under Alternatives 2 and 3, the sectors not included in the restructured program are primarily large CPs, large CVs, motherships, and shoreside processors for whom observer coverage is not a large percentage of their ex-vessel revenue. Alternative 4 includes this group of large vessels and shoreside processors under the restructured program but does not assess them an ex-vessel fee. They are instead charged a daily fee expressed as a fixed amount covering actual observer costs. Only Alternative 5 would include all vessels and processors under the ex-vessel fee structure, and fully address the problem of disproportionate observer coverage costs.

Improving data quality and reducing sources of bias

Under the existing observer program, vessels required to carry observers 30% of their fishing days choose when and where to carry observers, provided that they meet the minimum coverage requirement of 30% of fishing days per quarter and at least one observed fishing trip for each target fishery. Many vessel owners prefer to carry their required coverage later, rather than earlier during each quarter for several reasons. First, when vessels carry observers later in the quarter or fishing season they may have a better idea of how many coverage days will actually be needed to meet the regulatory requirement than vessels carrying observers during the start of a fishing season. Therefore, vessels carrying observers later in each quarter or season are better able to avoid exceeding their coverage requirement. Second, some vessel owners may prefer to carry observers later in each quarter so that they can first earn revenues required to pay for observer coverage and other expenses.

The preference for coverage later in each quarter is tempered to some extent by observer providers who have observers under contract and must keep observers deployed in order to minimize unpaid downtime. Consequently, there is a constant give and take between observer providers and vessel owners in the existing 30% coverage fleet regarding when and where to carry observer coverage. However, these sorts of coverage decisions are generally driven by the observer provider's desire for efficiency and the vessel owner's desire for predictability, with little or no regard given to scientific or management objectives. This is because NMFS does not decide when and where observers are deployed in the 30% coverage fleet. Because catch and bycatch rates fluctuate by season and area, decisions about when and where to deploy observers in the 30% coverage fleet has the potential to greatly affect the quality and reliability of observer data.

Under Alternatives 2 through 5, NMFS would take a lead role in deciding when and where to deploy observers and how much coverage is necessary for each fishery. NMFS would also have the ability to better ‘match’ observers’ skills and experience to the deployment of observers in all fisheries, whether they are less than 100% covered or at least 100% covered. For the first time, fishery managers would be able to address these and other known sources of bias, to the benefit of the resulting data.

Examinations of the North Pacific Groundfish Observer Program have focused on operational aspects of the program and have dealt with such issues as sampling protocols, reducing bias, estimate expansion, and the statistical properties of estimates (e.g. Jensen et al. 2000, Volstad et al. 1997, Pennington 1996, and Pennington and Volstad 1994). These and other studies suggest that sources of bias can be reduced and the statistical reliability of observer data improved through the manner in which observers are deployed. In particular, improvements are gained by changing from the current system, in which 30% coverage vessels can choose when and where to take observers, to a new system in which NMFS is responsible for distributing observers among vessels in a more statistically sound manner.

Targeting coverage to address data needs

A second benefit to a restructured program for fisheries with less than 100% coverage is the ability of NMFS to target coverage to address specific data needs. Under Alternatives 2 through 5, fishery managers would have the flexibility to adjust coverage as necessary to fill data gaps and address specific conservation or management issues for the fisheries included in the preferred alternative. For example, if questions arise about catch or bycatch by vessels operating in a specific area or time of year, NMFS would have the ability to direct observers onto specific vessels or into specific areas to address those questions. In addition, because NMFS would have greater control over the deployment of specific observers, observers could be directed and trained to engage in more specialized data collection or research than is possible today. These types of specialized projects could include more intensive data collection on specific species or species groups, data collection on gear performance and gear interactions, and more intensive data collection on interactions with marine mammals and other protected species.

2.12 Net Benefits to the Nation

Alternatives 2 through 5, including the Council's preferred alternative, Alternative 3, would increase net benefits to the Nation. Gains would be realized for, and may accrue from, improved coverage on the portions of the fleet that are restructured. The restructured program is expected to reduce statistical bias, through a random vessel selection process within the various fleets, and by placing observers in fisheries that would provide the greatest benefit to society in terms of improved management and scientific understanding. It would also facilitate observers being placed on vessels that have relatively lower profit margins, without substantially increasing their individual costs. Reducing the bias and uncertainty in the catch, PSC, and discarded incidental catch data would be expected to significantly improve NMFS' inseason management decisions; improve attainment of optimum yield; enhance the supply of human food-quality seafood to U.S. domestic and world markets; open new opportunities for ancillary product development, alternative product forms, and new markets; enhance scientific understanding of, and research into, the living marine resources of the U.S. EEZ and their interaction with a variety of commercial users and uses; and improve policy decisions pertaining to groundfish and halibut resources in the North Pacific.

3 Implementation Issues

This chapter addresses agency implementation issues associated with the proposed action. It describes how NMFS would collect fees and deploy observers, should the Council and Secretary of Commerce authorize the agency to assess a fee program and deploy observers when and where the agency determines necessary for conservation and management purposes. In brief, this chapter addresses:

- How the agency would contract directly with observer providers
- The sample design envisioned to meet monitoring objectives
- Sample design and observer deployment logistics (e.g., vessel selection process; notification system).
- Start-up funding needs
- Modifications necessary to existing Federal regulations
- Implementation issues that differ depending on whether partial or comprehensive restructuring is undertaken
- Relative agency costs associated with alternatives

3.1 Contracting process with observer providers

Under all of the proposed restructuring alternatives, including the preferred alternative, private observer provider companies (observer providers) would continue to be the source of observers deployed under the restructured observer program. NMFS would contract for observer work because observer providers have demonstrated high competence and efficiency in completing this work in Alaska and throughout the U.S. Detailed regulations and procedures already govern the Federal contracting process. Therefore, this analysis does not examine alternatives to the process that would govern direct Federal contracting for observer services. Rather, the existing Federal contracting process is described to provide the Council and the public with an understanding of how observer program contracts would operate under the action alternatives. This section also explores the role of observer providers under a restructured observer program, and whether single or multiple contracts, and single or multiple observer providers, are preferable.

The contracting needs of NMFS are met by staff in NOAA's Western Acquisition Division (WAD) in Seattle. While WAD provides contracting assistance, the responsibility is shared with NMFS because it is incumbent upon NMFS to articulate what it needs in a contract, provide funds, and monitor technical progress. In addition, past experience has shown that a cooperative effort between NMFS, WAD, and the contractor results in a well managed contract. This cooperation fosters a "business partner" approach, creating effective working relationships and communications which help in developing a responsive and efficient observer program.

To implement a contract, NMFS must develop a performance work statement (PWS) which defines the type and scope of work to be accomplished. NMFS works with WAD to incorporate the PWS into a Request for Proposal (RFP) which is issued to the public. Interested vendors respond to the RFP with technical and cost proposals for the work described in the PWS. Proposals are evaluated and contracts are awarded to successful bidders.

NMFS recognizes that the five current observer providers are professionals in their field with a high degree of expertise in providing observers to the Alaskan groundfish fisheries. When NMFS issues its RFP, it expects responses will likely come from most, if not all, of the current observer providers working in Alaska as well as other observer providers that hold contracts with various NMFS observer programs around the country. The RFP that NMFS prepares would describe the work that is needed in a performance work statement with measurable outcomes, without dictating precisely how to accomplish that work. NMFS perspective is that stipulating specific aspects of the work constrains creativity and responsiveness on the observer provider's part to potentially develop unique approaches to certain problems or aspects of the work. NMFS would select observer providers that meet standards necessary to perform the work, provide acceptable cost proposals, and provide an appropriate mix of technical quality and cost effectiveness.

Acronyms in this section include:

AGO - Acquisition and Grants Office (NOAA Headquarters Level)
AMD - Acquisition Management Division (Department of Commerce Level)
CO - Contracting Officer
CRB - Contract Review Board (NOAA – Western Regional Division Level)
DAO - Departmental Administrative Order
FBO - Federal Business Opportunities (FedBizOpps.gov - Website for Federal contracts)
IRB - Investment Review Board (Department of Commerce - reviews all actions over $7 million or those actions of interest to the Department.)
OAM – Office of Acquisition Management (Dept. of Commerce)
PWS – performance work statement
RFP - Request for Proposal
SEB - Source Evaluation Board
SSO - Source Selection Official (Approval authority for the selection - for contracts over $10 million the SSO is the NOAA Deputy Under Secretary or designee.)
WAD - Western Acquisition Division (NOAA)

3.1.1 Contract advantages and disadvantages

Managing an observer program through direct contracts between NMFS and observer providers offers advantages and disadvantages compared to the existing system, whereby vessels contract directly with observer providers to obtain a level of coverage as dictated through regulations. NMFS' perspective on the advantages and disadvantages of using a direct contract system, under any alternative, is provided in the following two sections.

Contract advantages

Government contracting for observer services is the norm for other NMFS observer programs, including the existing Alaska Marine Mammal Observer Program. The Federal contracting process is fair and objective, well defined, provides for competition, and has an existing support infrastructure. The following is a list of some of the advantages of direct government contracting:

- Professional contract management assistance and support from WAD.
- Contracting would replace most of the cumbersome regulatory processes used to manage observer providers under the current system. Observer providers under contract would be held accountable for their performance through the contract rather than through regulatory enforcement.
- The workload under any contract or task order would be clearly defined and as such, would improve and facilitate observer provider planning and efficiency.

- The work required of the observer provider could be quickly changed, if needed, through a contract modification or issuance of new task orders, rather than through the lengthy regulatory amendment process.

- Direct contracting funded through a fee system would eliminate the regulatory burden on industry to acquire its own observers. Vessels and processors would only be required to carry observers when they are provided by NMFS.

- Observer providers would be directly responsible to NMFS for data quality and the work performance of their observers. Observer providers would also be evaluated on how well they perform and comply with the observer deployment responsibilities set out in the contract.

Contract disadvantages

- The market share and profitability of the current certified observer providers would most likely be redistributed among those who are awarded contracts.

- Under Alternatives 2 and 3, NMFS would need to address complex issues detailed in Section 3.5 associated with implementing two different observer programs (one under a direct contract system and one under the status quo system of observer providers managed through regulation).

- The development and management of contracts would require additional staff resources.

3.1.2 Elements of the Federal contracting process and timeframe

The essential elements of the Federal contracting process are identified in Table 61. WAD staff prepared this table using a hypothetical contract worth over $10 million annually, issued for one year with four option years. The table identifies the key steps and estimated timeline for each step. Tasks listed in **bold** are primarily the responsibility of the observer program. Tasks listed in normal font are primarily a WAD contracting responsibility. Underlined tasks are schedule impacts that are set by regulation. Shaded tasks represent legal review. Note that this example is presented as an overview of the procurement process with a realistic timeframe for developing and awarding a contract. While this may serve as a planning guide, each contract is different, and the timeframe will be influenced by the dollar amount and overall complexity of the contract.

Table 61 Example timeframe for developing and awarding a contract

Step No.	Task Name	Duration (number of calendar days)	Example Earliest Start Date	Example Earliest Finish Date	Example Latest Start Date	Example Latest Finish Date
1	**Market Research**	15 - 30 days	1/2/11	1/16/11	1/2/11	2/1/11
2	**CD-570 Process (small business)**	7 days	1/17/11	1/23/11	2/2/11	2/8/11
3	**Develop Work Statement & Section M and Formal Acquisition Plan**	60 - 75 days	1/24/11	3/24/11	2/9/11	4/24/11
4	**Finalize Work Statement, Section B and Section M**	15 days	3/25/11	4/8/11	4/25/11	5/10/11
5	Legal Review	7 days	4/9/11	4/15/11	5/11/11	5/17/11
6	CRB Review (WAD)	7 days	4/16/11	4/22/11	5/18/11	5/24/11
7	AGO Review (NOAA Head Quarters)	7 - 14 days	4/23/11	4/29/11	5/25/11	6/7/11
8	IRB review & OAM approval (Dept. of Commerce)	21 - 90 days	4/30/11	5/20/11	6/8/11	9/5/11
9	**Develop Source Selection Plan**	5 days	5/21/11	5/25/11	9/6/11	9/11/11
10	**Approvals CO/**Legal**/SSO**	15 - 21days	5/26/11	6/9/11	9/12/11	10/3/11
11	**Complete Acquisition Package**	47 days	6/10/11	7/26/11	10/4/11	11/20/11
12	**Obtain Funding Documents**	3 days	7/27/11	7/29/11	11/21/11	11/23/11
13	**Obtain DAO 208-10 Approval for Services**	3 days	7/30/11	8/1/11	11/24/11	11/26/11
14	**Submit Acquisition Package to AMD**	1 day	8/2/11	8/2/11	11/27/11	11/27/11
15	Review Acquisition Package	6 day	8/3/11	8/9/11	11/28/11	12/4/11
16	Prepare & Issue FBO Synopsis	16 days	8/10/11	8/25/11	12/5/11	12/20/11
17	Obtain Wage Rates	20 days	8/26/11	9/14/11	12/21/11	1/9/12
18	Prepare Option Justification	1 day	9/15/11	9/15/11	1/10/12	1/10/12
19	Prepare Solicitation (RFP)	5 days	9/16/11	9/20/11	1/11/12	1/15/12
20	**Client Review of RFP**	5 days	9/21/11	9/25/11	1/16/12	1/20/12
21	Pre-Solicitation Legal Review	11 days	9/26/11	10/6/11	1/21/12	1/31/12
22	RFP to Review Board	3 days	10/7/11	10/9/11	2/1/12	2/3/12
23	Revise RFP Based on Reviews	1 day	10/10/11	10/10/11	2/4/12	2/4/12

24	RFP to AGO for review	7 - 14 days	10/11/11	10/17/11	2/5/12	2/18/12
25	Issue RFP	1 day	10/18/11	10/18/11	2/19/12	2/19/12
26	Pre-Proposal Conference	1 day	10/19/11	10/19/11	2/20/12	2/20/12
27	Respond to Bidder's Questions	2 days	10/20/11	10/21/11	2/21/12	2/22/12
28	Receive Proposals	32 days	10/22/11	11/22/11	2/23/12	3/26/12
29	**SEB Technical Review**	11 days	11/23/11	12/3/11	3/27/12	4/6/12
30	Cost/Price Analysis	5 days	12/4/11	12/9/11	4/7/12	4/11/12
31	**SEB Memo to CO**	2 days	12/10/11	12/11/11	4/12/12	4/13/12
32	Determine Competitive Range	1 day	12/12/11	12/12/11	4/14/12	4/14/12
33	**Brief SSO**	1 day	12/13/11	12/13/11	4/15/12	4/15/12
34	Notify Excluded Firms	1 day	12/14/11	12/14/11	4/16/12	4/16/12
35	**Pre-Award Debriefing**	1 day	12/15/11	12/15/11	4/17/12	4/17/12
36	Prepare Pre-Negotiation Objectives	3 days	12/16/11	12/18/11	4/18/12	4/20/12
37	Pre-Negotiation Review Board	3 days	12/19/11	12/21/11	4/21/12	4/23/12
38	Negotiations	10 days	12/22/11	12/31/11	4/24/12	5/4/12
39	Request Revised Proposals	1 day	1/2/12	1/2/12	5/5/12	5/5/12
40	Receive Revised Proposals	14 days	1/3/12	1/16/12	5/6/12	5/19/12
41	**SEB Review**	2 days	1/17/12	1/18/12	5/20/12	5/21/12
42	**SEB Award Recommendation**	2 days	1/19/12	1/20/12	5/22/12	5/23/12
43	Negotiation Summary	2 days	1/21/12	1/22/12	5/24/12	5/25/12
44	**Brief SSO**	3 days	1/23/12	1/25/12	5/26/12	5/28/12
45	Responsibility Determination	1 day	1/26/12	1/26/12	5/29/12	5/29/12
46	Price Reasonableness Determination	1 day	1/27/12	1/27/12	5/30/12	5/30/12
47	Prepare Contract	3 days	1/28/12	1/30/12	5/31/12	6/2/12
48	Submit Award to Legal	1 day	1/31/12	1/31/12	6/3/12	6/3/12
49	Legal Review of Award	11 days	2/1/12	2/11/12	6/4/12	6/14/12
50	CRB Review of Award	7 days	2/12/12	2/19/12	6/15/12	6/21/12
51	AGO Review of Award	14 days	2/20/12	3/5/12	6/22/12	7/5/12
52	Award Notification	1 day	3/6/12	3/6/12	7/6/12	7/6/12
53	Unsuccessful Bidder Letters	1 day	3/7/12	3/7/12	7/7/12	7/7/12
54	FBO Award Synopsis	1 day	3/8/12	3/8/12	7/8/12	7/8/12

55	Incorporate Legal Comments	1 day	3/9/12	3/9/12	7/9/12	7/9/12
56	Award Contracts	1 day	3/10/12	3/10/12	7/10/12	7/10/12
57	Debrief Unsuccessful Bidders	5 days	3/11/12	3/15/12	7/11/12	7/15/12

Total:

Duration (number of calendar days)	**Example Start Date**	**Example Earliest Finish Date**	**Example Latest Finish Date**
438 – 560 days	01/02/2011	03/15/2012	07/15/2012

3.1.3 Indefinite-delivery, indefinite-quantity contracts

Developing contracts would be done through a consultative process with WAD to ensure the best service while providing for competitive pricing. There are a number of contracting options available and NMFS, in consultation with WAD, has identified a type of Federal contract that appears most appropriate for a restructured observer program. This type of contract is referred to as an indefinite-delivery, indefinite-quantity (IDIQ) contract under Federal Acquisition Regulations (Subpart 16.5). An IDIQ contract is a contract framework that identifies a body of work that can be awarded to multiple vendors. Actual work under an IDIQ contract is done in response to specific task orders issued by NMFS for components of work. The task orders can be awarded to any of the vendors who are under the IDIQ contract.

An IDIQ contract has the advantage of increased flexibility and there are no minimum requirements for start-up funding to initiate the IDIQ contract. However, issuing task orders under an IDIQ framework would require upfront funding to cover each specific task order. (Section 3.3 proposes to collect start-up funds in advance to cover the full first year (year-1) of a restructured program, and the amount of funding necessary to collect for year-1 of a restructured program depends on the preferred alternative.) IDIQ contracts permit flexibility in both quantities and delivery scheduling and in ordering supplies or services after requirements materialize. This flexibility may prove advantageous since the details of observer coverage and funding may not be fully known when the newly restructured observer program is implemented. In addition, IDIQ contracting requires that preference be given to awarding multiple contracts under a single solicitation for the same or similar services. This allows NMFS to benefit from the cumulative expertise of more than one observer provider.

The following is a list of IDIQ contract attributes:

- According to Federal acquisition guidelines, if contract awards are multiple, the IDIQ contract is a better option compared to a system of separate contracts because of the flexibility of the contracting model.
- The only upfront money required would be the minimum amount identified for each contract awarded. NMFS also needs to state the minimum and maximum amount per year for each vendor (observer provider) for the duration of the contract. However, IDIQ would require task orders to be fully funded at the time of task order award. Task orders (work assignments) are developed as necessary. Tasks are aligned commensurate with available funding and can be ordered as needs arise.
- Under an IDIQ contract, a minimum of two successfully bidding observer provider companies would be awarded contracts. However, any number of bidding companies could be selected. There is no limit.

- Individual observer companies that are awarded an IDIQ contract with other observer companies are not *required* to compete for individual task orders. However, as stated above, each observer provider awarded an IDIQ contract is guaranteed a minimum amount of work. The contract must state the minimum amount to be provided to each vendor under the total term of the contract. This amount will have to be paid whether or not the vendor is assigned any work. However, the government's risk is minimized since the minimum guaranteed amount is the government's only obligation to purchase under the contract.

- The Federal acquisition regulations state that if the government knows there are two or more responsible small businesses that can perform the work, the government is required to set aside the IDIQ contracts to small businesses. Most existing observer providers are small businesses. Therefore, observer contract awards will most likely go to small businesses. The distinction between a small and large business depends on the North American Industry Classification Code (NAICS) cited in the solicitation. NAICS codes state the size of the business in either the maximum number of employees working for the company or in maximum amount of dollars earned.

- The contract award process would not consist of bidding on detailed work descriptions or task orders. Observer providers would either bid on more general categories in the offer schedule, such as observer coverage days and transportation, or they may be requested to bid on general modules of work (e.g., combinations of vessel types, gear types, fisheries, areas fished). After the contract is awarded, defined task orders would be created within the modules and assigned to the observer provider companies that were awarded the contract.

- NMFS would develop an "Acquisition Plan" before developing the solicitation. Each contract is different and the timeframe will be influenced by the monetary value and overall complexity of the contract. However, at a minimum, it is expected to take about 240 days to write and award a contract valued from $100 thousand to $10 million and it would probably take at least 438 days for a contract valued over $10 million. An acquisition plan would be needed regardless of whether an IDIQ contract is chosen, because of the size and complexity of contracting for observer services.

3.2 Sample design and observer deployment on vessels and in processing plants

3.2.1 Observer Program goals and objectives

In general, the goal of the NMFS observer program is to provide information essential for the management of sustainable fisheries, associated protected resources, and marine habitat in the North Pacific.

Specific program objectives are to:

1. Provide accurate and precise catch, bycatch, PSC, and biological information for conservation and management of groundfish resources and the protection of marine mammals, seabirds, and other protected species.
2. Provide information to monitor and promote compliance with NOAA regulations and other applicable programs.
3. Support NMFS and North Pacific Fishery Management Council policy development and decision making.
4. Foster and maintain effective communications.
5. Conduct research to support the mission of the North Pacific Groundfish Observer Program.

NMFS uses observer obtained information to meet these various objectives. An overview of an observer's daily work may be illustrative. When placed on any vessel, observers record all of the fishing effort, including set and retrieval times, depths, and positions. They then randomly select sets and take composition samples from them. The catch composition work takes the majority of the observer's time, as it involves physically taking samples and then identifying, counting, and weighing them. This effort and composition information is used by NMFS to estimate catch and bycatch quantities in-season. It is also used by NMFS and the Council for a range of post-season analyses. Observers do further work by taking length frequency measurements and collecting various tissue samples as needed by the AFSC in support of stock assessment and other science needs. For example, the viability of discarded halibut is assessed, which enables IPHC staff to periodically evaluate mortality rates in the commercial fishery. In addition, information is collected on seabird interactions and compliance with seabird mitigation requirements. Lastly, information on any interactions with marine mammals is recorded. In short, an observer's workload is diverse and designed to meet the multiple needs of agency clients. Detailed instructions to observers are updated annually and each year's instructions are provided in training manuals available at: http://www.afsc.noaa.gov/FMA/document.htm.

During meetings with industry associations, NMFS was asked to address the specific needs for information from currently unobserved fisheries, and specifically the commercial halibut fishery. Observers assigned to these fisheries would collect the same information noted above, and it would be used for the same agency and Council needs. NMFS has particular needs in the unobserved halibut fishery for information on: discarded fish, seabird bycatch, marine mammal interactions, compliance with and performance of seabird mitigation tools, and compliance with careful release regulations. Assessing the amount of fish discarded and incorporating that data into NMFS' catch accounting system would be the highest priority, as it has a direct impact on estimating total fishing mortality.

3.2.2 Background

Effective fisheries management requires that the quantity of catch be known. This information can be garnered from industry in the form of landings (fish tickets) or at-sea production reports. Quantity of retained catch represents the most basic form of catch information. Because fisheries are not 100% efficient, industry reported data may not include information on at-sea discards or interactions with species of special concern such as marine mammals or seabirds. Deduction of non-marketable catch or prohibited species catch from individual catch quotas introduces economic incentive to misreport such information. When reported values systematically differ from true values, bias may result.

The domestic observer program was established in 1990 to address the need for unbiased data on catch and biological interactions from the North Pacific groundfish fishery. The program was set up as an industry-funded "pay-as-you-go" system. Based on these initial rules, vessels less than 60' LOA were not required to be observed when fishing, vessels 60' to 125' LOA were required to have observers onboard for 30% of their fishing days and one-full trip per fishery (defined by target species), and vessels >125' LOA were required to have observers onboard for 100% of their fishing days.[71] Likewise, shore-based facilities processing between 500 mt and 1,000 mt per month are required to have an observer present at the facility at least 30% of the days they receive or process groundfish during that month, and facilities processing over 1,000 mt are required to be observed for 100% of their days.

The way the system is designed, for vessels and processors required to have 30% observer coverage, industry decides which fishing or processing days are to be observed to meet mandated coverage requirements in regulation. Since there is a cost associated with each day observed, vessels with low

[71]Throughout this implementation plan, staff commonly refers to fleets that are required to have these at-sea coverage levels as the 'less than 60 fleet,' 'the 30% fleet,' and 'the 100% fleet.'

profit margins may be tempted to reduce coverage costs through non-representative fishing. Two of the most common sources of bias that can be introduced into catch estimates are fishing in non-representative areas, and fishing at non-representative times.[72] Both of these types of bias appear driven by economic incentives, as non-representative trips are commonly taken close to shore (reducing time and fuel costs) and gear is hauled immediately before and after midnight (achieving two days coverage for less than 24 hours effort).[73] In addition, the current length-based system for categorizing vessels for coverage rates imposes an economic incentive to alter original vessel size, especially if near 60' or 125' LOA, since observer coverage rates (and incurred vessel cost) will change by 70% from 125' to 124' and by 100% from 60' to 59'. Since the inception of the observer program, management needs have amended the original rules regarding observer coverage, resulting in a complicated set of conditions for compliance (Appendix 1). Nonetheless, the core structure of a 0%, 30%, and 100% fleet, and industry control of observer deployment in the 30% fleet, has remained in place.

Over nearly two decades, the observer program has grown into one of the largest in the world; in 2008, aggregate observer days billed to industry exceeded 39,000.[74] The Fisheries Monitoring and Analysis Division (FMA) of the Alaska Fishery Science Center is responsible for oversight of the observer program and conducts the training and debriefing of observers and the maintenance of an observer database called NORPAC. The primary objective of FMA is to provide accurate and precise data on total catch (retained catch and bycatch), and biological information for conservation and management of groundfish resources and the protection of marine mammals, seabirds, and protected species. Specifically, observer data is prioritized to meet data requirements for in-season management, stock assessment, bycatch monitoring, and regulatory compliance (MRAG 2000). The importance of verifiable independent estimates of total catch is highlighted by amendments made to the MSA in 2007 that require fishery management plans to establish mechanisms for specifying annual catch limits (ACL) at such levels that overfishing does not occur.

Catch estimation and monitoring of quotas are the responsibility of the NMFS Alaska Region Office. North Pacific fisheries have been cited as among the best managed in the world (Worm et al. 2009), and a complex suite of rules to control fishing have been enacted by the Council and NMFS that include: limited entry, trip limits, quota sharing systems (including community development, cooperative, and individual quotas), and catch limits. NMFS' catch accounting system (CAS) estimates total removals within each fishery (defined by target species, area, gear, management program, and time) whereby retained catch is added to discarded catch.

Catch sampling and estimation of total catch by the CAS has recently been documented by Cahalan et al. (2010). Briefly, the CAS uses observer-derived data in conjunction with industry-derived data. For catcher processors and motherships, the data source used to estimate retained catch is dependent on reporting requirements and observer coverage rates specified by Federal regulations that vary greatly by vessel type (50 CFR 679.50). Landing reports (fish tickets or production reports) are required from all processors that are required to have a Federal Processing Permit and which receive groundfish from catcher vessels that are issued a Federal Fisheries Permit. Processors may be at-sea (motherships), floating, or shoreside types. The collection period for a landing report is a trip (defined as the period from when fishing begins to the time of delivery) for CVs delivering to floating and shoreside processors, and a day for each catcher vessel that delivers to a mothership. In contrast to landings reports derived from CVs, catcher processors and motherships must submit at-sea production reports if issued a Federal Fisheries Permit. Production reports are required daily for both shoreside processors and the at-sea fleet.

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[72]NPFMC, 2008. Public review draft: Regulatory impact review/initial regulatory flexibility analysis for a regulatory amendment to revise administrative and procedural aspects of the North Pacific Groundfish Observer Program. Accessed 07/13/2009 and available at http://alaskafisheries.noaa.gov/npfmc/current_issues/observer/Observer408.pdf

[73] The definition of an observer day is scheduled to change (likely 2010), to prohibit this latter practice.

[74]As determined from embark-disembark dates in NORPAC database.

Information about non-retained species that were caught or otherwise impacted by fishing operations from industry landings and production reports are unverifiable or absent altogether. In general, the CAS estimates retained catch from observer data collected on CPs and motherships with ≥100% observer coverage (in cases where the observer has access to flow scales) and uses landing and production reports of retained catch on CVs delivering shoreside or CPs and motherships with less than 100% observer coverage. For the same reason, the CAS uses at-sea discard rates estimated from observer data obtained from observed vessels that are fishing with similar gear, areas and/or times, and applies this rate to industry landing reports to estimate at-sea discards. At-sea discards from vessels with 100% or greater observer coverage are estimated from observer data. Total catch used for quota management is then the sum of retained and discarded catch (Cahalan et al. 2010).

The regulatory nature governing observer deployment (i.e., coverage requirements) facilitates the introduction of bias into observer data through non-representative fishing. Given the use of observer data in the CAS, and the subsequent use of CAS data in stock assessments, this issue can undermine the validity of data used to manage North Pacific groundfish fisheries. What follows serves to provide the rationale and means to reduce the bias introduced by industry control over observer coverage for fishing operations with less than 100% observer coverage requirements, should the Council recommend restructuring the observer program such that NMFS controls the deployment of observers in the North Pacific groundfish and halibut fisheries.

3.2.3 Sampling theory and terms of reference

The ensuing discussion on sampling design requires clear definition of some widely used statistical terms. A *population* is the entire group that one wishes to make inferences about. The *target metric* is the parameter or quantity of interest for the population (e.g., weight of fish, numbers of crab). Following the objective of the observer program, the population is the total direct (catch) and indirect (interaction) mortality of groundfish, birds, and marine mammals. Information about a population may be gathered through a complete accounting of all items within the population (i.e, a census) or by gathering information on a smaller component of the population (i.e., a sample). The observer program cannot directly quantify indirect mortality caused by fishing activities underwater. Therefore the *target population* (the population of interest) may not be identical to the *sample population* (the population available to be quantified). For the observer program, the sample population consists of catch and indirect mortality that is available to an observer. When the sample population is divided into equal measurable units, the units themselves are termed *sample units*, whereas the list of sample units comprises the *sample frame*. Each element of the sample population must be in one and only one sample unit, and the total of all sample units comprises the sample population. When sample units are selected according to some predetermined manner, we have a *sample*.

Sampling offers advantages over a census approach in that it is more cost-effective, faster, has greater utility, and can be more accurate if applied in conjunction with sampling theory (Cochran 1977). In addition, the likelihood of data being lost due to improper methods by the observer are reduced in sampling over a census approach, since in the former case an additional sample using proper methods may be attained from the sample frame, whereas in the latter all gathered data are rendered biased. Because samples are used to make inferences about the population of interest, the way in which samples are collected (i.e., the *sample design*) has direct bearing on the analytic methods used to estimate population parameters.

The extrapolation from the sample to the population can be considered valid only if the unsampled values can be considered similar to the sampled values, i.e., only if the sample is representative of the whole population. This representativeness is guaranteed by the selection of sample units according to a randomization scheme, otherwise known as *random sampling* (e.g., Fisher 1925; Thompson 2002).

Because every item in the sample frame has an equal (and known) probability of being included in the sample, the use of random sampling protects against subjectivity or bias in sample selection by the observer. Two commonly used sample designs are *simple random sampling* (SRS) and *systematic random sampling* (SYS). In SRS, units are selected from the sampling frame at random (using a random number table or other randomization mechanism) for inclusion in the sample.

In contrast, in SYS a random start point is chosen and subsequently every n^{th} sample unit is selected for inclusion in the sample. SRS is useful when no spatial or temporal trends are present in the contents of the sample population. SYS works well in sample frames when the size of the sample population is not known *a priori*, and offers the advantage over SRS in that it ensures samples will be taken throughout the sample population, thereby addressing potential trend or stratifications. Sample frames may be subdivided into *strata* with similar characteristics. Sampling efficiency is increased when between-strata variance is maximized and within-strata variance is minimized. Variation among sample units can be used to examine sampling effectiveness (by generating measures of *dispersion* or *variance* such as confidence intervals, standard errors, coefficients of variation; the opposite of dispersion is *precision*). Since it is desirable to obtain estimates of target metrics that are unbiased and precise, a final advantage of random sampling is that the variance of the estimate will decrease with increasing sample size in a predictable manner. In this way, sample size analysis can be used to assess the degree of precision expected for a given sample size (and hence for a given cost).

3.2.4 Observer Program sampling design

The North Pacific Groundfish Observer Program incorporates a hierarchical sampling design whereby catch is sampled at multiple levels. The sampling of the population of fishing trips represents the highest level within the design while the population of fish caught (catch) is represented at lower subsequent levels (Table 62). Unlike the sampling of fishing trips associated with the first level of the design, the sampling of catch is under the direct control of NMFS. Consequently, randomization procedures for the selection of samples by observers once onboard vessels or processors have been in place since 1996, and these procedures are extensively documented in annual observer manuals.[75] Since sampling methods used by observers to sample the catch of individual fishing events are not anticipated to change with restructuring, the remainder of this document will focus on the observer program design at the highest level, i.e., observer deployment.

[75] Available at http://www.afsc.noaa.gov/FMA/document.htm.

Table 62 Description of current observer program sampling design

Sample Level	Sample Frame	Sample Unit	Sample Selection	Data / Observation
1^o Unit: Trips	Set of all trips within a fishery and quarter	Fishing trips (deliveries)	100% or non-random	Departure and delivery ports, trip dates, *etc*
2^o Unit: Hauls	Set of all hauls on trip	Fishing event (haul, longline set)	Constrained Simple Random Sample (SRS) of set of all hauls	Effort data (total catch size, gear deployed, fishing location, etc)
3^o Unit: Sample	Set of all sample units in the haul	Predefined weight, volume, or gear segment	Systematic Random Sample (SYS) / SRS / opportunistic from haul	Species composition data
4^o Unit: Length Sample	All fish (by species) within a sample	Individual Fish	SRS from 3^o sample	Sex, length, and weight
5^o Unit: Otolith Sample	All fish (by species) from length (SLW) sample	Individual Fish	SRS from 4^o sampled fish	Otoliths

Source: Calahan et al. 2010.

3.2.5 Past reviews of observer deployment

Observer protocols, including observer deployment, have been continuously scrutinized since the inception of the observer program (Table 63). Nelson and Kappenman (1992) were the first to investigate the sampling effectiveness of observer deployment, and focused their investigation on estimates of halibut catch from vessels required to have 100% observer coverage during 1991. The authors used the full data set to simulate halibut catch estimates that may have originated from coverage rates at less than 100%. These authors were interested in the level of observer coverage in the fleet required to obtain halibut catch estimates that were less than 10% different from the original (100% coverage) estimates in 90% of the simulations. From their criteria, the authors recommended a level of 100% observer coverage for all vessels. The simulation approach of Nelson and Kappenman (1992) was repeated for a variety of target metrics (bycatch and target species) within different fisheries and gear types by Dorn (1992a, 1992b, and 1992c), Dorn et al. (1997b), and Volstad et al. (1997). However, these later authors did not specify their desired level of precision in catch estimates. As a consequence, no recommendations could be drawn from the analyses. Instead, their work demonstrated the intuitive result that variance of the estimates was reduced with greater observer coverage, and that the nature of these results were species and gear dependent.

MRAG (2000) performed the first in a series of important outside reviews of the observer program. The authors recommended that the Council establish coverage requirements for the less than 60' fleet, and that NMFS control observer deployment to correct for the inherent possibility of bias within the 30% fleet. Subsequently, an internal audit of the NMFS observer program by the Inspector General stated that: "A vessel selection process is needed to randomly place North Pacific groundfish observers on the '30 percent' fleet." Further, the audit stated that: "The Assistant Administrator for Fisheries should work with the North Pacific Fishery Management Council to establish requirements for an observer program that includes a vessel selection process that produces random sampling of the fishery." (USDOC 2004). At the same time, representatives from observer programs around the U.S. gathered to discuss observer coverage level issues and needs (NMFS 2004a). Rather than determining coverage rates through negotiations between fishery managers and industry, this group concluded that it would be better to structure a program so that uncertainty in estimates (e.g., variance) can be quantified. NMFS (2004a) concluded that "…unless this is achieved, observer programs will continue to be shaped by reaction to events rather than by design."

Table 63 Past external and internal works that address observer program sampling procedures prior to Cahalan et al. (2010)

Study	Type	Key topic	Sampling unit				
			1	2	3	4	5
Nelson and Kappenman (1992)	I	Vessel coverage levels (Halibut)	X				
Dorn (1992)	I	Vessel coverage levels	X	X			
Dorn et al. (1995)	T	Observer haul weight			X		
Dorn et al. (1997a)	T	Observer haul weight			X		
Dorn et al. (1997b)	I	Observer coverage	X	X			
Turncock and Karp (1997)	I	Salmon bycatch		X	X		
Dorn et al. (1999)	P	Weight comparisons		X	X		
MRAG (2000)	E	Observer program review	X				
MRAG (2002)	E	Haul specific catch estimation			X		
MRAG (2003)	E	Biological sampling protocols				X	X
USDOC (2004)	I	Observer Program review	X				
Barbeaux et al. (2005)	P	Biological sampling				X	X
Volstad et al. (2006)	E	Observer Program review		X	X	X	X
Miller et al. (2007)	P	Optimal sampling	X				
Pella and Geiger (2009)	E	Salmon bycatch (genetic samples)					X

Note: Type denotes whether the manuscript is an internal memorandum (I), internal technical report (T), report by external entity (E), or published journal article (P). X denotes the sampling unit addressed by each study where sampling unit follows Table 62.

3.2.6 Recent review of deployment and observer effects

While past reviews have highlighted the potential for bias to be introduced into observer data through non-representative fishing, it has remained difficult to document whether or not such potential bias is actually present. Differences in the dynamics of observed and unobserved trips can be manifested in two ways (Benoit and Allard 2009). In the first, *the selection of fishing operations to be observed* is such that those trips are not representative of unobserved trips (i.e., the "deployment effect"). In the second, a change in the fishing behavior of vessels *when they are observed* results in trips with characteristics of fishing operations (e.g., location, timing, duration) that are not representative of unobserved fishing operations (i.e., the "observer effect"). Analyses of the 30% catcher vessel fleet landings in 2008 are presented in **Appendix 8**. These analyses indicate that the current regulatory nature of observer deployment results in a skewed, non-random deployment of observers (evidence of a deployment effect), and that in some fisheries an observer effect is also present.

3.2.7 Proposed observer deployment on vessels

The aforementioned history highlights two important elements that provide the foundation of a new observer deployment design. The first element of the sampling design is unbiased estimation at the fishery level. For unbiased estimates of catch to be obtained, either 100% observer coverage of all trips needs to be achieved or a random sample of fishing effort is necessary. The second element is variance. By analyzing the variances at each sampling level of a hierarchical design, the sampling effort necessary to achieve desired levels of precision can be determined. These two elements provide the structure around which observer deployment can be properly designed. The same observer deployment design is proposed under Alternatives 2 – 5, and requires that the sampling unit and sampling strata be well defined (NMFS 2004b).

3.2.7.1 Sampling unit

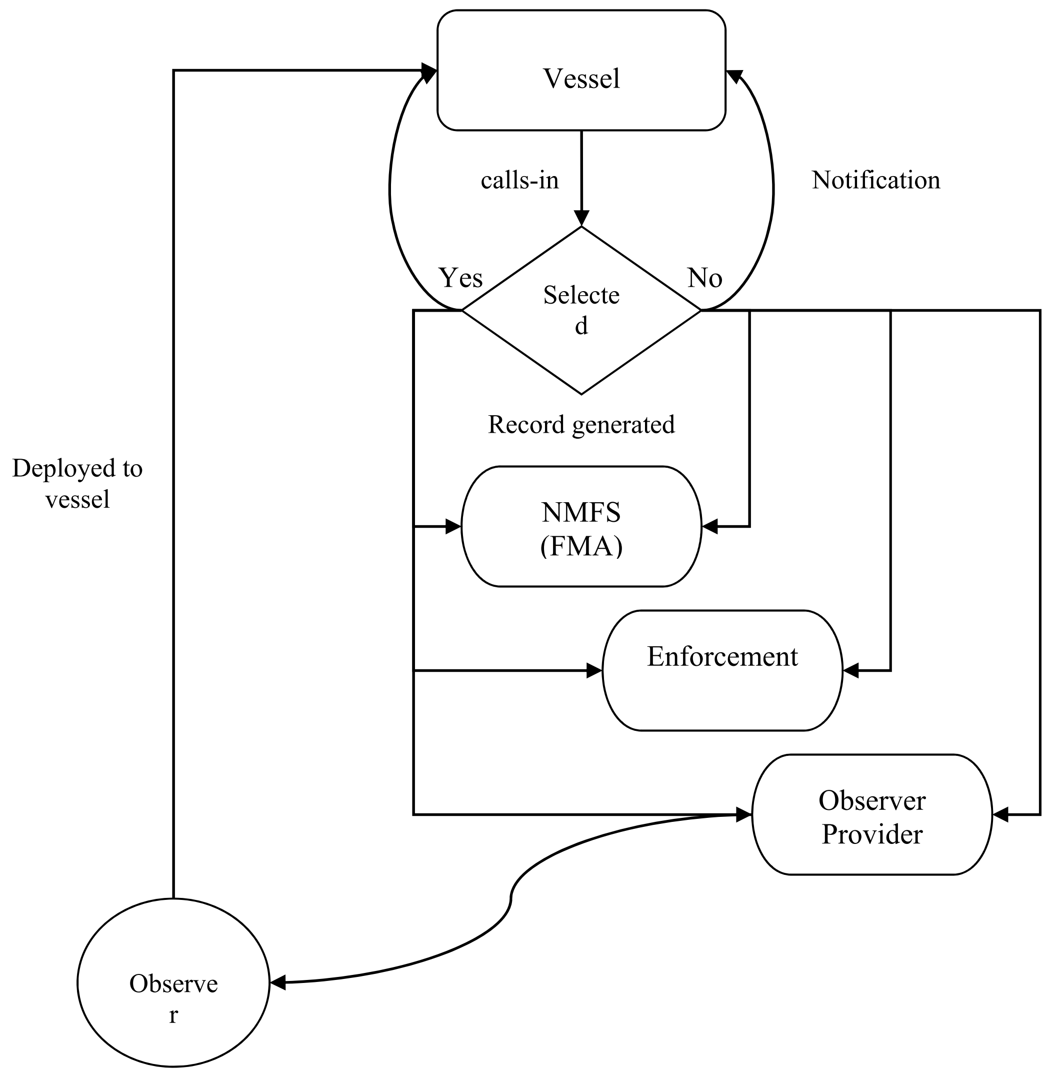
Two potentially viable primary sample units for observer deployment (effort) are the: (1) vessel for a predetermined time period, and (2) the fishing trip. In both cases bias introduced by non-representative fishing (i.e., the observer effect) is possible. Therefore, attempts should be made to reduce these potential negative effects in the design. A list of participating vessels is not stable from year to year, and vessels are not restricted to port, fishery, or gear type, making it difficult to develop a sampling frame. In addition, the ability of some vessels to fish as part of catch share programs with transferable quotas introduces the ability for a vessel, if selected to carry an observer, not to fish and still generate income. Generating a sampling frame from trips offers the advantage that regardless of target fishery or vessel identification, observer deployment will follow fishing effort of the fleet. For example, if most trips originate in Dutch Harbor and fish Area 509, then that is where the majority of observers will be deployed.

In practice, vessels would be placed into either a (1) vessel or (2) call-in (trip) selection list. For vessels within a vessel selection list, NMFS would randomly choose a subset of vessels based on Federal Fishing Permit number (FFP) to observe for subsequent fishing operations for a predetermined time period.[76] Vessels within a call-in selection list would be required to participate in a call-in system at least 72 hours prior to each trip (Figure 8).

For vessels subject to a call-in system, the vessel operator would place a call and be prompted to give their FFP number. This FFP number would be used to determine the sampling stratum (see next section) and thus the probability (based on a predetermined randomization protocol) of obtaining an observer for that trip (call). The decision as to whether or not that trip is selected to be observed would be generated during the call. The caller would be notified of the result, and the resulting record, unique call identification number, and observed/unobserved outcome would be sent to NMFS offices (anticipated to include FMA, AKRO, and enforcement), as well as the responsible observer provider. **Thus, the automated selection of calls (the surrogate for trips) to be observed would be based on a predetermined randomization protocol with known selection probabilities.** Observer providers would work with the vessel operator to coordinate observer logistics, as is conducted under the current deployment model (see *Contracting Process with Observer Providers*, Section 3.1).

[76]See Section 3.2.7.3.

Figure 8 **Flow diagram depicting series of events expected as part of vessel call-in system for observer deployment under restructuring Alternatives 2 through 5**



The new deployment model simplifies observer coverage requirements for vessel operators by shifting the onus of observer coverage from vessel operators to NMFS. Complex observer coverage requirements under existing regulations would be replaced with a simple "yes" or "no" decision as to whether their next trip is to be observed, and this information would be garnered from an FFP list for vessel selection, and a phone call placed prior to the start of each fishing trip for call-in selection. To reduce bias, the selection process would be automated, incorporate randomization with known selection probabilities, and notification would be immediate.

The new deployment model would be more difficult for NMFS to implement than the current system and would incur starting costs. The need to generate adequate sampling frames and rates for trip selection probabilities would incur analytical costs (Cotter et al. 2002). Since knowledge as to the location (port) and timing of trips is not known well in advance, the new model would likely require a pool of observers at major ports to be available for deployment. Since each observer would not be deployed instantly, this type of system places inefficiencies into the logistics of deployment, warranting costs to be paid in advance through a fee-based system.

Vessels subject to a vessel selection system would be randomly selected in advance of the fishing year, and NMFS would notify the owners via letter and identify that they had been selected for some set period of time. NMFS would then work with the selected vessel to assess fishing plans and arrange for observers. In discussions with industry, NMFS has referred to this vessel selection process as "pilot" work. This is because NMFS and fishery participants proposed to be in the vessel selection sampling unit have not had routine observer coverage in the past, and the fleet is large and diverse. Thus, NMFS anticipates operational challenges that would need to be worked out in the first year(s) of implementation. Further discussion of the selection systems is provided following the section below on proposed strata.

3.2.7.2 Strata

Identification of proper strata for sampling is important since it increases sampling effectiveness. Identification of which sectors are required to have ≥100% observer coverage is an important consideration under the alternatives, and has implications as to how costs are determined for each sector. Currently, the regulatory requirement used for observer deployment is vessel-days fished per fishery per quarter. Consequently, vessels are now divided into three strata based on a combination of vessel size, gear type, target fishery, and whether the vessel belongs to a catch share program. These include the: (1) 100% fleet, (2) 30% fleet, and (3) unsampled 0% fleet.

Under Alternatives 2 through 5, these three strata are reduced to two, defined as: (1) vessels that will be fully observed at the level of the trip (the ≥100% fleet), and (2) vessels that will be randomly sampled. **Since the proposed primary sample unit is the individual fishing trip, designation of which strata each trip belongs to must be made based on characteristics that are observable and known *before* the trip occurs.** Use of target fishery to stratify observer coverage is problematic because the principal species and areas targeted are not always those realized during fishing operations (Borges et al. 2005). However, metrics related to fishing power, location, and time to designate strata have been used effectively (Rago et al. 2005). In Alaska, it is currently recognized that trip characteristics differ between: 1) catcher vessels, and 2) catcher processors and motherships. Because they can process fish at sea, trips originating from CPs and motherships are expected to be of longer duration than those originating from catcher vessels of a similar size. As a result, the size of the pool of trips among the fleet realized during a fishing season will be smaller for CPs and motherships than for CVs. In recognition of these facts, catch reporting requirements established by NMFS and the way in which data are utilized in the CAS currently differ between the two vessel types. Thus, there is an established rationale to warrant the stratification of the sampling design to sample trips from different vessel types at different rates.

Full coverage stratum: ≥100% coverage

The first stratum to be considered is vessels that would be fully observed (i.e., ≥100% coverage). Currently, there exist multiple regulations that mandate ≥100% observer coverage on CPs and motherships because of inclusion of these vessels in catch share programs such as the CDQ Program, the AFA, and BSAI Amendment 80.[77] However, there are also CVs participating under catch share programs that have 100% observer coverage requirements. These include the CVs participating in the GOA Rockfish Program and the Bering Sea pollock fishery (proposed Amendment 91 to the BSAI FMP). The rationale for such high coverage derives from the way the fisheries are managed. Since NMFS deducts both retained and discarded catch from allocated quota, there exists economic incentive to underreport

[77] In addition, there are efforts underway by the Freezer Longline Coalition to form a cooperative for BSAI Pacific cod freezer longline vessels through Congressional action.

discarded catch at-sea, and this incentive may be increased under catch share programs (Branch et al. 2006).

Full observer coverage requirements have also been implemented in Australia and New Zealand catch share programs that are identical to those used in the North Pacific (Beddington et al. 2007). **For these reasons, the 100% stratum is proposed to include: (a) trips originating from CPs and motherships, and (b) CVs fishing within a management system that uses prohibited species caps in conjunction with catch share programs (Table 64).**

Table 64 Summary of vessels, shoreside plants, and management programs included in the ≥100% coverage stratum

Stratum Full-coverage (≥100%)
All catcher processors and motherships[1]
All catcher vessels fishing cooperatives with transferable quotas.[2,3]
Shoreside processors taking deliveries of AFA and CDQ pollock

[1]Includes FV *Golden Fleece*.
[2]Includes all trips conducted by AFA eligible CVs in the Bering Sea (regardless of intent or realized catch) and existing Central GOA Rockfish Program.
[3]An exception to this category is the halibut and sablefish IFQ fisheries, which would be in the <100% coverage stratum under the proposed action.

The revised definition of the full coverage stratum eliminates vessel length criterion from observer deployment regulations. This is important because there are several incentives towards building a 58' or 59' vessel with high fishing power, one of which is to avoid observer coverage requirements.[78] These incentives have given rise to a new class of "Super-8" vessels over which NMFS has expressed concern to the Council in documents related to observer restructuring and management of the GOA Pacific cod fisheries.[79] Under restructuring, CPs of this class would be included in the full coverage stratum.[80]

Partial coverage stratum: <100% coverage

Having defined the *full coverage stratum*, trips originating from all remaining fishing vessels comprise the sampled, or *partial coverage stratum*. The coverage rate achieved (observed trips out of the total) for remaining trips is the direct result of the interplay between the number of vessels fishing and the amount of revenue available for deployment. Both of these variables change among Alternatives 2 through 5. Given a fixed cost of an observer day^{-1}, observer coverage will be inversely proportional to the number of fishing days realized from trips within the sampling frame and proportional to revenue generated.

Analyses were conducted to identify groups of trips with similar total weights that could be identified by characteristics known before a trip begins. Three groups were identified from each gear type. For fixed gear, groups were defined as: (1) vessels <57.5', (2) vessels 57.5' - 96.5', and (3) vessels >96.5' LOA. For trawl gear, groups were defined as: (1) vessels <86.5', (2) vessels 86.5' – 152', and (3) vessels >152' LOA (refer to **Appendix 9**). These groupings were used as a guide for the identification of stratum for deploying observers within the partial coverage portion of the fleet. The number of vessels and trips that occur within fixed gear sectors of the fleet <57.5' LOA greatly outnumbers those above this size;

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[78] Loy, W. 2009. *Opponents say new 'Super 8' cod boats are just too good.* Pacific Fishing, August: 12 - 13.
[79] NOAA Office of Law Enforcement and North Pacific Fishery Management Council. 2009. Discussion paper on vessel capacity limits. Accessed 07/10/09 at http://alaskafisheries.noaa.gov/npfmc/analyses/VesselCapacityDisc509%20.pdf.
[80]In addition, inclusion of all vessels within the remaining stratum (less than 100% coverage) incorporates vessels less than 60'.

potentially overwhelming a call-in system of deployment. Furthermore, the nature of fishing trips undertaken by smaller vessels of this gear type would place logistical constraints on observer deployment. For example, it would be very difficult to deploy an observer aboard a small vessel in a remote port and to have that observer stand-down in case of inclement weather that would more likely prohibit a smaller vessel from fishing than a larger one. **Because of these concerns, it is proposed that fixed gear vessels <57.5' participate in a vessel selection system, whereby Federal Fishing Permits are randomly selected for observer coverage for some predetermined time period. Further, it is proposed that fixed gear vessels ≥57.5' and all trawl vessels (regardless of length) participate in a call-in system for observer deployment.**

Small vessels pose a unique challenge to onboard observer programs that include safety, space, and a large contingent of participants that have never had observer coverage requirements and are unfamiliar with the program in the North Pacific. For these reasons, a determination of a vessel size class below which onboard observers would not be required was desired for initial restructuring efforts. Quantitative analyses to support such concerns are difficult; however, the following approach was adopted. Using landings data in Appendix 9 as a basis, cumulative distributions of catch and trips for each gear sector by size class were generated and used to generate difference values. These difference values reflect the relative gain in sampling efficiency by comparing the total trips to the total weight for the fleet up to a given length. These as well as the number of participants, trips, self reported discards, and diversity metrics are provided in **Appendix 10**. Note, however, that vessels in categories which are not proposed to be covered by observers in the near future (refer to Table 65) are not exempt from the program. These vessels would still be required to contribute fees and they could be required to take observers in the future.

For the small boat designation, only values for the fixed gear fleet up to 57.5' LOA were included in the analyses, since these represented the population of the vessel selection fleet (Figure L3, Appendix 10). The size cut-off that corresponded to the maximum difference, or gain value was chosen as the cutoff for small boat designation. Vessels below this size accumulated trips much more than total weight, whereas vessels above this size accumulated weight faster than trips. This method is similar to that used in regression tree models. Not surprisingly then, the value from this analysis was determined to be 39', which is very close to the 40' identified in the regression tree model (Table M1, Appendix 9). If a 40' designation for small boat status were used as a lower limit for the deploying of observers, and the landings data used in this analysis were realized, it would have meant that 41% of fishing trips (n = 8,824) in the fixed gear sector would have had no possibility of being observed, at a 'cost' of 9.2% of the total catch (29,892,626 lbs) having no possibility of being observed (Figure L2, Appendix 10). For comparison, current deployment regulations (60' length criteria) under the same assumptions result in 86% (n = 18,485) of trips and 62% of total weight (201,820,980 lbs) having no possibility of being observed.

Comparing the total weight of landings made by gear type, it was not considered necessary for observer coverage to be expanded to jig vessels at this time (Figure 9). Based on the above, the following designations within the partial-coverage stratum are proposed (Table 65). These proposed initial designations within the partial coverage stratum could and would likely change over time, without being codified in regulation. All fishery participants would still be subject to fee collection and coverage when selected by NMFS. What is proposed is a starting point for the restructured program, which is expected to evolve over time as new observer data become available and the program responds to future information needs of NMFS and the Council.

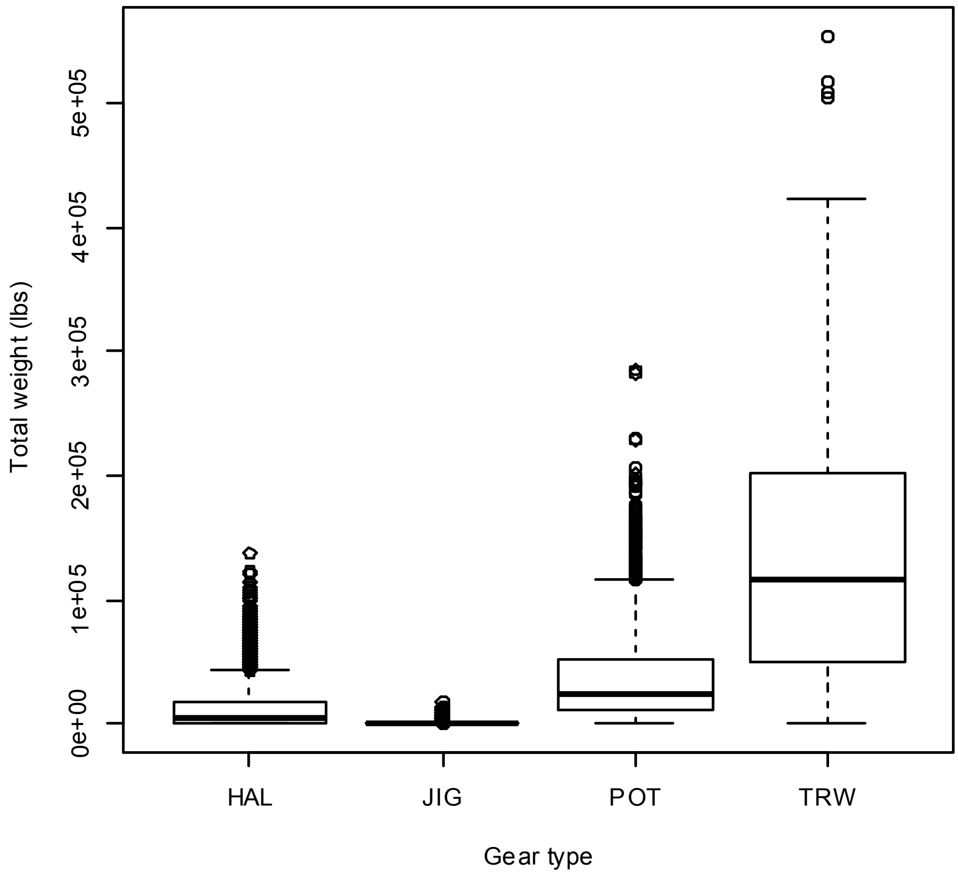

Figure 9 **Box plot of total weight from individual landings reports made during 2008 by catcher vessels fishing with hook-and-line, jig, pot, and trawl gear**

Note: Box plots depict the median (represented as the horizontal line), the 25th and 75th percentiles (i.e., the location of the middle 50% of the data). Dashed lines and bars show the smaller of the maximum value or 1.5 times the interquartile range of the data. Points located outside of the bars are plotted individually as outliers.

Consistent with current regulations, the total weight of landings made by gear other than hook-and-line, pot, and trawl gear was not considered necessary for observer coverage. Based on the above, the following designations within the partial-coverage stratum are proposed (Table 65).

Table 65 Summary of vessels included in the partial coverage stratum and their method of selection for observer coverage for the first year of restructured implementation

Stratum Partial-coverage (stratum name - selection type)
Catcher vessels using jig or troll gear (Misc. gear: initially no selection)
Catcher vessels using pot or hook-and-line gear ≤40’ (Small boat: initially no selection)
Catcher vessels using pot or hook-and-line gear >40’ - <57.5’ (Fixed gear: vessel selection)
Catcher vessels using pot or hook-and-line gear ≥57.5’ (Fixed gear: call-in selection)
Catcher vessels using trawl gear (Trawl gear: call-in selection)

During meetings with industry associations, NMFS was asked to address the specific needs for information from currently unobserved fishing, specifically the commercial halibut fishery. As the analyses in Appendix 9 reinforce, the halibut fishery can be considered a subset of the fixed gear fleet. Observers assigned to halibut vessels would collect the same information as in other fisheries: the composition and estimates of total species caught (not just retained portions), gear interactions with seabirds and marine mammals, and compliance with careful halibut release regulations (mortality assessments). As illustrated in Appendix 10, observer-derived estimates of discards appear especially necessary for vessels <60’ (Figures L4 and L7), which comprise a large component of the fixed gear sector (Figure L1).

3.2.7.3 Contingencies and details regarding the selection method (vessel versus trip)

As stated previously, vessels subject to a vessel selection system would be randomly chosen, in advance of the fishing year. NMFS would notify the owners via letter and identify that they had been selected for some set period of time. As fishery participants proposed to be in the vessel selection sampling unit have not had routine observer coverage in the past, and the fleet is large and diverse, NMFS would work with the selected vessel(s) to assess fishing plans and arrange for observers.

For vessels subject to a call-in system, the vessel operator would place a call and be prompted to give their FFP number. This FFP number would be used to determine the sampling stratum and, thus, the probability of obtaining an observer for that trip (call). The caller would be notified during the call of the decision as to whether or not that trip has been selected to be observed. NMFS anticipates operational challenges associated with both systems in the first year(s) after implementation.

Vessel selection and call-in selection systems have been successfully implemented elsewhere. Examples of programs which are using vessel selection systems for observer deployment in the U.S. include, the Northwest Fishery Science Center (NWFSC, 2008) the Alaska Marine Mammal Observer Program (AMMOP), and the Alaskan crab fishery observer program managed by the Alaska Department of Fish and Game (ADF&G). Examples of trip selection systems within the U.S. include the Northeast Fishery Science Center (Rago et al. 2005; Wigley et al. 2007) and the Pacific Islands Fishery Science Center (McCracken 2008). Call-in systems in these regions require vessels to notify NMFS of the intended fishing area and date 72 hours in advance, in order to generate an anticipated need for observers at a given port and time. An observer deployment pilot project with similar call-in logistics was implemented in Kodiak, Alaska, by NMFS and the Pacific States Marine Fisheries Commission during 2003 and 2005. The project deployed observers in a rockfish and flatfish trawl fishery in the Central Gulf of Alaska, and included nearly the entire Kodiak CV fleet and all the shoreside processors that participated in the July rockfish fishery. Although trip and area selection criteria were not based on the randomization scheme proposed here, the project demonstrated that the deployment of observers using a call-in system (in this case with a notification consisting of 24 hours) is possible,[81] while observer providers reported reduced contingency planning and economic inefficiencies.[82]

Vessel selection: duration of coverage and exemption criteria

Contingencies would be expected under any proposed system. For vessels in the vessel selection list, a vessel may feel that it is unsafe or that a crew member would need to be eliminated to accommodate an observer.[83] In these cases, a vessel operator may petition NMFS for an exemption stating the mitigating conditions. Requests for exemptions would prompt a vessel inspection by NMFS personnel to assess the safety and logistics issues. If it is determined that the vessel cannot be assigned an onboard observer for safety or logistical reasons, the vessel could be considered for electronic monitoring, when NMFS has that capacity developed and has implemented EM as part of the monitoring program. Lacking an EM alternative, NMFS could issue an exemption letter and not require an observer.

In June, the Council asked NMFS to provide further information as to what criteria would be used to determine whether a vessel in the vessel selection system (fixed gear vessels >40' - <57.5') would be exempted from coverage. NMFS staff conducted a workshop on small boat observation in 2003 and would develop criteria based on information derived from that workshop, agency experience, and information obtained during outreach meetings with industry. In short, there is no simple formula for deciding to place an observer on a vessel, but there are a range of factors the agency would consider.

Key factors include:

1. The distance the vessel will be operating from shore can change the safety requirements and the time the vessel will be at sea.
2. The type of gear being used, as that impacts deck space and safety considerations.
3. The size of fish being landed.
4. The vessels hold capacity, as that can impact trip duration.
5. The weather at the time of deployment.
6. The adequacy of berthing space.
7. The planned duration of the trip in the particular fishery observed.
8. Seasonality.
9. The general size, length and width, and layout of the vessel.
10. The general upkeep and age of the vessel.
11. The amount of deck space available for observer work.
12. Overall fleet characteristics and whether the vessel at issue matches them.
13. The experience of the captain and crew.
14. The size of the crew.
15. Feedback from the observers.
16. The safety of the observer.

In addition, the outreach efforts identified additional factors to consider. These include:

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[81] Various sources include: (1) personal communications, e-mail correspondence, and notes from Alan Kinsolving (NMFS), Dave Colpo (PSMFC), Jennifer Ferdinand (NMFS), Todd Loomis (formerly NMFS), Jen Watson (NMFS) and Rich Wawrzonek (NMFS) collected during May-June 2008 and (2) Observer Advisory Committee Report, January 30, 2006. Accessed online on 07/13/09 and available at: http://alaskafisheries.noaa.gov/npfmc/current_issues/observer/OAC_106minutes.pdf

[82] Unpublished draft report from Alaskan Observers Incorporated to NMFS dated 10/18/2005 obtained from AKRO by FMA.

[83] Regulations that specify the safety requirements of observers onboard vessels (including <60') exist and are used by other observer programs (e.g., AMMOP) in Alaska (50 CFR §600.746, also see Section 3.2.8).

1. The nature of any prior U.S. Coast Guard violations.
2. The ability/willingness of the vessel to use EM instead of a person.
3. Information as to whether the vessel is taking family members on board as crew.
4. The need to reduce crew size or supplement a life raft to be in compliance with U.S. Coast Guard requirements.[84]

NMFS envisions that vessels in this class would be selected in advance of fishing in any given year so vessel owners would be informed and could plan accordingly. NMFS would plan to notify each selected vessel via a registered letter one to two months before the fishing season. The letter would identify the time period during which a vessel would be required to notify NMFS 72 hours in advance of fishing so that an observer could accompany the trip. Initially, vessels would be selected in three month blocks. Selection would be with replacement, which means that a vessel selected in the first block of months would go back into the pool of boats and could be selected again in the following blocks. Given the large number of vessels in the available pool, NMFS expects that successive selections would be rare, but possible. NMFS Observer Program coordinators would travel to ports and meet with the selected vessel owner and/or captain and crew to discuss reported logistics or feasibility concerns. The majority of vessels in the vessel selection system would be hook-and-line vessels operating in the halibut/sablefish IFQ fisheries, so the time period may be adjusted to match logical increments of the fishing season.

Once a vessel has received notification that it has been selected for observer coverage, the NMFS observer coordinator would contact vessel personnel to discuss logistics. Whenever possible, the observer and a program coordinator would visit the vessel, meet with the captain and crew, familiarize themselves with how to sample onboard, and confirm the emergency equipment onboard. The captain would then call and inform the observer program 72 hours in advance of departure for any fishing trip. The vessel would be responsible for providing accommodations and food for the observer.

Selected vessels would need to comply with the safety decal requirement. Many vessels already routinely request this dockside examination. If a vessel has a current decal that would not expire during the time an observer would be onboard, an additional inspection would not be necessary. NMFS would not consider absence of a decal as a valid criterion for exemption from the observer coverage requirement.

Any determination to exempt a selected vessel from observer coverage during the selected time period would be made on a case by case basis by NMFS management level staff of the observer program. Coast Guard staff may be asked to evaluate a vessel when the issue involves a concern requiring their expertise. NMFS would not require an observer to board a vessel if there is a valid safety problem. If the reasons for not accommodating an observer appear solely to impede, impair, or interfere with observer efforts, the issue would be referred to NMFS Office of Enforcement.

NMFS recognizes that operating on smaller vessels is more challenging for both the crew and the observer. Several NMFS staff had the opportunity to observe on small vessels who volunteered to take them, or have been contracted for research work. In general, the agency's experience is that observation on vessels between 40' and 58' is both possible and practical in most cases, though accommodations must be made by both the vessel and observer. For example, one 38' vessel was able to accommodate an observer by clearing out a bunk that had been used for parts and tool storage. The observer, in turn, reduced his footprint on the vessel by taking a minimal amount of gear and adapting to the vessel size. In all cases, smaller vessels are best for experienced personnel with good interpersonal skills.

[84]Life rafts are an important consideration because many in the small boat fleet operate four person crews and have a four person raft. Staff in the NE Region of NMFS have faced this issue and addressed it by either: 1) requiring a crewman to sit out a trip for purposes of carrying the observer, or 2) supplemented the trip with an observer hand carried valise life raft, furnished by NMFS, which met the USCG requirement.

Vessels do not need to provide any special equipment for observers to do their work. Observers board a vessel with their own survival suit, sampling baskets, and scales for weighing fish. Observers need some deck space to measure and weigh fish and to take biological samples. In general, observers are usually able to work within the existing layout of vessels. However, industry may be able to assist by working with the observer or program staff to establish a safe place where the observer can work. There is no requirement for a small vessel to provide a sample station or motion-compensated flow or platform scales; those requirements are restricted to large factory vessels.

Any vessel that NMFS determines is physically impractical for human observation would need to accept EM as an alternative at such time that NMFS has the capability to deploy EM and effectively use the resulting data to meet sampling objectives. The development of EM holds potential as an alternative, or a supplement, to an observer in some cases. As stated previously, NMFS and the Council are actively exploring EM as a potential alternative to human observers for specified types of vessels. The intent is to have this alternative available in the first year of implementation of a restructured observer program.

EM is well suited on some platforms as a compliance tool where there is a no-discard requirement, or for compliance with some required gear (e.g., streamer lines for bird avoidance). In addition, video has some demonstrated capability for species specific counts of fish in the hook-and-line fisheries. Weights, however, are challenging, and rapid extraction of information for use in fisheries with an in-season management component remains problematic. As part of its evaluation, NMFS will consider cameras on gear types where the information collected can meet the agency needs, and NMFS has developed the infrastructure needed to manage a video program. Installing video on a vessel is labor intensive and requires a skilled technician to visit the boat and perform the installation. In addition, technicians would be needed in the major ports to service the equipment. For these reasons, NMFS expects that vessels which are selected to take video would be required to have it onboard for the entire fishing year, in order to justify installation and maintenance costs. Fishing vessels would also need to ensure that the video continued to function at sea and be prepared to cease fishing if the EM system became disabled. This will help to make video a cost effective tool for fishery observation and help avoid intentional disabling of the system. (The current state of the technology is not tamper-proof, but it can be made tamper-evident.) Finally, as part of a future action to implement EM, NMFS would need to consider the cost and infrastructure needed to extract information from video, as well as other tools to supplement its use, such as logbooks.

Issue of permit selection versus vessel selection in IFQ fisheries

In June, the Council also requested that NMFS consider selecting permit holders in the IFQ fisheries to carry observers as opposed to the proposed plan to select vessels. Note that the vessel selection approach was proposed after considering industry response during various outreach meetings conducted during the spring of 2010. However, public testimony during the June Council meeting suggested that if a vessel was selected for coverage, IFQ holder(s) could elect to fish their quota on another boat, thereby avoiding coverage entirely. Thus, suggestions were made to consider selecting permits instead of vessels.

NMFS has carefully considered the suggestion to assign coverage to a permit holder instead of a vessel, and has identified several concerns. The first concern, also identified and discussed in the outreach meetings, is that the selected permit holder would have an additional burden that could make it difficult for the permit holder to fish his or her IFQ. For example, a vessel may be hesitant to take the selected permit holder on a fishing trip because it would take on the burden of having its trip observed. Alternatively, the vessel could take a different permit holder who had not been selected for observer coverage.

Further, permit holders are allowed to fish their quota on multiple boats, which poses numerous concerns. Each vessel used to fish the selected permit holder's IFQ would thus require observation. Predicting this in advance would not be possible as it would depend entirely on the behavior of the permit holder. Leased quota would be particularly susceptible to this scenario. Another complication related to the ability of a permit holder to fish his or her IFQ off multiple boats is that it would be very difficult to implement the emerging EM technology should it be required instead of an observer. An EM system could be installed, with associated costs for installation and maintenance, yet there is nothing that ties a permit holder to a specific vessel. Thus, a selected permit holder could start IFQ fishing on a boat, NMFS could install an EM system on the vessel, and the permit holder could move to another boat. The EM system would need to come off the first boat, because it would be tied to the permit holder rather than the vessel. EM technology would be better enabled by vessel selection as the vessel and time period would be known.

Another issue is that the vessel size would not be known in advance, as the different vessel categories of QS can be 'fished down' and used on a smaller vessel. For example, B category shares can be used on C category vessels, C category shares can be used on D category vessels. A selected permit holder could choose to fish his IFQ on a vessel less than 40' LOA, and those vessels are not currently proposed for selection. Depending on the vessel size category of IFQ, a permit holder could also choose to fish on a vessel greater than 57.5'. Fixed gear vessels >57.5' have a different process for calling in and having trips selected (refer to Table 65).

In review, there is the potential for manipulation of the observer deployment system whether vessel selection or permit selection is applied. Vessel selection appears to be the most straightforward approach to obtain coverage, it is consistent with the length and selection criteria for other fisheries, and it would enable the development of EM as the specific vessel would be identified in advance of the fishery. However, having the latitude to select either vessels or IFQ permit holders for coverage would allow NMFS to adapt to fleet behavior should avoidance become a widespread problem. Having considered the alternatives, NMFS continues to propose a vessel selection process in the first year of coverage, with the intent to report to the Council on industry's response to that approach under the annual reporting mechanism proposed in Option 2. If it appears that coverage avoidance behavior is a widespread problem, NMFS could use some level of permit selection as an alternative mechanism to obtain coverage. NMFS would need to work with fishing associations to encourage their membership to work with the program to avoid the perception of coverage avoidance and manipulation, as these behaviors reduce the overall efficiency and could lead to bias concerns.

Trip (call-in) selection

For vessels in the call-in selection system, a contingency likely to occur is a vessel's failure to realize a trip it anticipated at call-in. This may happen as a result of unintentional (e.g., unforeseen vessel repair) or intentional (e.g., manipulation or 'gaming' by vessel operator) reasons. Under the current pay-as-you-go system, there remains the economic incentive to manipulate observer coverage to reduce real dollar costs to the vessel, and the vessel operator may be tempted to make a short, non-representative trip when an observer is onboard. Under the proposed fee-based system, observer costs are paid in advance, and consequently the costs associated with an assigned, but not deployed, observer are mostly realized in terms of foregone coverage. For these reasons, it is difficult to impose a penalty on the vessel to reduce gaming under either system. As stated by Hall et al. (2000): "…the determined violator can circumvent nearly any monitoring system employed to manage and enforce a fishery."

Rules could be imposed within the restructured system that could reduce the effects of 'gaming'. The first potential rule would be to assign an observer's deployment as the time from first departure from the dock until full offload of the associated catch. If this rule is not enacted and a trip end is not clearly linked to the offload, a vessel operator when observed may either artificially shorten his or her trip to catch and partially offload only a few pounds of fish, or choose not to offload and depart on a second unobserved trip. Likewise, if unobserved, a vessel operator may artificially inflate the duration of his or her trip by partially offloading all but a few pounds of their catch, and return to sea. The prohibition of partial offloads during unobserved trips would be necessary to reduce this possible observer effect.

An additional rule could be to mandate that a vessel may not depart for fishing, if assigned an observer, until that observer is on board. An observer would be assigned to a vessel for a stand-down period, during which, if that trip has still not been realized by the originally assigned vessel, the observer would be re-deployed to another vessel. Thus, there is a cost to intentional gaming of the system; i.e., vessel operators that stay at the dock longer than the stand-down period may not be able to fish when they wish because an observer may not be available to them. The specific time periods for such control rules would need to be developed to prevent gaming, while still being equitable to the fleet.

Further measures to mitigate the observer effect, discussed for consideration by the OAC, include 1) increasing the probability of a vessel being selected if it has very little (non-representative) harvest on an observed trip; and/or 2) providing a definition of a representative sample size or trip. Because such measures would be within the sample design, and not fixed in regulation, NMFS would have the flexibility to implement these or other mitigating measures to address problems should they occur. The key to controlling manipulative behavior is retaining the ability to respond and require coverage as appropriate in the particular situation. For example, NMFS could select sequential trips if vessel behavior was indicative of "observer tows". NMFS could also increase coverage for a particular vessel if it demonstrated a pattern of gaming behavior over time. The current industry control of observer deployment has resulted in non-random coverage in the majority of fisheries examined, whereas differences in the amount of fish retained between observed and unobserved trips were less prevalent. Therefore, agency control of deployment may reduce a major source of bias in observer data. Controls would be reserved for the few vessels that do regularly manipulate observer data Further development of control rules, as deemed necessary, could be implemented through proposed and final rule-making for the proposed action.

3.2.8 U.S. Coast Guard safety decal requirement for vessels

As outlined in regulations, all vessels selected for observer coverage must pass a USCG Commercial Fishing Vessel Safety Examination, prior to an observer deploying aboard the vessel (50 CFR 600.746 and 679.50). The only potential exception in current regulations is for vessels <26' LOA in remote locations.[85] If the vessel does not have a valid safety decal, it is considered inadequate for the purposes of carrying an observer. Observers are instructed not to board a vessel if the safety decal is absent or expired. Therefore, it behooves any vessel eligible to be selected for observer coverage to undergo a USCG safety equipment examination prior to being selected to carry an observer, to avoid potential fishing delays for lack of a current safety decal. Once issued, the decal is valid for two years.

There are three ways for vessel owners and operators to schedule a dockside examination:

1. Through the Coast Guard website: http://www.fishsafe.info/contactform.htm;

[85]See 50 CFR 600.746(g). This regulation states that if a vessel is <26' in length, and in a remote location, and NMFS has determined that the USCG cannot provide a USCG Commercial Fishing Vessel Safety Examination due to unavailability of inspectors or to unavailability of transportation to or from an inspection station, the vessel will be adequate for observer deployment if it passes an alternate safety equipment examination conducted by a NMFS certified observer, observer provider, or a NMFS observer program employee, using a checklist of USCG safety requirements for commercial fishing vessels <26' in length. Passage of the alternative examination will only be effective for the single trip selected for observer coverage.

2. By contacting the Seventeenth Coast Guard District safety coordinator:
   USCG District 17 CFUS Coordinator
   http://www.uscg.mil/d17/
   907-463-2810/2823
   Kenneth Lawrenson (Kenneth.Lawrenson@uscg.mil)

3. By contacting the nearest USCG Marine Safety Unit:
   - MSU Valdez
   - MSD Unalaska (907) 581-3466
   - Maritime Safety and Security Team Anchorage (MSST 91111) (907) 271-8165
   - North Pacific Regional Fisheries Training Center (NPRFTC) Kodiak (907) 487-5699

3.2.9 Proposed observer deployment in processing plants

With the exception of requirements associated with some specific fishery management programs, existing observer coverage in shoreside processing plants and stationary floating processors is currently based on the weight of groundfish delivered to the plant each month. Plants that process 1,000 metric tons of groundfish or more in a month are required to have an observer present at the facility each day it processes or receives groundfish in that month. Plants that process or receive between 500 metric tons and 1,000 metric tons of groundfish in a month are required to have an observer present at the facility at least 30 percent of the days it processes or receives groundfish in that month . In all shoreside plants, the plant observer's duties consist of compliance monitoring and data collection. Examples of compliance monitoring include verifying delivery weights recorded by scales to those reported on landings reports. A variety of biological samples from individual species are collected for stock assessments.

Some fishery management programs have specific requirements for plant observers. Currently, these include plants that receive deliveries managed under the CDQ program, the AFA, and/or the Central Gulf of Alaska Rockfish Pilot Program (RPP). Under the existing structure, shoreside plants taking deliveries of CDQ groundfish, AFA and CDQ pollock, and species harvested under the RPP are required to have an observer present at the plant at all times when these deliveries are being received or processed. Processing plants receiving Bering Sea pollock (AFA or CDQ) or RPP deliveries are required to have a Catch Monitoring and Control Plan (CMCP) that defines how each plant will sort and weigh fish during these deliveries. In these fisheries, the plant observer is tasked with confirming that a plant's activities conform to its stated CMCP.

While the coverage requirements are identical, the rationale behind plant observer requirements differs between CDQ, AFA, and RPP fisheries. For pollock deliveries (AFA and pollock CDQ), the observer deployed on the vessel conducts a census of the offload for prohibited species. Vessel-specific catch estimates are required in the Bering Sea pollock fisheries because prohibited species catch limits are vessel-specific, transferable among vessels, and can potentially constrain the fishery from harvesting the pollock TAC. Ensuring that an observer is available at all times during Bering Sea pollock offloads is especially critical for monitoring salmon bycatch. Because offloads can exceed 12 hours in duration, a major duty of plant observers during pollock deliveries is to relieve the vessel observer during his/her monitoring of the offload. In comparison to the pollock fishery, the RPP fishery is species diverse, and quotas for multiple target species can be limiting. Similar to CVs fishing open access, in RPP and CDQ groundfish fisheries, prohibited species catch accounting is based on data collected by the observer onboard the vessel rather than at the plant. A major duty of plant observers under the RPP is to monitor a plant's activities for compliance with its CMCP and ensure the efficient transfer of data for in-season management rather than to monitor for prohibited species catch.

The proposed alternatives for this action require that, similar to vessel coverage, shoreside processing plant coverage be categorized as either: 1) fully observed (≥100 percent coverage); or 2) partially observed (<100%). Under the proposed action, the amount of metric tons processed per month would no longer be the basis for determining shoreside processing plant observer coverage. Rather, coverage levels would be based on fishery management and monitoring needs. In evaluating current and anticipated plant observer duties, it is recognized that with one exception, the primary roles of plant observers would remain compliance monitoring and biological information collection.

AFA and CDQ pollock deliveries are the exception, and would continue to require a dedicated plant observer to monitor the offload as necessitated to manage transferable quotas of prohibited species. Therefore, plants taking deliveries of AFA and CDQ pollock are proposed to comprise the ≥100% stratum for shoreside operations. Consistent with current regulations, an observer would be required to be present for each 12 consecutive-hour-period of each day the processor takes delivery of or processes pollock from these fisheries. These coverage requirements generally necessitate that AFA inshore processors have two observers available each day they are taking pollock deliveries. In the future, this stratum may be expanded to include other fisheries if similar monitoring needs arise. Under a restructured program, it is envisioned that the primary responsibility for the salmon bycatch census required at offload for AFA and CDQ pollock shoreside deliveries would shift from the vessel observer, who may not be familiar with the operations at the plant, to the shoreside plant observer. The plant observer is likely more familiar with the plant layout and better positioned to conduct an accurate census of the offload.

Under a restructured program, shoreside plants accepting non-AFA and non-CDQ pollock deliveries and all non-pollock deliveries would be included in the partial (<100 percent coverage) stratum. In this stratum, plant observers would be assigned to multiple shoreside plants performing various duties to fulfill the monitoring needs of NMFS under a randomization scheme. Under such a system, similar to that anticipated for the at-sea component, offloads corresponding to trips would be nested within plants which would be nested within ports. **Observers would be assigned to ports and randomly assigned to offloads as they occur.** Greater probabilities for observer deployment may be warranted in plants where diverse deliveries occur (warranting increased monitoring and verification of industry-reported species identifications), as well as those that receive deliveries from fisheries managed with cooperatives (thereby increasing the need for rapid turnaround and transmission of data). However, at this time, the analysts do not believe the probability of selection for plant observers needs to be 100%. Random assignment of plant observers to processing plants maximizes efficiency of the plant observer, increases the odds that otolith and length samples would be taken throughout the fishing season and would therefore represent the catch of the fleet as required by stock assessment authors, and reduces the risk of deployment and observer bias. Actual sample sizes (number of deliveries observed or number of otolith and length samples obtained) and resulting sampling fractions (observed vs. total) would depend on the amount of revenue generated in prior years available for deployment and the number of trips realized in the target year.

It should be noted that under a restructured program, the fee structure for shoreside processing plants varies among each alternative, similar to that for vessels. Under Alternatives 2 through 4, plants that process catch from AFA and CDQ pollock deliveries and other fisheries in the same day will have dual revenue and costing requirements. Under each alternative, ex-vessel value based fees collected from CV deliveries would be used to fund a pool of observers that would be deployed at-sea and to plants as needed, while the cost of a dedicated AFA plant observer is charged directly to the plant that is required to carry the extra observer. Thus, the amount of fees collected by a shoreside processor from non-AFA catcher vessel deliveries is not necessarily related to the amount of observer coverage a plant receives. The fee structure of the alternatives for shoreside and inshore floating processors is as follows:

Under Alternative 1: Status quo; shoreside plants would continue under the current service delivery model.

Under Alternative 2: Shoreside and floating processing plants and motherships[86] operating in the GOA would collect and remit an ex-vessel value-based fee from CVs delivering halibut and groundfish. Shoreside, floating processing plants, and motherships operating in the BSAI would collect and remit an ex-vessel value-based fee for all halibut deliveries and groundfish deliveries received from CVs <60' LOA. Shoreside, floating processors, motherships, and CPs, operating in the BSAI taking groundfish deliveries from CVs ≥60' would continue to procure observers under the status quo regulations and service delivery model.

Under Alternative 3: Shoreside and floating processing plants and motherships operating in either the GOA or BSAI, would collect and remit an ex-vessel value-based fee for all halibut and groundfish deliveries, with the exception of BS pollock deliveries (i.e., the 100% shoreside stratum). Plants receiving BS pollock would also be required to procure a plant observer under the existing service delivery model at a rate of one observer for every 12 hours of processing time.

Under Alternative 4: Shoreside and floating processing plants and motherships operating in either the GOA or BSAI, would collect and remit an ex-vessel value-based fee for all halibut and groundfish deliveries, with the exception of BS pollock deliveries (i.e., the 100% shoreside stratum). Plants receiving BS pollock would also be required to pay a daily fee for their required 100 percent plant observer coverage at a rate of one observer for every 12 hours of processing time.

Under Alternative 5: Shoreside and floating processing plants and motherships receiving deliveries from the groundfish and halibut fisheries would be responsible to collect and remit an ex-vessel value-based fee from vessels delivering halibut and groundfish.

As noted above, the alternatives and their associated observer fee structures are complicated by the inclusion of vessels <60' LOA in the BSAI under Alternative 2, and the potential for processing plants receiving Bering Sea pollock deliveries (AFA and CDQ) to have to manage a combination of observer fees and coverage requirements as a result of meeting the criteria for both fee types or service delivery models under Alternatives 2 through 4.

3.2.10 Allocation and deployment of observers

To achieve its multiple objectives, restructured observer program would need to deploy observers into the Alaska groundfish and halibut fishing fleets efficiently. When, under cost constraints, sampling is conducted to achieve maximum efficiency, optimization is said to occur. Fully optimized deployment of North Pacific observers is, therefore, an appropriate goal of the restructured program. However, there are multiple obstacles that need to be addressed before a fully optimized deployment and allocation of observers can be achieved by a restructured observer program. What follows is a description of the process by which an optimized observer program could be developed in the North Pacific, and draws on information from past efforts towards similar ends within the AFSC, and from other U.S. observer programs. Since the observer program employs a hierarchical sampling design, the discussion of

[86]Includes CPs acting as motherships (i.e., those that receive unsorted catch from CVs).

allocation refers to the primary unit of the design (i.e., trips). The reasoning behind this is that trips are composed of days, which is the unit of cost, and since a restructured program would use funds collected from prior years to pay for the deployment of observers in a given fishing year, it would be operating under cost constraints.

The allocation strategy used to deploy observers is dependent upon inputs from other parts of the sampling design. These include the designation of the objectives, sampling frame, sample selection procedures, and sampling stratum previously discussed in this section. When combined with allocation, these steps designate the appropriate estimator of catch or discards and respective associated variance (Figure 10).

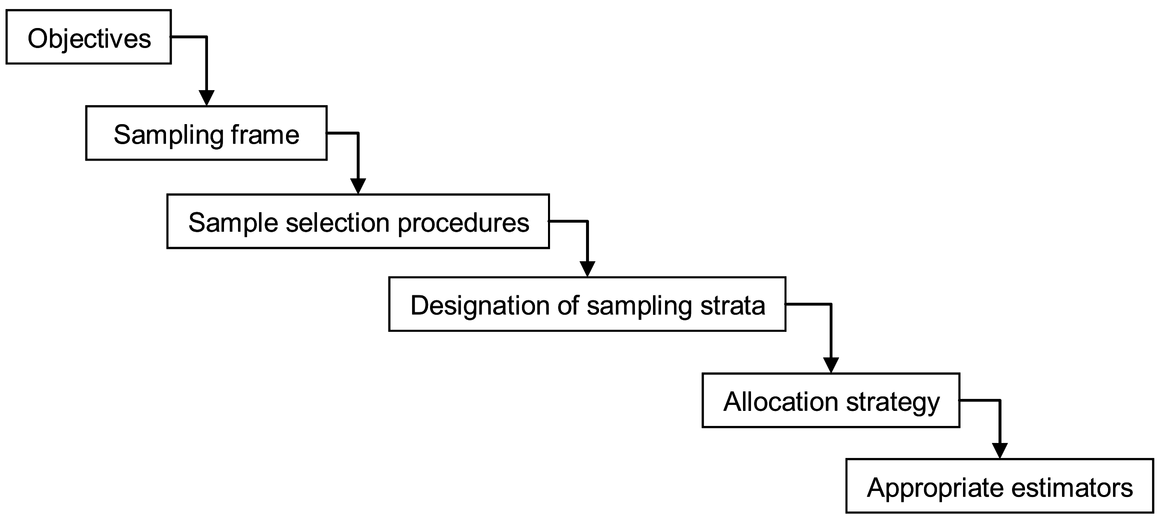

Figure 10 Sample design hierarchy

There are three obstacles that need to be overcome before a fully optimized deployment of observers can be achieved for the Alaska groundfish and halibut fisheries. The first is to eliminate sectors with no observer coverage (i.e., prior information) from which to make estimates with associated variance. For example, vessels less than 60’ in length and those fishing halibut IFQ are not presently observed. For this reason, the CAS uses discard rates (discards as a proportion of total) from hauls sampled by observers aggregated over a domain or fishery, and applies these rates to industry reported retained groundfish under similar aggregation rules (Cahalan et al. 2010).

The second obstacle is to set a performance standard. A performance standard is the amount of acceptable error in an estimate (i.e., precision). The precision of the estimate can be measured in terms of the coefficient of variation (CV). The CV is defined as the square root of the variance in the estimate, divided by the estimate itself, and is a measure of how much uncertainty is present in relative terms of the mean estimate. The lower the CV, the greater the precision of the estimate. When samples are collected independently under a randomization scheme, the law of large numbers can be applied to the resulting data. For large sample sizes, the CV of an estimate will be inversely proportional to the square root of the sample size. Thus, an increase in the number of samples will reduce the CV, but there are diminishing returns in terms of CV for each additional sample. If the relationship between sample size and cost can be considered fixed and linear, the relative tradeoff between increased sample size, reduction in precision, and cost can be determined (Figure 11, NMFS 2004(b)). Figure 11 shows an example of such relationship, showing how the coefficient of variation of an estimate of bycatch is reduced as the sample size of the catch increases. As the sample size increases, the cost of sampling increases.

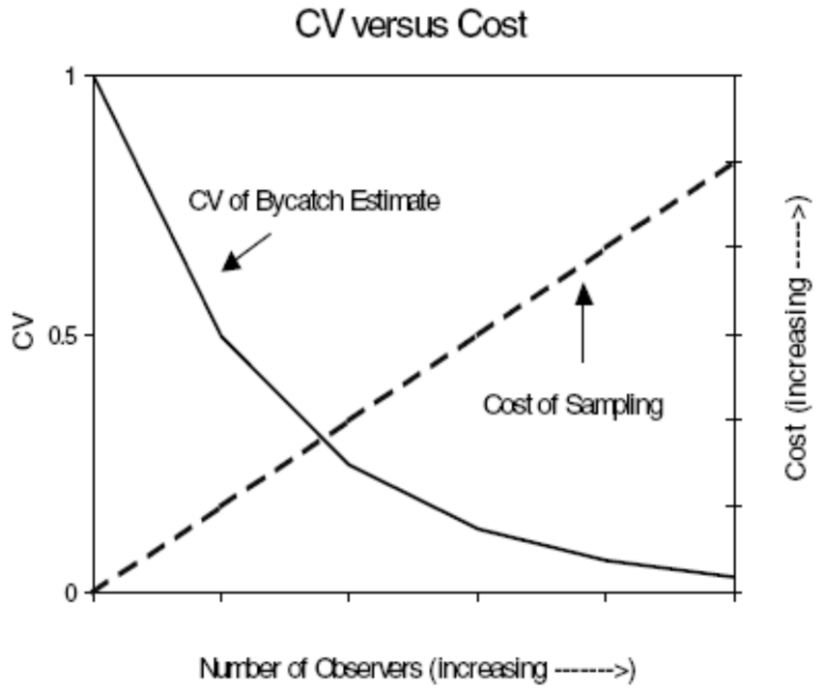

Figure 11 **Example of the relationship between the (a) cofficient of variation (CV) of the estimate (left y-axis) and (b) cost (right y-axis) to sample size (x-axis)**

The generation of variance estimators for at-sea discard of groundfish in the CAS is presently complicated by many factors that include the lack of randomization in observer deployments, use of industry and PRR reports, imputation routines and post-stratification of the data (Cahalan et al. 2010). Consequently sample-size calculations, such as those shown in Figure 11, cannot be conducted, though research into alternative estimators and their properties within the CAS through simulation is underway.

Given the above, past efforts can alternatively be used to guide determination of an appropriate performance standard for the restructured observer program. The estimation of at-sea discards is a major priority of observer sampling programs in the U.S. (e.g., Rago et al. 2005). In *Evaluating Bycatch: A National Approach to Standardized Bycatch Monitoring Programs*, NMFS (2004b) set a performance standard for this objective for protected species and fishery resources. Specifically NMFS (2004b) reads:

> *Protected species*
>
> *For marine mammals and other protected species, including seabirds and sea turtles, the recommended precision goal is a 20-30% CV for estimates of bycatch for each species/stock taken by a fishery.*
>
> *Fishery resources*
>
> *For fishery resources, excluding protected species, caught as bycatch in a fishery, the recommended precision goal is a 20-30% CV for estimates of total discards (aggregated over all species) for the fishery; or if total catch cannot be divided into discards and retained catch then the goal is a 20-30% CV for estimates of total catch.*

The above are recommended to be adopted as target performance standards for the restructured observer program.

The effective deployment of observers under a restructured program can be termed as the sampling efficiency. The sampling efficiency of the observer program has been under internal scruitiny since its inception. Over the past two decades, AFSC and contracted scientists performed a variety of analyses to show expected CV within various fisheries at various levels of observer coverage (Dorn 1992a, Dorn 1992b, Dorn 1992c, Dorn et al. 1997b, Volstad et al. 1997). All of these studies included use of a two-stage estimator, whereby observed hauls and trips are expanded to total hauls and trips under the assumption that they are collected randomly (with equal probability of selection) and are, thus, representative (Cochran 1977). In order to calculate variance, these researchers were required to use source data for which ≥100% coverage was mandated (Volstad et al. 1997) or simulation techniques. Of interest to the proposed action is the expression of sampling fraction as a percent coverage (0%-100%) of trips required to achieve a 10%-30% CV (values of 0.1 – 0.3) in resulting catch estimates, which are depicted in Table 66.

Table 66 Summary of past sample-size analyses made using a two-stage estimator

Authors	Year	Data Year	Fishery: Species or species group	Coverage % required for 0.1 CV	Coverage % required for 0.2 CV	Coverage % required for 0.3 CV	CV at 30% Obs.	CV at 100% Obs.
Dorn et al.	1997	1996	*					
			BS Pollock A mid-water CPs: Pollock[1,3]	20	<10	<10	0.07	<0.01
			BS Pollock A mid-water CPs: Cod[1]	50	20	10	0.15	0.03
			BS Pollock A mid-water CPs: salmon[1]	80	50	30	0.28	0.04
			BS Cod bottom trawl (100% boats): Cod	40	10	<10	0.11	0.01
			BS Cod bottom trawl (100% boats): Pollock[3]	40	20	<10	0.13	0.02
			BS Cod bottom trawl (100% boats): Halibut	50	20	10	0.14	0.01
			BS Cod bottom trawl (100% boats): Pacific Ocean Perch	NP	90	70	0.58	0.13
			BS Cod bottom trawl (100% boats): Tanner crab	90	60	40	0.39	0.05
			BS Cod bottom trawl (30% boats): Cod	10	<10	<10	0.06	<0.01
			BS Cod bottom trawl (30% boats): Pollock	40	20	<10	0.13	0.01
			BS Cod bottom trawl (30% boats): Halibut	30	10	<10	0.10	0.01
			BS Cod bottom trawl (30% boats): Pacific Ocean Perch	NP	100	90	1.05	0.20
			BS Cod bottom trawl (30% boats): Tanner crab	90	70	50	0.45	0.04
			BS longline Cod: Cod[2]	<10	<10	<10	0.04	<0.01

Authors	Year	Data Year	Fishery: Species or species group	Coverage % required for 0.1 CV	Coverage % required for 0.2 CV	Coverage % required for 0.3 CV	CV at 30% Obs.	CV at 100% Obs.
			BS longline Cod: Halibut[2]	20	<10	<10	0.08	0.01
			BS longline Cod: Turbot	NP	NP	NP	0.80	0.43
			BS longline Cod: Sablefish[2]	100	80	60	0.49	0.10
Volstad et al.	1997	1994	**					
			BSAI Pollock A season: Total catch[3]	50	20	<10	0.14	<0.01
			BSAI Pollock A season: Pollock[3]	50	20	10	0.14	<0.01
			BSAI Pollock A season: Cod[3]	80	50	30	0.29	0.02
			BSAI Pollock A season: Rock sole[3]	100	80	70	0.58	0.03
			BSAI Pollock A season: Chinook salmon[3]	90	50	30	0.39	0.06
			BSAI Pollock A season: Other salmon[3]	100	80	60	0.53	0.07
			BSAI Pollock A season: Herring[3]	NP	NP	NP	1.13	0.32
			BSAI Pollock CDQ: Total catch[3]	100	90	80	0.73	0.03
			BSAI Pollock CDQ: Pollock[3]	100	90	80	0.94	0.03
			BSAI Pollock CDQ: Cod[3]	100	90	80	0.93	0.08
			BSAI Pollock CDQ: Rock sole[3]	NP	100	90	1.05	0.16
			BSAI Pollock CDQ: Chinook salmon[3]	NP	NP	100	1.50	0.23
			BSAI Pollock CDQ: Other salmon[3]	NP	100	90	1.32	0.22
			BSAI Pollock CDQ: Herring[3]	NP	NP	NP	1.72	0.57
			BSAI Pollock B season: Total catch[3]	40	20	10	0.12	<0.01
			BSAI Pollock B season: Pollock[3]	40	20	10	0.12	<0.01
			BSAI Pollock B season: Cod[3]	60	30	20	0.18	0.02
			BSAI Pollock B season: Rock sole[3]	80	50	30	0.28	0.03
			BSAI Pollock B season: Chinook salmon[3]	90	60	40	0.36	0.07
			BSAI Pollock B season: Other salmon[3]	100	70	50	0.47	0.04
			BSAI Pollock B season: Herring[3]	90	50	30	0.31	0.05
			BSAI Yellowfin sole: Total catch	70	40	20	0.22	<0.01
			BSAI Yellowfin sole:	70	40	20	0.22	0.01

Authors	Year	Data Year	Fishery: Species or species group	Coverage % required for 0.1 CV	Coverage % required for 0.2 CV	Coverage % required for 0.3 CV	CV at 30% Obs.	CV at 100% Obs.
			Yellowfin sole					
			BSAI Yellowfin sole: Pollock	70	40	20	0.24	0.01
			BSAI Yellowfin sole: Cod	70	40	20	0.23	0.01
			BSAI Yellowfin sole: P. halibut	80	60	30	0.32	0.03
			BSAI Yellowfin sole: Bairdi crab	90	60	40	0.37	0.02
			BSAI Yellowfin sole: Other tanner crab	90	60	40	0.37	0.02
			BSAI Yellowfin sole: Red king crab	100	80	70	0.59	0.08
			BSAI Yellowfin sole: Other king crab	100	90	70	0.61	0.07
Dorn	1992a	1991	***					
			BS Pollock A mid-water: Pollock[3]	<10	<10	<10	<0.01	<0.01
			BS Pollock A mid-water: Cod[3]	60	30	20	0.17	0.03
			BS Pollock A mid-water: Rock sole[3]	90	65	10	0.37	0.07
			BS Pollock A mid-water: Salmon[3]	NP	80	60	0.35	0.17
			BS Pollock A mid-water: Halibut[3]	NP	NP	90	0.31	0.24
			BS Cod bottom trawl: Cod	<10	<10	<10	0.05	0.01
			BS Cod bottom trawl: Pollock	50	20	<10	0.16	0.05
			BS Cod bottom trawl: Pacific Ocean Perch	NP	100	70	0.57	0.20
			BS Cod bottom trawl: Halibut	70	30	20	0.14	0.06
			BS Cod bottom trawl: Tanner crab	90	50	30	0.31	0.08
Dorn	1992b	1991-1992	****					
			BS pot fishery: Pollock	90	70	50	0.35	0.08
			BS pot fishery: Cod	<10	<10	<10	0.02	0.01
			BS pot fishery: Red rockfish	100	70	50	0.46	0.11
			BS pot fishery: Halibut	80	60	50	0.45	0.03
			BS pot fishery: King crab	NP	100	90	0.80	0.14
			BS pot fishery: Tanner crab	90	70	60	0.48	0.06
			GOA pot fishery: Pollock	100	90	80	0.26	0.04
			GOA pot fishery: Cod	<10	<10	<10	0.01	<0.01
			GOA pot fishery: Pelagic shelf rockfish	100	70	40	0.39	0.11
			GOA pot fishery: Halibut	80	60	30	0.29	0.06
Dorn	1992c	1991	*****					

Authors	Year	Data Year	Fishery: Species or species group	Coverage % required for 0.1 CV	Coverage % required for 0.2 CV	Coverage % required for 0.3 CV	CV at 30% Obs.	CV at 100% Obs.
			BS longline Cod: Cod	<10	<10	<10	0.02	<0.01
			BS longline Cod: Halibut	50	10	<10	0.15	0.01
			BS longline Cod: Red rockfish	NP	90	80	0.57	0.11
			BS longline Cod: Sablefish	100	90	80	0.86	0.09
			BS flatfish trawl: Yellowfin sole	<10	<10	10	0.03	0.01
			BS flatfish trawl: Halibut	80	40	30	0.28	0.04
			BS flatfish trawl: Tanner crab (all species)	95	60	40	0.41	0.08
			BS flatfish trawl: King crab (all species)	100	60	40	0.36	0.10
			BS Rock sole trawl: Rock sole	<10	<10	<10	0.05	0.01
			BS Rock sole trawl: Halibut	NP	10	<10	0.13	0.02
			BS Rock sole trawl: Tanner crab (all species)	100	80	20	0.26	0.09
			BS Rock sole trawl: King crab (all species)	100	50	30	0.28	0.10
Summary statistics[4]								
			Average	79.15	51.01	36.60		
			Median (50th percentile)	90.00	60.00	30.00		
			80th percentile	100.00	80.00	68.00		

Note: CV = Coefficient of variation. NP = Not possible.

[1]In calculating summary statistics, this species or species group was considered a replicate of data defined by Volstad et al. (1997) and was averaged with those additional replicates.

[2]In calculating summary statistics, this species or species group was considered a replicate of data defined by Dorn et al. (1992c) and was averaged with those additional replicates.

[3]Since regulations dictate100% observer coverage for this fishery, data was not included in summary statistics.

[4]Calculated using values of 0.5 for <10, and 150 for NP.

*Pollock A was defined as weeks 4-9; Weeks 4-19 used for other estimates.

**Source data only from vessels that already had 100% coverage requirements. Data from this report consider the sampling fraction at the haul level. Data are presented here with a f2 of 0.7 following Karp (1997).

***Pollock A mid-water trawl data was defined as weeks 22-26; Cod bottom trawl as weeks 0-18.

****BS pot fishery defined as weeks 26-50; GOA pot fishery as weeks 2-16 of 1991 & 5-13 of 1992.

*****BS longline cod defined as weeks 22-30; flatfish trawl as weeks 19-24; Rock sole trawl as weeks 0-22.

Two conclusions may be made from Table 66. First, the coverage required for any CV performance standard varies widely between the species in a fishery, with common species requiring less coverage than rare species. For example, while the coverage required for a 20% CV in the total catch estimate of Pacific cod (the target species) in the bottom trawl fishery of the Bering Sea was determined to be less than 10%, the same precision in estimates of Pacific ocean perch within that fishery (a non-directed bycatch species) would require 90% coverage (Dorn et al. 1997b, Table 66). Second, estimates of required coverage for the same species in a fishery were similar between studies, likely because of similar analytical techniques. For example, the coverage required to estimate target pollock catch in the Bering Sea at a 20% CV was reported as <10% by Dorn et al. (1997b) and 20% by Volstad et al. (1997). As an illustration of these two conclusions combined, Dorn (1992) and later Dorn et al. (1997b) both reported that the coverage requirement for a 20% CV in the longline Pacific cod fishery for the target species was

<10%, and that the same precision in sablefish catch estimates within this fishery would require 80% - 90% coverage (Table 66).

If there is no priority given to monitoring one species of catch over another, then all fisheries in Table 66 could be used to generate summary statistics. These summary statistics could be used to gauge how much coverage would be required to achieve a given precision level if: (1) NMFS were only concerned with the fisheries listed in Table 66, and (2) a two-stage estimator was used in the CAS. Under these assumptions, the most conservative estimate from the standpoint of a fisheries manager would be to obtain the most precise estimate in most of the fisheries examined. Applying a 20% CV standard to these broad definitions of "most" for 80% of the fisheries in Table 66 would result in a 78% coverage recommendation. Conversely, the least conservative estimate may be to apply a 30% CV for 50% of the listed fisheries, resulting in a 30% coverage recommendation.

One of the problems with using a performance standard such as a 30% CV or 30% coverage rate is that the number of observer days required to achieve this standard may exceed the number of days available due to funding or logistical constraints, and in extreme cases the performance standard may not be possible to achieve (e.g., see Table 66; NP cells). The Northeast Fishery Science Center applies two sets of "filters" to their sea-day calculations to address this problem. In the first, unlikely combinations of (a) species, and (b) gear and area, are removed from consideration. This filter acts to reduce the effects of rare events on sea-day calculations. In the second set, the ratio of discards for a species group j in a fleet h (D_{jh}) is compared to the sum of species group j discards summed over the fleet (D_j), and D_{jh} is compared to the sum of commercial landings and recreational landings. These two resulting discard percentages are then ranked from smallest to largest and used to "filter" out combinations with relatively low percentages from sea-day calculations (Wigley et al. 2007). A restructured observer program could develop such filters in similar sea-day calculations. Even with the application of filters, however, it is still possible that the number of sea-days required to achieve a performance standard exceeds those available.

Observer programs with multiple objectives, such as the NPGOP, cannot be fully optimized unless each objective is assigned a relative weighting (NMFS 2004b). This requirement represents the third obstacle towards implementing a fully optimized observer program. Prior work on this obstacle was conducted for NMFS as part of Ph.D. dissertation by Tim Miller (Miller 2005). This author worked out complex models to properly account for uncertainty in the point estimates derived from observer program data (Miller and Skalski 2006a; Miller and Skalski 2006b; Miller et al. 2007). Miller (2005) advocated design-based estimates of catch, and because of the complicated nature of observer deployment that remains today, the models of Miller necessarily assumed that observer program data in the 30% fleet were derived from a random sample of 30% of trips (as proposed for restructuring in this action).[87] Miller et al. (2007) assigned relative weightings to 11 parameters that were equal to their relative CVs, and optimized the sampling intensity in terms of trips, by allowing for adjustments in the size of vessel that defines the breakpoint between what is currently refered to as the 30% fleet and the 100% fleet (Table 67). If deployment according to the optimized sampling rates found in the study were implemented, the authors estimated that a 10%-28% improvement (reduction in their objective function) would have been realized in any given year, and a 12% improvement for the aggregate year deployment would have been realized (2000-2003; Table 67). The greatest improvements were realized in the total mortalities of Steller sea lions, Black-footed albatross, and Laysan albatross, possibly explaining why pot vessels received recommended coverage rates well below those of vessels using other gear types. While not directly applicable to the the proposed restructuring effort (for example, Miller et al. (2007) did not examine IFQ landings nor explore landings by vessels under 60'), the study highlights that under a fully optimized

[87]Unfortunately, a code within the observer program database was incorrectly handled by one of Miller's models, causing differences in salmon bycatch estimates from official NMFS records (as mentioned in Pella and Geiger 2009). Some of the data constraints that necessitated his modeling of catch are no longer present.

design, observer coverage rates within a fishing sector defined by gear and vessel size, changes each year and is not constant across sectors within a given year.

Table 67 Length criteria used to delineate between medium and large-sized groundfish vessels and the percent coverage rates for observers recommended by Miller et al. (2007)

Year	Length (feet)	Longline		Pot		Trawl	
		Medium[1]	Large[1]	Medium	Large	Medium	Large
2000	159	100.0	100.0	10.3	36.4	33.6	100.0
2001	136	70.9	61.5	20.4	23.8	35.8	100.0
2002	149	100.0	100.0	15.4	16.6	29.6	100.0
2003	150	91.1	100.0	8.2	6.3	34.8	100.0
2000 - 2003	139	64.1	100.0	5.5	7.4	36.3	100.0

[1]Medium = sectors currently subject to 30% coverage requirements. Large = sectors currently subject to 100% coverage requirements.

The three obstacles towards implementing a fully optimized observer program (lack of prior data, the definition of a performance standard, and the prioritization of objectives) can be used to develop a framework for the deployment of observers. This framework is developed in recognition of the fact that the current observer program would not be able to transition to a fully optimized program in its first year of restructure since, for example, observers are not currently deployed on halibut and <60’ vessels, thus there is no prior information on catch information such as discards. NMFS (2004b) defines several types of developmental stages for the deployment of observers for the estimation of bycatch from least developed, i.e., none (no systematic program exists for bycatch data collection) to mature (a program in which some optimal sampling scheme has been implemented). Between these two endpoints lies a gradient of program levels from ‘baseline’ (an initial effort to assess whether a systematic program to estimate bycatch is needed) to ‘pilot’ (an at-sea program that obtains information from relative strata for design of a systematic program with the ability to calculate variance), to ‘developing’ (a program in which a stratified design has been implemented and alternative allocation schemes are being evaluated to achieve the recommended goals of precision of bycatch estimates for major species of concern). These developmental stages can be used to define deployment and allocation of observers under a restructured observer program, depending on which obstacles towards full optimization have been addressed (Figure 12).

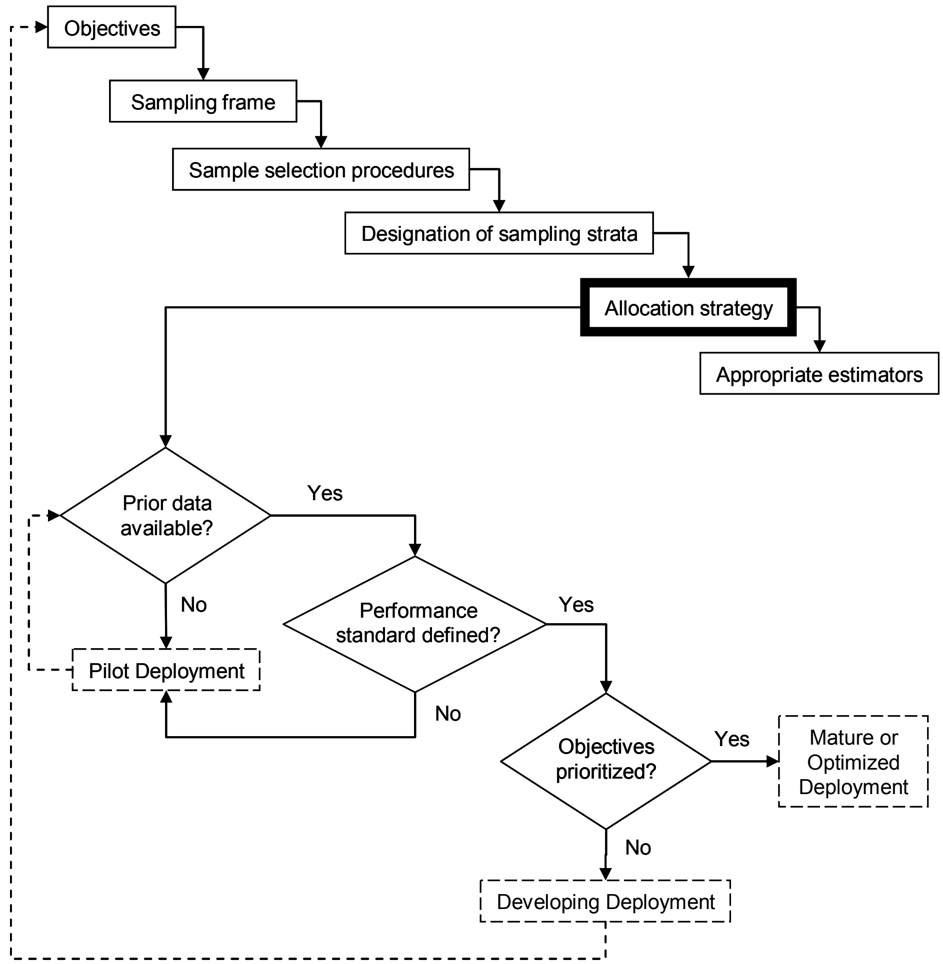

Figure 12 Flow chart diagram of decision points in various deployment scenarios

In this framework, a restructured observer program would employ 'pilot' deployment (P) in the first year of implementation, since within the halibut and <60' groundfish sectors there are no prior data available on discards, and variance estimates from the CAS for all sectors are unavailable and remain in P status until a performance standard has been defined.

In cases where the cost of placing an observer is equal among strata, maximum efficiency is gained by allocating observers in proportion to the standard deviation of the estimate (S_h) in each stratum (h). This allocation, termed Neyman allocation, is given as:

$$n_h = n\frac{N_h S_h}{\sum N_h S_h},$$

where n is the total number of observer days, and n_h is the number of observer days allocated within a stratum (Cochran, 1977). In the absence of S_h, this formulation reduces to

$$n_h = n\frac{N_h}{\sum N_h},$$

where the effort by the fleet (N_h) is in terms of days at sea. In cases where the days at sea for each trip is not available, it may be calculated from the number of trips (T) multiplied by the average days at sea (DAS) within a stratum, or

$$N_h = T_h \cdot \overline{DAS_h}\,.$$

In this way, the allocation of observers under P deployment would be in proportion to effort by the fleet, resulting in equal observer coverage rates across strata with partial observer coverage. These formulations are illustrative of the fact that the observer sampling rates encountered by a vessel within a stratum will depend upon three items: (1) the variance in the estimate of importance, (2) the fleet effort expected to occur within the stratum, and (3) the total observer effort that can be funded. The form of the estimator used for catch will depend upon the sampling design and objectives of the program.

Two possible mechanisms exist that can be used to determine observer allocation and resulting coverage for P deployment. The first calculates the number of observer days *funded*. In this scenario, termed P1 deployment, the amount of revenue is determined from fees aggregated over fisheries of interest (R) as specified by the Council's preferred alternative. The number of observer days that can be funded within a stratum is determined from

$$n_h = \frac{R_h}{c_h \cdot N_h}$$

where c_h is the cost of funding an observer day ($366 for status quo, $467 for restructured fleets). The observer coverage rate purchased within a stratum (r_h) is equal to n_h / N_h and that for the entire program is given as

$$RP = \frac{\sum n_h}{\sum N_h}\,.$$

In the second mechanism, termed P2 deployment, r_h is set at 1.0 for all fisheries in the 100% fleet, and 0.3 for the partial stratum fleet, regardless of whether they are slated for actual observer coverage or not. The goal of this deployment is to facilitate funding for 30% coverage of all new fleets and sectors. This 30% coverage requirement is considered a minimum standard in that (1) it is undesirable for a restructured program to procure less coverage for the sampled fleet than used for *status quo*, (2) it could be interpreted as the least conservative coverage rate from past sample-size analyses presented in Table 66, and (3) it is below the recommended coverage rates for the majority of the sectors defined from past optimization analyses in Table 67. For P2 deployment, the number of observer days *required* is given as:

$$n^*_h = r_h \cdot N_h$$

Note that n^* is defined by summing n^*_h as for n in P1 deployment. From this value, the amount of revenue required to fund a restructured program at P2 (R_{P2}) can be obtained from $\sum n^*_h \cdot c_h$ for strata under restructure (there is no change to pay-as-you-go sectors). Comparisons can be made with the estimated revenue ($R_{est.h}$) to estimate excess revenue (R_{estE}), where the estimated revenue is $\sum N_h \cdot c_h$ for strata under restructuring, and excess revenue is $R_{est.h}$ - R_{P2}. Unlike the other Alternatives, Alternative 5 involves the restructuring of the entire fleet, including CPs, which may carry more than one observer per trip. Thus for this Alternative, n^* and R_{P2} calculated as above represent underestimates of the true value, and R_{estE} represents an overestimate of the true value. The calculation of an accurate estimate of the number of observers needed under a restructured program, while also taking into consideration current rules requiring vessels to carry more than one observer a day was difficult, made more complicated by the proposed alternatives and options which may not necessarily reflect the fisheries and stratum to be used for deployment. Therefore, calculations for Alternative 5 on n^* and R_{P2} were carried out as above in addition to the use of a r^*_h of 2.0 for CPs. These alternative estimates can be interpreted as an overestimate of the days and revenue required and an underestimate of the excess revenue. Results from both methods provide a range of possibilities that frame the true values.

The estimated revenue, that required for P2 deployment, and estimated excess are reported in Table 68. Source values derive from Appendix 11.

Table 68 Estimated revenue, revenue required for 30% coverage of new fisheries, and estimated surplus revenue

Alternative	Estimated total revenue	Estimated restructured revenue (Rest)	Required revenue for P2 (RP2 w/ r=1.0 for CPs)	Required revenue for P2 (RP2 w/ r=2.0 for CPs)	Estimated P2 excess revenue (RestE w/ r=1.0 for CPs)	Estimated P2 excess revenue (RestE w/ r=2.0 for CPs)
2	$ 17,327,465	$ 6,888,031	$ 6,334,007	NA	$ 554,024	NA
2 Option 1 < 60'	$ 14,800,444	$ 4,361,010	$ 6,334,007	NA	$ (1,972,997)	NA
2 Option 1 < 50'	$ 15,447,986	$ 5,008,552	$ 6,334,007	NA	$ (1,325,455)	NA
2 Option 1 < 40'	$ 15,557,398	$ 5,117,964	$ 6,334,007	NA	$ (1,216,043)	NA
3	$ 16,986,515	$ 7,258,539	$ 5,592,772	NA	$ 1,665,767	NA
3 Option 1 < 60'	$ 14,385,507	$ 4,741,011	$ 5,592,772	NA	$ (851,761)	NA
3 Option 1 < 50'	$ 15,104,161	$ 5,404,582	$ 5,592,772	NA	$ (188,190)	NA
3 Option 1 < 40'	$ 15,238,318	$ 5,510,342	$ 5,592,772	NA	$ (82,430)	NA
4	$ 19,671,011	$ 7,258,539	$ 5,592,772	NA	$ 1,665,767	NA
4 Option 1 < 60'	$ 17,153,484	$ 4,741,011	$ 5,592,772	NA	$ (851,761)	NA
4 Option 1 < 50'	$ 17,817,054	$ 5,404,582	$ 5,592,772	NA	$ (188,190)	NA
4 Option 1 < 40'	$ 17,922,814	$ 5,510,342	$ 5,592,772	NA	$ (82,430)	NA
5	$ 21,167,449	$ 21,167,449	$ 18,005,245	$ 26,966,120	$ 3,162,204	$ (5,798,671)
5 Option 1 < 60'	$ 18,361,988	$ 18,361,988	$ 18,005,245	$ 26,966,120	$ 356,743	$ (8,604,132)
5 Option 1 < 50'	$ 19,276,774	$ 19,276,774	$ 18,005,245	$ 26,966,120	$ 1,271,529	$ (7,689,346)
5 Option 1 < 40'	$ 19,396,883	$ 19,396,883	$ 18,005,245	$ 26,966,120	$ 1,391,638	$ (7,569,237)

No alternative combined with Option 1 (e.g., 1% fee) provides sufficient revenue to fund a restructured observer program at P2 deployment levels. Under Alternative 5, revenue surplus is only achieved from estimates that assume one observer per day on all CP trips (the underestimate of the true value; Table 68).

Once the restructured observer program achieves either P1 or P2 deployment, the program could begin to address the second and third obstacles towards full optimization. Following NMFS (2004b), deployment that would target a reduction in the variance of the bycatch estimates of fishery species at a 20% - 30% CV would be characterized as developed (D). A developed deployment of observers could follow the Neyman allocation described above under the cost constraints imposed by either P1 or P2 funding or similar methods (e.g. Rossman 2007). A restructured observer program where filters were applied to observer sea day calculations akin to those used by Wigley et al. (2007) would be considered Mature (M), while a program with weights assigned to objectives akin to those used by Miller et al. (2007) would be considered Optimized (O). The general guidelines for the allocation, funding, precision, objectives, and rationale defining a P, D, M, and O restructured program are provided in Table 69.

Table 69 Proposed allocation classes of the restructured North Pacific observer program

CLASS	Program name	Allocation name	Allocation method (Coverage rule)	Funding method	Precision target for restructured fleet	Objective weights	Rationale for allocation method	Prior data required?
Z	ZERO	No allocation	None	No funding required	None	Equal weightings	Set for salability of program, lack of adequate tools for observation, improved efficiency of observer deployment, or by regulations.	-
P1	DEFAUT (Pilot)	Equal probability allocation	Coverage rates set in proportion to effort defined as annual total days at sea. Resulting coverage rates dependent on available revenue and anticipated days at sea.	Determined by Council Preferred Alternative	Unavailable due to no baseline information resulting in a lack of variance in catch estimate.	Equal weightings	Fleet that falls under the partial coverage fleet is considered the 'restructured fleet'. Because design-based estimators of variance are unavailable, allocation in first year is defined as a Pilot program following National Approach to Standardized Bycatch Monitoring Programs [NMFS (2004)], with coverage rates set by the amount of available funds determined by Council Alternative Final Action.	N
P2	DEFAULT (Pilot)	Minimum percent observer coverage allocation	Observer coverage rates set at zero for trips originating from vessels within the (1) small boat and (2) miscellaneoius gear strata. Coverage rates for all other stratum within the restructured fleet same as P1.	Revenue required to fund base year days at sea multiplied by observer cost of $/day, the product of which is multiplied by a coverage rate of 30% for the restructured fleet.	Same as P1	Same as P1	Resulting coverage tiers of 30%, and 0% for restructured fleet follow those used in status quo observer program which fleet has been operating under since 1990.	N
D	DEVELOPING	Precision-based allocation	Days allocated based on the requirements determined from sample-size analyses or in proportion to those needs among strata if funds constrain effort.	Determined by P1 or P2	Days required to achieve a 20-30% Coefficient of variation (CV) of annual resulting bycatch estimates.	Same as P1	NASBMP General guidelines 20-30% CV. Same as "baseline" coverage in SBRM. Method follows Rossman (2007)	Y
M	MATURE	Filtered precision-based allocation	Same as D	Same as D	Same as D	Stratum/species combinations are vetted using 'filters' set by NMFS to reduce the impact of rare or unlikely species/gear combinations.	Example provided by Wigley et al. (2007).	Y
	OPTIMIZED	Fully optimized allocation	Same as D	Same as D	Optimization analyses based on objectives of program and available funding.	Relative variances are used to assign weights to different parameters of the catch estimate that in turn define mulitple estimation objectives. These weighted objectives drive coverage rates constrained by cost.	Example provided by Miller et al. (2007).	Y

3.2.11 Observer program performance review and reporting

At its June 2010 meeting, the Council adopted an option (Option 2) applicable under all of the action alternatives that stated that "*the agency shall release a draft observer program sampling design and deployment plan annually by September 1, available for review and comment by the Groundfish Plan Team at their September meeting. The SSC and Council shall review and approve the plan annually.*" This option was modified at final action in October 2010, to clarify that the report will include the sampling design for the coming year, as well as the financial aspects of the program. In addition, the changes to Option 2 require that NMFS will consult with the Council on the draft plan each year at a meeting of the Council's choosing, to provide sufficient time for review and input. The Council would not approve or disapprove the plan, but consultation must occur.

NMFS envisions drafting a report in response to the desires of the Council, similar to those provided by other observer programs. The report would include the major components of the sample design outlined in Figure 10 ending with observer allocation. Thus, NMFS envisions the report would contain the objectives of the program, and the methodology used to (a) designate sampling strata, (b) deploy observers within each stratum, (c) determine the sampling rate for the allocation of observers, and, if available, (d) estimate discards and coefficient of variation. In addition, the sampling efficiency of the restructured program would be addressed by comparing targeted and realized effort in terms of days, trips, and sample fractions, as well as discussing problems encountered and proposed solutions towards reaching the goal of an efficient optimized program. Since Table 69 outlines a framework of progression, whereby advancement of the program beyond P status requires new and more detailed information, NMFS expects the annual report would identify the status of the progression framework under which the observer program was operating. NMFS expects the annual report would identify that status of the progression framework. The report would also provide summary information from the past year with projected plans for the coming year. Examples of reports from other agency observer programs include Beerkircher et al. (2004).

In addition, the Council's preferred alternative includes an annual report on how industry participants have adapted to the restructured program, and the actual program revenues and costs. The Council could then review the fee percentage to determine if it is adequate or excessive to meet program needs. NMFS anticipates that information on the fees collected, NMFS financial contribution, and dollars spent would be reported to the Council to the extent it is available, at the same time that the annual deployment plan is presented. The intent, as with sample design and deployment, would be transparency on the both the deployment strategy and the financial aspects of the program. Further discussion of the impacts of this option is provided in Section 2.10.2.2 of the RIR.

3.2.12 Summary

In conclusion, the proposed observer deployment design facilitates development of statistically credible estimates of catch and associated variance. This would enable NMFS to explore and develop alternative observer sampling designs (including sample size analyses and optimization) and estimators of catch. The proposed new methods that incorporate random selection would also likely reduce bias introduced through an observer deployment effect as has been shown elsewhere (Appendix 8, Benoit and Allard, 2009).

The new design stratifies trips and corresponding observer coverage rates by vessel type, gear, and length. It should be noted that the use of vessel length in the supporting analyses were conducted to generate a list of FFPs that belong within each stratum. Contrary to the current design, in which vessel size-based coverage levels have been mandated in regulation for over 20 years, the proposed definition of sampling stratum would be iterative as new information is derived. Therefore, there is no advantage to changing vessel size to avoid observer coverage as defined here. Full (≥100%) coverage of all CPs and motherships reduces the need for NMFS (through the catch accounting system) to use production reports for estimation of retained catch. Likewise, the maintenance of at least 100% coverage for trips originating within catch share systems is consistent with the successful use of observers to curb misreporting or high-grading of catches in similar programs enacted elsewhere in the world (Beddington et al. 2007). A notable exception is the halibut and sablefish IFQ fisheries, which would remain less than fully observed under the proposed plan. However, as large portions of the fleet are currently unobserved, the new design represents an important improvement compared to status quo. Implementation of the new observer deployment design would be logistically challenging, but possible, and design modifications have been proposed to increase the efficiency of observer deployment through the creation of gear and small boat probation strata.

Catch estimates resulting from the new deployment design may still have high variance in certain instances as a result of low sample size, observer error, or misreporting (intentional or unintentional) of catch by vessels (i.e., the observer effect). Fishery management programs that facilitate designation at the haul-specific level are problematic, since the sampling unit of the haul is more granular than the trip, and it is the trip that will govern observer deployment. Therefore, where haul-level program management designation is permitted, the proposed design includes these within the fully observed stratum. In addition, observer coverage levels aboard pertinent vessels would be maintained at a level to ensure that every haul is observed, not just every trip. Therefore, identical to the current situation, in some cases more than one observer would be required per vessel within the ≥100% covered stratum. It is recommended that the proportion of hauls to be sampled by observers remain the same within a trip, regardless of the program management code or quota identified in each haul.

Adoption of the new observer deployment design funded by a fee offers two data quality advantages over the current pay-as-you-go system. First, deployment under a fee system would likely result in reduced observer bias because observed trips do not carry significantly greater daily costs above crew costs (such as food or space) than unobserved trips, and this would be especially true for smaller vessels with low profit margins. Second, if observer costs are fixed at a daily rate, observer coverage in terms of total fishing trips would always be proportional to fishing effort, since the latter generates revenue for the former. In contrast, maintenance of a pay-as-you-go system for the full coverage stratum, as proposed under the preferred alternative, ensures that coverage rates are achieved, but would not mitigate cost inequities among participants.

3.3 Start-up funding

Under a restructured observer program, NMFS would enter into direct contracts with observer providers, to some extent, under all of the proposed action alternatives. Start-up funds would need to be available to NMFS to move from the current program structure, in which industry contracts with observer providers for observer coverage, to one in which NMFS contracts with observer providers for observer coverage. NMFS cannot assign contractual task orders without having funds in-hand for the full amount of the task order (contracting is discussed in Section 3.1). Currently, there are no funds in the North Pacific Fishery Observer Fund (NPOF). Potential funding sources for the first year of a restructured program include direct Federal funding, if available; fee proceeds from all or a portion of groundfish fishery participants; or a combination of Federal funding and industry fees.

To date, start-up Federal funds have not been identified and there is no certainty that they would be available, should the program be restructured. However, Federal funding has always been discussed as an option for start-up costs, and this analysis does not preclude the use of Federal funding, should it become available. Note that the 2006 restructuring analysis mentioned the possibility of a Federal loan program to provide start-up funding for the NPOF and noted that this option would require Congressional authorization. Such a loan program was not included in the most recently reauthorized MSA (December 2006).

The Council corresponded with NOAA HQ in a letter dated June 30, 2010, requesting start-up funds for a restructured observer program, as well as long-term funding to support observer deployment in catch share programs.[88] NOAA HQ responded on August 27, 2010, stating it would review potential means available to support the Council's efforts, but emphasizing that the Council should continue to pursue using the Section 313 fee authority in the MSA to fund a restructured observer program.[89] After the Council selected a preferred alternative, it sent a subsequent letter requesting start-up funds for 2013 to support its preferred alternative.[90] A letter acknowledging the Council's request was received from NOAA HQ on December 3, 2010.[91]

Research Plan start-up fees

The initial Research Plan ex-vessel value fee percentage was 2%. Under the Research Plan, start-up funding was collected in year-0 (1995) of the program, to fund year-1 (1996) of the program. The amount paid by various participants in year-0 was determined by their costs in the pay-as-you-go program. Operations paying costs for observer coverage equal to or greater than costs they would pay under the Research Plan were exempt from the year-0 fee assessment. Participants in Research Plan fisheries not required to obtain observer coverage in year-0 paid their full portion of the 1995 fee percentage. Research Plan fee assessments exceeded actual status quo observer costs (in year-0) for many vessels, including processors required to have 100% observer coverage. These vessels and processors were required to pay the difference between the fee assessment and their actual year-0 observer costs under the status quo deployment model.

Retrospective analysis of start-up funding needs

This analysis proposes to collect start-up funds as approved under the 1995 Research Plan, and proposes collecting funds in advance, to cover the full first year (year-1) of a restructured program. The amount of funding necessary to collect for year-1 of a restructured program depends on the preferred alternative. To provide a relative comparison of Alternatives 2 through 5, a retrospective analysis was conducted. In this analysis, the expected revenue and observer day requirements were estimated for a past year, under the scenario that the observer coverage in that year had been conducted under each action alternative. To incorporate the effects of variation in expected revenue, the mean ±1 standard deviation for the average of years 2005 through 2008 were used for retrospective analyses. Without knowledge of the amount of future Federal funds that may be available, analyses were carried out under the most conservative scenario (i.e., no Federal funding subsidy).

Assuming no Federal funding, the observer program would operate under status quo deployment for the first year of fee collection. For this reason, the revenue required to deploy under *status quo* (R_{obs}) was calculated by multiplying the status quo observer days in Table 27 by the \$366 daily rate. Section 2.10 was used as a source of the average (±1 standard deviation) revenue generated (R_h) from a 2% fee under a restructured program. The required coverage rate for Alternatives 2 and 3 (including options) was set by available (P1) funding, i.e., by excess revenue (R_E) determined by $R_h - R_{obs}$. If R_E is positive, then the

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[88]Letter from Olson, E., Chair, NPFMC, to Schwaab, E., Asst. Administrator for Fisheries, NOAA, June 30, 2010.
[89]Letter from Schwaab, E., Asst. Administrator for Fisheries, NOAA, to Olson, E., Chair, NPFMC, August 27, 2010.
[90]Letter from Olson, E., Chair, NPFMC, to Schwaab, E., Asst. Administrator for Fisheries, NOAA, November 1, 2010.
[91]Letter from Schwaab, E., Asst. Administrator for Fisheries, NOAA, to Olson, E., Chair, NPFMC, December 3, 2010.

minimum time to deploy observers under Alternatives 2 and 3 (with options) is one year; in year-0, R_E is obtained and *status quo* observer coverage is deployed (no new coverage days). However, in the first year of the restructured program, the cost of an observer day is $467 (refer to Appendix 6). Therefore, the revenue required to deploy in year-1 (R_{obs}YR1) is calculated by summing the status quo observer days in Table 27 for the restructured rows under each alternative and multiplying this number by $467. The achieved observer coverage rate (r) in Year 1 from R_E is then determined from

$$r = \frac{\left(\frac{R_E}{467}\right)}{\sum N_h},$$

where $467 is the cost of an observer day under the restructured program and N_h is the effort in sea days for the restructured fleet.

Alternatives 4 and 5 differ from Alternatives 2 and 3 in that the entire fleet is restructured (i.e., new service delivery model and cost basis). For Alternatives 4 and 5, R_{obs} is equal to the total cost of *status quo* observer days in Table 27; R_E and R_{obs}YR1 were calculated as for the other alternatives above. The amount of time required to achieve $R_{obs(YR1)}$ for Alternatives 4 and 5 was determined by dividing $R_{obs(YR1)}$ by R_E.

The time required to achieve observer deployment under the restructured program, and the values used to determine that time, are depicted in Table 70. The values used for R_h vary by alternative; to avoid confusion, cells not used for R_h have been depicted in gray boxes in the top portion of this table.

Table 70 Estimates of ex-vessel fee, revenue needed to cover observer costs for the restructured portion of the industry, estimated fee surplus, and years required to acquire start-up funds from the restructured sectors under Alternatives 2 – 5

Alternative	Start up target criteria	Total revenue generated (Rh; 2005-2008) - 1 StDev	Mean	+1 StDev	Ex-vessel portion of Rh; 2005-2008 - 1 StDev	Mean	+1 StDev	2008 Observer cost (Robs)
1	NA	NA	NA	NA	NA	NA	NA	NA
2	Available funding	$ 18,192,441	$ 19,246,564	$ 20,300,686	$ 5,659,503	$ 6,713,626	$ 7,767,748	$ 1,857,302
2 Option 1 < 60'	Available funding	$ 15,881,785	$ 16,614,489	$ 17,347,192	$ 3,348,847	$ 4,081,551	$ 4,814,254	$ 1,857,302
2 Option 1 < 50'	Available funding	$ 16,355,719	$ 17,237,004	$ 18,118,290	$ 3,822,781	$ 4,704,066	$ 5,585,352	$ 1,857,302
2 Option 1 < 40'	Available funding	$ 16,429,336	$ 17,333,503	$ 18,237,670	$ 3,896,398	$ 4,800,565	$ 5,704,732	$ 1,857,302
3	Available funding	$ 18,197,527	$ 19,363,625	$ 20,529,723	$ 5,578,945	$ 6,745,043	$ 7,911,141	$ 2,234,796
3 Option 1 < 60'	Available funding	$ 16,039,691	$ 16,924,892	$ 17,810,092	$ 3,421,109	$ 4,306,310	$ 5,191,510	$ 2,234,796
3 Option 1 < 50'	Available funding	$ 16,492,989	$ 17,517,540	$ 18,542,090	$ 3,874,407	$ 4,898,958	$ 5,923,508	$ 2,234,796
3 Option 1 < 40'	Available funding	$ 16,565,775	$ 17,612,207	$ 18,658,638	$ 3,947,193	$ 4,993,625	$ 6,040,056	$ 2,234,796
4	2008 observer days	$ 21,679,704	$ 22,845,802	$ 24,011,900	$ 5,578,945	$ 6,745,043	$ 7,911,141	$ 14,397,560
4 Option 1 < 60'	2008 observer days	$ 19,521,868	$ 20,407,069	$ 21,292,269	$ 3,421,109	$ 4,306,310	$ 5,191,510	$ 14,397,560
4 Option 1 < 50'	2008 observer days	$ 19,975,166	$ 20,999,717	$ 22,024,267	$ 3,874,407	$ 4,898,958	$ 5,923,508	$ 14,397,560
4 Option 1 < 40'	2008 observer days	$ 20,047,952	$ 21,094,384	$ 22,140,815	$ 3,947,193	$ 4,993,625	$ 6,040,056	$ 14,397,560
5	2008 observer days	$ 16,010,444	$ 18,645,384	$ 21,280,323	$ 16,010,444	$ 18,645,384	$ 21,280,323	$ 14,397,560
5 Option 1 < 60'	2008 observer days	$ 13,645,324	$ 16,027,053	$ 18,408,782	$ 13,645,324	$ 16,027,053	$ 18,408,782	$ 14,397,560
5 Option 1 < 50'	2008 observer days	$ 14,165,277	$ 16,638,884	$ 19,112,491	$ 14,165,277	$ 16,638,884	$ 19,112,491	$ 14,397,560
5 Option 1 < 40'	2008 observer days	$ 14,246,069	$ 16,733,941	$ 19,221,813	$ 14,246,069	$ 16,733,941	$ 19,221,813	$ 14,397,560

Table 70 (continued)

	Start up excess (RE)			Revenue to deploy (RobsYR1)			Years to start up		
Alternative	- 1 StDev	Mean	+1 StDev	- 1 StDev	Mean	+1 StDev	- 1 StDev	Mean	+1 StDev
1	NA	NA	NA	NA	NA	NA	NA	NA	NA
2	$ 3,802,201	$ 4,856,324	$ 5,910,446	$ 3,802,201	$ 4,856,324	$ 5,910,446	1.0	1.0	1.0
2 Option 1 < 60'	$ 1,491,545	$ 2,224,249	$ 2,956,952	$ 1,491,545	$ 2,224,249	$ 2,956,952	1.0	1.0	1.0
2 Option 1 < 50'	$ 1,965,479	$ 2,846,764	$ 3,728,050	$ 1,965,479	$ 2,846,764	$ 3,728,050	1.0	1.0	1.0
2 Option 1 < 40'	$ 2,039,096	$ 2,943,263	$ 3,847,430	$ 2,039,096	$ 2,943,263	$ 3,847,430	1.0	1.0	1.0
3	$ 3,344,149	$ 4,510,247	$ 5,676,345	$ 3,344,149	$ 4,510,247	$ 5,676,345	1.0	1.0	1.0
3 Option 1 < 60'	$ 1,186,313	$ 2,071,514	$ 2,956,714	$ 1,186,313	$ 2,071,514	$ 2,956,714	1.0	1.0	1.0
3 Option 1 < 50'	$ 1,639,611	$ 2,664,162	$ 3,688,712	$ 1,639,611	$ 2,664,162	$ 3,688,712	1.0	1.0	1.0
3 Option 1 < 40'	$ 1,712,397	$ 2,758,829	$ 3,805,260	$ 1,712,397	$ 2,758,829	$ 3,805,260	1.0	1.0	1.0
4	$ 7,282,145	$ 8,448,242	$ 9,614,340	$18,370,657	$18,370,657	$18,370,657	2.5	2.2	1.9
4 Option 1 < 60'	$ 5,124,308	$ 6,009,509	$ 6,894,709	$18,370,657	$18,370,657	$18,370,657	3.6	3.1	2.7
4 Option 1 < 50'	$ 5,577,606	$ 6,602,157	$ 7,626,707	$18,370,657	$18,370,657	$18,370,657	3.3	2.8	2.4
4 Option 1 < 40'	$ 5,650,392	$ 6,696,824	$ 7,743,255	$18,370,657	$18,370,657	$18,370,657	3.3	2.7	2.4
5	$ 1,612,884	$ 4,247,824	$ 6,882,763	$18,370,657	$18,370,657	$18,370,657	11.4	4.3	2.7
5 Option 1 < 60'	$ (752,236)	$ 1,629,493	$ 4,011,222	$18,370,657	$18,370,657	$18,370,657	NP	11.3	4.6
5 Option 1 < 50'	$ (232,282)	$ 2,241,324	$ 4,714,931	$18,370,657	$18,370,657	$18,370,657	NP	8.2	3.9
5 Option 1 < 40'	$ (151,491)	$ 2,336,381	$ 4,824,253	$18,370,657	$18,370,657	$18,370,657	NP	7.9	3.8

Note: Revenue estimates are based on average 2005 – 2008 ex-vessel revenues, using a 2% ex-vessel value fee.

The results highlight fundamental differences in the way the alternatives are structured. Alternatives 2 and 3 keep large portions of the full coverage fleet (≥100%) under the current ‘pay-as-you-go’ system that would not generate funds for restructuring; however, these fleets also do not use observer resources from the restructured program. In contrast, Alternatives 4 and 5 fund the full coverage stratum under a fee collection system and require larger resources. The consequence of these core differences among alternatives can be viewed in the lower portion of Table 70.

Since Alternatives 2 and 3, including the Council’s preferred alternative, are started with available funds, the start-up time associated with each is identical among options (1 year). In contrast, deployment under Alternatives 4 and 5 would need to be delayed for a mean estimate of 3 to 12 years,[92] depending on the alternative, as start-up funds are collected. Under Alternative 5, Option 1 (1% fee for vessels <60’, <50’, and <40’ LOA), there exists the possibility of a funding shortfall, compared to status quo, if minimum revenues are realized.

There are two reasons why Table 70 should be interpreted with caution. First, estimates in this table assume a 2% ex-vessel value fee for analytical purposes, as that was the maximum fee authorized under the suite of alternatives. The Council’s preferred alternative proposes a 1.25% fee. Second, the ‘2008 observer cost column’ is based on multiplying the number of observed days in 2008 (status quo) by the estimated daily cost of an observer under the restructured program of $467/day. Table 70 was provided only to allow the Council to compare the alternatives; thus, the table does not depict the rate of coverage that could be funded, given expected revenues under each alternative.

The answer to the above question is calculated relative to the Council’s preferred alternative. Under the Council’s preferred alternative, the anticipated revenue from the ex-vessel fee is $4,215,652 (refer to Table 46). This revenue estimate divided by $467/day, equates to 9,027 observer days that could be funded with the revenue available. Given that no observer deployment is anticipated in the initial year(s) of the program on <40’ vessels, the number of days at sea for the restructured sectors (minus the <40’ fleet) is 27,147.[93] Thus, the overall rate of coverage possible under the Council’s preferred alternative is

[92] Assuming restructured deployment would not occur mid-year, these values derive from rounding up the values in Table 70.

[93] This is based on an updated number of total sea days in 2008 of 66,697, which is slightly different from the 66,499 sea days presented in October 2010 (difference = 0.29%).

9,027 / 27,147 = 33%. This assumes that the status quo (2008) fleet effort, in terms of days at sea, continues at the same rate into the future and the funds available are equal to the $4.2 million projection. Both of these estimates may differ from the actual amounts realized in future years, so the actual coverage rate that could be achieved may be greater or less than 33%, depending on the actual days at sea and standardized ex-vessel revenue of the fleet.

3.4 Modify regulations

The following paragraphs in the regulations implementing the existing groundfish observer program at 50 CFR 679.50 state (Paragraph):

(a) who must comply with the section;
(b) the program's purpose;
(c) vessel observer coverage requirements;
(d) shoreside processor or stationary floating processor observer coverage requirements;
(e) NMFS staff observer requirements for vessels and processors;
(f) Regional Administrator authority to adjust paragraph (c) and (d) observer requirements inseason;
(g) vessel and shoreside processor responsibilities for observer food, safety, and communication;
(h) requirement to procure observers from permitted observer providers;
(i) observer provider permitting and provider responsibilities;
(j) observer certification and observer responsibilities, and;
(k) parameters regarding release of observer data to the public.

This section describes potential changes that would be made to regulations to implement a restructured observer program. The extent of regulatory changes depends on the preferred alternative (Table 71). Regulations would be different under a partial versus comprehensive program restructuring. The content of paragraphs (a), (b), (g), and (k) reflects program elements that are likely to remain regardless of the selected alternative. There would be changes to paragraphs (c), (d), (e), and (h) under any of the proposed action alternatives. Changes to paragraphs (i) observer provider permitting and responsibilities, and (j) observer certification and observer responsibilities, depend on the selected alternative. As the Council's preferred alternative is Alternative 3, the changes proposed under the "partial alternative" in Table 71 would apply.

Table 71 Impact of partial and comprehensive program restructuring on regulatory paragraphs at §679.50

Regulatory Action	Partial Alternative (Alts 2 and 3)	Comprehensive Alternative (Alts 4 and 5)
Unchanged	a, b, g, i, j, k	a, b, g, k
Revised	c, d, e, h	c, d, e, h
Removed	f	f, i, j
Added	(see below)	

Unchanged paragraphs

Under a restructured observer program, the general compliance requirements and the purpose of the observer program (paragraphs (a) and (b), respectively) are not expected to change. Paragraph (g) contains the responsibilities required of vessel operators and plant personnel while an observer is deployed onboard their vessel or in their plant. These responsibilities ensure that an observer is provided adequate food and accommodation; a safe work environment; access to equipment for entering and transmitting data; prior notification of haul retrievals; and assistance collecting samples when needed. Paragraph (g) also stipulates protocols for transferring an observer to another vessel at-sea. Responsibilities listed in paragraph (g) are not expected to change under a new service delivery model. Also, a change in service delivery model is not expected to affect how NMFS may publicize information collected by observers described in paragraph (k).

Revised paragraphs

Paragraphs (c) and (d) would be revised to replace existing observer coverage level requirements based on vessel length, processing volume, or specific fishery with requirements that reflect newly adopted coverage tiers under a restructured program. Observer procurement procedures in paragraph (h) would be revised such that vessels and plants operating under the restructured program would be required to carry an observer supplied by NMFS' contracted provider when instructed to do so or when required by revised paragraphs (c) or (d), rather than to obtain an observer directly from a permitted provider. Under partial restructuring, some operators would continue to obtain observer services from a permitted provider and some would be required to carry the observer supplied by NMFS' contracted provider.

The authority for NMFS to deploy NMFS staff or other individuals authorized by NMFS on vessels or in plants required to carry observers to address special conservation and management concerns is provided by paragraph (e). This authority would be retained under any restructuring alternative to allow NMFS to address unique monitoring concerns (should they arise) under either service delivery model. A minor revision to paragraph (e) is anticipated under all action alternatives. Language in paragraph (e) pertaining to "observer coverage requirements as specified in paragraphs (c) and (d)," would likely be removed since observer coverage levels may not be specified for all operations in paragraphs (c) and (d) under partial or comprehensive restructuring.

Removed paragraphs

The existing regulations in paragraph (f) include a provision for the Regional Administrator to adjust the observer coverage requirements set out under paragraphs (c) and (d) at any time to improve the accuracy, reliability, and availability of observer data. A primary objective of restructuring the observer program is to increase the flexibility in when and where observers are deployed to effectively tailor data collection for management. Therefore, the provisions for adjusting observer coverage levels in paragraph (f) would be obsolete under a comprehensive restructuring alternative. They may need to be retained under a partially restructured program depending on the selected alternative and adopted tiers to continue to provide a safeguard for adjusting coverage in non-restructured program fisheries should the need arise.

Restructuring the observer program service delivery model would potentially have the greatest impact on existing regulations for receiving an observer provider permit and for becoming certified to work as an observer in the groundfish fisheries as well as the responsibilities of permitted observer providers and certified observers in paragraphs (i) and (j). Under a comprehensive restructuring alternative, paragraphs (i) and (j) would likely be removed in their entirety as these program elements would be included in the Federal contracting process. Under this scenario, NMFS would award contracts rather than issue permits to successful providers. Government contracts with providers would include a statement of work with performance measures as described in the contracting section above. Federal contracts would stipulate the time frame of the contract, observer salary and benefit requirements, observer deployment logistics and limitations, limitations on conflict of interest, communications with observers and with NMFS, requirements to provide qualified observers in a timely manner, and other aspects not contained in the existing regulations to ensure high quality observer data are available for management. Moreover, observer qualifications, training requirements, and performance expectations would be defined in contracts with observer providers such that the contents of paragraph (j) would not need to be specified in regulations under comprehensive restructuring where all observer services are provided through direct government contracts. Level 2 observer and level 2 lead observer endorsements currently stipulated through regulations in paragraph (j) would likewise be replaced by qualification requirements specified in government contracts with observer providers. This would increase NMFS' ability to match observer skill with sampling complexity, which is a primary motivation for restructuring.

Under partial restructuring, observer providers would need to continue to comply with the requirements of paragraph (i) and observers with the requirements of paragraph (j) for non-restructured fisheries. Under this scenario, a provider contracting directly with NMFS and the industry would have different requirements under the two different service delivery models. Observers would have to be certified per the requirements of paragraph (j) to observe in non-restructured fisheries; observers working for providers in the restructured fisheries would have different performance requirements and would not have a certification per se. For further discussion of this and other issues related to administering two separate service delivery models, refer to Section 3.5.

Added paragraphs

A restructured observer program would require several new regulations. Depending on the fee program selected, NMFS would need to add regulations stipulating fee liabilities and remittal requirements. It would be necessary to state which entities and operations are liable for a particular fee type and on what frequency fees are to be remitted to NMFS. Regulations should also include any penalties for delinquent payments, such as the withholding of a processing or fishing permit if applicable. Vessel notification requirements would also need to be added to the regulations. Given the complexities of implementing a hybrid program (two service delivery models operating simultaneously), a regulation may have to be added to prohibit vessels from crossing FMP areas within a trip in the case of partial restructuring by FMP area. This would be intended to prevent a single observer-covered trip from operating under both service delivery models.

Recurring rulemaking

As explained in the fee collection section, NMFS would need to establish the ex-vessel value fee percentage through proposed and final rulemaking. The fee percentage would not be codified in Federal regulations; however, proposed and final rulemaking in the *Federal Register* would be required to establish and adjust the fee percentage as necessary.

Annually, NMFS would need to publish the standardized groundfish prices, upon which fee liabilities would be based, in the *Federal Register*. The methods used to establish standardized prices would be determined through proposed and final rulemaking. As such, the process would be approved by the Council and the public would have the opportunity to comment on the proposed process. Once a method of establishing standardized prices is approved through a final rule, NMFS would publish the prices applicable for landings in the subsequent year in the last quarter of each calendar year. As prices would be adjusted annually, they would not be codified in Federal regulation.

3.5 Issues related to administering two separate observer program service delivery models

The following is a discussion of some of the implications of administering two observer program service delivery models. Under Alternative 2 and Alternative 3 (the Council's preferred alternative), only a subset of vessels and processors would be included in the new fee-based program in which NMFS directly contracts for observer services. Vessels and processors not covered under the new fee-based program would continue to operate in the current "pay-as-you-go" system. Thus, Alternatives 2 and 3 would restructure the observer program to a direct contract model for a segment of the fleet while leaving the existing regulated model in place for another segment. This is referred to as a 'hybrid' program in this section.

There are a number of issues related to interactions between the different models in a hybrid observer program. NMFS has experience running two programs using different models but these are in different fisheries, or in different regions of NMFS. For example, in Alaska, NMFS manages the groundfish program through the regulated model while also managing the Alaska Marine Mammal Observer Program (AMMOP) on an intermittent basis through the contracted model. The service providers contracted to the AMMOP program are also certified and work in the groundfish program, but each program operates on different fisheries in different areas.

Managing two different models simultaneously in the observer program could present challenges to NMFS, observer providers, and fishery participants because there is the potential for the two models to overlap. The challenges inherent in a hybrid model are presented here because they constitute implementation issues that need to be considered and addressed should a hybrid model be selected.

Logistical concerns

Under a program in which there are two different models (direct contracts versus managing through Federal regulation), there could be logistical issues should a fishing operation move between the two models. From a fishing industry perspective, moving from one model to another could require a change of observer providers, a change in the observer, and a change in the payment mechanism. For example, under Alternative 2, vessels in the GOA would operate under the contracted model and vessels in the BSAI would operate under the current regulated model. A vessel moving from the GOA to the BSAI may have to go to port, disembark its current observer, offload any BSAI catch, and obtain an observer from a different observer provider before proceeding to fish in the BSAI. It would pay an ex-vessel fee for coverage in the GOA and pay the new provider directly for coverage in the BSAI.

From an observer provider's perspective using the above example, the contractor in the GOA would need to address the logistics of removing the observer, potentially in Dutch Harbor or a remote port, and the observer provider in the BSAI would have to likewise transport a different observer to that same port for deployment to the vessel before it began fishing in the BSAI. One might see a solution to the problem explained in this example, if the same observer provider covered the vessel in both the BSAI and GOA. However, this is not assured.

From NMFS' perspective, the agency would need to incur the cost of the logistical change of observers, ultimately paid by industry in the fee assessment. Also, as different regulations would apply between the two models, NMFS would have responsibility for enforcing any violations of the regulations. From the observer's perspective, his or her deployment may be disrupted or, if he or she worked under both models, the observer could be shifted to a different contract and a different pay system (see labor cost inequities below).

Confidentiality requirements

Under the regulated model (status quo), observer providers are not authorized to view the confidential fisheries information collected by their observers. Under the direct contract model, NMFS is authorized to treat observer providers like Federal employees and provide them access to confidential fisheries information. They would likely need confidential fisheries information to enable them to most efficiently and effectively conduct some of their contractual duties. For example, if the contract required the observer provider to do initial review and editing of observer data as a quality control measure prior to submission to NMFS (debriefing). Under a hybrid program, observer providers operating in both models would need to establish internal controls that ensure the confidentiality requirements are met under each model. In essence, they would need to keep business in one model separate from business in the other. These efforts would add to the observer provider's internal administrative complexity and possibly increase administrative costs.

Alternatively, NMFS could choose to constrain the contracted model and not allow observer providers access to confidential data. Allowing access is an option but not a requirement. However, preventing access to confidential data would decrease the observer provider's ability to monitor and manage its employees because it would not be able to view the detailed fisheries information they collect. This approach would degrade some of the benefits of moving to a contracted model.

Observer provider cost reporting and billing

An added complexity of a hybrid program, where an observer provider operates in both the NMFS contracted and regulatory segments of the fishery, involves the cost reporting and billing requirements placed on observer providers. NMFS is in the process of developing a proposed rule that will require observer providers under the current observer delivery system (regulated model) to submit copies of all billing invoices submitted to the fishing industry for observer services. In conjunction with this, observer providers awarded a government contract under the fee-based system will be submitting bills to NMFS for observer services rendered under that contract. Therefore, any observer provider who operates under both the regulated and contracted systems would have additional administrative complexities and possible increased costs associated with maintaining two separate sets of financial books. Under the regulatory system, the observer provider would be submitting invoice copies to NMFS representing costs paid directly by the fishing industry and under the contracted model the observer provider would be billing NMFS for similar observer services. Not only will there be required separation in billing records and procedures but there would likely be added accounting difficulties should a single observer work in both the regulated and contracted programs during the same deployment. For example, the observer provider would need to address the issue of dividing the cost of airline and accommodations between the two programs.

Flexibility to modify observer provider responsibilities

Under the regulated model, NMFS manages observer providers through Federal regulations. When changes to regulations are needed, the process is time consuming and labor intensive. In general, regulations take considerable time to change so their effectiveness as a management tool is limited in a dynamic operational environment.

Under the direct contract model, NMFS would manage observer providers through Federal contracts. Contracts can be modified on a tight schedule, though there can be cost implications. Contracts can also be modified by periodic revisions to task orders and statements of work, requiring minimal time and effort compared to changes in Federal regulations. In general, contracts allow more flexibility to respond to changing fisheries management programs and requirements.

Under a hybrid program, such as the Council's preferred alternative, the observer program operating rules and procedures could diverge between the contracted model and the current regulated model. This is because contracts could be modified to meet changing needs relatively easily, but regulatory changes would not likely be able to keep in synchronization with contract changes. For example, under the contracting model, NMFS might find the need to direct observer providers to place only experienced observers on certain vessel types. This change could be made relatively quickly through the contract modification process. However, if NMFS wanted to make the same change in observer provider responsibilities under the regulated model, it would take much longer. To put it another way, the time it would take to make a contract modification of the type given in this example would be measured in months, whereas the time it would take to make the same change under the regulatory model would be measured in years.

Clarity in responsibilities and level of complexity

Under the status quo regulated model, observer service providers and industry must comply with rigid coverage requirements and other regulations. The burden is on the fishing industry to obtain required coverage through observer providers.

Under the direct contract model, the contract establishes observer service provider requirements. The fishing industry would still need to comply with regulations, but they would change for some vessels. For instance, vessels requiring less than 100% coverage, that previously had to comply with complex 30% coverage rules, would now only be required to comply with notification rules and carry an observer through a random selection process. As well, other segments of the fishing industry may be required to take observers (i.e., less than 60' fleet) but they will not need to track compliance with specific coverage requirements.

Under a hybrid program, the level of complexity would increase because there would be two sets of rules depending on which model applies. The impact of this increased complexity would vary from the point of view of each stakeholder. A description of the increased complexity under a hybrid model for various stakeholders is provided below.

Fishing industry: A fishing company may operate under contracted and regulated models simultaneously. For example, under Alternatives 2 and 3, a company with fishing vessels operating in both the BSAI and GOA would follow one set of notification regulations in the GOA and be assigned to work with a observer provider selected by NMFS, while in the BSAI, these same vessels would have to follow current coverage requirements, and pay for observers directly to a permitted observer provider of their choice. Thus, this example notes the potential for a fishing company to have to work with two different observer providers and comply with two different sets of regulations.

Observer Providers: An observer provider has the potential to work under both the contracted and regulated model at the same time. The contracted model will have contract requirements whereas the regulated model will be governed by regulations. The contracted model may require specific placement of certain experienced observers with specific skill sets on particular vessels. This could reduce their flexibility in providing observers under the regulated model because their pool of experienced observers would be reduced by the contract requirements.

NMFS: Some operations within the observer program have the potential to become more complex and therefore administratively more burdensome and inefficient under a hybrid model. For example, when many observers return from sea at the same time, it takes longer for an observer to complete debriefing. Essentially, a line forms and each observer must wait his or her turn to debrief. Under the hybrid model, the question will arise – Does NMFS move observers who worked under the contracting model, to the front of the line (to save money) and use fee collected funds in a more cost-effective and efficient manner, or does NMFS treat all observers the same and operate debriefing on a first-come-first served basis?

Observers: An observer may face different working environments, depending on whether they will be working in a regulated or contracted model. Pay structures could be different and vessel or plant assignments may vary depending on the model they are working under.

Labor cost inequities

Under the regulated model, there are five currently active observer providers. Three of them operate under Union agreements and two do not. Because these observer providers compete with each other both for industry clients and for observer employees, the salaries and benefits paid to observers are roughly comparable.

Under the contracted model, NMFS would expect labor cost increases due to application of the Service Contract Act, which establishes a base wage and requirements for fringe benefits. Therefore, under a hybrid program, two different salary and benefit standards could be in place, at least in the short-term, creating disparities in the compensation package provided to observers. While it is difficult to predict how the disparity would be addressed by observer providers, individual observers, and in collective bargaining agreements, it is expected that wages and benefits realized for observers working in a pay-as-you-go fishery would trend close to those realized for observer working in a restructured fishery over time. Thus, an increase in the observer compensation package could be realized under both models.

3.6 Agency costs

Current funding for the observer program is composed of two sources, industry and the Federal government. The fishing industry pays all of the direct costs of placing observers on its vessels. This industry component of observer program funding includes food and all direct costs such as salary, insurance, housing, and travel. The fishing industry pays the food costs directly while all other costs are paid to one of several observer providers certified by NMFS.

Current Federal funding for the observer program supports the agency requirements of observer training, sampling and safety gear, field office support, data management, data quality control, and some analysis. The majority of analytical work done with the observer data is absorbed in the broader budgets of NMFS, ADF&G, IPHC, and the Council, as there are numerous clients using the observer program information.

Estimated agency costs under each alternative

NMFS would incur additional responsibilities and costs beyond the status quo to implement a restructured observer service delivery model where the government enters into direct contracts with observer providers for observer services. Three primary areas of added responsibility include: (1) contracting with observer providers, (2) tasks associated with deploying observers in the less than 100% tier, and (3) tasks associated with collecting fees from the industry.

A large percentage of the new workload will result from the process required to contract with observer providers. Once contracts are in place, NMFS will need to dedicate personnel to monitor the performance of observer providers, issue new task orders, and respond to any necessary modifications to the contract. If a comprehensive restructuring alternative is selected, NMFS could modify the duties of existing personnel to fill those roles. However, if a partial restructuring alternative is selected, additional staff would likely be needed as existing personnel would need to continue the tasks they perform under the current service delivery model. It is also conceivable that WAD would require additional personnel to manage the scale of contracting under consideration for the observer program.

Executing the sampling plan for vessels with less than 100% coverage may require additional personnel. New responsibilities include: determining and adjusting as necessary, optimal observer coverage levels in the various fisheries or sectors; and creating and managing the vessel selection system.

Establishing and collecting fees from industry will also impose additional responsibilities on NMFS. Additional personnel will likely be needed to manage the fee collection process. Primary new, ongoing responsibilities include: determining ex-vessel prices for all species/species groups; programming new standard prices into eLandings fish tickets; preparing an annual *Federal Register* notice of standard prices; preparing fee invoices for industry; accounting for receipt of fee payment; performing audits; and following-up on delinquent payments.

A list of anticipated, new agency responsibilities is provided in Table 72. The number of operations that would be included under a restructured groundfish observer program, by alternative, is provided in Table 73. Relative agency costs to implement each alternative are discussed below. The additional costs to the government are in-part a function of the number of operations that would be subject to a restructured program. While the scope of the restructuring alternatives varies, the gross level of agency responsibilities and associated costs is difficult to distinguish among the alternatives. NMFS estimates that four to six new staff will be needed to fully carry out the work required under Alternatives 2 and 3. Alternatives 4 and 5 are more complex and involve more work by NMFS, requiring additional resources. Some of the resources necessary for Alternatives 4 and 5 could be obtained through re-programming and training of existing staff because the responsibilities of the existing program would go away. Reprogramming is not possible under Alternatives 2 and 3 because the responsibilities of the existing program would continue.

Table 72 New agency responsibilities required to implement a restructured groundfish observer program

New Agency Responsibilities	Duration	Frequency	Applicable Alternatives
Manage fee collection			
Determine standardized prices	Ongoing	Annually	2, 3, 4, 5
Determine fishery ex-vessel value	Ongoing	Annually	2, 3, 4, 5
Determine ex-vessel fee percentage	Ongoing	Annually	2, 3, 4, 5
Publish FR notice of prices	Ongoing	Annually	2, 3, 4, 5
Publish FR notice of ex-vessel fee percentage	Ongoing	As Needed	2, 3, 4, 5
Determine daily fee amount	Ongoing	As Needed	4
Update daily fee FR notice	Ongoing	As Needed	4
Programming to create observer fee collection computer application	One Time	Pre-Implementation	2, 3, 4, 5
Programming to adjust fee percentage and standard prices in eLandings and in fee collection computer application	Ongoing	Annually	2, 3, 4, 5
Generate and mail invoices to industry	Ongoing	Annually	2, 3, 4, 5
Receive payments from industry	Ongoing	Annually	2, 3, 4, 5
Permit actions for entities delinquent with payment	Ongoing	As Needed	2, 3, 4, 5
Contract with Providers			
Development (RFP, SOW, Award)	Indefinite	Ongoing	2, 3, 4, 5
Contract management - contracting officer oversight	Indefinite	Ongoing	2, 3, 4, 5
Contract management - contracting officer technical representative	Indefinite	Ongoing	2, 3, 4, 5
Design and Implementation of Sampling Plan			
Design sampling plan and implement the sample plan	Ongoing	Ongoing	2, 3, 4, 5
Develop and manage a call in system	Ongoing	Ongoing	2, 3, 4, 5
Develop and manage a program for newly observed vessels	Ongoing	Ongoing	2, 3, 4, 5
Outreach			
Public meetings to solicit comments in impacted states	One time	During rule-making	2, 3, 4, 5
Pre-implementation outreach	Ongoing	Ongoing	2, 3, 4, 5
Post-implementation outreach	As Needed	Ongoing	2, 3, 4, 5

Table 73 Number of operations that would be included under a restructured groundfish observer program, by alternative

Operation Type	Alternative		
	2	3 (Council preferred alt)	4 & 5
Shoreside processors/stationary floaters	153	160	160
Motherships	1	1	4
Groundfish CVs	122	184	210
Groundfish CPs	27	10	80
Halibut & sablefish IFQ	1,414	1,414	1,426
Total	**1,717**	**1,769**	**1,880**

Alternative 1: No action alternative. Under this alternative, the current pay-as-you-go program would continue to be the only system under which groundfish observers would be provided in the groundfish fisheries of the BSAI and GOA. There are no additional direct agency costs associated with this alternative. NMFS costs for the groundfish observer program in 2008 were $5.2 million. Note that the NMFS observer program workload is a function of the coverage required of the fleet because coverage needs determine the training, debriefing, and data handling needs. Required coverage can be affected by management programs recommended by the Council and implemented by NMFS or by statute. For each day of additional coverage obtained under the current service delivery model, NMFS observer program costs for training, data handling, and gear increase by approximately $133. Additionally, agency costs for implementing regulatory changes, and inseason management of the fisheries, would remain unchanged.

Alternative 2: GOA-based restructuring alternative. Alternative 2 would establish a new service delivery model for the observer program for GOA groundfish, all halibut fisheries and groundfish vessels <60' LOA operating in Alaska. Shoreside and floating processing plants and motherships operating in the GOA would collect and remit an ex-vessel value-based fee from CVs delivering halibut and groundfish. CPs in the GOA would remit an ex-vessel value-based fee. Shoreside and floating processing plants and motherships operating in the BSAI would collect and remit an ex-vessel value-based fee for all halibut deliveries and groundfish deliveries received from CVs <60' LOA. CPs, motherships, and vessels ≥60' LOA operating in the BSAI would continue to procure observers under the status quo regulations and service delivery model.

Alternative 2 is expected to result in additional agency costs. Overall coverage is not expected to change substantially, thus, the overall training, data handling, and debriefing costs would remain the same. However, additional costs would be incurred for agency and field coordination on coverage, fee assessment, and contracting for the portions of the fleet covered by the new program. Coverage coordination involves making decisions on coverage priorities and targets and then achieving those targets through field activities. Costs associated with fee assessment would include programming, implementation, and fee collections. Contracting costs would include services provide by NOAA's Acquisition and Grants Office (AGO) to issue and manage contracts for the GOA. NMFS staff would need to be dedicated to serve as the Contracting Officer's Technical Representative (COTR) in managing the contract. Contract management would be an ongoing responsibility.

Relative to Alternatives 4 and 5, Alternative 2 is expected to have higher costs associated with contract oversight as NMFS will not be able to shift existing personnel to that task since NMFS will continue to administering the status-quo program for operations in the BSAI through Federal regulation. Thus, an additional staff person would likely be needed for contract oversight under Alternatives 2 and 3 relative to 4 and 5. It is estimated that it would cost NMFS $4,130 per year to process fee payments from operations under Alternative 2 assuming that shoreside processors collect and remit the catcher vessel's portion of the fee liability (Table 74).

Table 74 Estimated cost for NMFS to process observer fee payments each year, based on the number of processing operations included under each alternative[1]

Alternative	Number of Payments	Processing Cost
2	181	$ 4,130
3 (Council PA)	171	$ 3,902
4 & 5	244	$ 5,568

[1]NMFS's Office of Management and Budget estimates that it takes 15 minutes of staff time and costs the agency $22.82 to process each fee payment received in the form of a check and 10 minutes, or $15.29, to process each payment made electronically through pay.gov. This table assumes that all payments are made by check to show the upper potential range of this new agency cost.
Note: 'Processing operations' means shoreside plants, stationary floaters, motherships, and catcher processors.

Alternative 3: Coverage-based restructuring alternative (Council preferred alternative). Alternative 3 would establish a new service delivery model for the observer program for all groundfish and halibut fisheries with less than 100% coverage requirements. This alternative differs from Alternative 2 in that the program would be defined by coverage categories rather than geographic area. Under this alternative, vessels with 100% or greater coverage requirements would continue to operate under the existing pay-as-you-go program, and vessels with coverage requirements less than 100% would pay an ex-vessel value based fee.

Shoreside and floating processing plants operating in either the GOA or BSAI, would collect and remit an ex-vessel value-based fee for all CV halibut and groundfish deliveries with the exception of BS pollock deliveries (i.e., the 100% shoreside stratum). Plants receiving BS pollock deliveries would also be required to procure a plant observer under the existing service delivery model at a rate of one observer for every 12 hours of processing time. Vessels (CPs, CVs, and motherships) in the ≥100 percent observer coverage stratum would continue to procure observers under the existing service delivery model.

Alternative 3 is expected to result in additional agency costs. Overall coverage is not expected to change substantially, so the overall training, data handling, and debriefing costs would remain the same. However, additional costs would be incurred for agency and field coordination on coverage, fee assessment, and contracting for the portions of the fleet covered by the new program. Coverage coordination involves making decisions on coverage priorities and targets and then achieving those targets through field activities. Costs associated with fee assessment would include programming, implementation, and fee collections. Contracting costs would include services provide by NOAA's AGO to issue and manage contracts for the component of the fleet covered by the new program. NMFS staff would need to be dedicated to serve as the COTR in managing the contract. Contract management would be an ongoing responsibility. The scope of the contract under Alternative 3 would be similar to Alternative 2 and costs for processing fee payments approximates the estimated cost under Alternative 2 as well (Table 74).

Alternative 4: Comprehensive restructuring alternative with hybrid fee system. Under Alternative 4, all groundfish and halibut fisheries off Alaska would be included under a restructured observer program (Table 73). Vessels and shoreside processors with 100 percent or greater coverage would pay a daily observer fee; vessels and shoreside processors with less than 100 percent coverage would pay an ex-vessel value based fee. Shoreside and floating processing plants and motherships operating in either the GOA or BSAI, would collect and remit an ex-vessel value-based fee from CVs delivering halibut and groundfish. Plants receiving Bering Sea pollock (i.e., the 100% shoreside stratum) would also be required to pay a daily fee for their required 100 percent plant observer coverage at a rate of one observer for every 12 hours of processing time.

This alternative is expected to result in additional agency costs. As in Alternatives 2 and 3, Alternative 4 includes agency and field coordination on coverage, fee assessment, and contracting. Some re-assigning of existing staff could be possible because some functions associated with the existing program would change. For example, NMFS would have a much greater responsibility for contract development and management, and less of a responsibility for monitoring regulatory compliance with contractor and observer regulations. Contracting costs would include services provided by NOAA's AGO to issue and manage contracts. NMFS staff would need to be dedicated to serve as the COTR in managing the contract. Contract management would be an ongoing responsibility. The scope of the contract(s) would be considerably larger under Alternatives 4 and 5 would require more NMFS oversight than under Alternatives 2 and 3. For example, under some contract models, a NMFS full-time employee could be required to supplement AGO staff to manage a contract of this size.

NMFS would incur additional costs under Alternative 4 relative to all the other alternatives as alternative 4 has a dual fee system that NMFS would have to manage. Tasks to implement a daily fee would include determining the fee amount, publishing the daily fee amount in the *Federal Register*, and invoicing operations subject to a daily fee (see Table 72). These tasks are in addition to tasks required to implement an ex-vessel value fee program under the other alternatives. Alternatives 4 and 5 provide some efficiencies as existing staff administering the current regulatory pay-as-you-go program may be reassigned to assume some duties under a restructured program, since the agency will not have to implement two programs. However, the cost benefits may be canceled out by the increased costs to implement larger contract and fee collection systems under Alternatives 4 and 5.

Alternative 5: Comprehensive restructuring alternative. Alternative 5 would establish a new service delivery model for the observer program for all groundfish and halibut fisheries off Alaska. This alternative would establish a new fee-based groundfish observer program in which NMFS has a direct contract with observer providers for all GOA and BSAI groundfish and halibut vessels in the Federal fisheries. Shoreside and floating processing plants and motherships receiving catcher vessel deliveries from the groundfish and halibut fisheries would be responsible to collect and remit an ex-vessel value-based fee from CVs delivering halibut and groundfish. CPs operating in the GOA and BSAI would also pay an ex-vessel value-based fee.

This alternative is expected to result in additional agency costs. Alternative 5 is similar in scope to Alternative 4 and may result in similar agency costs to implement. Differences in expected agency costs between Alternatives 4 and 5 are that NMFS would only have to implement one type of fee collection program under Alternative 5 which may result in efficiencies and cost savings relative to Alternative 4. However, NMFS will need to determine a greater number of standardized ex-vessel value prices under Alternative 5 than the Alternatives 2, 3, or 4. The scope of the ex-vessel value based fee determinations and collections will be much larger for the agency to manage under Alternative 5, especially relative to Alternatives 2 and 3.

4 Environmental Assessment

The purpose of this section is to analyze the environmental impacts of the proposed Federal action to replace the existing service delivery model for the North Pacific Groundfish Observer Program, whereby vessels and processors contract directly with observer providers to meet coverage levels specified in Federal regulations, with a new service delivery model in which NMFS would contract with observer providers and determine when and where observers are deployed, based on a scientifically sound sampling design. The existing service delivery model requires that vessels and processors pay observer providers directly for observer services, while vessels and processors included in the restructured program would pay a fee (ex-vessel value based or daily fee) into a general pool to fund (through Federal contracts with observer providers) the deployment of observers in the sectors covered by the new program.

Several alternatives are considered, which determine the scope of observer restructuring (i.e., which sectors are included in the restructured program) and the type of fee assessed. Thus, some sectors would remain in the existing service delivery model under some of the alternatives.

An environmental assessment (EA) is intended, in a concise manner, to provide sufficient evidence of whether or not the environmental impact of the action is significant (40 CFR 1508.9). Three of the four required components of an environmental assessment are included below. These include brief discussions of: the purpose and need for the proposal (Section 4.1), the alternatives under consideration, including the Council's preferred alternative (Section 4.2), and the potential environmental impacts of the proposed action and alternatives (Section 4.3). The fourth requirement, a list of agencies and persons consulted, is provided in Chapter 8.

4.1 Purpose and need

The Council has identified the following problem statement regarding the affected areas and sectors for the proposed action. Further background information and detail on the intent of the proposed action is provided in Sections 2.1 and 2.2.

<u>*Problem statement for BSAI Amendment 86/GOA Amendment 76*</u>:

The North Pacific Groundfish Observer Program (Observer Program) is widely recognized as a successful and essential program for management of the North Pacific groundfish fisheries. However, the Observer Program faces a number of longstanding problems that result primarily from its current structure. The existing program design is driven by coverage levels based on vessel size that, for the most part, have been established in regulation since 1990 and do not include observer requirements for either the <60' groundfish sector or the commercial halibut sector. The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries. In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data. The current program is also one in which many smaller vessels face observer costs that are disproportionately high relative to their gross earnings. Furthermore, the complicated and rigid coverage rules have led to observer availability and coverage compliance problems. The current funding mechanism and program structure do not provide the flexibility to solve many of these problems, nor do they allow the program to effectively respond to evolving and dynamic fisheries management objectives.

4.2 Description of the Alternatives

This analysis evaluates five primary alternatives and two options. **Alternative 1** is the no action alternative, which reflects the status quo service delivery model. The remaining four action alternatives differ in the scope of sectors included and the type of fee established to pay for observer services. **Alternative 2** would restructure the observer program for GOA groundfish and halibut vessels and processors, as well as halibut vessels and <60' groundfish vessels in the BSAI. Restructured sectors would pay an ex-vessel value based fee. **Alternative 3**, which is the **Council's preferred alternative**, would restructure the observer program for all groundfish and halibut vessels and processors with coverage needs of less than 100 percent. The determination of general coverage needs (<100% versus ≥100%) by sector is thus integral to this analysis, and is the subject of Section 3.2.7 and 3.2.9. Restructured sectors would pay an ex-vessel value based fee. **Alternative 4** would restructure the observer program for all groundfish and halibut vessels and processors. Sectors with coverage needs of <100% would pay an ex-vessel value based fee; sectors with coverage needs of ≥100% would pay a daily fee. **Alternative 5** would restructure the observer program for all groundfish and halibut vessels and processors, and all sectors would pay an ex-vessel value based fee.

Note that one of the primary decision points under Alternatives 2 – 5 is the ex-vessel value fee percentage to be assessed, the maximum of which can be 2% under current law. **Option 1**, applicable under any of Alternatives 2 – 5 but not selected by the Council as part of the preferred alternative, proposes to assess an ex-vessel value fee equal to *half* of that selected under the overall alternative, on halibut landings and groundfish landings from vessels either <40', <50', or <60' length overall. For example, the ex-vessel value fee selected by the Council under Alternative 3 was 1.25%, thus, if Option 1 was applied, halibut landings and groundfish landings from small vessels would be assessed a 0.625% fee.

All new fees, whether ex-vessel value based or a daily fee, would be paid directly to NMFS. All of the action alternatives include an ex-vessel value based fee on some portion or all of the fleet. The ex-vessel value based fee evaluated in this analysis for the alternatives is 2% of ex-vessel value annually, which is the maximum fee that could be charged in the future. **Alternative 3, with a 1.25% ex-vessel value fee, was selected by the Council as its preferred alternative.** The Council's intent is for vessels delivering shoreside to pay half of the 1.25% fee; shoreside processors would pay the other half. Catcher processors would pay the entire fee if they had been included in the revised program.

A daily fee was evaluated only under Alternative 4, in which the sectors that are in the ≥100% coverage category would be subject to a daily fee. The daily fee is estimated as $467 for one observer day (100% coverage), thus, the daily fee for two observers (200% coverage) is estimated to be $934.[94] Note that the estimated daily rate for an observer under the status quo system is $366 per observer day. The derivation of fees, both under the status quo and the restructured program, is detailed in the RIR and Appendix 6.

Finally, **Option 2** states that NMFS will release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate

[94]An explanation of the calculations used to determine the daily fee is provided in Appendix 6.

the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided.

The suite of alternatives under consideration is provided below. The entire Council motion, detailing the preferred alternative, is provided as **Appendix 13**.

Alternative 1. Status quo; continue the current service delivery model.

Alternative 2. GOA-based restructuring alternative. Restructure the program in the GOA, including shoreside processors; and include all halibut and <60’ vessels participating in groundfish fisheries in the GOA and BSAI. Vessels in the restructured program would pay an ex-vessel value based fee. Retain current service delivery model for vessels ≥60’ and shoreside processors in the BSAI.

Alternative 3. **(Council preferred alternative.)** Coverage-based restructuring alternative. Restructure the program for all fisheries and shoreside processors with coverage of less than 100 percent. Vessels in the restructured program would pay an ex-vessel value based fee. Leave vessels and processors with at least 100 percent coverage under the current service delivery model.

Alternative 4. Comprehensive restructuring alternative with hybrid fee system. Restructure program for all groundfish and halibut fisheries off Alaska. Vessels and shoreside processors with 100 percent or greater coverage would pay a daily observer fee; vessels and shoreside processors with less than 100 percent coverage would pay an ex-vessel value based fee.

Alternative 5. Comprehensive restructuring alternative that would assess the same ex-vessel value based fee on all vessels and shoreside processors in the groundfish and halibut fisheries in the GOA and BSAI.

The following options are applicable under Alternatives 2 – 5:

Option 1: For halibut fishery landings and landings by vessels less than [40’, 50’, or 60’ LOA] participating in groundfish fisheries (fisheries and sectors not currently subject to the observer program), vessels and shoreside processors would pay one-half the ex-vessel value based fee established under the alternative.

Option 2: **(Council preferred alternative).** NMFS will release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council’s choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided.

There are several exceptions to the restructuring alternatives that are not explicit in the language of the alternatives. In brief, fishery sectors excluded from the proposed action are: the crab fisheries; sectors participating in parallel groundfish fisheries in State waters that do not hold an FFP; and sectors participating in State managed fisheries in State waters. In addition, sectors landing groundfish species as incidental catch in the State managed fisheries or the halibut/sablefish IFQ fishery in State waters that do not hold an FFP are not included in the program and a fee would not be assessed on these species. Details on these exceptions, including the rationale for exclusion, is provided in Section 2.5.

4.3 Probable environmental impacts

This section estimates the effect of the alternatives on the biological, physical, and human environment. The physical and biological effects of the alternatives on the environment and species are discussed together in Section 4.3.2. A description of the context and intensity of the action is provided in Section 4.3.5. Economic and socioeconomic effects of the alternatives are primarily analyzed in the RIR in Section 2, but are summarized briefly in Section 4.3.3. Cumulative effects are addressed in Section 4.3.4.

The effects of groundfish fishing on the ecosystem and the social and economic environment are contained in the Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement (PSEIS) and are incorporated into this analysis by reference (NMFS 2004c). This analysis includes only those effects that are additional and attributable to promulgation of rulemaking to restructure the service delivery model for the North Pacific Groundfish Observer Program. Analysis of impacts are based largely on analyses prepared for each stock, species, or species group in the BSAI and GOA, contained in the Alaska Groundfish Harvest Specifications Final EIS (January 2007) and supplemental information reports from 2008 and 2009.[95,96]

The current observer program was implemented in 1990 to collect data necessary to support the management of the North Pacific fisheries. This includes monitoring harvest amounts consistent with specified total allowable catches and the collection of data that are incorporated into annual stock assessments. The observer program provides information to monitor the effectiveness of, and compliance with, fisheries management decisions made through the annual TAC-setting process and the effects on the environment.

Note that the annual TAC specifications and PSC limits that are implemented each year through proposed and final rulemaking are separate and distinct actions from this one. Those actions are informed by an EIS and supplemental reports prepared annually on the TAC specifications and PSC limits, as referenced above. Likewise, parameters under which the North Pacific groundfish and halibut fisheries operate (who, what, where, when), remain in effect. Therefore, the effects of this proposed action, which will determine some of the parameters under which those fisheries will be monitored, are evaluated based on the assumption that the effects of the fisheries themselves on the marine resources have been evaluated in

[95]http://www.alaskafisheries.noaa.gov/analyses/specs/eis/final.pdf.
[96]http://www.alaskafisheries.noaa.gov/analyses/specs/0809specs_sir.pdf.
http://www.alaskafisheries.noaa.gov/analyses/specs/0910specs_sir.pdf.

separate NEPA analyses. It is thus assumed that each alternative under consideration would be implemented in conjunction with harvest limits set annually by the harvest specification process and according to current regulations governing fishing within the EEZ off Alaska (50 CFR 679).

4.3.1 Benefits from improved observer data under Alternatives 2 through 5

Additional benefits, compared to the status quo, are expected in varying degrees under Alternatives 2 – 5, in which the deployment and funding mechanism of the observer program is restructured. Under the proposed restructuring alternatives, the greatest increase in improvement in the collection of observer data would be expected in the sectors that currently have either 30% observer coverage requirements or no observer coverage requirements. Thus, the alternatives that include restructuring the program for all vessels that currently have no observer requirements or 30% coverage requirements will likely provide the most benefit (Alternative 3 – 5). The Council's preferred alternative (Alternative 3) includes all of these vessels and processors in the new program, regardless of whether they are fishing in the GOA or BSAI.

Reducing sources of bias

Under the existing observer program, vessels required to carry observers 30% of their fishing days choose when and where to carry observers provided that they meet the minimum coverage requirement of 30% of fishing days per quarter and at least one observed fishing trip for each target fishery. Many vessel owners prefer to get their required coverage later rather than earlier during each quarter for several reasons. First, when vessels carry observers later in the quarter or fishing season they may have a better idea of how many coverage days will actually be needed to meet the regulatory requirement than vessels carrying observers during the start of a quarter or fishing season. Therefore, vessels carrying observers later in each quarter or season are better able to avoid exceeding their coverage requirement and paying for additional observer days that are not required. Second, some vessel owners may prefer to carry observers later in each quarter so that they can first earn revenues required to pay for observer coverage and other expenses.

The preference for coverage later in the quarter is tempered to some extent by observer providers who have observers under contract and must keep their observers deployed in order to minimize unpaid downtime. Consequently, there is a constant give and take between observer providers and vessel owners in the existing 30% coverage fleet over when and where to carry observer coverage. However, these types of coverage decisions are generally driven by the observer provider's desire for efficiency and the vessel owner's desire for predictability, with little or no regard given to scientific or management objectives. This is because NMFS does not decide when and where observers are deployed in the 30% coverage fleet. Because catch and bycatch rates fluctuate by season and area, biased decisions about when and where to deploy observers in the 30% coverage fleet has the potential to greatly affect the quality and reliability of observer data. Refer to Sections 3.2.2 and 3.2.6 of the sample design, and Appendix 8 for a more detailed treatment of this issue.

Under Alternatives 2 through 5, the existing 30% coverage requirements in regulation would be eliminated, and NMFS would determine when and where to deploy observers and how much coverage is necessary for each fishery in those sectors required to have <100% coverage. (The only exception is under Alternative 2, which proposes to restructure the observer program for the GOA groundfish and halibut fisheries and the <60' groundfish sector and halibut sector in the BSAI. Under this alternative, vessels ≥60' in the BSAI would continue under the status quo, and thus, the 30% coverage regulation would still exist for vessels operating in the BSAI that are currently subject to the 30% requirement.) Under Alternatives 2 – 5, NMFS would also have the ability to better 'match' observers' skills and experience to the deployment of observers in all fisheries, whether they are <100% covered or ≥100%

covered. Fishery managers would be able to address these and other known sources of bias, to the benefit of the resulting data.

Recent examinations of the North Pacific Groundfish Observer Program have focused on operational aspects of the program and have dealt with such issues as sampling protocols, reducing bias, estimate expansion, and the statistical properties of estimates (e.g. Jensen et al. 2000, Dorn et al. 1997a, Dorn et al. 1997b, Volstad et al. 1997, Pennington 1996, and Pennington and Volstad 1994). These and other studies suggest that sources of bias can be reduced and the statistical reliability of observer data improved through improvements in the manner in which observers are deployed. In particular, bias can be reduced by changing the current system, in which 30% coverage vessels can chose when and where to take observers, to a new system in which NMFS is responsible for the sample design that governs the deployment of observers among vessels in a more statistically sound manner.

Finally, in a March 2004 report, the U.S. Department of Commerce, Office of Inspector General (OIG) recommended that NMFS work with the Council to establish requirements for an observer program that includes a vessel selection process that is scientifically valid and unbiased. NOAA concurred that improved vessel selection procedures are needed for scientific data collection, and indicated that it was working with the Council to address these biases. A follow-up memorandum from the OIG to NMFS' Assistant Administrator in September 2008, documented that the OIG recommendation for this issue remains open, as fishery managers still cannot control when and where observers are placed in the North Pacific groundfish fisheries. All other recommendations in the 2004 OIG report for improving data quality, performance monitoring, and outreach efforts in NMFS observer programs have been addressed.

Lack of data in 30% sectors and sectors without coverage requirements

The current groundfish observer program throughout Alaska is one in which groundfish vessels less than 60' are not required to carry observers and vessels 60' – 125' LOA are required to carry and pay for their own observers 30% of their fishing days, regardless of gear type or target fishery.[97] These two size categories make up the majority of vessels fishing in the GOA and out of ports other than Dutch Harbor and Akutan in the BSAI. Observers deployed on vessels greater than 60' estimate total catch for a portion of the hauls or sets, and sample these hauls or sets for species composition. These data are extrapolated to make estimates of total catch by species for the entire fishery, including unobserved vessels. Observer data from observed vessels are assumed to be representative of the activity of all vessels, and are used to estimate total catch of prohibited species for the entire fishery.[98] On average, vessels less than 60' harvested 27% of the total GOA groundfish catch from 2003 – 2007, and all of this catch was unobserved.

In addition to the lack of observer coverage in the less than 60' fleet, there is no observer coverage in the halibut fisheries. Halibut fisheries are only observed incidentally to groundfish operations. In 2008, 3,141 permit holders fished halibut and sablefish IFQ using 1,157 vessels.[99] There are a number of potential bycatch issues pertaining to the halibut fleet.[100] Most of the information gathered for management of halibut vessels (and vessels <60') currently takes place at shoreside processors, which may provide adequate catch accounting for target species and retained incidental catch species. However, discards are self-reported for all vessels in these sectors. NMFS does not currently have a verifiable measure to

[97] Unless participating in a limited access quota program as described previously, which may require additional coverage.
[98] This has resulted in additional data problems owing to fishing behavior by some boat operators, when an observer is aboard, that is clearly not representative of fishing practices when unobserved. Referred to as "fishing for observer coverage", these resulting data, when extrapolated to other vessels that are unobserved, compound the potential catch and bycatch estimation errors, but to an unknown degree.
[99] Includes CDQ halibut fisheries.
[100] Note that NMFS and the IPHC are currently working through an NPRB grant to evaluate the potential for EM systems on these vessels.

account for these discards, nor does it have a method for assessing the accuracy of its management decisions. Additionally, current self-reporting requirements do not include information about vessel fishing behavior.

Under Alternatives 2 through 5, the existing 30% coverage requirements in regulation would be eliminated, and NMFS would determine when and where to deploy observers and how much coverage is necessary for each fishery. (The only exception is under Alternative 2, which proposes to restructure the observer program for the GOA groundfish and halibut fisheries and the <60' groundfish sector and halibut sector in the BSAI. Under this alternative, the 30% coverage regulation would still exist for vessels operating in the BSAI that are currently subject to the 30% requirement.) In addition, the <60' groundfish sector and halibut sector, for both the GOA and BSAI, are included under every alternative to restructure the observer program (Alternatives 2 – 5).

Targeting coverage to address data needs

An additional benefit to a restructured program for fisheries with <100% coverage needs is the ability of NMFS to target coverage to address specific data needs. Under Alternatives 2 through 5, fishery managers would have the flexibility to adjust coverage as necessary to fill data gaps and address specific conservation or management issues for the fisheries included in the preferred alternative. For example, if questions arise about catch or bycatch by vessels operating in a specific area or time of year, NMFS would have the ability to develop the sampling design such that observers are deployed on vessels during specific times or into specific areas to address those questions. In addition, because NMFS would have greater control over the deployment of specific observers, observers could be directed and trained to engage in more specialized data collection or research than is possible today. These types of specialized projects could include more intensive data collection on specific species or species groups, data collection on gear performance and gear interactions, and more intensive data collection on interactions with marine mammals and other protected species.

4.3.2 Physical and biological impacts

Alternative 1

Alternative 1 represents the status quo, with no changes to the current service delivery model. In effect, individual vessels and processors would continue to contract directly with observer providers to procure observer services to meet coverage levels in Federal regulations. In this case, monitoring levels are considered to be baseline with respect to the other alternatives. Groundfish vessels <60' and halibut vessels are excluded from the existing program under the status quo. Under this alternative, there would be no changes to the observer program, and no additional physical or biological effects outside those analyzed in previous NEPA documents.

This alternative would not achieve some of the objectives outlined in the problem statement such as: a reduction in bias that jeopardizes the statistical reliability of catch and bycatch data for the currently observed sectors; inclusion of the <60' groundfish sector and commercial halibut sector in the observer program in order to collect observer data; and the reduction of disproportionate observer costs born by many small vessel operators. It also would not advance the data quality objectives contained in the preferred alternative of the PSEIS (NMFS 2004c). The core structure of the current observer requirements (0%, 30%, 100%) are based on vessel length, and industry control of observer deployment in the sectors with 30% coverage requirements would remain in place. Section 3.2.6 of this document provides detail on the need for unbiased data on catch and bycatch in the North Pacific fisheries, as well as the most common sources of bias that can be introduced into catch estimates under the current system, specifically in the 30% sectors (fishing in non-representative areas and fishing at non-representative times).

Alternatives 2 through 5

The net effect of Alternatives 2 through 5, including the Council's preferred alternative (Alternative 3), is to change the system under which observers are deployed on vessels and processors, the determination of coverage on vessels and processors, and the way vessels and processors pay for observer coverage. The action alternatives vary by scope (i.e., which fishery sectors are included in the restructured program). Fishery sectors that are not included in the restructured program would remain under the existing system. Thus, this section addresses the potential impacts of those sectors included in the restructured program, and highlights differences among action alternatives. The proposed alternatives are described in detail in Section 2.4 and summarized here.

Alternative 2 would restructure the observer program for GOA groundfish and halibut vessels and processors, as well as halibut vessels and <60' groundfish vessels in the BSAI. Based on 2008 data, there are an estimated 1,564 vessels (catcher vessels, catcher processors, and motherships) that would be directly regulated under Alternative 2, with an additional 153 shoreside processors and stationary floating processors. Restructured sectors would pay up to 2% of their ex-vessel value to NMFS to pay for observer services, depending upon the fee percentage selected at final action, and all vessels and processors would be subject to the sampling design plan described in Section 3.2. Processors and ≥60' groundfish vessels operating in the BSAI would remain under the existing program (i.e., contract directly with observer providers to procure observers to meet coverage levels in regulation). The coverage levels for the sectors remaining in the existing program would not change (see Appendix 1).

Alternative 3, the Council's preferred alternative, would restructure the observer program for all groundfish and halibut vessels and processors with coverage needs of less than 100 percent. Based on 2008 data, there are an estimated 1,609 vessels (catcher vessels, catcher processors, and motherships) that would be directly regulated under Alternative 3, with an additional 166 shoreside processors and stationary floating processors. The restructured sectors would pay up to 2% of their ex-vessel value to NMFS to pay for observer services, depending upon the fee percentage selected at final action, and all vessels and processors would be subject to the sampling design plan described in Section 3.2. Note that under the Council's preferred alternative, the fee percentage is 1.25% of ex-vessel value. Those vessels and processors requiring ≥100% coverage would remain under the existing program. The determination of general coverage needs (<100% versus ≥100%) is discussed in Sections 3.2.7 and 3.2.9. In sum, those determined to need ≥100% coverage include: all catcher processors and motherships; catcher vessels in cooperatives with transferable quotas; and shoreside processors taking deliveries of AFA and CDQ pollock in the Bering Sea.

Alternative 4 would restructure the observer program for all groundfish and halibut vessels and processors. Based on 2008 data, there are an estimated 1,720 vessels (catcher vessels, catcher processors, and motherships) that would be directly regulated under Alternative 4, with an additional 160 shoreside processors and stationary floating processors. Sectors with coverage needs of <100% would pay an ex-vessel value based fee; sectors with coverage needs of ≥100% would pay a fixed daily fee reflecting the actual costs of stationing observers. Thus, the only difference between Alternative 3 and Alternative 4 is that those sectors determined to need ≥100% coverage are included under a restructured program and pay a fee based on the daily cost of deploying observers. Similar to Alternative 3, those sectors determined to need ≥100% coverage include: catcher processors and motherships; catcher vessels in cooperatives with transferable quotas; and shoreside processors taking deliveries of AFA and CDQ pollock in the Bering Sea. The sectors with <100% coverage needs would pay up to 2% of their ex-vessel value to NMFS to pay for observer services, depending upon the fee percentage selected at final action. Sectors with ≥100% coverage needs would pay an estimated $467 daily fee to NMFS if they are required to carry one observer

(100% coverage) and an estimated $934 daily fee to NMFS if they are required to carry two observers (200% coverage).[101]

Alternative 5 would restructure the observer program for all groundfish and halibut vessels and processors, and all sectors would pay up to 2% of their ex-vessel value to NMFS, depending upon the fee percentage selected at final action. Like Alternative 4, an estimated 1,720 vessels (catcher vessels, catcher processors, and motherships) would be directly regulated under Alternative 5, with an additional 160 shoreside processors and stationary floating processors. All vessels and processors would be subject to the sampling design plan described in Section 3.2.

Section 2.10 of the RIR provides a comparison of the number of observer days that are estimated to be funded under each alternative, compared to the number of observer days that were used in 2008. This information is summarized here. Under Alternatives 2 through 4, the proposed fees, which include the status quo daily rate for sectors that remain under the existing program, are estimated to generate about 7,000 to 12,000 more observer days than were used in 2008 (status quo), if the fee was set at 2% of ex-vessel value.[102] Using the mean of ex-vessel revenue estimates, fees would fund an estimated 9,500 more observer days compared to the status quo (2008). Refer to Table 34 (Alternative 2), Table 41 (Alternative 3), and Table 51 (Alternative 4), for this information.

Under the Council's preferred alternative, Alternative 3 with a 1.25% fee, the fee is estimated to generate about 2,600 to 5,700 more observer days than were used in 2008 (status quo). This range of days represents one standard deviation from the mean (2005 through 2008) of the ex-vessel revenue estimates for the catch that was included under an ex-vessel value fee. Using the mean of ex-vessel revenue estimates, fees would fund an estimated 4,160 more observer days compared to the status quo. Refer to Table 48 for this information.

Under Alternative 5, in which all sectors are subject to the ex-vessel value fee, there is less certainty that the revenue generated by the fee would support observer coverage at the status quo (2008) level. Under Alternative 5, using the mean estimate of ex-vessel revenues, the proposed fees are estimated to generate almost 600 more observer days than the status quo (2008). The upper estimate would fund about 6,000 more observer days compared to status quo; however, the lower estimate would fund 5,000 fewer observer days than the status quo (Table 57). The lower estimate is minus one standard deviation from the mean value of annual ex-vessel revenue. In effect, any revenue generated in excess of the amount needed in a year would be saved in the observer account authorized under the MSA. The ability to save excess funds makes determining whether the Alternative 5 would provide sufficient revenues to fund the program more difficult. A conservative approach to funding may result in concerns about this alternative providing sufficient funding over time; however, the ability to save excess revenue generated in a year, and the ability to better deploy observers under a scientifically sound sampling plan may allay some of those concerns, if the number of observer days generated is not substantially reduced. A system that generates higher quality observer data and reduces bias is still likely an improvement over a system with relatively more observer days but with a higher potential for bias.

Similar concerns exist under Option 1, which may be applied to any of the action alternatives. Note that the Council did not select Option 1 as part of its preferred alternative. Option 1 would assess half of the ex-vessel value based fee determined under Alternatives 2 through 5 on halibut landings and groundfish landings from vessels <40', <50', or <60' length overall. This option clearly reduces the level of funding, and thus, the number of potential observer days, provided under each of the alternatives. Under

[101] An explanation of the calculations used to determine the daily fee is provided in Appendix 6.

[102] This range of days represents one standard deviation from the mean (2005-2008) of the ex-vessel revenue estimates for the catch that was included under an ex-vessel value fee. For purposes of this analysis, these estimates were based on a 2% fee.

Alternatives 2 through 4 and Option 1, the proposed fees are estimated to generate about 3,600 to 5,800 more observer days than were used in 2008 (status quo), depending on the alternative and the length criteria selected. This range of days represents the mean of the ex-vessel revenue estimates (2005 through 2008) for the catch that was included under an ex-vessel value fee. For purposes of this analysis, these estimates were based on a 1% fee assessed on halibut landings and on groundfish landings from vessels <40’, <50’, or <60’. All other landings subject to the ex-vessel value fee were assessed a 2% fee. This is substantially less than the 9,500 additional observer days estimated to be funded if all sectors subject to the ex-vessel value fee paid the same fee percentage. Refer to Table 35, Table 42, and Table 52 for information on Option 1 under Alternatives 2, 3, and 4, respectively.

Under Alternative 5 and Option 1, using the mean estimate of ex-vessel revenues, the proposed fees are estimated to generate 3,500 to 5,000 fewer observer days than the status quo (2008), depending on the length criteria selected. The upper estimate would fund about 1,800 more observer days compared to status quo; however, the lower estimate would fund 10,100 fewer observer days than the status quo (Table 58). The upper estimate is plus one standard deviation from the mean value of ex-vessel revenue and the lower estimate is minus one standard deviation.

Recall that any revenue generated in excess of the amount needed in a year would be saved in the observer account authorized under the MSA. The ability to save excess funds makes determining whether Option 1 would provide sufficient revenues to fund the program (observer days) more difficult. This determination would depend heavily on the target level of observer coverage planned for the sectors that do not have existing observer coverage but would be included in the new program (halibut and <60’ groundfish vessels), and an assessment of coverage levels necessary for the currently covered sectors under a restructured program. The mean ex-vessel revenue estimates under Alternative 5, Option 1 indicate that any observer coverage on the newly covered sectors (halibut and <60’ groundfish) would come at the expense of existing coverage levels on the sectors in the current program. As new, more representative data become available on an iterative basis through a restructured program that employs a randomization scheme, NMFS would be able to determine the sampling effort necessary to achieve desired levels of precision. The proposed sample design would allow for this flexibility on an annual basis.

Target species and incidental catch

Effects on target species should not be significant under Alternatives 2 through 5, including the Council’s preferred alternative. The TACs are determined annually based on the biomass of the fish species, and effective monitoring and enforcement would continue to ensure that the overall TACs are not exceeded. Therefore, regardless of the observer deployment system in place, the total allowable catch of the target species would not increase under the proposed action.

Alternatives 2 through 5 also propose restructuring the program to include various fleets that do not have current observer coverage requirements. These include groundfish vessels <60’ LOA and commercial halibut vessels. To the extent that the proposed changes to the observer program would provide managers with better estimates of target and incidental harvest and bycatch, increase flexibility in deploying observers, and ensure harvest rates remain within TAC levels, impacts to the target species or species groups are predicted not to be significant for target fish stocks. Also, to the extent observer data are improved under the action alternatives and increasingly reflect the temporal and spatial distribution of fishing effort, the more closely fishery managers would be able to open and close fisheries to meet, but not exceed, TAC levels. The proposed action may improve the reliability of the information used to manage the fisheries and set harvest levels. However, no significant adverse or beneficial impacts to target or incidental catch species are anticipated from the alternatives, compared to the status quo.

Prohibited species

Changes in interactions with other fish species, including prohibited species, are tied to changes in target fishery effort. As described above, overall fishing effort in the groundfish and halibut fisheries is not expected to change due to the proposed action; the issue is one of changing the way observers are deployed and the funding mechanism used. Limits regulate the catch of forage and prohibited species in Federal waters, and these limits would not be affected by the proposed action.

Prohibited species in the groundfish fisheries include: Pacific salmon (Chinook, coho, sockeye, chum, and pink), steelhead trout, Pacific halibut, Pacific herring, king crab, and tanner crab. The most recent review of the status of BSAI crab stocks may be found in the 2009 Crab SAFE (NPFMC, 2009). The effects of the groundfish fisheries in the BSAI and GOA on prohibited species are primarily managed by conservation measures developed and recommended by the Council over the history of the FMPs for the BSAI and GOA and implemented by Federal regulation. These measures can be found at 50 CFR 679.21 and include PSC limitations on a year-round and seasonal basis, year-round and seasonal area closures, gear restrictions, and an incentive plan to reduce the incidental catch of prohibited species by individual fishing vessels.

Alternatives 2 through 5 propose restructuring the observer deployment and funding mechanism of the current observer program and extending the ability to deploy observers to various fleets that do not currently have coverage requirements (groundfish vessels <60' and halibut vessels). In general, harvest information collected by observers, together with information from other sources, is used by NMFS' in-season managers to assess PSC harvest. Where harvest information is not timely or accurate, fisheries have the potential to be closed after PSC levels have been reached, resulting in overharvest of PSC species. While this does not necessarily represent a conservation concern for these species, the more observer information available to managers on a near real-time basis, the more closely the closures would approximate the intended PSC levels set by the Council.

To the extent that overall fishing effort in the groundfish and halibut fisheries is not expected to change due to the proposed action, effects on mortality levels of each prohibited species group are not expected to be significant. Changes to the deployment of observers would likely provide managers with better estimates of incidental and directed take of prohibited species, more flexibility in deploying observers, and harvest rates that would remain below PSC limits, ensuring that the groundfish fisheries would not reasonably be expected to cause a conservation concern for PSC species.

Marine mammals

Changes in interactions with marine mammals are also tied to changes in target fishery effort. Under Alternatives 2 through 5, managers of marine mammal resources would have better information on direct and indirect interactions with groundfish fisheries and increased flexibility to meet management objectives. The effects of these alternatives on marine mammals and their habitat are considered insignificant. These alternatives are not expected to alter current rates of interaction beyond those already evaluated in the Final PSEIS (NMFS, 2004c). Significant incentives for compliance with marine mammal protection management measures would remain in place. Spatial and temporal concentration effects by these fisheries, vessel traffic, gear moving through the water column, or underwater sound production which could affect marine mammal foraging behavior, would not be affected by the proposed action alternatives.

Under the proposed action, vessels would still have to comply with existing Federal regulations protecting Steller sea lion rookeries and haulouts.[103] As the western population of the Steller sea lion is listed as endangered under the Endangered Species Act, current Steller sea lion protection measures close much of the AI region to trawling up to 10 or 20 nautical miles offshore from rookeries and haulouts, with less restrictive no-fishing zones for hook-and-line and pot gear. A survey of adult and juvenile Steller sea lions showed a 20% decline in the non-pup Steller sea lion counts in the eastern portion of the Aleutian Island Steller sea lion census area between 2004 and 2007.[104]

Note that results of the 2010 Groundfish Biological Opinion on the current fishery regime dictate changes to the management of the fisheries in the near future. The biological opinion addresses possible effects of current management practices for groundfish fisheries in the BSAI and GOA on endangered species, including the western population of Steller sea lions. NMFS has implemented a Reasonable and Prudent Alternative (RPA) through the biological opinion that modifies groundfish management in the Aleutian Islands to limit competition between commercial fishing for groundfish and Steller sea lions. The RPA provides an approach to avoid jeopardizing the western population of Steller sea lions and impacts to designated critical habitat (0 – 20 nautical miles from rookeries and haulouts), which includes closure of the Atka mackerel and Pacific cod fisheries in western AI (Area 543), and limitations on fishing areas and gear used in the eastern and central AI (Areas 541 and 542). In effect, the final RPA modifies the existing 'status quo,' and affects the commercial Pacific cod and Atka mackerel fisheries in the Aleutian Islands.[105]

Seabirds

Alternatives 2 through 5 are anticipated to result in better observer data related to direct and indirect interactions with groundfish fisheries and increased flexibility to meet management objectives. The effects of these alternatives on seabirds are considered insignificant. The changes to the observer program proposed under Alternatives 2 through 5 are not expected to affect current rates of interaction. No changes in the indirect effects of fisheries on prey (forage fish) abundance and availability, benthic habitat as utilized by seabirds, and processing of waste and offal, all of which could affect seabirds, are expected under these alternatives.

However, the proposed action would further the requirements of a 1998 biological opinion that the USFWS prepared on the commercial Pacific halibut hook-and-line fishery in the GOA and BSAI, and its effects on the short-tailed albatross (USFWS 1998). One of the conclusions of the USFWS is that NMFS needs to institute changes to the halibut fishery deemed appropriate based upon the evaluation of the seabird deterrent devices and methods. The biological opinion states that: "Changes may range from requiring minimal observation of the fishery due to the effectiveness of the deterrent devices to requiring extensive observer coverage and expanded or modified use of seabird deterrent devices and methods." It is expected that the proposed action would help NMFS assess the effectiveness of seabird deterrent devices and monitor interactions and take of seabirds on observed halibut vessels.

Ecosystem and habitat considerations

The 2009 supplemental information report to the Alaska Groundfish Harvest Specifications Final EIS analyzes the effects of the fisheries on the ecosystem. Different ecosystem indicators are separated into categories. The indicators provide information about three key ecosystem attributes: (1) predator/prey

[103] See http://www.alaskafisheries.noaa.gov/sustainablefisheries/2003hrvstspecssl.htm for regulations and maps.
[104] Memo from Fritz, L., et al, NOAA, to The Record, *Survey of Adult and Juvenile Steller Sea Lions, June–July 2007*.
[105] http://www.alaskafisheries.noaa.gov/newsreleases/2010/ssl_draft_biop_080210_corrected.pdf.

relationships, (2) energy flow and removal, and (3) species, functional, and genetic diversity. The impact on each attribute is evaluated with respect to two or more indicators.

Ecosystem characteristics of the BSAI and GOA have been described annually since 1995 in the “Ecosystem Considerations” section of the annual “Stock Assessment and Fishery Evaluation” (SAFE) reports. An overview of North Pacific ecosystem issues was provided in Section 3.10 of the PSEIS, and an evaluation of the impacts of the preferred FMP alternative bookends was provided in Section 4.9.10 of the PSEIS.

Alternatives 2 through 5 are intended to improve the utility of observer data by improving the ability of NMFS to deploy observers when and where necessary to improve the quality of observer data and allow for the deployment of observers and the collection of data on vessels that are not covered under the status quo (<60’ groundfish vessels and halibut vessels). Overall fishing effort, including the spatial and temporal distribution of fishing effort, in the groundfish and halibut fisheries is not expected to change under the alternatives. Thus, Alternatives 2 through 5 are not expected to have negative impacts on the ecosystem.

The marine waters and benthic substrates in the management areas comprise the habitat of all marine species. Additionally the adjacent marine waters outside the EEZ, adjacent State waters inside the EEZ, shoreline, freshwater inflows, and atmosphere above the waters, constitutes habitat for prey species, other life stages, and species that move in and out of, or interact with, the fisheries’ target species, marine mammals, seabirds, and the ESA listed species. The proposed action alternatives are not anticipated to have additional impacts on EFH beyond those identified in previous analyses discussed above, as none of the alternatives affect how, where, and when fishing is conducted.

The Council and NMFS have also recently closed areas in the Bering Sea to non-pelagic trawling, and much of the Aleutian Islands, to mitigate any potential adverse effects to essential fish habitat,[106] and vessels would continue to be subject to those closure areas. Given that an overall increase in fishing activity is not expected under Alternatives 2 through 5, and there are measures currently in place to protect the physical and biological environment, the potential effect of the action on an ecosystem scale is very limited. As a result, no significant adverse impacts to target species, other species, prohibited species, marine mammals, seabirds, habitat, or ecosystem relations are anticipated.

4.3.3 Economic effects

The economic and socioeconomic impacts of the proposed amendments are addressed in detail in the Regulatory Impact Review, in Chapter 2 of this document. The action alternatives have varying effects on the different fishery sectors, as each alternative includes different sectors in the restructured program.

Alternative 1 maintains the status quo and is not projected to create any new economic effects. A total of 464 observers worked 39,344 days on 296 vessels and in 21 plants during the 2008 fishing year. Total annual observer costs to the harvesters and processors were estimated to be $14.4 million for the groundfish fishery. Halibut vessels and registered buyers, and <60’ vessels, are not required to have observer coverage under the status quo.

Alternative 2 restructures the entire groundfish GOA observer program and <60’ groundfish catcher vessels in the BSAI. All halibut harvesters and registered buyers are also included under Alternative 2. All sectors included in the new program would pay an ex-vessel value fee for observer coverage, at a maximum of 2%. BSAI catcher vessels ≥60’ and catcher processors would remain under the status quo,

[106]See http://www.alaskafisheries.noaa.gov/habitat/efh.htm for further details.

pay-as-you-go program. The ex-vessel fee is projected to cost the industry sectors included under the restructured program about $6.7 million per year (2008 dollars). Halibut and sablefish IFQ account for about 76% of the total ex-vessel fee revenue ($5.1 million). The ex-vessel fee is estimated to fund about 14,000 observer days. Industry members remaining under the status quo are estimated to use 34,243 observer days at a cost of $12.5 million. The total estimated (mean) observer cost under Alternative 2 is estimated as $19.2 million annually. That represents an overall increased cost to the fleet and processors of about $4.8 million per year relative to the status quo. Compared to 2008 levels, this represents a projected **increase** of about 11,000 observer days annually (using the mean revenue estimates and a 2% fee).

Alternative 3 would restructure the observer program for vessels with less than 100% coverage; those sectors would pay an ex-vessel value fee for observer coverage, at a maximum of 2%. The less than 100% coverage category includes catcher vessels and shoreside processors, when they are not participating in the BS pollock fishery or the GOA Rockfish Program. All catcher processors and motherships would remain in the status quo pay-as-you-go fishery, along with catcher vessels when participating in the BS pollock fishery or GOA Rockfish Program. The total ex-vessel fee revenue, estimated using a 2% fee, under Alternative 3 is projected to be about $6.7 million. The total mean observer cost under Alternative 3 (2% fee) is estimated as $19.4 million annually, or a $5.0 million per year increase relative to status quo. Compared to 2008 levels, this represents a projected **increase** of almost 9,600 observer days annually (using the mean revenue estimates and a 2% fee).

Under the Council's preferred alternative of a 1.25% ex-vessel value based fee applied to Alternative 3, **the projected fee would generate $4.2 million and would fund 9,027 observer days.** Entities under the status quo are projected to use 34,477 observer days at a cost of $12.6 million. Under the Council's preferred alternative, the total cost of the program is estimated as $16.8 million annually, or a $2.4 million per year increase relative to the status quo. **Compared to 2008 levels, this represents a projected increase of about 4,160 observer days annually (using the mean revenue estimates and a 1.25% fee).**

Alternative 4 uses the same formula to assign vessels and processors to the coverage categories and restructured observer program as Alternative 3. Because the same formula is used, the ex-vessel fee projections are the same under both alternatives. Catcher processors, motherships, and catcher vessels when in the ≥100% coverage category are required to pay NMFS a daily observer fee of $467 per day, compared to the estimated $366/day under the status quo. The total annual estimated cost of the program is $22.8 million. That is an increase of about $8.4 million per year over the status quo. The only difference in total observer costs between Alternative 3 and Alternative 4 would be the cost of an observer day for sectors that are subject to a daily fee of $467/day under Alternative 4 (compared to the status quo daily rate of $366/day they would pay under Alternative 3). Compared to 2008 levels, there is a projected increase of about 9,600 observer days annually (using the mean revenue estimates and a 2% fee).

Alternative 5 restructures all groundfish and halibut industry sectors. All would pay a fee based on ex-vessel revenue, up to a maximum of 2%. It is projected that the cost of observer coverage would be about $18.6 million annually (2% ex-vessel fee revenue) or an increase of $4.2 million over the status quo. Projections of observer fees and program costs indicate that this alternative may not provide sufficient funding to purchase the number of observer days used in 2008. Compared to 2008 levels, there is a projected increase of about 600 observer days annually when using the *mean* fee estimates; there is a projected shortfall of 5,000 observer days when using the estimates that are *one standard deviation from the mean*.

Option 1 would assess half of the ex-vessel value based fee determined under Alternatives 2 – 5 on halibut landings and groundfish landings from vessels <40', <50', or <60' length overall. This would bring the sectors that are not currently subject to observer coverage requirements into the new program, at a reduced fee level. The total ex-vessel fee revenue (estimated using a 2% base fee) under Alternatives 2 – 4 and Option 1 is projected to range from $4.1 million to $5.0 million. Compared to 2008 levels, this represents a projected increase of about 3,600 to 5,800 observer days annually (using the mean revenue estimates). Depending on the alternative selected, the total mean observer cost is estimated as $16.6 million to $21.1 million annually, or a $2.2 million to $6.7 million increase relative to status quo.

Alternative 5, Option 1 would result in a projected reduction of 3,500 to 5,000 observer days relative to the status quo (2008). The total mean observer cost is estimated as $16.0 million to $16.7 million annually, or a $1.6 million to $2.3 million increase relative to status quo. Refer to Table 58 of the RIR for details.

Under all of the proposed alternatives, the cost of deploying observers in the restructured groundfish and halibut sectors would increase relative to the status quo observer cost. Those increased costs are due to increased observer pay and benefits that are required for federal contracts. Restructuring industry sectors also allows NMFS to redesign observer coverage requirements to reduce bias and improve data quality. Improved observer data and monitoring is anticipated to generate better information to make in-season management and policy decisions, facilitating the attainment of optimum yield, and enhancing the sustained health of the resource, fishing sectors, and dependent communities.

4.3.4 Cumulative effects

NEPA requires that EAs analyze the potential cumulative effects of a proposed action and its alternatives. An EA must consider cumulative effects when determining whether an action significantly affects environmental quality. Cumulative effects are those combined effects on the quality of the human environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions. (40 CFR 1508.7, 1508.25(a), and 1508.25(c)) Cumulative impacts can result from individually minor, but collectively significant, action taking place over time. The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed by evaluating each action individually.

The potential effects of the BSAI and GOA groundfish fisheries on BSAI and GOA resource components are detailed in the Final PSEIS (NMFS 2004, Chapter 4) and in the Groundfish Harvest specification EIS (NMFS 2007). Direct effects of fish harvesting include fishing mortality, changes in biomass, and changes in population structure due to the spatial and temporal concentration of catch. Indirect effects include the changes in prey availability and changes in habitat suitability. Indirect effects are not anticipated to occur with any of the alternatives analyzed because the proposed action would not change overall fishing practices that indirectly affect prey availability and habitat suitability.

No cumulative significant impacts on these resources are anticipated with the proposed action, to restructure the funding and deployment system for fishery observer coverage, because no direct or indirect effects on BSAI or GOA resources have been identified.

4.3.5 Context and intensity as required by NEPA

To determine the significance of impacts of the actions analyzed in this EA, NMFS is required by NEPA and 40 CFR 1508.27 to consider both the *context* and the *intensity* of the action.

Context: The setting of the proposed action is the groundfish and commercial halibut fisheries of the BSAI and GOA. Any effects of the action are limited to these areas. The effects on society within these areas are on individuals participating in the groundfish and halibut fisheries and on those who use the ocean resources. The purpose of the action is to restructure the observer program to improve data quality and utility, as well as mitigate disproportionate costs of observer services across various fleets. Inherent to the data quality objectives is the inclusion of specific sectors that are not currently required to carry observers; the <60' groundfish sector and commercial halibut sector would be included in the restructured observer program under every action alternative. As a result of collecting more statistically reliable observer data, management of the groundfish and halibut fisheries may be improved and this action may have impacts on society as a whole or regionally.

Intensity: Listings of considerations to determine intensity of the impacts are in 40 CFR 1508.27(b) and in the NOAA Administrative Order 216-6, Section 6. Each consideration is addressed below in the order it appears in Federal regulations.

1. **Adverse or beneficial impact determinations for marine resources, including sustainability of target and nontarget species, damage to ocean or coastal habitat or EFH, effects on biodiversity and ecosystems, and marine mammals.** Please see Sections 4.3.2 and 4.3.1 for a discussion of these issues, including the potential benefits from improved observer data. Continuation of the existing program under Alternative 1 (status quo) is not expected to have a significant impact on marine resources. In this case, monitoring levels are considered to be baseline with respect to the other alternatives. Under this alternative, there would be no changes to the observer program, and no additional physical or biological effects outside those analyzed in previous NEPA documents.

   The alternatives to restructure the funding and deployment mechanism of the observer program (Alternatives 2 through 5), including the Council's preferred alternative, are not anticipated to have adverse impacts on marine resources. To the extent that more statistically reliable data is collected because NMFS is able to direct observer coverage based on science, management, and data needs, Alternatives 2 through 5 could result in a beneficial impact on marine resources. Authorizing NMFS to deploy observers on sectors that do not currently have observer coverage requirements would also be expected to have a beneficial impact on the management of marine resources. The level of impact of the alternatives will vary based on the scope of the fisheries that are included in each alternative. Under the preferred alternative, the Council included all of the sectors in both the GOA and BSAI which are determined to need <100% observer coverage, which focuses the action on those fisheries in which the coverage gaps, data quality, and disproportionate cost concerns are most acute. The fisheries not included in the restructured program will continue to be required to have 100% or 200% observer coverage at all times, under the current model in which vessels and processors contract directly with observer providers.

2. No **public health and safety impacts** were identified in any of the proposed alternatives.Because this action will not change the location or intensity of fishing activities, it is expected to have no impact on any unique area including essential fish habitats or ecologically critical areas.

3. The proposed action, to restructure the funding and deployment system for observer coverage in the North Pacific groundfish and halibut fisheries, is not expected to change the location or intensity of fishing activities. Thus, this proposed action would not affect unique characteristics of the **geographic area (**the BSAI and GOA) such as historic or cultural resources, or ecologically critical areas.

4. In the NEPA context, the human environment refers to the natural and physical environment and the relationship of people with that environment. This action is not expected to affect the natural or physical environment and as such is **not controversial** in terms of affects to the natural and physical environment. This action may be socially and economically **controversial** to the current and future participants in the fishery in that differences of opinion exist between components of the fishing industry, observer providers, and observers, on issues of cost equity, perceived inequities of observer deployment, the level of potential bias in observer data under the status quo, funding, and the need for action.

5. The propsed action, replacing the current pay-as-you-go funding mechanism with a system based on fees, in which NMFS controls observer deployment (Alternatives 2 through 5, including the Council's preferred alternative), does not entail possible effects on the **human environment** that are highly uncertain or involve unique or unknown risks. Alternative 1 would result in no change to the observer program. Alternatives 2 through 5 are intended to improve the utility of observer data by improving the ability of NMFS to deploy observers when and where necessary to improve data quality and reduce bias introduced by industry control over observer coverage for fishing operations with <100% coverage requirements. Because the action alternatives under consideration address the observer program design and do not change the harvest quotas or fishing practices, it is anticipated that there will be no risk to the human environment under Alternatives 2 through 5.

6. This action **is not expected to establish a precedent for future actions with significant effects**. This proposed action may influence future adjustments to the ex-vessel value fee percentage for observer coverage in sectors included in the restructured program. However, these future actions would not likely produce effects beyond those considered in the EA since the EA analyzed the effects of collecting the maximum fee amount authorized by section 313 of the MSA on all groundfish and halibut sectors.

7. The proposed action is not expected to have any significant individual or cumulative effect on the environment. Alternative 1 would result in no change to the existing observer program. The restructuring alternatives under consideration (Alternatives 2 through 5) propose to modify the observer program design by changing the funding mechanism to a fee-based system, as well as allowing NMFS control over the deployment of observers by having NMFS contract directly with observer providers for observer services. In addition, the new service delivery model would be designed to accommodate Federal funding and/or electronic monitoring, if those options become available and feasible in the future. To the extent that Federal managers would receive better data under the proposed program by which to manage the groundfish and halibut fisheries and other marine resources, there may be indirect beneficial impacts to the marine environment under these alternatives.

8. There are no known effects on districts, sites, highways, structures, or objects listed or eligible for listing in the **National Register of Historic Places**, nor would the action cause loss or destruction of any significant scientific, cultural, or historical resources. This consideration is not applicable to this action.

9. NEPA requires NMFS to determine the degree to which an action may affect **threatened or endangered species** under the ESA. There are no known interactions between implementation of the action alternatives under consideration and any ESA-listed species in addition to those previously identified in other analyses.

10. This action poses no known violation of Federal, State, or local laws or requirements for the **protection of the environment.**

11. **No introduction or spread of non-indigenous species** is expected as a result of this action. This consideration is not applicable to this action.

5 Initial Regulatory Flexibility Analysis

5.1 Introduction

This Initial Regulatory Flexibility Analysis (IRFA) 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). This IRFA evaluates the potential adverse economic impacts on small entities directly regulated by the proposed action.

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 significant adverse economic impacts on small entities as a group distinct from other entities, and on the consideration of alternatives that may minimize adverse economic impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either 'certify' that the action will not have a significant adverse economic impact on a substantial number of small entities, and support that certification with the 'factual basis' upon which the decision is based; or it must prepare and make available for public review an IRFA. When an agency publishes a final rule, it must prepare a Final Regulatory Flexibility Analysis.

In determining the scope, or 'universe', of the entities to be considered in an IRFA, NMFS generally includes only those entities that are 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.

5.2 IRFA requirements

Under 5 U.S.C., Sections 603(b) and (c) of the RFA, each IRFA is required to contain:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply (including a profile of the industry divided into industry segments, if appropriate);
- A description of the projected reporting, record keeping, 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;
- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule;
- A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the proposed action, consistent with applicable statutes, and that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:

    1. The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;

2. The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
3. The use of performance rather than design standards;
4. An exemption from coverage of the rule, or any part thereof, for such small entities.

In preparing an IRFA, an agency may provide either a quantifiable or numerical description of the effects of a proposed action (and alternatives to the proposed action), or more general descriptive statements, if quantification is not practicable or reliable.

5.3 Definition of a small entity

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) 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 (SBA). '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. Effective January 5, 2006, a business involved in fish harvesting is a small business if it is independently owned and operated, not dominant in its field of operation (including its affiliates), and if it has combined annual gross receipts not in excess of $4.0 million for all its affiliated operations worldwide.[107] 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

[107]Effective January 6, 2006, SBA updated the Gross Annual Receipts thresholds for determining "small entity" status under the RFA. This is a periodic action to account for the impact of economic inflation. The revised threshold for "commercial fishing" operations (which, at present, has been determined by NMFS HQ to include catcher-processors, as well as catcher vessels) changed from $3.5 million to $4.0 million in annual gross receipts, from all its economic activities and affiliated operations, worldwide.

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, controls the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers 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 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.

5.4 Reason for considering the proposed action

The Council has identified the following problem statement regarding the affected areas and sectors for the proposed action. Further background information and detail on the intent of the proposed action is provided in Sections 2.1 and 2.2.

Problem statement for BSAI Amendment 86/GOA Amendment 76:

The North Pacific Groundfish Observer Program (Observer Program) is widely recognized as a successful and essential program for management of the North Pacific groundfish fisheries. However, the Observer Program faces a number of longstanding problems that result primarily from its current structure. The existing program design is driven by coverage levels based on vessel size that, for the most part, have been established in regulation since 1990 and do not include observer requirements for either the <60' groundfish sector or the commercial halibut sector. The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries. In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data. The current program *is also one in which many smaller vessels face observer costs that are disproportionately high relative to their gross earnings. Furthermore, the complicated and rigid coverage rules have led to observer availability and coverage compliance problems. The current funding mechanism and program structure do not provide the flexibility to solve many of these problems, nor do they allow the program to effectively respond to evolving and dynamic fisheries management objectives.*

5.5 Objectives of proposed action and its legal basis

Under the authority of the Magnuson-Stevens Act, the Secretary of Commerce (NMFS Alaska Regional Office) and the North Pacific Fishery Management Council have the responsibility to prepare fishery management plans and associated regulations for the marine resources found to require conservation and management. NMFS is charged with carrying out the Federal mandates of the Department of Commerce with regard to marine fish, including the publication of Federal regulations. The Alaska Regional Office of NMFS, and Alaska Fisheries Science Center, research, draft, and support the management actions recommended by the Council. The BSAI and GOA groundfish fisheries are managed under the Bering Sea and Aleutian Islands Groundfish Fishery Management Plan (BSAI FMP) and Gulf of Alaska Groundfish Fishery Management Plan (GOA FMP), respectively. The proposed action represents amendments to both groundfish FMPs, as well as amendments to associated Federal regulations.

In addition, halibut is managed by the International Pacific Halibut Commission as provided by the Convention between the U.S. and Canada for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and the Bering Sea (Convention) and the North Pacific Halibut Act of 1982 (Halibut Act). The Halibut Act and the Convention have been interpreted to assign responsibility to the Council on halibut management issues. Thus, the Council is authorized to amend Federal regulations governing the halibut IFQ program under existing law. The proposed action thus constitutes a regulatory amendment for halibut.

The objective of the proposed action is to replace the existing service delivery model for the North Pacific Groundfish Observer Program, whereby vessels and processors contract directly with observer providers to meet coverage levels specified in Federal regulations, with a new service delivery model in which NMFS would contract with observer providers and determine when and where observers are deployed, based on a scientifically sound sampling design. The existing service delivery model requires that vessels and processors pay observer providers for observer services, while vessels and processors included in the restructured program would pay a fee (ex-vessel value based or daily fee) into a general pool to fund the deployment of observers in the sectors covered by the new program. In addition, the objective is to include sectors that are not currently subject to any observer requirements, the <60' groundfish sector and halibut sector, in the restructured program. The intent is that this action would reduce bias in observer data, authorize the collection of observer data in sectors that do not currently have any observer coverage requirements, allow fishery managers to provide observer coverage to respond to the management needs and circumstances of individual fisheries, and assess a broad-based fee which reflects the value a vessel or processor extracts from the fishery.

5.6 Number and description of directly regulated small entities

The entities directly regulated by this action are those entities that harvest and/or process groundfish and halibut in Federal waters of the BSAI and GOA. It would also include those vessels holding an FFP and harvesting groundfish in State waters that are accounted for under a Federal TAC. This specifically includes landings of: 1) groundfish in the parallel fisheries in State waters, 2) groundfish incidental to harvest in the State waters fisheries (Pacific cod, pollock, sablefish), and 3) groundfish incidental to harvest in the halibut or sablefish IFQ in State waters. (It does not include GHL groundfish species landed during the GHL fishery in State waters, regardless of whether an FFP is held. Refer to Section 2.5.) It also includes organizations to which direct allocations of groundfish are made. In the BSAI, this includes the six CDQ groups, the AFA fishing sectors (i.e., at-sea, inshore), and the catcher processor sector under BSAI Amendment 80. Refer to the RIR for descriptions of each fishing sector, by area, gear type, and program (Section 2.8).

Table 75 through Table 77 show the estimated number of small and large entities in the BSAI and GOA groundfish and halibut fisheries directly regulated by the proposed action, by alternative. Alternative 3 has been selected by the Council as its preferred alternative. Fishing vessels, both catcher vessels and catcher processors, are considered small entities if their total annual gross receipts, from all their activities combined, are less than $4.0 million. The tables in this section provide estimates of the number of catcher vessels and catcher processors that are considered small entities under each alternative. These estimates likely overstate the number of small entities (and conversely, understate the number of large entities) for two reasons.

First, these estimates include only groundfish revenues earned from activity in the EEZ off Alaska and halibut revenues from fisheries in and off Alaska. Since many of these vessels are also active in the salmon and shellfish fisheries in the EEZ off of Alaska, in fisheries within Alaska State waters, and off the west coast of the U.S., the reported revenues understate the total gross receipts for many of the vessels.

Second, the RFA requires a consideration of affiliations between entities for the purpose of assessing if an entity is small. While a myriad of relationships are known to exist between and among entities participating in these fisheries, comprehensive documentation regarding joint or multiple ownership of vessels and plants, contractual or joint-venture linkages, familial or other affiliations are not available. The estimates in Table 75 through Table 77 do not take into account all affiliations between entities. There is not even a strict one-to-one correlation between vessels and entities; many persons and firms are known to have ownership interests in more than one vessel, and many of these vessels with different ownership, are otherwise affiliated with each other. For example, vessels in the AFA and BSAI Amendment 80 sectors are categorized as large entities for the purpose of the RFA under the principles of affiliation.

Specifically, there are 19 AFA CPs, 3 motherships, and 111 permitted catcher vessels that are estimated to be directly regulated under one or more of the action alternatives. In 2008, all 19 of the eligible AFA CPs fished, all 3 motherships operated, and 94 AFA catcher vessels fished. All of these are categorized as large entities for the purpose of the RFA under the principles of affiliation, due to their participation in the AFA pollock cooperatives. There are also 7 AFA shoreside processors that are categorized as 'large' by principles of affiliation, and 7 additional shoreside processors owned by the same companies.

There are 28 catcher processors qualified under the BSAI Amendment 80 program, 24 of which are currently permitted.[108] All 24 permitted vessels fished in 2008. Vessels qualified under Amendment 80 can elect to apply for Amendment 80 quota share on an annual basis, and if so, also elect to join an Amendment 80 cooperative on an annual basis. In 2008 (and 2009), eight of these vessels elected not to

[108]While 28 vessels are currently eligible under BSAI Amendment 80, three vessels have subsequently sunk and one was sold to Russia and cannot re-enter U.S. fisheries. However, court rulings have indicated that a qualified owner of an Amendment 80 vessel may replace a lost vessel with a single substitute vessel. This ruling allows a person to replace an Amendment 80 vessel that has suffered an actual total loss, constructive total loss, or permanent eligibility to receive a fishery endorsement under 46 U.S.C. 12113. Thus, owners can assign their quota share to the license derived from the 'lost' vessel, which then can be fished on a designated replacement vessel. In June 2010, the Council took action on a regulatory amendment consistent with this ruling, to allow Amendment 80 vessel owners to replace their vessels and participate in the Amendment 80 fisheries as long as quota share is assigned to the vessel or associated permit.

join a cooperative, and instead fished in the Amendment 80 limited access fishery. These eight vessels are owned by three companies, and all exceeded the revenue threshold for small entities under the RFA. Three other qualified Amendment 80 vessels did not apply for Amendment 80 quota share, but are still subject to other sideboards within the program. Those vessels also exceeded the revenue threshold for small entities under the RFA. The remaining Amendment 80 vessels that participated in a cooperative are categorized as large entities for the purpose of the RFA under the principles of affiliation, similar to the AFA sector.

Thus, the only entities considered large in this analysis under any alternative are the AFA vessels, BSAI Amendment 80 catcher processors, AFA shoreside processors and additional processors owned by the same companies, and individual vessels that had more than $4 million in total gross receipts in 2008.

Under Alternative 2 (Table 75), there are an estimated 1,564 vessels (catcher vessels, catcher processors, and motherships) directly regulated by the proposed action that would be assessed the observer fee and subject to the restructured program. An additional 159 entities (shoreside processors, stationary floating processors, and CDQ groups) are also estimated to be directly regulated, for a total of 1,723 entities. Alternative 2 includes vessels and processors that participate in GOA fisheries, as well as all halibut and <60’ vessels in the BSAI. Under Alternative 2, AFA and Amendment 80 vessels are identified, if they participated in GOA fisheries in 2008, and AFA processors are included for any GOA deliveries. There are an estimated 54 large entities and 1,669 small entities, as defined under the RFA, directly regulated by the proposed action.

Table 75 Estimated numbers of directly regulated entities (vessels and processors) in the BSAI and GOA groundfish and halibut fisheries under Alternative 2

Sector	Number small entities	Number large entities	Total number of entities
Halibut & sablefish IFQ[1]	1,411	3	1,414
Groundfish CVs[2]	100	22	122
Groundfish CPs[2]	12	15	27
Motherships[3]	1	0	1
Shoreside processors & stationary floaters	~139	~14	153
CDQ groups	6	0	6

Source: NMFS groundfish eLandings data, 2008.

Note: The total number of entities is additive; a vessel or processor cannot appear in more than one category. The number of small entities is likely over-estimated, due to insufficient ownership and affiliation information. For example, the number of small shoreside processing entities cannot be determined at this time, due to insufficient ownership and affiliation information, as well as insufficient information on the number of persons employed at each plant. There are an estimated 14 shoreside processors identified as large entities. There are 7 AFA shoreside processors that are categorized as ‘large’ by principles of affiliation, and 7 additional shoreside processors owned by the same companies. All CDQ groups are non-profit organizations and thus also treated as small entities under the RFA.

[1]Includes any vessel that fished halibut IFQ, sablefish IFQ, or halibut CDQ. An estimated 761 of these vessels also fished groundfish; 653 vessels fished halibut/sablefish only.

[2]Groundfish CV and CP data represent an estimate of the number of vessels that fished groundfish and did not fish IFQ species (i.e., excludes vessels that fished any halibut or sablefish IFQ).

[3]Catcher processors that acted as CPs and motherships during 2008 are included in the CP category. Vessels that only operated as motherships are included in the mothership category.

Under Alternative 3, the Council's preferred alternative, there are an estimated 1,609 vessels (catcher vessels, catcher processors, and motherships) directly regulated by the proposed action that would be assessed an observer fee and subject to the restructured program (Table 76). An additional 166 entities (shoreside processors, stationary floating processors, and CDQ groups) are also estimated to be directly regulated, for a total of 1,775 entities. Note that a vessel is included under Alternative 3, if it is in the <100% coverage stratum, and the sample design places all CPs in the ≥100% stratum. Thus, the 10 CPs identified for inclusion under Alternative 3 acted as motherships receiving groundfish (other than AFA pollock) or as CVs delivering shoreside, at least part of the year. When operating in this capacity, they would be included in the restructured program and subject to the ex-vessel fee. There are an estimated 80 large entities and 1,695 small entities, as defined under the RFA, directly regulated by the proposed action.

Table 76 Estimated numbers of directly regulated entities (vessels and processors) in the BSAI and GOA groundfish and halibut fisheries under Alternative 3 (preferred alternative)

Sector	Number small entities	Number large entities	Total number of entities
Halibut & sablefish IFQ[1]	1,411	3	1,414
Groundfish CVs[2]	125	59	184
Groundfish CPs[2]	6	4	10
Motherships[3]	1	0	1
Shoreside processors & stationary floaters	~146	~14	160
CDQ groups	6	0	6

Source: NMFS groundfish eLandings data, 2008.

Note: The total number of entities is additive; a vessel or processor cannot appear in more than one category. The number of small entities is likely over-estimated, due to insufficient ownership and affiliation information. For example, the number of small shoreside processing entities cannot be determined at this time, due to insufficient ownership and affiliation information, as well as insufficient information on the number of persons employed at each plant. There are an estimated 14 shoreside processors identified as large entities. There are 7 AFA shoreside processors that are categorized as 'large' by principles of affiliation, and 7 additional shoreside processors owned by the same companies. All CDQ groups are non-profit organizations and thus also treated as small entities under the RFA.

[1]Includes any vessel that fished halibut IFQ, sablefish IFQ, or halibut CDQ. An estimated 761 of these vessels also fished groundfish; 653 vessels fished halibut/sablefish only.

[2] Groundfish CV and CP data represent an estimate of the number of vessels that fished groundfish and did not fish IFQ species (i.e., excludes vessels that fished any halibut or sablefish IFQ). Note that a vessel is included under Alternative 3 if it is in the <100% coverage stratum, and the sample design places all CPs in the ≥100% stratum. Thus, the 10 CPs identified for inclusion under Alternative 3 acted as motherships receiving groundfish (other than AFA pollock) or as CVs delivering shoreside, at least part of the year. When operating in this capacity, they would be included in the restructured program and subject to the ex-vessel fee.

[3]Catcher processors that acted as CPs and motherships during 2008 are included in the CP category. Vessels that only operated as motherships are included in the mothership category.

In addition, under the Council's preferred alternative (Alternative 3), all CPs, including halibut CPs, are included in the status quo program (pay-as-you-go) and required to have 100% coverage requirements. Based on 2008 data, 6 groundfish CPs are identified as small entities and potentially 7 halibut CPs under this alternative. Note that the Council provided an exception to the requirement that all CPs are in the ≥100% coverage category and the pay-as-you-go program, which was targeted toward smaller CPs that operate as both a CP and CV in the same year. This exception allows catcher processor vessels <60' LOA with a history of both CP and CV activity in a single year or any catcher processor vessel with an average daily production of less than 5,000 pounds,[109] in the most recent full calendar year of operation prior to January 1, 2010, to make a one-time election as to whether they will be in the <100% coverage category with the ex-vessel revenue fee structure or the ≥100% coverage and (status quo) fee structure category. This one-time election will determine their observer coverage classification in all future years. From 2003

[109]Staff note: The 5,000 pounds would be calculated as the round weight equivalent. The Council clarified that this would be calculated by dividing total annual production by the number of days of processing activity.

through 2009, a total of 22 <60’ vessels had both a catcher processor and catcher vessel designation on their Federal Fisheries Permit in their most recent year of participation. In addition, there was one CP ≥60’ that was estimated to have processed less than 5,000 lbs per day. The owners of these vessels would be allowed to make a one-time selection that will determine whether their vessel would be in the revised program (ex-vessel fee) or the status quo pay-as-you-go program. This issue is discussed further in Section 2.10.3.2 of the RIR.

Under Alternative 4 or Alternative 5 (Table 77), there are an estimated 1,720 vessels (catcher vessels, catcher processors, and motherships) directly regulated by the proposed action that would be assessed an observer fee and subject to the restructured program. An additional 166 entities (shoreside processors, stationary floating processors, and CDQ groups) are also estimated to be directly regulated, for a total of 1,886 entities. These are the two alternatives with the largest scope, as they include all groundfish vessels and processors, and all halibut vessels and processors, in a restructured program. The only entities considered large in this analysis are the AFA vessels, BSAI Amendment 80 catcher processors, AFA shoreside processors and additional processors owned by the same companies, and individual vessels that had more than $4 million in ex-vessel revenues in 2008. There are an estimated 155 large entities and 1,731 small entities, as defined under the RFA, directly regulated by the proposed action.

Table 77 Estimated numbers of directly regulated entities (vessels and processors) in the BSAI and GOA groundfish and halibut fisheries under Alternatives 4 and 5

Sector	Number small entities	Number large entities	Total number of entities
Halibut & sablefish IFQ[1]	1,422	4	1,426
Groundfish CVs[2]	125	85	210
Groundfish CPs[2]	31	49	80
Motherships[3]	1	3	4
Shoreside processors & stationary floaters	~146	~14	160
CDQ groups	6	0	6

Source: NMFS groundfish eLandings data, 2008.

Note: The total number of entities is additive; a vessel or processor cannot appear in more than one category. The number of small entities is likely over-estimated, due to insufficient ownership and affiliation information. For example, the number of small shoreside processing entities cannot be determined at this time, due to insufficient ownership and affiliation information, as well as insufficient information on the number of persons employed at each plant. There are an estimated 14 shoreside processors identified as large entities. There are 7 AFA shoreside processors that are categorized as ‘large’ by principles of affiliation, and 7 additional shoreside processors owned by the same companies. All CDQ groups are non-profit organizations and thus also treated as small entities under the RFA.

[1]Includes any vessel that fished halibut IFQ, sablefish IFQ, or halibut CDQ. An estimated 769 of these vessels also fished groundfish; 657 vessels fished halibut/sablefish only.

[2] Groundfish CV and CP data represent an estimate of the number of vessels that fished groundfish and did not fish IFQ species (i.e., excludes vessels that fished any halibut or sablefish IFQ).

[3]Catcher processors that acted as CPs and motherships during 2008 are included in the CP category. Vessels that only operated as motherships are included in the mothership category.

Note that had Option 1 been selected under Alternatives 2 through 5, an ex-vessel value fee equal to *half* of that selected under the preferred alternative would be assessed on halibut landings and groundfish landings from vessels either <40’, <50’, or <60’ length overall. Based on 2008 data and application of the small entity criteria, an estimated 61 groundfish catcher vessels <60’ LOA and almost the entire IFQ fleet would be assessed a reduced fee under Alternatives 2 through 5, Option 1. However, because the Council selected a 1.25% fee for all vessels and processors included under the restructured program, all small entities, regardless of the sector in which they participate, will benefit from a reduced fee relative to the maximum 2% fee that was under consideration.

5.7 Recordkeeping and reporting requirements

The IRFA is required to 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 would be subject to the requirement and the type of professional skills necessary for preparation of the report or record..." As detailed in the implementation chapter (3), selection of any of the action alternatives (Alternatives 2 through 5) would require new compliance requirements for the sectors included in restructuring. Refer to Section 5.6 for the scope of vessels and processors included under each alternative.

Vessel selection or call-in system

Vessels in the partial coverage category (<100%) included under each restructuring alternative, including the Council's preferred alternative, would be placed into either: 1) a vessel selection list; 2) call-in (trip) selection list; or 3) not be subject to selection (refer to Table 65). This is estimated to affect all vessels identified as small entities under Alternatives 2 through 5 in Section 5.6 above. For the initial year(s) of the program, NMFS has proposed that catcher vessels using jig/troll gear and catcher vessels ≤40' LOA using pot and/or hook-and-line gear would not be selected to carry an observer; thus, they would not be subject to a selection system. In 2008, a total of 158 vessels used jig gear only, 599 vessels ≤40' LOA used fixed gear only, and 43 vessels ≤40' LOA used jig and fixed gear. This means approximately 800 small entities would not be subject to a vessel or trip selection system in the initial year or years of the new program.

NMFS has also proposed that catcher vessels using pot and/or hook-and-line gear >40' to <57.5' LOA would be subject to a vessel selection system. These vessels would be placed within a vessel selection list, and at the beginning of each year, NMFS would randomly choose a subset of vessels based on FFP number or IFQ permit number to observe subsequent fishing operations for a specified period of time. Based on 2008 data, approximately 433 fixed gear vessels of this size class would be subject to the vessel selection system, at least in the initial year(s) of the new program. Thus, the vast majority of the small entities identified (an estimated 1,233 of 1,695 small entities) would either have no selection during the beginning of the program, or be subject to the vessel selection system.

The remainder of the vessels in the partial coverage stratum (trawl catcher vessels and fixed gear catcher vessels ≥57.5') would be subject to the call-in system, and be required to call in at least 72 hours prior to each trip. In 2008, an estimated 369 catcher vessels would have been placed in this category. During the call, vessel operators would notify NMFS, prior to departure, of their intent to fish., A determination as to whether or not that trip has been selected to be observed would be automatically generated. The caller would be notified of the result, and the resulting record with outcome would be sent to NMFS and the contracted observer provider. While this is not a written requirement, the call-in system does constitute a new reporting requirement for vessel operators, which does not exist under the status quo.

No professional skills are necessary for compliance with the vessel or trip selection requirement. While this reporting requirement is necessary, it simplifies observer coverage requirements for vessel operators by shifting the onus of observer assignment (and the burden of procuring an observer) from vessel operators to NMFS. Complex observer coverage requirements in regulations, specifically for vessels subject to the existing 30% coverage requirement by fishing quarter, would be replaced by a simple 'yes' or 'no' decision as to whether their vessel is going to be observed for a fixed period of time (vessel selection system), or their next trip is to be observed (call-in trip selection system).

Ex-vessel value fee remittal process

In addition, shoreside processors, motherships, and stationary floating processors under the restructured alternatives would be subject to a new reporting and compliance requirement. An estimated range of 140 to 147 shoreside processors, motherships, and stationary floating processors are identified as small entities in Section 5.6 above, under Alternatives 2 through 5, including the Council's preferred alternative. As proposed in previous restructuring efforts, the intent of the proposed action would be to split the ex-vessel value based fee between catcher vessels and processors, such that each entity pays one half of the total fee liability for each landing. An ex-vessel value based fee would be employed, to varying extents, under each of the action alternatives. Each of the action alternatives proposes that for shoreside landings, shoreside processors would collect a vessel operator's fee liability at landing, and remit the fee to NMFS on an annual basis. Assuming a 50:50 split in the fee liability between vessel operators and processors, processors would add their liability to that collected from the vessel operator.

Added administrative cost and burden for processors to collect and remit the fee should be low, since existing infrastructure can be easily extended to the new program. For example, eLandings software provided by NMFS would calculate the fee liability for each landing and this information would be available to the processors' accounting software. For each annual billing cycle, NMFS would provide each processor a landing summary, based on their finalized eLandings entries, with a statement containing their observer fee liability, and processors would remit the fees to NMFS electronically or via check by a specified date in regulation. Limited professional skills would be necessary for preparation and submittal of the fee to NMFS, as NMFS would invoice the processor with the total amount.

This is similar to the BSAI crab rationalization cost recovery fee remittal process. The Paperwork Reduction Act (PRA) analysis for the Registered Crab Receiver fee submission form estimates a response time of 0.5 hrs per respondent one time per year. The PRA analysis estimates the cost burden to submit the fee payment form to be about $12.50 per respondent per year. The fee remittal process constitutes a new compliance and reporting requirement for shoreside processors and stationary floating processors, which does not exist under the status quo.

Under the Council's preferred alternative (Alternative 3), all CPs, including halibut CPs, are included in the status quo program (pay-as-you-go) and required to have 100% coverage, thus, they would not be paying an ex-vessel value fee. However, as noted in the previous section, the Council provided an exception to the requirement that all CPs are in the ≥100% coverage category and the pay-as-you-go program, targeted toward smaller CPs and those that operate as both a CP and CV in the same year. From 2003 through 2009, a total of 22 <60' vessels had both a catcher processor and catcher vessel designation on their Federal Fisheries Permit in their most recent year of participation. In addition, there was one CP ≥60' that was estimated to have processed less than 5,000 lbs per day. The owners of these vessels would be allowed to make a one-time selection that will determine whether their vessel would be in the revised program (ex-vessel fee) or the status quo pay-as-you-go program. Thus, there is the possibility that a maximum of 23 CPs could choose to pay the ex-vessel value fee as opposed to contracting directly for coverage. Under the ex-vessel fee scenario, catcher processors would be paying the full (both halves of the) 1.25% ex-vessel value fee.

If any of the above CPs chose to be in the <100% coverage category and pay an ex-vessel value based fee under this exception, NMFS would likely invoice catcher processors in the fourth quarter of each year, based on their landings from the fourth quarter of the preceding year and the first three-quarters of the current year, using the applicable standardized prices. Catcher processors would remit their fee liabilities directly to NMFS. Limited professional skills would be necessary for preparation and submittal of the fee to NMFS, as NMFS would invoice the processor with the total amount. The same response time and cost burden estimated above for shoreside processors would also apply to catcher processors. The fee remittal process constitutes a new compliance and reporting requirement for catcher processors, which does not exist under the status quo.

USCG safety decal

Finally, all vessels selected for observer coverage must pass a USCG Commercial Fishing Vessel Safety Examination prior to an observer boarding the vessel (50 CFR 600.746 and 679.50). The only potential exception in current regulations is for vessels <26' LOA in remote locations.[110] Under Alternatives 2 through 5, NMFS would be deploying observers on <60' vessels and halibut vessels for the first time, thus, obtaining the necessary USCG safety decal is a new requirement for these sectors. Note that actual compliance with the safety requirements is not a new compliance requirement of this rule, as all vessels are supposed to comply with USCG requirements under the status quo, regardless of whether they carry an observer. However, completing the USCG inspection process and documenting that compliance through the safety decal constitutes a new requirement required by the proposed rule. Professional skills would not be necessary to comply with the USCG vessel safety requirements and contact the USCG to schedule an initial or follow-up inspection.

Small boat operators have expressed concerns about the potential cost of having to comply with the requirement. For example, they cite the fact that a USCG inspector is frequently not available in remote ports. Another example is that a vessel may have to absorb additional costs (e.g., purchase a larger life raft, which also takes up more space) due to the potential of having an additional person (observer) onboard. It is not possible to evaluate the likelihood, frequency, or cost of such considerations, *a priori*.

5.8 Federal rules that may duplicate, overlap, or conflict with proposed action

No relevant Federal rules have been identified that would duplicate or overlap with the proposed action under Alternatives 2 through 5, and this includes the Council's preferred alternative. Some current Federal regulations would need modification to implement the proposed action to restructure the observer program. These regulatory changes are outlined in Section 3.4.

5.9 Description of significant alternatives to the proposed action

An IRFA also requires a description of any significant alternatives to the proposed action(s) that accomplish the stated objectives, are consistent with applicable statutes, and that would minimize any significant adverse economic impact of the proposed rule on small entities.

Note that all of the action alternatives, including the Council's preferred alternative, include halibut vessels and <60' vessels operating in both the GOA and the BSAI, and these likely constitute the smallest of the small entities. During deliberations on the preferred alternative, the Council was very concerned with minimizing impacts to small entities, while also providing for equity within the program and increasing data quality, by including small vessels and halibut vessels in the observer program for the first time. While significant alternatives to the proposed action meeting these RFA criteria have not been identified, several provisions included in the proposed action were included with the expectation that they may reduce economic impacts on small entities.

[110] See 50 CFR 600.746(g). This regulation states that if a vessel is <26' in length, and in a remote location, and NMFS has determined that the USCG cannot provide a USCG Commercial Fishing Vessel Safety Examination due to unavailability of inspectors or to unavailability of transportation to or from an inspection station, the vessel will be adequate for observer deployment if it passes an alternate safety equipment examination conducted by a NMFS certified observer, observer provider, or a NMFS observer program employee, using a checklist of USCG safety requirements for commercial fishing vessels <26' in length. Passage of the alternative examination will only be effective for the single trip selected for observer coverage.

The proposed observer deployment on vessels in the partial coverage stratum differs for the smallest vessels (Section 3.2.7). As discussed in Section 5.7, in the initial year(s) of the program, NMFS has proposed that catcher vessels using jig gear and catcher vessels ≤40’ LOA using pot and/or hook-and-line gear would not be selected to carry an observer. In addition, catcher vessels using pot and/or hook-and-line gear >40’ - <57.5’ LOA would be subject to a vessel selection system, in which they could be randomly selected to carry an observer at the beginning of the year, for a specified period of time. In effect, these vessels would not participate in the trip call-in system to which other vessels are subject, and would not be required to call in 72 hours prior to each fishing trip. While the vessels in the ‘no selection’ category and the vessel selection system would be required to pay the ex-vessel value fee for the landings subject to the new program, those with no or low selection probability would not incur the other direct or indirect costs of carrying an observer. The selection process proposed for these vessels is in part because these operations have not had routine observer coverage in the past, and the fleet is large and diverse. NMFS anticipates operational challenges that need to be evaluated and resolved during the first few years of implementation.

In addition, there are potential alternatives to carrying an observer proposed for the class of vessels in the vessel selection list (pot and/or hook-and-line gear >40’ - <57.5’ LOA). A vessel operator may feel that it is unsafe to carry an observer, or that a crew member would need to be eliminated to accommodate an observer. In this case, a vessel operator may petition NMFS for an exemption stating the mitigating conditions. Requests for exemptions would prompt a vessel inspection by NMFS staff to assess the safety and logistics issues. If it is determined that the vessel cannot be observed by a person for safety or logistical reasons, the vessel could be considered for electronic monitoring when NMFS has that capacity developed and implemented. Lacking an EM alternative, NMFS could issue an exemption letter and not require observer. Note that at its June 2010 meeting, upon hearing public testimony about the limited ability for some smaller vessels to carry an observer, and recognizing that the proposed action provides a funding mechanism for electronic monitoring, the Council approved a motion to task the Observer Advisory Committee, Council staff, and NMFS staff to develop electronic monitoring as an alternative tool for fulfilling observer coverage requirements. The intent is that an EM alternative be in place at the same time as the restructured observer program. This alternative monitoring system, while not changing the funding mechanism or fee amount proposed in this action, could serve to reduce economic impacts on small entities by providing an alternative to carrying a human observer.

A provision was also included to provide some flexibility for small CPS that would be included in the new program. Under the Council’s preferred alternative, all CPs would be placed in the ≥100% coverage category, and operate under the status quo (pay-as-you-go) system. This means that any <60’ groundfish CPs and halibut CPs that have not previously been subject to observer requirements would now be required to have 100% coverage and contract directly for that coverage. In order to minimize impacts on these entities, the Council included a provision in the preferred alternative that would allow CPs <60’ LOA with a history of both CP and CV activity in a single year or any catcher processor vessel with an average daily production of less than 5,000 pounds (round weight equivalent) in the most recent full calendar year of operation prior to January 1, 2010, to make a one-time election as to whether they will be in the <100% coverage category with the ex-vessel revenue fee structure or the ≥100% coverage and (status quo) fee structure category. This provision was adopted in order to provide some flexibility for the smallest class of catcher processors, and those vessels that currently operate as both a CP and CV during the year, to determine their observer coverage category and fee system.

While Option 1 was proposed for consideration under any of the action alternatives, it was not included as part of the Council’s preferred alternative. Option 1 would establish an ex-vessel value fee equal to *half* of that selected under the preferred alternative to be assessed on all halibut IFQ landings and on groundfish landings from vessels either <40’, <50’, or <60’ length overall. In effect, an estimated 61 groundfish catcher vessels <60’ LOA and almost the entire IFQ fleet (>1,400 vessels) would be assessed a reduced fee under Option 1, based on 2008 data. However, upon deliberations, and premised on the concept that all sectors benefit from the resulting data, the Council chose to apply the same fee percentage to all restructured sectors, in order to develop a fee program that is fair and equitable across all sectors in the restructured program. Because the Council selected a 1.25% ex-vessel fee for all vessels and processors included under the restructured program, all small entities, regardless of the sector in which they participate or vessel size, will benefit from a reduced fee relative to the maximum 2% fee that was under consideration.

With the exception of the provisions discussed above, there do not appear to be significant alternatives to the proposed action that accomplish the stated objectives, are consistent with applicable statutes, and that would minimize the economic impact of the proposed rule on small entities. One way discussed by the Council, in which the costs of observer coverage could be minimized or eliminated for small entities (indeed, entities of all sizes), is through a Federal subsidy program of observer coverage in the North Pacific, similar to federally funded observer subsidy programs in other regions of the U.S. However, because the Council cannot appropriate Federal funds, or lobby Congress for additional funds, it has not included an alternative for full Federal taxpayer funding of observer coverage in the North Pacific. Note that in June 2010, the Council sent a letter to NOAA HQ to request Federal funds for start-up funding to implement a restructured observer program in the North Pacific, as well as an annual appropriation of up to 50 percent of the cost of placing observers in any catch-share program fisheries.[111] NOAA HQ responded on August 27, 2010, stating it would review potential means available to support the Council's efforts, but emphasizing that the Council should continue to pursue using the Section 313 fee authority in the MSA to fund a resrtuctured observer program.[112] After the Council selected a preferred alternative, it sent a subsequent letter requesting start-up funds for 2013 to support its preferred alternative.[113] A letter acknowledging the Council's request was received from NOAA HQ on December 3, 2010.[114]

[111]Letter from Olson, E., Chair, NPFMC, to Schwaab, E., Asst. Administrator for Fisheries, NOAA, June 30, 2010. http://www.alaskafisheries.noaa.gov/npfmc/current_issues/observer/ObserverFundingLtr610.pdf.
[112]Letter from Schwaab, E., Asst. Administrator for Fisheries, NOAA, to Olson, E., Chair, NPFMC, August 27, 2010.
[113]Letter from Olson, E., Chair, NPFMC, to Schwaab, E., Asst. Administrator for Fisheries, NOAA, November 1, 2010.
[114]Letter from Schwaab, E., Asst. Administrator for Fisheries, NOAA, to Olson, E., Chair, NPFMC, December 3, 2010.

6 Consistency with Applicable Law and Policy

This section examines the consistency of the proposed action to restructure the groundfish observer program for various sectors, including the commercial halibut sector, with the National Standards and Fishery Impact Statement requirements in the Magnuson-Stevens Act and E.O. 12866.

6.1 National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Act, and a brief discussion of the consistency of the proposed alternatives with those National Standards, where applicable. The section evaluates the suite of action alternatives against the National Standards, which includes the preferred alternative (Alternative 3).

National Standard 1
Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

Under the alternatives, the groundfish and halibut fisheries would be managed as they currently are, regardless of the specific contracting model in place to provide observer coverage. Neither groundfish nor halibut stocks off Alaska are in danger of overfishing. To the extent that improvements in observer data collection are made possible by a more flexible contracting model under Alternatives 2 – 5, NMFS would have improved data upon which to base stock assessment modeling and inseason management of the fisheries. In terms of achieving 'optimum yield' from the fishery, the Magnuson-Stevens Act defines 'optimum', with respect to yield from the fishery, as the amount of fish which:

(A) will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems;
(B) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor; and,
(C) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

Overall benefits to the Nation may be affected by these trade-offs, though the ability to quantify those effects is quite limited. While distributional impacts across fishing industry sectors are possible under Alternatives 2 – 5 to the extent that the disproportionate observer costs currently paid by some vessels would be distributed across a much wider fleet, overall net benefits to the Nation would not be expected to change to an identifiable degree between any of the action alternatives under consideration.

National Standard 2
Conservation and management measures shall be based upon the best scientific information available.

Information in this analysis represents the most current, comprehensive set of information available to the Council. Improvements in data quality are at the heart of the proposed action and the development of the restructuring alternatives. Expected improvements in data quality as a result of Alternatives 2 – 5 would improve the scientific information available to the Council for most future conservation and management actions involving the groundfish and halibut fisheries.

National Standard 3
To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

Nothing in this action would change the manner in which individual stocks are managed as a unit throughout their range, and interrelated stocks are managed as a unit or in close coordination.

National Standard 4
Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

Observer requirements are based on the information and monitoring needs of specific fisheries and vessel types. Nothing in the alternatives considers residency as a criteria for the Council's decision. Residents of various states, including Alaska and the Pacific Northwest, participate in each of the major sectors affected by these allocations. Nothing in the alternatives involves the allocation or assignment of fishing privileges among various U.S. fishermen.

National Standard 5
Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

The wording of this standard was changed in a Magnuson-Stevens Act reauthorization, to 'consider' rather than 'promote' efficiency. Efficiency in the context of this change refers to economic efficiency, and the reason for the change, essentially, is to de-emphasize to some degree the importance of economics relative to other considerations (Senate Report of the Committee on Commerce, Science, and Transportation on S. 39, the Sustainable Fisheries Act, 1996). The analysis presents information relative to these perspectives, but does not highlight any one alternative in terms of this standard. National Standard 5 recognizes the importance of various other issues in addition to economic efficiency.

Under any of the action alternatives, the groundfish and halibut fisheries would be managed as they currently are, with no foreseeable changes to the utilization of fishery resources as a result of this action.

National Standard 6
Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

Current, regulated observer coverage requirements are viewed as inflexible and costly by many fishermen who may have relatively low daily production yet are still required to carry and pay for observers 30% or 100% of their fishing days. The action alternatives would establish an ex-vessel value based fee to be paid by all participants in the Gulf of Alaska (Alternative 2), or by those with <100% coverage needs (Alternatives 3 and 4), or by all participants (Alternative 5), regardless of whether they are carrying observers. The preferred alternative (Alternative 3) requires that all participants in the <100% coverage category are subject to the ex-vessel fee, while those in the ≥100% coverage category continue to pay a daily fee under the status quo system. This would distribute the cost of observer coverage in these fisheries among a much broader base of vessels and eliminate the cost of coverage as a factor for fishermen to consider when deciding when and where to fish and with which type of gear to use. In addition, a flexible, contracted model to procure observers would allow NMFS to deploy observers when and where necessary, in response to changing management needs. The restructuring alternatives should therefore represent an improvement in compliance with this national standard.

National Standard 7
Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

All of the alternatives considered appear to be consistent with this standard. The costs associated with each alternative are the subject of Chapter 2.

National Standard 8
Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

The management of the groundfish and halibut fisheries would not change under the action alternatives (Alternatives 2 – 5) in any material way that would affect fishing communities. Under Alternatives 2 – 5, processors and vessels operating out of remote ports and/or with high observer costs would see those costs standardized across the industry through a uniform ex-vessel value fee or daily observer fee. The effect would be to eliminate any current disproportionate observer costs that are currently paid by industry participants operating out of more remote ports with higher travel and lodging costs relative to the overall value they extract from the fishery.

National Standard 9
Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

Section 3.2.6 and Section 4.3 presented a discussion on the extent to which improvements in how observers are deployed could reduce bias and improve the statistical reliability of observer data. To the extent that improvements in data quality improve the statistical reliability of the bycatch data collected by observers, compliance with this national standard would be improved relative to the status quo. However, because the general management of and operations in the groundfish and halibut fisheries would not change under Alternatives 2 through 5, this action would not be expected to have any material affect on actual bycatch rates in the groundfish and halibut fleets.

National Standard 10
Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The alternatives under consideration appear to be consistent with this standard. To the extent that a more flexible contracting model allows for NMFS to better consider safety issues when deploying observers on vessels that may be difficult or dangerous to work on, the safety of observers may be improved. In a number of cases, certain vessels operating in the North Pacific have deck layouts that may be more difficult for observers to work on safely due to lack of suitable work space. NMFS would be in a better position to take into account these circumstances when deciding where to deploy observers.

NMFS would also be deploying observers on <60' vessels and halibut vessels for the first time, and safety regarding deployment on small vessels has been cited by industry as a concern. However, as outlined in existing regulations, all vessels selected for observer coverage must pass a USCG Commercial Fishing

Vessel Safety Examination prior to an observer boarding the vessel (50 CFR 600.746 and 679.50). If the vessel does not have a valid safety decal, it is considered inadequate for the purposes of carrying an observer. Observers are instructed not to board a vessel if the safety decal is absent or expired. Note that actual compliance with the safety requirements is not a new compliance requirement of this rule, as all vessels are supposed to comply with USCG requirements under the status quo, regardless of whether they carry an observer. The only potential exception in current regulations is for vessels <26' LOA in remote locations.[115]

In addition, there are potential alternatives to carrying an observer proposed for the class of vessels in the vessel selection list (pot and/or hook-and-line gear >40' - <57.5' LOA) if a vessel operator feels that it is unsafe to carry an observer. In this case, a vessel operator may petition NMFS for an exemption stating the mitigating conditions. Requests for exemptions would prompt a vessel inspection by NMFS staff to assess the safety and logistics issues. If it is determined that the vessel cannot be observed by a person for safety or logistical reasons, the vessel could be **considered for electronic monitoring when NMFS has that capacity developed and implemented. Lacking** an electronic monitoring alternative, NMFS could issue an exemption letter and not require observer. Refer to Section 3.2.7.

6.2 Section 303(a)(9) – Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that any management measure submitted by the Council take into account potential impacts on the participants in the fisheries, as well as participants in adjacent fisheries. Impacts to participants in the groundfish and halibut fisheries are the subject of the Regulatory Impact Review in Chapter 2. Potential impacts to fisheries other than the groundfish and halibut fisheries are not anticipated as a result of this action.

[115]See 50 CFR 600.746(g). This regulation states that if a vessel is <26' in length, and in a remote location, and NMFS has determined that the USCG cannot provide a USCG Commercial Fishing Vessel Safety Examination due to unavailability of inspectors or to unavailability of transportation to or from an inspection station, the vessel will be adequate for observer deployment if it passes an alternate safety equipment examination conducted by a NMFS certified observer, observer provider, or a NMFS observer program employee, using a checklist of USCG safety requirements for commercial fishing vessels <26' in length. Passage of the alternative examination will only be effective for the single trip selected for observer coverage.

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List of Appendices

Appendix 1. Current groundfish and halibut observer requirements including requirements for CDQ fisheries

Area	TAC	Type	Vessel Type	Size/Specification	Coverage Requirement	Observer Requirement	Regulation
BSAI	IFQ - Halibut	All			None unless also directed fishing groundfish CDQ		
BSAI	CDQ - Halibut	See IFQ - Halibut					Reauthorized MSA
BSAI	IFQ - Fixed Gear Sablefish	Any	Catcher Vessel	< 60'	None		
		Pot	Catcher Vessel	≥ 60'	30% + one full trip per quarter	≥ 1	679.50 c(1)(vii)
			Catcher/Processor	All			
		Longline	Catcher/Processor	60' to < 125'	30% + one full trip per quarter in EGOA		679.50 c(1)(v) & (vi)
				≥ 125'	100%		679.50 c(1)(iv)
		Any	Shoreside Processor	< 500 mt	None		
				500 to < 1,000 mt	30% per quarter	≥1	679.50 d(2)
				> 1,000 mt	100%		679.50 d(1)
BSAI	CDQ - Fixed Gear Sablefish	See IFQ - Fixed Gear Sablefish					Reauthorized MSA
BS	AFA Pollock	Trawl: Listed Vessels	Catcher/Processor & Mothership		100%	≥ 2; 1 must be lead level 2	679.50 c(5)(i)(A)
		Trawl: Non-Listed Vessels BSAI pollock directed fishing or deliveries	Catcher/Processor		100%	≥ 2; 1 must be lead level 2	679.50 c(5)(ii)(B)
		Trawl	Catcher Vessels	< 60'	None		
				60' to <125'	30% + one full trip per quarter	1	679.50 c(1)(v)
				≥125'	100%	≥1	679.50 c(1)(iv)
		Groundfish Deliveries from vessels in BSAI pollock fishery	AFA Inshore Processor		100%	≥ 1	679.50 d(6)

Area	TAC	Type	Vessel Type	Size/Specification	Coverage Requirement	Observer Requirement	Regulation
AI	Pollock	Catcher/Processor & Mothership			100%	≥ 2; 1 must be lead level 2	679.50 c(5)(i)(C)
AI	Atka Mackerel	Trawl in the HLA	Any except Amendment 80 Vessel		100%	2	679.50 c(1)(x)
		Trawl Deliveries	Amendment 80 Catcher/Processor as Mothership	See BSAI Amendment 80			679.50 c(6)(i)
BSAI	CDQ - Pollock	See AFA Pollock					Reauthorized MSA
BSAI	CDQ - Groundfish	Trawl & Trawl Deliveries	Catcher/Processor & Mothership		100%	≥ 2 level 2; 1 must be lead	679.50 c(4)(i)(A)
		Longline	Catcher/Processor		100%	≥ 2 level 2; 1 must be lead[a]	679.50 c(4)(ii)
		Pot	Catcher/Processor		100%	≥ 1 lead level 2	679.50 c(4)(iii)
		Trawl	Catcher Vessel[b]	≥ 60'	100%	≥ 1 level 2	679.50 c(4)(iv)
		Non Trawl, Option 1	Catcher Vessel	≥ 60'	100%	≥ 1 level 2	679.50 c(4)(v)(A)
		Non Trawl, Option 2				≥ 1 lead level 2	679.50 c(4)(v)(B)
		Shoreside processor and floating stationary processor receiving CDQ groundfish [c]			100%	≥ 1 level 2	679.50 d(5)
BSAI	Amendment 80	Any	Catcher/Processor		100%	≥ 2; 1 must be lead level 2	679.50 c(6)(i)
GOA	Amendment 80	Any	Catcher/Processor		100%	≥ 1	679.50 c(6)(ii)
CGOA	Rockfish Cooperative	LLP License, May1st through November 15 or time and date of cooperative termination of fishing declaration (whichever earlier)	Catcher/Processor		100%	≥ 2; 1 must be lead level 2	679.50 c(7)(i)(A)&(D)
			Catcher Vessel		100%	≥ 1	679.50 c(7)(ii)(A)

Area	TAC	Type	Vessel Type	Size/Specification	Coverage Requirement	Observer Requirement	Regulation
CGOA	Rockfish Limited Access	July1st through November 15 or time and date of fishing closure (whichever earlier)	Catcher/Processor		100%	≥ 2; 1 must be lead level 2	679.50 c(7)(i)(B)&(D)
			Catcher Vessel		100%	≥ 1	679.50 c(7)(ii)(B)
GOA except SE Outside	Rockfish Sideboard	Other than catcher processor in opt-out fishery; July 1 thorugh July 31 in West Yakutat, Central GOA, or Western GOA	Catcher/Processor		100%	≥ 2; 1 must be lead level 2	679.50 c(7)(i)(C)&(D)
		Opt-Out Fishery	Catcher/Processor		100%	≥ 1	679.50 c(7)(i)(F)
ALL	Groundfish	Any	Catcher Vessel	< 60'	None		
		Any	CP or CV	60' to <125'	30% + one full trip per quarter	1	679.5 c(1)(v)
		Any	CP or CV ≥125' except for pot gear	≥125'	100%	≥ 1	679.50 c(1)(iv)
		Pot	CP or CV	Any Length	30% + one full trip per quarter	1	679.50 c(1)(vii)
		Any	Shoreside or stationary floating processor	500 to 1,000 mt in a calendar month	30% per month	1	679.50 d(2)
				≥1,000 mt in a calendar month	100%	1	679.50 d(1)
		Trawl	Any CP or CV fishing for groundfish in the Nearshore Bristol Bay Trawl Closure Area		100%	1	679.50 c(1)(ix)
		Any	Any CP or CV fishing for groundfish in the Red King Crab Savings Area				679.50 c(1)(viii)

[a] NMFS may approve alternate fishing plan authorizing vessel to carry only one lead level 2 observer if CDQ group supplies vessels logbook or observer data that demonstrates that one level 2 observer can sample each CDQ set for species composition in one 12-hour shift per fishing day.

[b]Except catcher vessels delivering only unsorted codends to processor or other vessel.

[c] Level 2 observer not required for halibut CDQ vessels < 60' LOA; CDQ vessels ≥ 60' using nontrawl gear that have selected Option 1 so long as the level 2 observer on the vessel monitors the entire delivery; or vessels ≥ 60' using nontrawl gear that have selected Option 2.

In May 2007, the Observer Advisory Committee requested NMFS analyze the 2004-2006 Alaska groundfish fisheries for the percent of observed catch. NMFS calculated the total catch, observed catch, and percent observed by year, FMP area, processing sector, gear type, trip target fishery, and vessel length. NMFS obtained total catch data from the NMFS Alaska Region catch accounting system and rounded to the nearest metric ton. NMFS obtained observer data from the NMFS observer database, and included both sampled and unsampled hauls when an observer was onboard the vessel. Sampled and unsampled hauls were included in this analysis because this data request attempts to determine the percent observed catch whenever an observer is onboard a vessel. NMFS screened these data for confidentiality so that more than two processors or vessels reported for a given target fishery. These data were last updated on March 26, 2008.

Aleutian Islands total catch (mt), observed catch, and percent observed catch by area, harvest sector, gear type, trip target fishery, and vessel length.

					2004			2005			2006			2007		
Area	Sector	Gear	Trip target	Length	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent
AI	CP/M	HAL	C	>=60 and <125	0	0	0%	0	0	0%	--	--	1055%	--	--	112%
				>=125	3,764	3,754	100%	2,627	2,233	85%	2,797	2,877	103%	2,410	2,420	100%
			S	>=60 and <125	356	226	64%	351	170	48%	426	153	36%	377	259	69%
				>=125	--	--	99%	187	182	97%	143	142	99%	128	123	96%
			T	>=60 and <125	0	39	0%	31	51	81	0	3	0%	0	0	0%
				>=125	162	160	99%	72	50	69%	250	244	98%	566	550	97%
		NPT	A	>=60 and <125	0	0	0%	0	0	0%	0	0	0%	--	--	121%
				>=125	57,185	57,184	100%	61,968	61,968	100%	61,605	61,656	100%	59,308	59,307	100%
			C	>=60 and <125	--	--	0%	0	0	0%	0	0	0%	0	0	0%
				>=125	14,946	14,946	100%	12,424	12,424	100%	11,574	11,813	102%	13,945	14,798	106%
			K	>=125	9,931	9,931	100%	8,125	8,125	100%	9,717	9,201	95%	15,146	15,138	100%
		POT	C	>=60 and <125	0	0	0%	0	0	0%	--	--	0%	--	--	0%
				>=125	0	0	0%	0	0	0%	0	0	0%	59	0	0%
			S	>=125	0	0	0%	--	--	57%	0	0	0%	0	0	0%
		PTR	B,P	>=125	0	0	0%	--	--	100%	0	0	0%	--	--	100%
	S	HAL	C	<60	--	--	0%	--	--	0%	7	0	0%	34	0	0%
				>=60 and <125	0	0	0%	0	0	0%	0	0	0%	--	--	0%
			S	<60	146	0	0%	170	0	0%	117	0	0%	55	0	0%
				>=60 and <125	44	2	5%	36	2	6%	25	0	0%	28	5	18%
		NPT	C	<60	--	--	0%	--	--	0%	--	--	0%	351	0	0%
				>=60 and <125	5,067	2,112	42%	4,848	1,610	33%	4,202	2,342	56%	7,240	2,364	33%
				>=125	3,937	4,626	117%	--	--	104%	1,383	1,710	124%	4,188	4,361	104%
		POT	C	<60	0	0	0%	0	0	0%	0	0	0%	7	0	0%
				>=60 and <125	0	0	0%	0	0	0%	290	26	9%	--	--	0%
			S	<60	0	0	0%	0	0	0%	0	0	0%	--	--	0%
				>=60 and <125	392	152	39%	387	230	59%	226	106	47%	--	--	28%
		PTR	B,P	>=60 and <125	0	0	0%	0	0	0%	--	--	0%	--	--	59%
				>=125	0	0	0%	0	0	0%	0	0	0%	--	--	0%

Note: This table does not include data from shoreside processors using paper weekly production reports (WPR) because the data are at the processor level. The vessel length associated with the catcher vessels delivering to the shoreside processor is not available. This includes 239 mt of total groundfish catch in the BSAI, consisting of two processors in 2004 and one processor in 2005 in the BSAI.

1. Values where total and observed columns are blank (-) indicate confidential data.
2. Confidential data have been defined as <3 vessels and processors for that given year, area, sector, gear type, target fishery, and vessel length.
3. These data do not include CDQ catch.
4. Total catch data are from the catch accounting system, and the observer data are from the observer database in March 2008.
5. In some cases, observed data are higher than the total catch data for a given area, sector, gear type, target fishery, and vessel length. There are several reasons that this occurs:

a. In 2004-2006, four CPs >=125 ft. had haul data considered to be invalid by the Observer Program. These data were replaced with weekly production reports in the catch accounting system, but the observer data are still used as the observed total.

b. For catcher/processors and motherships >=60 and <125, there can be a mismatch between the trip target that is assigned from the observed data and the trip target that is assigned based on WPR data. This occurs when a vessel targets more than one target species during a week.

c. For the shoreside sector, the total catch is based on fish tickets, which could be different from the observer data.

d. The two databases include separate sources of information. The catch accounting system partially uses at-sea weekly production reports, landing reports, and observer data. Production reports are focused on different goals from the observer data (production vs. total catch), uses a different method to determine catch and targets, and in the cases of 30% observer coverage include dis-coordinated time frames of estimates, especially at the target level (i.e. observer data may not cover the entire week that a production report is based on).

6. Gear type: HAL=hook-and-line; JIG=jig (not included in this table); NPT=non-pelagic trawl, POT=pot; PTR=pelagic trawl
7. Year= target fishery year
8. Harvest sector: S=shoreside; CP/M=catcher processor or mothership
9. Trip target code: A (Atka mackerel), B (Pollock, bottom), C (Pacific cod), D (Deep water flatfish), E (Alaska plaice), F (Other flatfish), H (Shallow water flatfish), I (Halibut), K (Rockfish), L (Flathead sole), O (Other species), P (Pollock, midwater), R (Rock sole), S (Sablefish), T (Greenland turbot), W (Arrowtooth flounder), X (Rex sole), Y (Yellowfin sole)
10. Vessel length: <60=vessels less than 60 ft length overall (LOA); >=60 and <125=vessels greater than or equal to 60 ft and less than 125 ft LOA; >=125=vessels greater than or equal to 125 ft LOA
11. Weight is rounded to the nearest mt.
12. Percent= (mt of observed catch/mt of total groundfish catch in catch accounting system)*100
13. Not included in the BSAI are trip target fisheries per gear type: HAL=B/P, I, K, O, T, W (57 mt shoreside, 2,934 mt CP/M); NPT= B, E, K, O, P, S, T, W, R (1,618 mt shoreside, 6,446 mt CP/M); POT= K, O, T, W (33 mt shoreside, 7 mt CP/M); PTR= A, C, R (2,372 mt shoreside, 186 mt CP/M).
14. For CPs and motherships groundfish catch estimates, the catch accounting system uses weekly production reports for vessels >=60 and <125 and observer data for vessels >=125, except for pot gear uses weekly production reports for vessels >=60.
15. This is NMFS' approach to the Observer Advisory Committee data request, as of March 26, 2008.

Bering Sea total catch (mt), observed catch, and percent observed catch by area, harvest sector, gear type, trip target fishery, and vessel length.

					2004			2005			2006			2007		
Area	Sector	Gear	Trip target	Length	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent
BS	CP/M	HAL	C	<60	--	--	0%	--	--	0%	0	0	0%	--	--	0%
				>=60 and <125	22,079	13,187	60%	24,520	15,558	63%	21,674	14,345	66%	19,188	13,328	69%
				>=125	92,520	91,441	99%	99,148	99,754	101%	78,550	78,132	99%	61,898	61,228	99%
			S	>=60 and <125	0	0	0%	--	--	0%	--	--	68%	--	--	114%
				>=125	--	--	100%	11	11	100%	56	56	100%	139	139	100%
			T	>=60 and <125	718	654	91%	663	401	61%	520	550	106%	--	--	113%
				>=125	777	770	99%	1,251	1,249	100%	953	953	100%	1,105	1,103	100%
		NPT	A	>=60 and <125	984	780	79%	1,072	823	77%	1,099	530	48%	1,202	750	62%
				>=125	1,226	1,226	100%	998	998	100%	1,047	1,046	100%	2,017	2,017	100%
			C	>=60 and <125	21,754	8,340	38%	14,015	7,790	56%	16,033	7,922	49%	15,647	7,612	49%
				>=125	29,598	29,596	100%	19,344	18,359	95%	20,873	20,872	100%	23,059	23,058	100%
			F	>=60 and <125	1,119	81	7%	770	30	4%	240	5	2%	2,684	1,048	39%
				>=125	1,546	1,546	100%	1,193	1,484	124%	254	254	100%	382	382	100%
			K	>=60 and <125	0	23	0%	0	0	0%	--	--	2%	0	0	0%
				>=125	107	107	100%	--	--	100%	0	0	0%	0	0	0%
			L	>=60 and <125	8,763	4,108	47%	8,002	2,964	37%	7,348	3,806	52%	7,844	3,282	42%
				>=125	19,792	19,791	100%	14,489	14,489	100%	12,951	12,950	100%	13,532	13,532	100%
			R	>=60 and <125	6,495	5,798	89%	4,613	6,249	135%	5,979	7,172	120%	3,396	4,353	128%
				>=125	40,029	40,028	100%	34,258	34,258	100%	39,612	39,611	100%	33,637	33,637	100%
			W	>=60 and <125	700	610	87%	591	635	107%	285	293	103%	62	259	420%
				>=125	2,650	2,650	100%	5,013	5,010	100%	3,592	3,591	100%	1,181	1,181	100%
			Y	>=60 and <125	10,238	5,797	57%	12,039	5,593	46%	10,627	1,585	15%	12,609	6,130	49%
				>=125	80,729	80,728	100%	101,629	101,629	100%	102,088	102,087	100%	122,912	122,911	100%
		POT	C	<60	0	0	0%	0	0	0%	0	0	0%	--	--	0%
				>=60 and <125	--	--	39%	--	--	0%	31	0	0%	--	--	45%
				>=125	--	--	61%	--	--	73%	3,120	2,581	83%	--	--	54%
			S	>=125	--	--	0%	0	0	0%	--	--	99%	0	0	0%
		PTR	B,P	>=125	656,361	656,358	100%	654,476	654,432	100%	666,357	667,315	100%	618,557	618,553	100%
	S	HAL	C	<60	--	--	0%	1,097	0	0%	605	0	0%	382	0	0%
				>=60 and <125	--	--	65%	5	0	0%	--	--	0%	--	--	0%
			S	<60	166	0	0%	86	0	0%	165	0	0%	55	0	0%
				>=60 and <125	--	--	0%	8	0	0%	1	4	348%	--	--	0%
		NPT	C	<60	--	--	0%	--	--	0%	0	0	0%	0	0	0%
				>=60 and <125	30,278	11,084	37%	26,657	10,704	40%	26,032	10,172	39%	24,564	9,313	38%
				>=125	1,296	1,251	97%	1,332	1,615	121%	1,795	1,896	106%	--	--	128%
			Y	>=60 and <125	--	--	60%	0	0	0%	--	--	46%	--	--	41%
				>=125	0	0	0%	0	0	0%	--	--	132%	0	0	0%
		POT	C	<60	2,568	0	0%	2,132	0	0%	3,430	0	0%	3,182	0	0%
				>=60 and <125	8,948	2,756	31%	9,231	2,604	28%	9,248	3,018	33%	9,436	3,422	36%
				>=125	3,000	1,070	36%	3,004	1,187	40%	4,038	1,480	37%	2,525	1,023	41%
			S	<60	0	0	0%	--	--	0%	--	--	0%	--	--	0%
				>=60 and <125	341	154	45%	360	187	52%	404	151	37%	605	255	42%
				>=125	--	--	413%	0	0	0%	0	0	0%	0	0	0%
		PTR	B,P	>=60 and <125	284,092	105,936	37%	275,129	96,096	35%	260,499	94,361	36%	244,245	84,322	35%
				>=125	361,212	359,786	100%	381,283	379,814	100%	394,395	392,285	99%	336,251	335,208	100%

Note: This table does not include data from shoreside processors using paper weekly production reports (WPR) because the data are at the processor level. The vessel length associated with the catcher vessels delivering to the shoreside processor is not available. This includes 239 mt of total groundfish catch in the BSAI, consisting of two processors in 2004 and one processor in 2005 in the BSAI.

1. Values where total and observed columns are blank (-) indicate confidential data.
2. Confidential data have been defined as <3 vessels and processors for that given year, area, sector, gear type, target fishery, and vessel length.
3. These data do not include CDQ catch.
4. Total catch data are from the catch accounting system, and the observer data are from the observer database in March 2008.
5. In some cases, observed data are higher than the total catch data for a given area, sector, gear type, target fishery, and vessel length.
There are several reasons that this occurs:
a. In 2004-2006, four CPs >=125 ft. had haul data considered to be invalid by the Observer Program.
These data were replaced with weekly production reports in the catch accounting system, but the observer data are still used as the observed total.
b. For catcher/processors and motherships >=60 and <125, there can be a mismatch between the trip target that is assigned from the observed data and the trip target that is assigned based on WPR data. This occurs when a vessel targets more than one target species during a week.
c. For the shoreside sector, the total catch is based on fish tickets, which could be different from the observer data.
d. The two databases include separate sources of information. The catch accounting system partially uses weekly production reports, landing reports, and observer data. Production reports are focused on different goals from the observer data (production vs. total catch), uses a different method to determine catch and targets, and in the cases of 30% observer coverage include dis-coordinated time frames of estimates, especially at the target level (i.e. observer data may not cover the entire week that a production report is based on).
6. Gear type: HAL=hook-and-line; JIG=jig (not included in this table); NPT=non-pelagic trawl, POT=pot; PTR=pelagic trawl
7. Year= target fishery year
8. Harvest sector: S=shoreside; CP/M=catcher processor or mothership
9. Trip target code: A (Atka mackerel), B (Pollock, bottom), C (Pacific cod), D (Deep water flatfish), E (Alaska plaice), F (Other flatfish), H (Shallow water flatfish), I (Halibut), K (Rockfish), L (Flathead sole), O (Other species), P (Pollock, midwater), R (Rock sole), S (Sablefish), T (Greenland turbot), W (Arrowtooth flounder), X (Rex sole), Y (Yellowfin sole)
10. Vessel length: <60=vessels less than 60 ft length overall (LOA); >=60 and <125=vessels greater than or equal to 60 ft and less than 125 ft LOA; >=125=vessels greater than or equal to 125 ft LOA
11. Weight is rounded to the nearest mt.
12. Percent= (mt of observed catch/mt of total groundfish catch in catch accounting system)*100
13. Not included in the BSAI are trip target fisheries per gear type: HAL=B/P, I, K, O, T, W (57 mt shoreside, 2,934 mt CP/M); NPT= B, E, K, O, P, S, T, W, R (1,618 mt shoreside, 6,446 mt CP/M); POT= K, O, T, W (33 mt shoreside, 7 mt CP/M); PTR= A, C, R (2,372 mt shoreside, 186 mt CP/M).
14. For CPs and motherships groundfish catch estimates, the catch accounting system uses weekly production reports for vessels >=60 and <125 and observer data for vessels >=125, except for pot gear uses weekly production reports for vessels >=60.
15. This is NMFS' approach to the Observer Advisory Committee data request, as of March 26, 2008.

Central Gulf of Alaska total catch (mt), observed catch, and percent observed catch by area, harvest sector, gear type, trip target fishery, and vessel length.

					2004			2005			2006			2007		
Area	Sector	Gear	Trip target	Length	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent
CGOA	CP	HAL	C	<60	--	--	0%	--	--	0%	0	0	0%	0	0	0%
				>=60 and <125	0	0	0%	0	0	0%	--	--	100%	--	--	17%
				>=125	--	--	100%	--	--	100%	1,195	1,195	100%	--	--	100%
			S	<60	--	--	0%	--	--	0%	--	--	0%	--	--	0%
				>=60 and <125	458	325	71%	397	465	117%	385	282	73%	477	381	80%
				>=125	247	247	100%	287	281	98%	184	184	100%	189	188	99%
		NPT	C	>=60 and <125	--	--	0%	565	411	73%	--	--	0%	0	166	0%
				>=125	--	--	100%	0	0	0%	0	0	0%	0	0	0%
			K	>=60 and <125	--	--	17%	0	0	0%	--	--	0%	0	4	0%
				>=125	6,654	6,655	100%	7,973	7,353	92%	7,716	7,716	100%	4,656	4,656	100%
			L	>=60 and <125	--	--	104%	--	--	77%	--	--	70%	--	--	104%
			W	>=60 and <125	0	0	0%	2,735	2,150	79%	3,878	1,500	39%	518	0	0%
				>=125	--	--	100%	--	--	100%	3,785	3,785	100%	4,498	4,498	100%
			X	>=60 and <125	2,674	0	0%	2,776	1,133	41%	6,883	1,691	25%	--	--	36%
				>=125	--	--	100%	--	--	100%	0	0	0%	0	0	0%
		POT	C	>=60 and <125	0	0	0%	0	0	0%	0	0	0%	--	--	0%
		PTR	K	>=125	0	0	0%	0	0	0%	0	0	0%	--	--	100%
	S	HAL	C	<60	5,144	0	0%	4,289	0	0%	6,185	0	0%	6,617	0	0%
				>=60 and <125	748	99	13%	519	226	43%	802	179	22%	512	116	23%
				>=125	0	0	0%	0	0	0%	0	0	0%	0	0	0%
			S	<60	2,772	0	0%	2,531	0	0%	2,390	0	0%	2,137	0	0%
				>=60 and <125	1,512	525	35%	1,544	510	33%	1,980	499	25%	1,578	440	28%
		NPT	C	<60	--	--	0%	--	--	0%	--	--	0%	--	--	0%
				>=60 and <125	12,443	3,716	30%	7,376	2,185	30%	4,861	1,152	24%	8,377	2,216	26%
			W	<60	0	0	0%	0	0	0%	0	0	0%	--	--	0%
				>=60 and <125	7,517	1,476	20%	8,519	2,212	26%	12,543	2,993	24%	12,818	2,574	20%
			H	<60	0	0	0%	11	0	0%	0	0	0%	547	0	0%
				>=60 and <125	3,339	1,127	34%	6,835	1,300	19%	10,432	1,393	13%	13,382	3,441	26%
			K	<60	120	0	0%	0	0	0%	0	0	0%	134	0	0%
				>=60 and <125	12,292	3,864	31%	9,477	2,989	32%	7,197	1,913	27%	5,758	3,522	61%
		POT	C	<60	2,426	0	0%	3,233	0	0%	3,778	0	0%	4,296	0	0%
				>=60 and <125	2,475	687	28%	4,920	1,298	26%	4,369	981	22%	4,090	969	24%
				>=125	0	0	0%	0	0	0%	--	--	0%	0	0	0%
		PTR	K	>=60 and <125	66	217	327%	535	636	119%	1,999	1,211	61%	2,990	4,029	135%
			B,P	<60	--	--	0%	1,677	0	0%	--	--	0%	--	--	0%
				>=60 and <125	36,431	13,520	37%	47,273	14,845	31%	44,371	14,187	32%	33,530	11,150	33%

Note: This table does not include data from shoreside processors using paper weekly production reports because the data is at the processor level. The vessel length associated with the catcher vessels delivering to the shoreside processor is not available. This includes 5,717 mt of total groundfish catch in the GOA, consisting of 19 processors in 2004, 11 processors in 2005, and 8 processors in 2006 in the GOA.

1. Values where total and observed columns are blank (-) indicate confidential data.
2. Confidential data have been defined as <3 vessels and processors for that given year, area, sector, gear type, target fishery, and vessel length.
3. Total catch data are from the catch accounting system, and the observer data are from the observer database in March 2008.
4. Gear type: HAL=hook-and-line; JIG=jig (not included in this table); NPT=non-pelagic trawl, POT=pot; PTR=pelagic trawl

Year= target fishery year

Harvest sector: S=shoreside; CP/M=catcher processor or mothership

5. Trip target code: A (Atka mackerel), B (Pollock, bottom), C (Pacific cod), D (Deep water flatfish), E (Alaska plaice), F (Other flatfish), H (Shallow water flatfish), I (Halibut), K (Rockfish), L (Flathead sole), O (Other species), P (Pollock, midwater), R (Rock sole), S (Sablefish), T (Greenland turbot), W (Arrowtooth flounder), X (Rex sole), Y (Yellowfin sole)
6. Vessel length: <60=vessels less than 60 ft length overall (LOA); >=60 and <125=vessels greater than or equal to 60 ft and less than 125 ft LOA; >=125=vessels greater than or equal to 125 ft LOA
7. Weight is rounded to the nearest mt.
8. Percent= (mt of observed catch/mt of total groundfish catch in catch accounting system)*100
9. Not included in the GOA are trip target fisheries per gear type: HAL=B/P, D, K, O, W (2,406 mt shoreside, 404 mt CP/M); NPT=B,D,H,K,L,O,P,S (21,367 mt shoreside, 1,633 mt CP/M); POT=B,O,P (18 mt shoreside); PTR=C,H,L,O,W,S (2,220 mt shoreside,566 mt CP/M)
10. For CPs and motherships groundfish catch estimates, the catch accounting system uses weekly production reports for vessels>=60 and <125 and observer data for vessels >=125 except for pot gear uses weekly production reports for vessels >=60.
11. In some cases, the observed data are higher than the total catch for a given area, sector, gear type, target fishery, vessel length. There are several reasons that this occurs:

a. In 2004-2006, four CPs >=125 ft. had haul data considered to be invalid by the Observer Program. These data were replaced with weekly production reports in the catch accounting system, but are still used as the observed total.

b. For catcher/processors and motherships >=60 and <125, there can be a mismatch between the trip target that is assigned from the observed data and the trip target that is assigned based on weekly production report data. This occurs when a vessel targets more than one target species during a week.

c. For the shoreside sector, the total catch is based on fish tickets, which could be different from the observer data.

d. The two databases include separate sources of information. The catch accounting system partially uses weekly production reports, landing reports, and observer data. Production reports are focused on different goals from the observer data (production vs. total catch), uses a different method to determine catch and targets, and in the cases of 30% observer coverage include dis-coordinated time frames of estimates, especially at the target level (i.e. observer data may not cover the entire week that a production report is based on).

12. A high level of variability in the percent observed catch for a given target fishery may be explained by the level of coverage that vessels had prior to entering a different FMP area. Observer coverage is by quarter and by fishery category not by FMP area. A 30% vessel may have enough observer coverage in one FMP area to meet the requirements for their fishing in another FMP area. A high level of variability in percent observed catch also may be attributed to a variable number of vessels that participate in certain GOA fisheries each year.
13. This is NMFS' approach to the Observer Advisory Committee data request, as of March 26, 2008.

Eastern and Western Gulf of Alaska total catch (mt), observed catch, and percent observed catch by area, harvest sector, gear type, trip target fishery, and vessel length.

					2004			2005			2006			2007		
Area	Sector	Gear	Trip target	Length	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent	Total	Observed	Percent
EGOA	CP	HAL	S	<60	--	--	0%	--	--	0%	--	--	0%	--	--	0%
				>=60 and <125	183	201	110%	262	216	82%	139	152	109%	66	106	162%
				>=125	--	--	100%	--	--	92%	--	--	77%	--	--	156%
		NPT	K	>=60 and <125	0	0	0%	0	0	0%	0	0	0%	--	--	101%
				>=125	--	--	100%	--	--	100%	--	--	100%	--	--	100%
		POT	C	>=60 and <125	0	0	0%	0	0	0%	0	0	0%	0	2	0%
		PTR	K	>=125	--	--	100%	--	--	100%	--	--	103%	--	--	100%
	S	HAL	C	<60	2	0	0%	0	0	0%	13	0	0%	43	0	0%
				>=60 and <125	0	0	0%	--	--	0%	--	--	0%	0	0	0%
			S	<60	3,498	0	0%	3,140	0	0%	3,285	0	0%	1,096	0	0%
				>=60 and <125	1,727	990	57%	1,848	956	52%	1,785	910	51%	1,050	878	84%
		PTR	K	>=60 and <125	0	0	0%	0	0	0%	--	--	36%	--	--	66%
			B,P	>=60 and <125	260	204	79%	1,940	532	27%	--	--	38%	--	--	580%
WGOA	CP/M	HAL	C	<60	0	0	0%	0	0	1%	0	0	0%	--	--	0%
				>=60 and <125	2,394	509	21%	--	--	7%	2,199	1,587	72%	2,895	1,989	69%
				>=125	925	925	100%	292	292	100%	956	956	100%	442	444	100%
			S	>=60 and <125	572	211	37%	618	254	41%	540	288	53%	758	447	59%
				>=125	359	359	100%	415	411	99%	344	341	99%	191	172	90%
		NPT	C	>=60 and <125	635	0	0%	--	--	625%	--	--	0%	--	--	39%
				>=125	--	--	100%	0	0	0%	0	0	0%	0	0	0%
			H	>=60 and <125	--	--	0%	--	--	21%	--	--	57%	--	--	0%
			K	>=60 and <125	--	--	117%	--	--	0%	--	--	189%	0	0	0%
				>=125	5,291	5,298	100%	3,459	3,351	97%	6,625	6,623	100%	8,274	8,272	100%
			L	>=60 and <125	1,047	114	11%	1,803	24	1%	--	--	35%	1,040	352	34%
				>=125	--	--	100%	--	--	100%	0	0	0%	0	0	0%
			W	>=60 and <125	--	--	1989%	--	--	2134%	--	--	71%	--	--	94%
				>=125	901	901	100%	1,220	1,220	100%	953	953	100%	1,771	1,771	100%
			X	>=60 and <125	--	--	5%	--	--	12%	--	--	21%	--	--	56%
				>=125	--	--	100%	0	0	0%	0	0	0%	--	--	100%
		POT	C	<60	0	0	0%	0	0	0%	0	0	0%	--	--	0%
				>=60 and <125	--	--	0%	--	--	34%	--	--	0%	--	--	18%
	S	HAL	C	<60	--	--	0%	242	0	0%	78	0	0%	327	0	0%
				>=60 and <125	4	0	0%	--	--	0%	0	0	0%	--	--	0%
			S	<60	837	0	0%	728	0	0%	1,043	0	0%	982	0	0%
				>=60 and <125	529	41	8%	380	122	32%	461	141	31%	471	56	12%
				>=125	0	0	0%	--	--	0%	0	0	0%	0	0	0%
		NPT	C	<60	1,464	0	0%	3,554	0	0%	5,114	0	0%	--	--	0%
				>=60 and <125	183	0	0%	783	392	50%	--	--	25%	--	--	77%
		POT	C	<60	4,823	0	0%	1,962	0	0%	1,913	0	0%	2,441	0	0%
				>=60 and <125	5,016	1,138	23%	4,428	965	22%	3,882	683	18%	2,205	378	17%
				>=125	--	--	64%	--	--	0%	--	--	0%	--	--	0%
		PTR	B,P	<60	--	--	0%	--	--	0%	13,391	0	0%	13,029	0	0%
				>=60 and <125	7,611	2,938	39%	10,988	5,613	51%	11,604	4,858	42%	5,258	1,662	32%

Note: This table does not include data from shoreside processors using paper weekly production reports because the data is at the processor level. The vessel length associated with the catcher vessels delivering to the shoreside processor is not available. This includes 5,717 mt of total groundfish catch in the GOA, consisting of 19 processors in 2004, 11 processors in 2005, and 8 processors in 2006 in the GOA.

1. Values where total and observed columns are blank (-) indicate confidential data.
2. Confidential data have been defined as <3 vessels and processors for that given year, area, sector, gear type, target fishery, and vessel length.
3. Total catch data are from the catch accounting system, and the observer data are from the observer database in March 2008.
4. Gear type: HAL=hook-and-line; JIG=jig (not included in this table); NPT=non-pelagic trawl, POT=pot; PTR=pelagic trawl
Year= target fishery year
Harvest sector: S=shoreside; CP/M=catcher processor or mothership
5. Trip target code: A (Atka mackerel), B (Pollock, bottom), C (Pacific cod), D (Deep water flatfish), E (Alaska plaice), F (Other flatfish), H (Shallow water flatfish), I (Halibut), K (Rockfish), L (Flathead sole), O (Other species), P (Pollock, midwater), R (Rock sole), S (Sablefish), T (Greenland turbot), W (Arrowtooth flounder), X (Rex sole), Y (Yellowfin sole)
6. Vessel length: <60=vessels less than 60 ft length overall (LOA); >=60 and <125=vessels greater than or equal to 60 ft and less than 125 ft LOA; >=125=vessels greater than or equal to 125 ft LOA
7. Weight is rounded to the nearest mt.
8. Percent= (mt of observed catch/mt of total groundfish catch in catch accounting system)*100
9. Not included in the GOA are trip target fisheries per gear type: HAL= B/P, D, K, O, W (2,406 mt shoreside, 404 mt CP/M); NPT=B,D,H,K,L,O,P,S (21,367 mt shoreside, 1,633 mt CP/M); POT=B,O,P (18 mt shoreside); PTR=C,H,L,O,W,S (2,220 mt shoreside,566 mt CP/M)
10. For CPs and motherships groundfish catch estimates, the catch accounting system uses weekly production reports for vessels>=60 and <125 and observer data for vessels >=125 except for pot gear uses weekly production reports for vessels >=60.
11. In some cases, the observed data are higher than the total catch for a given area, sector, gear type, target fishery, vessel length. There are several reasons that this occurs:
a. In 2004-2006, four CPs >=125 ft. had haul data considered to be invalid by the Observer Program.
These data were replaced with weekly production reports in the catch accounting system, but are still used as the observed total.
b. For catcher/processors and motherships >=60 and <125, there can be a mismatch between the trip target that is assigned from the observed data and the trip target that is assigned based on weekly production report data. This occurs when a vessel targets more than one target species during a week.
c. For the shoreside sector, the total catch is based on fish tickets, which could be different from the observer data.
d. The two databases include separate sources of information. The catch accounting system partially uses weekly production reports, landing reports, and observer data. Production reports are focused on different goals from the observer data (production vs. total catch), uses a different method to determine catch and targets, and in the cases of 30% observer coverage include dis-coordinated time frames of estimates, especially at the target level (i.e. observer data may not cover the entire week that a production report is based on).
12. A high level of variability in the percent observed catch for a given target fishery may be explained by the level of coverage that vessels had prior to entering a different FMP area. Observer coverage is by quarter and by fishery category, not by FMP area.
A 30% vessel may have enough observer coverage in one FMP area to meet the requirements for their fishing in another FMP area.
A high level of variability in percent observed catch also may be attributed to a variable number of vessels that participate in certain GOA fisheries each year.
13. This is NMFS' approach to the OAC data request, as of March 26, 2008.

Appendix 3 NMFS' Fee Collection Programs

NMFS currently administers several fee collection programs in the North Pacific including the halibut/sablefish IFQ cost recovery, BSAI crab cost recovery, and three fishing capacity reduction program loan repayment fees (AFA inshore, BSAI hook and line catcher/ processor, and BSAI crab). As shown in Table 1, NMFS now has experience with all price and collection permutations for collecting fees from the groundfish and shellfish fisheries in the North Pacific. Given the range of existing programs, there is likely a suitable price and collection combination to collect fees for the observer program. Of the programs listed, the halibut/sablefish IFQ and BSAI crab cost recovery programs most closely emulate fee collection programs NMFS would seek to establish for a restructured observer program. The fee establishment and collection methods for these programs are explained in this Appendix.

BSAI Crab Cost Recovery

By statute, fees must be shared equally by the harvesting and processing sectors; by regulation, processors also referred to as registered crab receivers (RCRs), assume the fee liability and remit the fees to the Government. NMFS computes the annual fee percentage that applies each crab-fishing year. Fees are owed based on total value of crab landings in money, goods, or services. NMFS sends fee statements to RCRs based on their own reported landings and value as computed for fee collection purposes. For crab delivered raw for processing, each RCR's fee liability is estimated by multiplying the annual fee percentage needed to recover costs (up to 3%) by the ex-vessel value of program crab based on the price paid at the time of purchase. Shoreside processing facilities must include any subsequent retroactive payments as adjustments to the initial calculation of fee liability.

Catcher processors (CPs) participate in both the harvesting and processing sectors, thus, vessel owners or operators must be RCRs and are responsible for paying the full fee liability. NMFS calculates standard prices for CPs to minimize disparities in the fee liability paid by shoreside processors and CPs, since CP product has a higher value than the shoreside deliveries of unprocessed crab. Crab CPs are responsible for calculating their fee liability at the end of the crab fishing year based on the current year's standard prices provided to them by NMFS Restricted Access Management (RAM).

Fees are due annually by July 31 for the prior crab-fishing year. Penalties, interest, and administrative charges are added if an RCR becomes delinquent in payments. NMFS cannot issue any annual crab permits to a person who owes unpaid fees. During the first three years, fee compliance was excellent with no outstanding debts sent to the U.S. Department of the Treasury for collection.

For the 2007/08 crab-fishing year, twenty RCRs were sent estimated fee liability statements. The estimated value of the fishery (based on what we billed for 2007/08) is just over $202M. This value is derived from price information entered by the RCRs in the eLanding system at the time of delivery.

Halibut and Sablefish IFQ

Halibut and sablefish IFQ cost recovery fees are collected under the same authority and limits as the BSAI crab cost recovery program (section 304(d)(A) of the MSA). Thus, the maximum cost recovery fee that can be assessed on halibut and sablefish landings is 3% of ex-vessel value. The program places responsibilities on: 1) IFQ Registered Buyers acting as shoreside processors and 2) IFQ permitholders with landings of halibut or sablefish authorized by their permit.

Registered Buyers must report the price and amount of purchased pounds of halibut and sablefish by species, month, and port, which are essential for calculating annual standard ex-vessel prices of IFQ fish. Reports are due at RAM by October 15 each year. IFQ permitholders are responsible for fees owed for all landings on their permit, regardless of whether their IFQ pounds were from their own QS or leased from another quota shareholder and regardless of whether a permitholder or hired skipper made the landing.

Permitholders must pay their fee liability no later than January 31 of the year after the calendar year of landings. There are two payment options:

Option 1: Permitholders may pay the amount billed (RAM's calculation of the annual fee owed based on standard prices and values) or'

Option 2: Permitholders may pay an amount based in whole or in part on actual ex-vessel value from the sale of their IFQ halibut or sablefish. If they choose this option, they must be prepared to demonstrate, with written documentation, how much they were paid for those IFQ landings.

At the end of each IFQ season, NMFS: compiles a list of all IFQ landings by species, month, and port group, uses shoreside Registered Buyer data to calculate a set of standard ex-vessel prices for IFQ fish landed; applies the appropriate standard ex-vessel price to each landing, which creates a standard ex-vessel value for each landing; sums the total standard ex-vessel values of all landings to derive the total ex-vessel value of the year's IFQ fishery; uses direct program costs and total ex-vessel value to calculate the annual fee percentage; and applies the percentage to the standard ex-vessel values to determine the fee owed for each landing; and sums the fees owed for all landings on the IFQ permits held by each person. This final figure is the annual fee owed by each permitholder, based on standard prices and values. NMFS mails the IFQ permitholders a summary that itemizes their landings and shows their calculated fee liability.

Table 1 Comparison of NMFS' various fee collection programs in the North Pacific

Program	Ex-vessel Value Type	Collection Method	Percent Fee Limit	Frequency	Number of Participants[1]	Implementation Date	Framework
Halibut and Sablefish IFQ	Standard or Actual	NMFS direct billing of IFQ permit holders; IFQ registered buyers submit price report	3%	Annually	2,381 permit holders [2]	March 15, 2000	§ 679.45
BSAI Crab Cost Recovery Fees	Shoreside = Actual	Processor (RCR) collects and submits to NMFS	3%	Annually	20 RCRs [3]	April 1, 2005	§680.44
	CPs = Standard based on shoreside	RCRs [4] submit report and payment to NMFS					
AFA CVs delivering to inshore processors	Standard - $0.06 for each pound of pollock	Processor (buyer) collects and submits to NMFS	5%	Monthly	100 sellers; 8 buyers	February 3, 2000	§ 600.1012-1017
BSAI Longline CP Buyback Repayment	Standard - Expressed as cents per pound of cod ITAC to collect for preceding year's principal and interest	Processor (buyer) collects and submits to NMFS	5% of subsector's cod landings	Monthly	24 Vessels	October, 2007	§ 600.1012-1017
BSAI Crab Buyback Repayment	Actual Price for King and Tanner Crab	Processor (buyer) collects and submits to NMFS	5%	Monthly	~50 [5]	October, 2005	§ 600.1012-1017

[1] Approximate numbers, vary
[2] Number of participants billed by NMFS for 2007 fishery. Source: Halibut and Sablefish IFQ Report to the Fleet 2008.
[3] Source BSAI Crab Rationalization Report, Fishing Year 2007/2008.
[4] CPs are RCRs
[5] Source Michael Sturtevant, NMFS, Personal Communication, 8/24/2009

Appendix 4 CFEC Data Documentation

1. Datasets provided for this analysis contained harvest, estimated gross earnings, and ex-vessel pricing formation for groundfish landings between 1999 and 2008. The data are summarized by year, port, species, ADF&G gear, CFEC gear, disposition code, and delivery code.

2. Harvest flagged by CFEC as commercial and non-commercial catch was included in separate datasets for harvest and estimated gross earnings totals. Non-commercial harvests in the following categories were excluded from the pricing data.

   a. CFEC Groundfish Discard Forfeit (1999 through 2008) – provided a summary of fish ticket items flagged as noncommercial harvest and also flagged as confiscated (either by harvest code 18 or CFEC price gear 79) or forfeited (by harvest codes 19, 20, 28, 29, or 30). These all have a discard delivery code (88, 89, 93, 96, 98, or 99) or a discard disposition code (88, 89, 93, 96, 98, or 99). None of the categories have an ex-vessel value indicated.

   b. CFEC Groundfish Discard Test (1999 through 2008) – provided a summary of fish ticket items flagged as noncommercial harvest and also flagged as test fishing (either by their CFEC permit type (T) or the harvest code (42 or 43)). These all have a discard delivery code (88, 89, 93, 96, 98, or 99) or a discard disposition code (88, 89, 93, 96, 98, or 99). None of the categories have an ex-vessel value indicated.

   c. CFEC Groundfish Non-discard (1999 through 2008) – provided a summary of fish ticket items flagged as noncommercial harvest but that are not flagged as test fishing, confiscated, or forfeited. These do not have a discard delivery code, a discard disposition code, or a harvest code indicating oil contaminated discard. These tend to be personal use bait (92) and personal use (95) harvest. Also included is non-prohibited species catch donated to a food bank program (harvest code 36) and waste fish (species code 101). Nearly all of the categories do not indicate an ex-vessel value.

   d. CFEC Groundfish Non-discard Forfeit (1999 through 2008) – provided a summary of fish ticket items flagged as non-commercial harvest and also flagged as confiscated (either by harvest code 18 or CFEC price gear 79) or forfeited (by harvest codes 19, 20, 28, 29, 30, or 39). These do not have a discard delivery code or a discard disposition code. These tend to be whole, bled, headed and gutted, and harvest destined for meal production. There is some personal use harvest indicated. Roughly 90% of the categories have an ex-vessel value indicated (personal use harvest and bait are not assigned a price per pound).

   e. CFEC Groundfish Non-discard Test (1999 through 2008) – provided a summary of fish ticket items flagged as noncommercial and also flagged as test fishing (either by their CFEC permit type (T) or the harvest code (42 or 43)) and that do not have a discard delivery code or a discard disposition code. This tends to include whole, bled, headed and gutted, and harvest destined for meal production. There is some personal use harvest indicated. Roughly 91% of the categories have an ex-vessel value indicated (personal use harvest and bait are not assigned a price per pound).

3. The number of ADF&G processor codes, vessels, and permits, associated with the harvest and gross earnings in each category, was presented in the CFEC data. Categories with fewer than

four (the State of Alaska definition of confidential data)[1] processors, vessels, or permits are flagged as confidential. In total of 14,158 of the 15,864 categories provided were flagged as confidential (89.3%). There are pricing categories with zero vessels and they tend to reflect harvest from beach seine, fish wheel, and set gillnet fisheries. Some pricing categories indicate zero permits. This is due to invalid permit information on the fish ticket that prevents identification of a valid CFEC permit.

4. CFEC consolidates some gear types for pricing purposes. For example, ‘06’ is longline (for ‘06’ and ‘61’), ‘07’ is trawl (for ‘07’ and ‘47’), and ‘09’ is pot gear (for ‘09’ and ‘91’). The other values found in this field simply reflect the ADF&G gear type. The ex‑vessel price per pound is applied to fish ticket items based on the CFEC gear type. Both the ADF&G gear type (ADFG_H_GEAR_CODE) and consolidated CFEC gear type (CFEC_PRICE_GEAR) were provided.

5. The ADF&G disposition code field (ADFG_I_DISPOSITION _CODE) first appears on directed groundfish landings in 2006. From 2006 onward the disposition code field is not a required field. There may be landings with information in this field and landings without information in this field. Both the disposition code and the delivery code fields (ADFG_I_DELIVERY_CODE) were consulted to determine the “delivery condition”. For example, harvest destined for fish meal was indicated by the delivery code of 41. Now harvest destined for fish meal may be designated by a delivery code of 41 or by a disposition code of 41 and a delivery code such as 01. \

6. Business rules have been established that specify whether ex-vessel price estimates are applied to fish ticket items based on the information in the delivery code or disposition code fields. With the split of delivery information into two fields, the pricing portion of CFEC’s gross earnings program has been adapted to consider both fields. Pricing may be done by year, port, species, gear type, and delivery code or year, port, species, gear type, and disposition code. For example, when harvest is sold for human consumption (disposition code 60) as headed and gutted, western cut (delivery code 07) the delivery code is more indicative of the price that should be applied. When harvest is sold for fish meal production (disposition code 41) as a whole fish (delivery code 01) the disposition code is more indicative of the price that should be applied. The CFEC_PRICE_CATEGORY_DELIVERY field reflects the disposition or delivery code upon which prices are applied. The business rules for CFEC_PRICE_CATEGORY_DELIVERY are as follows:

   a. If the fish ticket item has a disposition code of null, 60, 62, 63, or 64, then CFEC_PRICE_CATEGORY_DELIVERY is populated by ADFG_I_DELIVERY_CODE and pricing is based on the delivery code.

   b. If the disposition code is other than null, 60, 62, 63, or 64, then CFEC_PRICE_CATEGORY_DELIVERY is populated by ADFG_I_DISPOSITION_CODE and pricing is based on the disposition code.

7. Prior to development of their new fish ticket databases, ADF&G did not include a conversion from delivered pounds to whole pounds in their fish ticket data. In response to requests for analyses by whole or round pounds, CFEC began adding a whole pounds field (CFEC_WHOLE_POUNDS) using a product recovery rate translation table. Once ADF&G developed their new databases and retroactively added whole pounds information to the fish

[1]If the data were developed by a federal entity, using their definition of confidential data (three entities instead of four), the percentage of data considered confidential would decline. However, the majority of records would still be considered confidential.

ticket data (ADFG_I_WHOLE_POUNDS), CFEC modified its whole pound field. The current business rules establishing the CFEC whole pound value are:

a. If the ADF&G ancillary/primary flag indicates an ancillary product ('A') then CFEC whole pounds is zero.

b. If the delivery code is cheeks, roe, pectoral girdle, etc. (delivery codes traditionally considered ancillary) then CFEC whole pounds is set to zero no matter what the ancillary/primary flag indicates.

c. If the ancillary/primary flag does not indicate an ancillary product and it is not one of those delivery codes, then CFEC whole pounds is set equal to the ADF&G whole pounds. For the vast majority of fish ticket items CFEC whole pounds is the same as ADF&G whole pounds.

d. If the ancillary/primary flag does not indicate an ancillary product, it is not one of those delivery codes, and the ADFG whole pounds are zero, then the CFEC whole pounds field is set equal to ADFG delivered pounds. It is presumed that this value is closer to the actual whole pounds value than a zero would be.

8. Because of the business rules for the CFEC whole pound field, it is expected that some fish ticket items would have different CFEC and ADF&G whole pound values. As a result, the aggregated CFEC and ADF&G whole pounds values for pricing categories containing those fish ticket items would also reflect differences. As a precaution, CFEC reviewed the fish ticket items that demonstrated different values for the whole pound fields. Unfortunately, we identified some fish ticket items where the ADF&G ancillary/primary flag and the ADF&G whole pounds field appear to be in conflict. For example:

   a. There are some fish ticket items flagged as a primary product yet no ADF&G whole pounds are provided. Either the primary flag is incorrect or the ADF&G whole pounds field should contain a non-zero number. According to business rules, the CFEC whole pounds reflect the ADF&G delivered pounds.

   b. There are some items flagged as an ancillary product and the ADF&G whole pounds field contains a non-zero number. Either the ancillary flag is incorrect or the ADF&G whole pounds field should be zero. The CFEC whole pounds field is set to zero pounds.

   c. There are some items without an ancillary/primary flag that in some cases have an ADF&G whole pounds value and in other cases do not. In the absence of an ancillary flag the CFEC whole pounds field will either reflect the ADF&G whole pounds or the ADF&G delivered pounds.

9. The applied ex-vessel price per pound (CFEC_PRICE_PER_POUND) has been provided for each category as well as one calculated from the division of the total estimated gross earnings by the total delivered pounds (CALC_PRICE_PER_POUND). There are 34 categories for which these two numbers are not the same, and in every case are due to a small number of pounds, small estimated gross earnings, and rounding.

10. If a fish ticket or COAR based price (port specific or statewide) is not available for a pricing category of harvest destined for meal (delivery code 41 or 42, disposition code 41 or 42) then the median fish ticket price per pound across all species of harvest destined for meal is applied.

Appendix 5 State fishery taxes

In September 2009, the OAC requested background information on State fisheries taxes to compare with the proposed observer ex-vessel value-based fee. The Council requested additional information at their June 2010 meeting. This appendix provides information that has been requested.

The most relevant taxes to an ex-vessel value-based observer fee are the Fishery Business Tax and the Fisheries Resource Landing Tax (explained below). State fishery taxes are based on the price paid to commercial fishermen or fair market value when there is not an 'arm's length' transaction. Taxes are levied against fishery resources processed or landed the year before. For example, taxes collected in fiscal year 2009 were for fish that were processed or landed during calendar year 2008.

State Fisheries Business Tax

The fisheries business tax ('raw fish tax') is levied on businesses that process fisheries resources in Alaska or export fisheries resources from Alaska. Businesses are required to file an annual return reporting the value of fishery resources caught and processed or purchased and processed under each business license. The tax is based on the value of the raw fishery resource, and the tax rates vary from 1% to 5%, depending on whether the fishery resource is considered 'established' or 'developing,' and whether it was processed by a shore-based or floating processor. Currently, the tax rates for established fisheries are 3% for fishery resources processed at shorebased plants and 5% for those processed at floating processors (AS 43.75.015). Revenues are deposited into the State of Alaska's General Fund, and 50% of revenues are distributed to qualified municipalities. In 2008, the shared amount to municipalities was approximately $20.2 million.[1]

State Fishery Resource Landing Tax

The fishery resource landing tax is levied on fishery resources processed outside of and first landed in Alaska, and is based on the unprocessed statewide average price of the resource. The tax is primarily collected from floating processors and catcher processors that process fish outside the State's 3-mile limit and bring products into Alaska for transshipment, or any processed fishery resource subject to Section 210(f) of the AFA. Tax rates range from 1% to 3% (AS 43.77.010). All revenues are deposited in the State of Alaska's General Fund, and 50% of revenues are distributed to qualified municipalities. In 2008, the shared amount to municipalities was approximately $6.4 million.

Most catcher processors offload processed fish in Alaska communities and pay a 3% fishery resource landing tax to the State. The tax is based on the unprocessed value of the resource, which is determined by multiplying a statewide average price (see Table 1) by the unprocessed weight. The Alaska Department of Revenue (DOR) establishes a statewide average price for each species based on data reported in the Commercial Operator's Annual Report (COAR) and summarized by ADF&G. COAR data are compared with data reported by the at-sea processors on their fishery resource landing tax return. Typically, the State resolves any large discrepancies between the statewide average price based on the COAR and the average price derived from the tax forms by applying the price with the greatest number of pounds reported. Unprocessed weight is based on the values reported by at-sea processors on their tax forms. The tax is collected from processors which process fish outside State waters and bring their product into Alaska for transshipment.

The statewide average price is generally published in May of the year after the fish were harvested. To determine the amount of tax a processor owes, they are required to complete a fishery resource landing

[1] Alaska Dept. of Revenue, Tax Division, Revenue Sources Book, Fall 2008, pp. 66 – 67.

tax return (http://www.tax.alaska.gov/programs/documentviewer/viewer.aspx?1963f). Only after the statewide average price is posted and the tax return is completed does the processor know their actual tax liability for the previous fishing year.

Comparison with Ex-vessel Value-based Fee for Observer Coverage

The approach proposed in the Implementation Plan for establishing the ex-vessel value-based observer fee would, in some respects, resemble the derivation of the State Fishery Resource Landing Tax. The two are similar in that liabilities would be established according to a standardized price per pound with the prior year COAR data serving as the primary pricing information source. Key differences between the two approaches are that: 1) the State's average prices are based on a statewide ex-vessel price for each species averaged across all ports, gear types, and product dispositions, whereas proposed observer fee ex-vessel prices would be specified for each species, port – or port group as required to preserve confidentiality - and gear type; 2) the unprocessed weight of the State Fishery Resource Tax is based on industry reported weights on their tax forms, whereas the source for unprocessed weight for the observer fee would be observer estimates of total catch for catcher processors and landed catch reported in eLandings for catcher vessels/shoreside operations; and 3) State fishery taxes are based on price information and landings information from the prior year, whereas the observer ex-vessel value fee would be based on COAR data price information from two years prior and current year landings information.

The proposed observer ex-vessel value-based fee is also different from the fishery resource landing tax in that catchers (fish sellers) and processors (fish buyers) would each be expected to pay for a portion of the fee (the processor would collect the harvester's fee at the time of landing and submit that fee along with their own portion of the fee as required by NMFS); standardized prices would be applied to each commercially viable species at landing and the landing report (fish ticket generated by eLandings) would display the observer fee liability for that landing. NMFS would send invoices to processors for their observer fees on an annual basis, in contrast to the State fisheries taxes, in which operations file a tax return form along with their tax payments.

Another difference between the statewide average price and the proposed observer fee average prices is how discarded fish are treated. The fishery resource landing tax price is multiplied by the round weight of retained catch to determine the tax fee; the observer fee is based on the total catch multiplied by the weighted average price including both retained and discarded fish (except at-sea discards when delivering to shorebased plants) by port, gear and species. Because the proposed method to estimate observer fees is based on retained and discarded, catch the average prices will generally be lower than the prices used for the fishery resource landing tax[2]. If the Council were to use average fishery resource landing tax prices to estimate the exvessel observer fee, they may wish to consider basing the fee only on fish that are sold (exclude discards from the calculation). Currently the Council's options would include plant discards for shorebased deliveries and at-sea and plant discards for at-sea deliveries. Including discards would overestimate the exvessel value of fish processed and the observer fee.

Table 1 shows the statewide average ex-vessel prices reported for the fishery resource landing tax from 2007-2009. Statewide average ex-vessel prices from CFEC were also included for the years 1999-2008. Including both sets of prices allows a comparison for the years 2007 and 2008. The CFEC prices were aggregated in this table so they could be directly compared to the fishery resource landing tax price.

[2]For example, the 2008 Pacific cod price is $0.57/lb using the statewide average price and $0.51/lb using the CFEC price. Pollock is $0.21/lb using the statewide average price and $0.51/lb using the CFEC price. Rock sole is $0.25/lb using the statewide average price and $0.18/lb using the CFEC price.

Table 1 Ex-vessel prices from CFEC and the standardized Fishery Resource Landing Tax

		CFEC ex-vessel prices										State Fishery Resource Landing Tax: Standardized Ex-vessel Prices		
Code	Species	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2007	2008	2009
100	groundfish, general	$ 0.18	$ 0.14	$0.19	$0.00	$0.15	$0.01	$0.01	$0.01	$ -	$ -	$ 0.48		
110	cod, Pacific (gray)	$ 0.24	$ 0.26	$0.21	$0.20	$0.25	$0.21	$0.22	$0.33	$0.42	$0.51	$ 0.48	$0.57	$0.28
121	flounder, arrowtooth	$ 0.04	$ 0.02	$0.01	$0.01	$0.01	$0.02	$0.03	$0.04	$0.04	$0.05	$ 0.06	$0.07	$0.06
122	sole, flathead	$ 0.06	$ 0.05	$0.05	$0.04	$0.04	$0.04	$0.05	$0.07	$0.06	$0.06	$ 0.10	$0.09	$0.07
123	sole, rock	$ 0.15	$ 0.13	$0.12	$0.09	$0.08	$0.07	$0.12	$0.17	$0.20	$0.18	$ 0.25	$0.25	$0.16
124	sole, dover	$ 0.11	$ 0.09	$0.10	$0.08	$0.08	$0.10	$0.09	$0.22	$0.07	$0.09	$ 0.10	$0.10	$0.09
125	sole, rex	$ 0.18	$ 0.20	$0.14	$0.12	$0.15	$0.11	$0.18	$0.15	$0.18	$0.20	$ 0.22	$0.22	$0.27
126	sole, butter	$ 0.14	$ 0.14	$0.10	$0.09	$0.09	$0.09	$0.11	$0.13	$0.13	$0.13	$ 0.14	$0.15	$0.12
127	sole, yellowfin	$ 0.05	$ 0.05	$0.03	$0.03	$0.01	$0.05	$0.08	$0.07	$0.07	$0.07	$ 0.09	$0.09	$0.01
128	sole, English	$ 0.04	$ 0.13	$0.13	$0.08	$0.12	$0.09	$0.00	$0.14	$0.14	$0.13	$ 0.15	$0.14	$0.12
129	flounder, starry	$ 0.04	$ 0.05	$0.03	$0.04	$0.04	$0.03	$0.04	$0.05	$0.01	$0.02	$ 0.07	$0.07	$0.06
132	sole, sand	$ 0.02	$ 0.06	$0.01	$0.01	$0.03	$0.16	$0.07	$0.04	$0.03	$0.01	$ 0.15		
133	flounder, Alaska plaice	$ 0.03	$ 0.05	$0.00	$0.00	$0.01	$0.01	$0.00	$0.00	$0.00	$0.04	$ 0.07	$0.04	$0.02
134	turbot, Greenland	$ 0.28	$ 0.27	$0.16	$0.14	$0.29	$0.26	$0.26	$0.28	$0.26	$0.04	$ 0.03	$0.03	$0.01
135	rockfish, greenstripe	$ 0.00	$ 0.02	$0.00	$0.04	$0.01	$0.04	$ -	$0.07	$0.01	$0.30			
136	rockfish, northern	$ 0.06	$ 0.06	$0.04	$0.05	$0.06	$0.05	$0.09	$0.13	$0.14	$0.16	$ 0.16	$0.18	$0.08
137	rockfish, bocaccio	$ 0.26	$ 0.25	$0.25	$0.25	$0.31	$0.35	$0.27	$0.28	$0.29	$0.28	$ 0.30	$0.06	$0.30
138	rockfish, copper	$ 0.42	$ 0.27	$0.26	$0.45	$0.41	$0.16	$0.33	$0.94	$0.38	$0.12	$ 0.41	$0.58	$0.36
139	rockfish, other	$ 0.14	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.32		
140	rockfish, red	$ 0.08	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.62		
141	perch, Pacific ocean	$ 0.07	$ 0.06	$0.04	$0.06	$0.06	$0.05	$0.09	$0.13	$0.14	$0.15	$ 0.16	$0.16	$0.07
142	rockfish, black	$ 0.39	$ 0.41	$0.41	$0.38	$0.39	$0.35	$0.39	$0.39	$0.39	$0.49	$ 0.40	$0.27	$0.42
143	rockfish, thornyhead (idiots)	$ 0.70	$ 0.67	$0.67	$0.67	$0.61	$0.71	$0.76	$0.77	$0.71	$0.78	$ 1.04	$1.08	$1.00
144	rockfish, unspecified slope	$ 0.32	$ 0.19	$0.22	$0.23	$0.00	$ -	$0.03	$ -	$0.80	$ -	$ 0.12		
145	rockfish, yelloweye (red snapper)	$ 0.99	$ 1.14	$1.04	$1.17	$1.05	$1.12	$0.90	$0.85	$0.81	$0.89	$ 1.01	$1.10	$0.97
146	rockfish, canary	$ 0.34	$ 0.37	$0.29	$0.41	$0.33	$0.57	$0.25	$0.51	$0.03	$0.19	$ 0.42	$0.36	$0.33
147	rockfish, quillback	$ 0.55	$ 0.66	$0.59	$0.82	$0.63	$0.65	$0.38	$0.42	$0.48	$0.54	$ 0.52	$0.57	$0.50
148	rockfish, tiger	$ 0.40	$ 0.38	$0.22	$0.34	$0.33	$0.37	$0.32	$0.29	$0.28	$0.34	$ 0.30	$0.38	$0.26
149	rockfish, china	$ 0.41	$ 0.35	$0.44	$0.47	$0.45	$0.21	$0.29	$0.20	$0.63	$0.16	$ 0.58	$0.36	$0.31
150	rockfish, rosethorn	$ 0.08	$ 0.11	$0.08	$0.16	$0.22	$0.23	$0.05	$0.08	$0.03	$0.47	$ 0.21	$0.49	$0.25
151	rockfish, rougheye	$ 0.23	$ 0.25	$0.19	$0.22	$0.20	$0.19	$0.24	$0.21	$0.26	$0.23	$ 0.35	$0.34	$0.29
152	rockfish, shortraker	$ 0.24	$ 0.24	$0.23	$0.21	$0.22	$0.22	$0.27	$0.22	$0.24	$0.22	$ 0.27	$0.27	$0.28
153	rockfish, redbanded	$ 0.26	$ 0.25	$0.24	$0.31	$0.30	$0.23	$0.23	$0.21	$0.35	$0.24	$ 0.30	$0.28	$0.28
154	rockfish, dusky	$ 0.08	$ 0.06	$0.05	$0.06	$0.06	$0.07	$0.10	$0.15	$0.15	$0.33	$ 0.16	$0.20	
155	rockfish, yellowtail	$ 0.33	$ 0.26	$0.05	$0.27	$0.31	$0.32	$0.34	$0.31	$0.26	$0.21	$ 0.34	$0.22	$0.30
156	rockfish, widow	$ 0.26	$ 0.24	$0.27	$0.27	$0.28	$0.20	$0.12	$0.29	$0.13	$0.29			
157	rockfish, silvergray	$ 0.29	$ 0.30	$0.23	$0.31	$0.28	$0.27	$0.27	$0.30	$0.27	$0.26	$ 0.29	$0.31	$0.31
158	rockfish, redstripe	$ 0.20	$ 0.24	$0.21	$0.16	$0.25	$0.11	$0.08	$0.33	$0.09	$0.21	$ 0.18	$0.47	$0.45
159	rockfish, darkblotched	$ 0.02	$ 0.17	$0.02	$ -	$0.00	$0.01	$0.09	$0.01	$0.75	$0.16			
160	sculpin, general	$ 0.00	$ 0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.01	$0.01	$0.01	$ 0.01	$0.01	$0.01
166	rockfish, sharpchin	$ 0.19	$ 0.01	$0.02	$0.01	$0.02	$0.02	$0.01	$0.01	$0.02	$0.03	$ 0.15	$0.16	
167	rockfish, blue	$ -	$ -	$ -	$ -	$0.40	$0.02	$0.54	$ -	$ -	$0.29			
172	rockfish, dusky	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.18			$0.15
173	rockfish, dark	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.19			$0.14
175	rockfish, yellowmouth	$ 0.15	$ 0.03	$0.27	$0.01	$0.10	$0.30	$0.29	$ -	$0.47	$0.29			
176	rockfish, harlequin	$ 0.01	$ 0.01	$0.01	$0.01	$0.02	$0.00	$0.01	$0.01	$0.03	$0.02			$0.25
177	rockfish, blackgill	$ -	$ -	$ -	$ -	$ -	$ -	$0.20	$ -	$0.36	$0.30			
178	rockfish, chilipepper	$ -	$ -	$0.02	$0.13	$ -	$0.02	$ -	$ -	$ -	$0.57			
179	rockfish, pygmy	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.01	$ -	$ -			
181	rockfish, shortbelly	$ 0.30	$ -	$ -	$ -	$ -	$ -	$ -	$0.02	$0.00	$ -			
182	rockfish, splitnose	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0.25	$0.30			
184	rockfish, vermilion	$ -	$ -	$0.34	$ -	$0.17	$ -	$ -	$0.94	$0.50	$0.32			
185	rockfish, aurora	$ -	$ 0.02	$ -	$0.09	$ -	$ -	$ -	$ -	$ -	$0.30			
193	greenling, atka mackerel	$ 0.02	$ 0.01	$0.00	$0.01	$0.01	$0.04	$0.02	$0.01	$0.08	$0.09	$ 0.02	$0.01	$0.02
200	halibut (headed and gutted)											$ 4.27	$4.11	$3.20
270	pollock, walleye	$ 0.11	$ 0.11	$0.08	$0.09	$0.08	$0.09	$0.12	$0.12	$0.12	$0.19	$ 0.14	$0.21	$0.21
689	shark, other	$ 0.00	$ 0.00	$0.00	$0.00	$0.00	$0.00	$0.01	$0.01	$0.00	$0.00			
690	shark, salmon	$ 0.01	$ 0.00	$0.01	$0.00	$0.01	$0.00	$0.01	$0.00	$0.01	$0.00			
691	shark, spiny dogfish	$ 0.01	$ 0.04	$0.03	$0.01	$0.00	$0.00	$0.00	$0.01	$0.01	$0.00	$ 0.15	$0.15	$0.15
692	Pacific sleeper shark	$ 0.00	$ 0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00			
700	skate, other	$ 0.00	$ 0.02	$0.01	$0.04	$0.11	$0.05	$0.02	$0.01	$0.03	$0.04	$ 0.20	$0.32	$0.32
701	skate, longnose	$ 0.00	$ -	$0.00	$0.04	$0.04	$0.13	$0.13	$0.16	$0.20	$0.30			
702	skate, big	$ -	$ -	$ -	$ -	$ -	$0.13	$0.13	$0.20	$0.22	$0.37			
710	sablefish (eastern cut)	$ 2.82	$ 3.42	$2.95	$3.04	$3.43	$2.95	$3.04	$3.25	$2.91	$3.25	$ 3.89	$4.61	$4.61
870	octopus	$ 0.42	$46.00	$0.48	$0.51	$0.59	$0.71	$0.60	$0.58	$0.61	$0.60	$ 0.59	$0.61	$0.61
875	squid	$ 0.10	$ 0.17	$0.06	$0.02	$0.04	$0.04	$0.05	$0.05	$0.05	$0.04	$ 0.04	$0.05	$0.05

Source: CFEC prices 1999-2008 and State average prices 2007-2009.

Members of the fishing industry requested that more detailed prices be considered to account for price variations between ports and gear types[3]. Those proposed aggregation levels are discussed in detail in the

[3] Setting ex-vessel prices using different gear types also helps to account for price variations associated with directed and non-directed catch.

RIR. If the fishery resource landing tax prices are used to determine ex-vessel observer fees, industry would need to forego the more specific prices they have previously requested as a trade-off for a more simplified pricing system.

Using the Alaska Department of Revenue as the Fee Collection Agent

At its June 2010 meeting, the Council requested information on the feasibility of observer fee collection by the State of Alaska Department of Revenue. The Council's question is whether it would be more efficient, and feasible, to use the Alaska Department of Revenue's (DOR) existing fisheries tax collection system and to both calculate ex-vessel revenues and collect observer fees and pass them on to NMFS.

Currently, DOR collects two taxes from Alaska fisheries. It collects a fisheries business tax (FBT) that is imposed on fishery resources processed in Alaska waters or harvested in and exported from Alaska. The FBT (AS 43.75) is calculated based on the actual price paid to the fisherman by the processor for the unprocessed resource. The second tax is the fishery resource landing tax. This tax is imposed on fishery resources harvested and processed in federal waters that are first landed in Alaska. The landing tax (AS 43.77) is calculated based on an annual statewide average price determined by ADF&G from COAR buyer information. Non-crab species must use a single statewide price for that species (ignoring gear type), regardless of location of harvest or landing. The two state taxes each have their own tax calculation methodology that differs from the observer fee methodology proposed in the restructuring plan. The observer fee calculation would account for unprocessed value by species as the state calculations do, but also account for gear type, and delivery port, likely using a multi-year average.

A contract is the default legal mechanism for establishing the state as a collection agent for the observer program fees. There are no general legal barriers to NMFS contracting with a state agency such as the Department of Revenue. Although there are no general legal barriers to such a contract, the contract terms would not authorize DOR to conduct activities that would exceed NMFS' authority. Likewise, DOR could not conduct activities that exceeded its authority under state law. NMFS' contracting rules would apply to the contract.[4]

According to NMFS Alaska Region financial officers, it is not possible that the DOR services could be performed under a grant. If DOR is providing a service for the government, then a contract is used. Principally, grants are used to support or stimulate something for a public purpose, and are reserved for non-governmental matters, such as research, or product development. Notwithstanding any efficiencies realized from the existing DOR collection system, NMFS would pay a fee to DOR for its collection services. Presumably, the amount of the fee would be negotiated. Whether the contract service fee itself could be included as a recovered cost in the program fees is a possible concern. If it was recovered, it would reduce the available revenues for actual observer deployment and thus, a primary program goal. Regardless, the contract services price would have to be justified and override its financial impacts.

The DOR price calculation and collection system would also have to comply with Section 313 requirements. NMFS could not authorize DOR to perform work that exceeds NMFS' authority. If DOR had authority for a particular action that would not fall within NMFS' authority, then DOR would have to work within contract limitations. Further, Section 313 authorizes NMFS' imposition of fees on entities from which the State does not currently assess and collect the state fisheries taxes. Thus, DOR would have to develop and implement a system for calculating and collecting fees from additional businesses and persons.

[4]NMFS contracts guidelines are called the Federal Acquisition Regulations (FAR).

In summary, if the Council and NMFS want to have the State of Alaska calculate, collect, and remit the observer fee to NMFS, the record would have to reflect a rationale for NMFS' decision to contract for fee collection with an outside entity. NMFS, through cost recovery in the halibut and sablefish IFQ and Crab Rationalization Programs, has demonstrated that it can efficiently and effectively recover costs associated with those programs. That being the case, there would have to be a good reason to conclude that NMFS would not be a suitable default collection entity for this program, particularly when the existing cost recovery programs are based on ex-vessel landed fish values. Thus, all things being equal, NMFS would have to determine that DOR has some other exceptional qualification that singles it out as a suitable entity to collect NMFS' fees.

If the Council wishes to pursue this further, it should provide its rationale and direction to NMFS in the final motion. The Council could provide that NMFS may contract with a third-party, including the State of Alaska Department of Revenue, for fee calculation and collection services if, among other applicable considerations, it determines that a contract would be financially and administratively beneficial.

Appendix 6 Estimates of the daily observer fee under Alternative 4 and daily observer costs under Alternative 1

This first part of this appendix describes the assumptions and calculations used to provide estimates of the daily fee that vessels and processors included in the ≥100% coverage category would be subject to under Alternative 4. The second part describes the approach used to estimate the current daily cost of observers in the 100% coverage category in the BSAI under Alternative 1 (status quo).

Assumptions

1) Observers work 12 hours per day, 7 days per week, while deployed. This equals 84 hours per week. Only the first 40 hours are compensated at the regular rate. The additional 44 hours are compensated at the overtime rate.

2) Observer pay and benefits would be established according to the U.S. Dept. of Labor Register of Wage Determinations under the Service Contract Act (SCA) (latest revision: 6/15/2010)[1].

Wages:

Code	Occupational Title	Minimum Wage Rate
91401	Fishery Observer I	$14.74
91402	Fishery Observer II	$16.44
91403	Fishery Observer III	$18.26

Note: An individual with no prior experience as a North Pacific groundfish observer would be considered a Fishery Observer I. An individual with prior experience would be considered a Fishery Observer II. No observer would be paid as a Fishery Observer III. (Refer to Attachment A for Department of Labor's Fishery Observer Job Descriptions.)

Benefits:
Health and Welfare[2]: $3.50 per hour or $140.00 per week or $606.67 per month

Vacation: two weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, 4 weeks after 15 years.

Holidays: 10 paid holidays per year[3]

3) Average daily wage for observers under the current deployment model: $171.00[4]
Average daily fee per observer currently paid by 100% vessels and plants: $323.00[2]
Average cost of one round trip airfare[5] between Seattle and Dutch Harbor: $1,957.00[6]
Average cost per observer for occasional miscellaneous costs other than airfare: $452.00[2]
(i.e. ground transportation, excess baggage, lodging, meals, etc.)
Average number of travel/port days per observer, charged at the daily fee: 2[2]

[1] It is required that an updated wage determination be requested from the Department of Labor prior to issuing a new contract. The latest revision on 6/15/10 was in response to a contract solicitation for the Alaska Marine Mammal Observer Program.
[2] Effective June 22, 2010, the Health & Welfare benefit rates increased for all SCA wage determinations.
[3] New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day.
[4] This number was calculated from example copies of 2010 observer provider industry contracts and an interview of observer providers conducted by NMFS staff (Bob Maier) in February 2010. Details of the calculation cannot be shown because of the confidentiality of the information.
[5] Airfare represents the cost of two one-way tickets because date of observer's return is not known in advance.
[6] From interview of observer providers conducted by NMFS staff (Bob Maier) in February 2010.

4) Current monetary values are used, as provided by the U.S. Department of Labor and observer provider companies, for purposes of this exercise, even though the resulting daily fee would likely not be assessed until 2013 at the earliest.

Observer Wages and Benefits

Fishery Observer I

Regular Time	$14.74 per hour (wages)
	$ 3.50 per hour (health & welfare)
	$ 1.13 per hour (vacation & holiday)[7]
	$19.37 per hour
Overtime[8]	$22.11 per hour (wages)

Fishery Observer II

Regular Time	$16.44 per hour (wages)
	$ 3.50 per hour (health & welfare)
	$ 1.26 per hour (vacation & holiday)[5]
	$21.20 per hour
Overtime[6]	$24.66 per hour (wages)

Regular Time

Step 1: An Observer I or II working full time, will earn 2 weeks of paid vacation per year and 10 paid holidays. This equals 20 days per year. At 8 hours per day, this equals 160 hours, at a cost of:
Observer I (160 hours) x ($14.74/hour) = $2,358.40
Observer II (160 hours) x ($16.44/hour) = $2,630.40

Step 2: An observer working full time, will work 2,080 hours of regular time during one year (includes vacation and holidays):
(40 hours per week) x (52 weeks / year) = 2,080 hours/year

Step 3: Vacation and holiday benefits are reflected as cost per hour as follows:
Observer I ($2,358.40) ÷ (2,080 hours) = $1.13 per hour
Observer II ($2,630.40) ÷ (2,080 hours) = $1.26 per hour

Calculating Daily Cost of Observer Wages and Benefits

Note that the following calculations are based on the assumption that observers working onboard 100% covered vessels and shoreplants will work 12 hours per day, 7 days a week.

Observer I (40 hours regular time) x ($19.37 per hour) = $774.80
(44 hours overtime[9]) x ($22.11 per hour) = $972.84
$1,747.64 per week

[7] Denotes how the cost per hour for vacation & holiday benefits is calculated.
[8] Overtime is calculated as 1.5 multiplied by regular time (time and ½). Fringe benefits (health & welfare, vacation & holiday) do not apply to overtime pay.
[9] Refer to assumption 1 above.

	$1,747.64 (total per week) ÷ 7 (days) = $249.66 per day	
Observer II	(40 hrs. reg. time) x ($21.20 per hour) = $848.00	
	(44 hrs. overtime) x ($24.66 per hour) = $1,085.04	
		$1,933.04 per week

$1,933.04 (total per week) ÷ 7 (days) = $276.15 per day

Estimated Daily Fee for 100% Vessels and Processors under Alternative 4

Calculating Daily Fee for 100% Vessels and Processors (excluding airfare & miscellaneous costs):

Step 1: For the current, pay-as-you-go system
Assume an average pay rate for observers of $171.00/day (refer to assumption 3)
Assume an average daily fee of $323.00 (refer to assumption 3)
Subtract observer pay from daily fee to the get daily value of all other costs (observer provider overhead), excluding airfare and other misc. costs:

  $323.00 (daily fee)
- $171.00 (daily observer pay)
  $152.00 (observer provider overhead)

Step 2: Observer provider overhead added to daily cost of observer wages and benefits:

Observer I	$152.00	Observer II	$152.00
	+ $249.66		+ $276.15
	$401.66		$428.15

Step 3: In 2009, observer deployment consisted of:
Number of new observers (Observer I): 94
Number of experienced observers (Observer II): 562
Total number of observers: 656
Total observer deployment days = 35,680[10]

Step 4: Add two additional days per observer for travel/port time:
656 observers x 2 days = 1,312 days
Add travel/port and deployment days to calculate total days charged at daily fee:
35,680 days + 1,312 days = 36,992 deployment days
Therefore, the average number of days per observer in 2009 was: 56.39 days
(36,992 total days) ÷ (656 observers) = 56.39 days/observer

Step 5: Observer I: 94 x 56.39 = 5,301 days
(No. of new observers) x (Ave. no. of days per observer) = Total annual days for new observers

Observer II: 562 x 56.39 = 31,691 days
(No. of experienced observers) x (Ave. no. of days per observer) = Total annual days for experienced observers

Step 6: Observer I: 5,301 days x $401.66/day = $2,129,200
(Total annual days for new observers) x (Daily fee excluding airfare & misc. charges) =

[10]Total deployment days are used in these calculations instead of deployment days for 100% vessels and plants because deployment days by coverage type were not available. Regardless, this was not thought to make a significant difference in computing the average number of deployment days per observer because observer providers deploy observers for the maximum amount of time possible, regardless of their vessel assignment(s) to achieve greatest efficiency and lower their overhead costs.

Total annual cost of observer wages and observer provider overhead for Observer I

Observer II: 31,691 days x $428.15/day = $13,568,501
(Total annual days for experienced observers) x (Daily fee excluding airfare & misc. charges) = Total annual cost of observer wages and observer provider overhead for Observer II

Total annual cost of all observers (wages + observer provider overhead):
$2,129,200 + $13,568,501 = $15,697,701

Step 7: Daily fee for 100% vessels and processors (excluding airfare and miscellaneous charges):
$15,697,701 ÷ 36,992 (total annual deployment days) = **$424.35/day**

Adding Airfare and Miscellaneous Costs to Daily Fee:

Step 1: In 2009, observer deployment consisted of:
Number of new observers (Observer I): 94
Number of experienced observers (Observer II): 562
Total number of observers: 656
Total observer deployment days = 35,680[11]

Step 2: Add two additional days per observer for travel/port time:
656 observers x 2 days = 1,312 days
Add travel/port & deployment days to calculate total days charged at daily fee:
35,680 days + 1,312 days = 36,992 deployment days

Step 3: Roundtrip airfare between Seattle and Dutch Harbor = $1,957 (refer to assumption 3)
Average cost per observer for occasional miscellaneous costs[12] = $452 (refer to assumption 3)
Total average cost of airfare and misc costs per observer: $2,409

Step 4: $2,409 x 656 observers per year = $1,580,304

Step 5: $1,580,304 ÷ 36,992 observer days per year = **$42.72/day**

Step 6: Daily fee (observer pay + observer provider overhead): $424.35
Daily cost of airfare and misc. charges: $42.72
Total estimated daily fee for 100% vessels and processors under Alternative 4: $467.07

[11]Total deployment days are used in these calculations instead of deployment days for 100% vessels and plants because deployment days by coverage type were not available. Regardless, this was not thought to make a significant difference in computing the average number of deployment days per observer because observer providers deploy observers for the maximum amount of time possible, regardless of their vessel assignment(s) to achieve greatest efficiency and lower their overhead costs.
[12]Examples of miscellaneous costs include ground transportation, excess baggage, lodging, meals, etc. (refer to assumption 3)

Estimated Daily Cost of Observers for 100% Vessels and Processors under Alternative 1 (status quo)

The only difference between the current, pay-as-you-go (status quo) daily cost of observers for 100% vessels and processors in the BSAI and the daily fee proposed under Alternative 4, would be the added observer wage and benefits imposed under a direct government contract. Therefore, the daily cost of an observer day for purposes of evaluating Alternative 1 could be estimated as follows.

Assumptions

Average daily fee per observer currently paid by 100% vessels and plants: $323[13]
Average cost of one round trip airfare[14] between Seattle and Dutch Harbor: $1,957[12]
Average cost per observer for occasional miscellaneous costs other than airfare: $452[11]
Average number of travel/port days per observer, charged at the daily fee: 2[15]

Calculations

Step 1: Roundtrip airfare between Seattle and Dutch Harbor = $1,957
Average cost per observer for occasional misc. charges = $452
Total average cost of airfare and misc. chargers per observer: $2,409

Step 2: $2,409 x 656 observers per year = $1,580,304

Step 3: $1,580,304 ÷ 36,992 observer days per year = $42.72/day

Step 4: Daily Costs = Average daily fee + daily cost of airfare and misc. charges
Average Daily Fee: $323.00
Daily cost of airfare and misc. charges: $42.72
Total estimated daily cost for 100% BSAI vessels/processors under Alternative 1: $365.72

[13]This number was calculated from example copies of 2010 observer provider industry contracts and an interview of observer providers conducted by NMFS staff (Bob Maier) in February 2010. Details of the calculation cannot be shown due to confidentiality. Examples of miscellaneous costs include ground transportation, excess baggage, lodging, meals, etc.
[14]Airfare represents the cost of two, one-way tickets because date of observer's return is not known in advance.
[15] Source: Interview of observer providers conducted by NMFS staff (Bob Maier) in February 2010.

Attachment A. U.S. Department of Labor Fishery Observer Job Descriptions

Fishery Observer I

Performs routine tasks associated with recurring and continuing work according to prescribed or established procedural standards and technical methods assigned. Assures that tasks are completed, data developed, methods used in securing and verifying data are technically accurate and in compliance with instructions and established procedures. Makes estimates of amounts and species composition of fish caught, retained and discarded, using at a minimum, simple, single stage sampling techniques and dichotomous keys. Collects biological samples from the catch of various fisheries according to detailed procedures. According to established standards and detailed procedures, records data on appropriate forms and logs, some of which may be electronic. Maintains field equipment and supplies. Collects scientific, management, compliance information, and make observations of fishing operations. Measures selected portions of catch including incidentally caught marine mammals, sea birds and sea turtles. May tag species of interest including sharks, tunas, sablefish, spiny lobsters, swordfish and sea turtles. Uses calculator and/or PC for calculations and recording data. Obtains, enter and transfer data electronically. Obtains and record information on electronic equipment, socio-economics and gear characteristics of fishing gear types while working either on board vessels, on alternative platform, or at a shore-based facility. May use interpersonal communication skills to contact fishermen and schedule observer sampling trips. May observe and document compliance with fishery regulations, and may write affidavits. May camp at remote sites and may operate All Terrain Vehicles (ATVs) and skiffs.

Fishery Observer II

Independently executes duties, while learning when and how to resolve exceptions and special problems or to make adaptations in the procedures. Makes estimates of amounts and species composition of fish caught, retained and discarded, utilizing knowledge of various statistically valid sampling methods and dichotomous keys. Collects biological samples from the catch of various fisheries according to detailed program and gear scientific procedures. According to established standards and detailed procedures, records data on appropriate forms and logs, some of which may be electronic. Supplies in-season reports. Maintains field equipment and supplies. Collects scientific, management, compliance information, observations of fishing operations, and measures selected portions of catch including incidentally caught marine mammals, sea birds and sea turtles. Participates in tagging species of interest including sharks, tunas, sablefish, spiny lobsters, swordfish and sea turtles. Uses calculator and/or PC for calculations and recordings data. May enter and transfer data electronically. Obtains and records information on electronic equipment, socio-economics and gear characteristics of fishing gear types while working either on board vessels, on an alternative platform, or at shore-based facility. Uses knowledge of interpersonal and communication skills while contacting fishermen to schedule observer sampling trips and may coordinate observer activities with appropriate Sate agencies. May observe and document compliance with fishery regulations, and may write affidavits. May camp at remote sites and may operate All Terrain Vehicle (ATV's) and skiffs. May participate in aerial surveys and vessel surveys to provide abundance data or describe fisheries to be used in observer data analysis and program

Fishery Observer III

Acts as field coordinator and primary debriefer of lower graded Fishery Observers. Oversees and tracks debriefing lower graded Fishery Observers, final data review, data editing and entry. Demonstrate extensive familiarity of methods, procedures and management to ensure proper day-to-day operations. Shifts from one type of responsible technical assignment to other types, which are different in terms of equipment used, of data used, and uses to which data will be put. Acts as primary field contact to address sampling, data, and deployment issues. Makes recommendations so as to increase the efficiency of recruiting, training, and safety components of the program. Supplies in-season reports. Independently executes duties, while learning when and how to resolve exceptions in the procedures. Collects biological samples from the catch of various fisheries according to detailed program and gear specific procedures. Makes estimates of amount and species composition of fish caught, retained and discarded, utilizing knowledge of various statistically valid sampling and sub-sampling methods and dichotomous keys. According to established standards and detailed procedures, records data on appropriate forms and logs, some of which may be electronic and provide recommendations for updates. Oversees the maintenance of field equipment and supplies. Use and complete a pre-boarding vessel safety checklist. Collect scientific, management, compliance information, observations of fishing operation, and measure selected portions of catch including incidentally caught marine mammals, sea birds and sea turtles. Participates in tagging species of interest including sharks, tunas, sablefish, spiny lobster, swordfish and sea turtles. Use calculator and /or PC for calculations and recording data. Enters and transfers data electronically. Obtains and records information on electronic equipment, socio-economics and gear characteristics of fishing gear types while working either on board vessels, on an alternative platform, or at a shore-based facility. Uses knowledge of interpersonal and communication skills while contacting fishermen to schedule observer sampling trips and coordinate observer activities with appropriate State agencies. Observes and documents compliance with fishery regulations, and write affidavits as required. Camps at remote sites and operates All Terrain Vehicles (ATV's) and skiffs as required. Participates in aerial surveys and vessel surveys to provide abundance data or describe fisheries to be used in observer data analysis and program design.

Appendix 7: Observer cost and observer days purchased by sector using 2008 data

Tables in this appendix show the estimated observer costs and number of observer days purchased using 2008 data. Alternative 1 represents the status quo alternative and represents the estimated observer costs in 2008. The other alternatives represent estimates of what observer costs and observer days purchased would be under each of the alternatives and Option 1. Observer days were based on whether the sector paid the status quo (pay-as-you-go) daily rate ($366/day) or the estimated rate for restructured sectors ($467/day). Some sectors may have paid both types of fees in a year. For example, vessels that fished both the GOA and BSAI under Alternative 2 would have been required to pay the ex-vessel fee when fishing in the GOA and the pay-as-you-go fee when fishing in the BSAI.

Appendix 7 - 1: Estimated observer costs under Alternative 1 - Alternative 3, Option 1, based on 2008 data

		Alt 1	Alt 2	Alt 2 Option 1 < 60'	Alt 2 Option 1 < 50'	Alt 2 Option 1 < 40'	Alt 3	Alt 3 Option 1 < 60'	Alt 3 Option 1 < 50'	Alt 3 Option 1 < 40'
CPs	AFA CPs	$ 1,545,984	$ 1,195,356	$ 1,195,356	$ 1,195,356	$ 1,195,356	$ 1,195,356	$ 1,195,356	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	$ -	$ 44,418	$ 44,418	$ 44,418	$ 44,418	$ 28,182	$ 28,182	$ 28,182	$ 28,182
	Sablefish CPs >= 60'	$ 150,426	$ 498,569	$ 498,569	$ 498,569	$ 498,569	$ 732,931	$ 2,017,635	$ 2,017,635	$ 2,017,635
	Sablefish CPs 50' - 59.9'	$ -	$ 28,819	$ 14,409	$ 28,819	$ 28,819	$ 48,678	$ 15,029	$ 15,029	$ 15,029
	Halibut IFQ CPs	$ 44,870	$ 63,157	$ 31,578	$ 31,578	$ 31,578	$ 56,794	$ 12,255	$ 12,255	$ 12,255
	Non-Specified Trawl CPs >=60'	$ 4,739,334	$ 1,863,059	$ 1,863,059	$ 1,863,059	$ 1,863,059	$ 1,929,186	$ 2,935,947	$ 2,935,947	$ 2,935,947
	Non-Specified Fixed Gear CPs >= 60'	$ 2,381,562	$ 2,841,845	$ 2,841,845	$ 2,841,845	$ 2,841,845	$ 2,970,255	$ 5,022,202	$ 5,022,202	$ 5,022,202
	Fixed Gear CPs 50' - 59.9'	$ -	$ 2,596	$ 1,541	$ 2,596	$ 2,596	$ 61,488	$ 23,352	$ 23,352	$ 23,352
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ 113,826	$ 44,745	$ 44,745	$ 44,745	$ 44,745	$ 113,826	$ 113,826	$ 113,826	$ 113,826
	Sablefish IFQ CVs >= 60'	$ 138,714	$ 590,320	$ 590,320	$ 590,320	$ 590,320	$ 462,466	$ 462,466	$ 462,466	$ 462,466
	Sablefish CVs 50 - 59.9'	$ -	$ 625,850	$ 312,925	$ 625,850	$ 625,850	$ 625,850	$ 312,925	$ 625,850	$ 625,850
	Sablefish CVs 40 - 49.9'	$ -	$ 102,530	$ 51,265	$ 51,265	$ 102,530	$ 102,530	$ 51,265	$ 51,265	$ 102,530
	Sablefish IFQ CVs < 40'	$ -	$ 18,419	$ 9,210	$ 9,210	$ 18,419	$ 18,419	$ 9,210	$ 9,210	$ 9,210
	Halibut IFQ CVs	$ 15,372	$ 3,446,478	$ 1,723,239	$ 1,723,239	$ 1,723,239	$ 3,446,478	$ 1,723,239	$ 1,723,239	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ 1,865,868	$ 2,109,258	$ 2,109,258	$ 2,109,258	$ 2,109,258	$ 2,109,258	$ 2,109,258	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (Non-Pollock Targets)	$ 738,588	$ 623,280	$ 623,280	$ 623,280	$ 623,280	$ 579,985	$ 579,985	$ 579,985	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	$ 391,986	$ 962,495	$ 962,495	$ 962,495	$ 962,495	$ 710,017	$ 710,017	$ 710,017	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	$ -	$ 251,401	$ 125,700	$ 251,401	$ 251,401	$ 258,488	$ 129,244	$ 258,488	$ 258,488
	Catcher Vessels >= 60' Fixed gear	$ 195,444	$ 612,895	$ 612,895	$ 612,895	$ 612,895	$ 471,015	$ 471,015	$ 471,015	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	$ -	$ 386,419	$ 193,209	$ 386,419	$ 386,419	$ 442,804	$ 221,402	$ 442,804	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	$ -	$ 97,875	$ 48,938	$ 48,938	$ 97,875	$ 108,990	$ 54,495	$ 54,495	$ 108,990
	Catcher Vessels < 40' Fixed gear	$ -	$ 30,498	$ 15,249	$ 15,249	$ 15,249	$ 31,497	$ 15,748	$ 15,748	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)	$ 3,191,886	$ 5,074,121	$ 4,691,025	$ 5,009,935	$ 5,074,121	$ 4,712,054	$ 4,291,165	$ 4,641,811	$ 4,696,306
Processors	Motherships AFA and Non-AFA	$ 285,846	$ 170,190	$ 170,190	$ 170,190	$ 170,190	$ 196,908	$ 196,908	$ 196,908	$ 196,908
	Shore-based/Floating processors (AFA)	$ 1,035,048	$ 285,114	$ 285,114	$ 285,114	$ 285,114	$ 285,114	$ 285,114	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	$ 754,692	$ 431,880	$ 431,880	$ 431,880	$ 431,880	$ -	$ -	$ -	$ -
	Total	$ 14,397,560	$ 17,327,465	$ 14,800,444	$ 15,447,986	$ 15,557,398	$ 16,986,515	$ 14,468,987	$ 15,132,558	$ 15,238,318

Appendix 7 - 2: Estimated observer costs under Alternative 4 - Alternative 5, Option 1, based on 2008 data

		Alt 4	Alt 4 Option 1 < 60'	Alt 4 Option 1 < 50	Alt 4 Option 1 < 40	Alt 5	Alt 5 Option 1 < 60'	Alt 5 Option 1 < 50'	Alt 5 Option 1 < 40'
CPs	AFA CPs	$ 1,525,222	$ 1,525,222	$ 1,525,222	$ 1,525,222	$ 5,325,489	$ 5,325,489	$ 5,325,489	$ 5,325,489
	CPs in GOA Rockfish Pilot Program	$ 35,959	$ 35,959	$ 35,959	$ 35,959	$ 44,418	$ 44,418	$ 44,418	$ 44,418
	Sablefish CPs >= 60'	$ 935,188	$ 2,017,635	$ 2,017,635	$ 2,017,635	$ 149,370	$ 149,370	$ 149,370	$ 149,370
	Sablefish CPs 50' - 59.9'	$ 62,111	$ 15,029	$ 15,029	$ 15,029	$ 28,819	$ 14,409	$ 28,819	$ 28,819
	Halibut IFQ CPs	$ 72,467	$ 12,255	$ 12,255	$ 12,255	$ 63,157	$ 31,578	$ 31,578	$ 31,578
	Non-Specified Trawl CPs >=60'	$ 2,461,557	$ 2,935,947	$ 2,935,947	$ 2,935,947	$ 1,618,946	$ 1,618,946	$ 1,618,946	$ 1,618,946
	Non-Specified Fixed Gear CPs >= 60'	$ 3,789,915	$ 5,022,202	$ 5,022,202	$ 5,022,202	$ 1,656,819	$ 1,656,819	$ 1,656,819	$ 1,656,819
	Fixed Gear CPs 50' - 59.9'	$ 78,456	$ 23,352	$ 23,352	$ 23,352	$ 2,596	$ 1,298	$ 2,596	$ 2,596
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ 145,237	$ 145,237	$ 145,237	$ 145,237	$ 44,745	$ 44,745	$ 44,745	$ 44,745
	Sablefish IFQ CVs >= 60'	$ 462,466	$ 462,466	$ 462,466	$ 462,466	$ 462,466	$ 462,466	$ 462,466	$ 462,466
	Sablefish CVs 50 - 59.9'	$ 625,850	$ 312,925	$ 625,850	$ 625,850	$ 625,850	$ 312,925	$ 625,850	$ 625,850
	Sablefish CVs 40 - 49.9'	$ 102,530	$ 51,265	$ 51,265	$ 102,530	$ 112,809	$ 56,404	$ 56,404	$ 112,809
	Sablefish IFQ CVs < 40'	$ 18,419	$ 9,210	$ 9,210	$ 9,210	$ 18,419	$ 9,210	$ 9,210	$ 18,419
	Halibut IFQ CVs	$ 3,446,478	$ 1,723,239	$ 1,723,239	$ 1,723,239	$ 3,446,478	$ 1,723,239	$ 1,723,239	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ 2,691,321	$ 2,691,321	$ 2,691,321	$ 2,691,321	$ 4,828,565	$ 4,828,565	$ 4,828,565	$ 4,828,565
	Catcher Vessels >= 60' trawl AFA (Non-Pollock Targets)	$ 579,985	$ 579,985	$ 579,985	$ 579,985	$ 715,693	$ 715,693	$ 715,693	$ 715,693
	Catcher Vessels >= 60' trawl non-AFA	$ 710,017	$ 710,017	$ 710,017	$ 710,017	$ 710,017	$ 710,017	$ 710,017	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	$ 258,488	$ 129,244	$ 258,488	$ 258,488	$ 258,488	$ 129,244	$ 258,488	$ 258,488
	Catcher Vessels >= 60' Fixed gear	$ 471,015	$ 471,015	$ 471,015	$ 471,015	$ 471,015	$ 235,508	$ 471,015	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	$ 442,804	$ 221,402	$ 442,804	$ 442,804	$ 442,804	$ 221,402	$ 442,804	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	$ 108,990	$ 54,495	$ 54,495	$ 108,990	$ 108,990	$ 54,495	$ 54,495	$ 108,990
	Catcher Vessels < 40' Fixed gear	$ 31,497	$ 15,748	$ 15,748	$ 15,748	$ 31,497	$ 15,748	$ 15,748	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)	$ 5,294,117	$ 4,873,228	$ 5,223,874	$ 5,278,369	$ 7,567,069	$ 6,910,672	$ 7,496,826	$ 7,551,321
Processors	Motherships AFA and Non-AFA	$ 251,246	$ 251,246	$ 251,246	$ 251,246	$ -	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	$ 363,793	$ 363,793	$ 363,793	$ 363,793	$ -	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total	$ 19,671,011	$ 17,153,484	$ 17,817,054	$ 17,922,814	$ 21,167,449	$ 18,361,988	$ 19,276,774	$ 19,396,883

Appendix 7 - 3: Estimated observer days purchased under Alternative 1 - Alternative 3, Option 1, based on 2008 data

		Alt 1	Alt 2	Alt 2 Option 1 < 60'	Alt 2 Option 1 < 50'	Alt 2 Option 1 < 40'	Alt 3	Alt 3 Option 1 < 60'	Alt 3 Option 1 < 50'	Alt 3 Option 1 < 40'
CPs	AFA CPs	$ 4,224	$ 3,266	$ 3,266	$ 3,266	$ 3,266	$ 3,266	$ 3,266	$ 3,266	$ 3,266
	CPs in GOA Rockfish Pilot Program	$ -	$ 95	$ 95	$ 95	$ 95	$ 77	$ 77	$ 77	$ 77
	Sablefish CPs >= 60'	$ 411	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 2,003	$ 2,003	$ 2,003	$ 2,003
	Sablefish CPs 50' - 59.9'	$ -	$ 62	$ 31	$ 62	$ 62	$ 133	$ 133	$ 133	$ 133
	Halibut IFQ CPs	$ 123	$ 135	$ 68	$ 68	$ 68	$ 155	$ 155	$ 155	$ 155
	Non-Specified Trawl CPs >=60'	$ 12,949	$ 5,009	$ 5,009	$ 5,009	$ 5,009	$ 5,271	$ 5,271	$ 5,271	$ 5,271
	Non-Specified Fixed Gear CPs >= 60'	$ 6,507	$ 7,707	$ 7,707	$ 7,707	$ 7,707	$ 8,115	$ 8,115	$ 8,115	$ 8,115
	Fixed Gear CPs 50' - 59.9'	$ -	$ 6	$ 3	$ 6	$ 6	$ 168	$ 168	$ 168	$ 168
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ 311	$ 96	$ 96	$ 96	$ 96	$ 311	$ 311	$ 311	$ 311
	Sablefish IFQ CVs >= 60'	$ 379	$ 1,367	$ 1,367	$ 1,367	$ 1,367	$ 990	$ 990	$ 990	$ 990
	Sablefish CVs 50 - 59.9'	$ -	$ 1,340	$ 670	$ 1,340	$ 1,340	$ 1,340	$ 670	$ 1,340	$ 1,340
	Sablefish CVs 40 - 49.9'	$ -	$ 220	$ 110	$ 110	$ 220	$ 220	$ 110	$ 110	$ 220
	Sablefish IFQ CVs < 40'	$ -	$ 39	$ 20	$ 20	$ 39	$ 39	$ 20	$ 20	$ 20
	Halibut IFQ CVs	$ 42	$ 7,380	$ 3,690	$ 3,690	$ 3,690	$ 7,380	$ 3,690	$ 3,690	$ 3,690
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ 5,098	$ 5,763	$ 5,763	$ 5,763	$ 5,763	$ 5,763	$ 5,763	$ 5,763	$ 5,763
	Catcher Vessels >= 60' trawl AFA (Non-Pollock Targets)	$ 2,018	$ 1,549	$ 1,549	$ 1,549	$ 1,549	$ 1,242	$ 1,242	$ 1,242	$ 1,242
	Catcher Vessels >= 60' trawl non-AFA	$ 1,071	$ 2,322	$ 2,322	$ 2,322	$ 2,322	$ 1,520	$ 1,520	$ 1,520	$ 1,520
	Catcher Vessels 50' - 59.9' trawl non-AFA	$ -	$ 538	$ 269	$ 538	$ 538	$ 554	$ 277	$ 554	$ 554
	Catcher Vessels >= 60' Fixed gear	$ 534	$ 1,570	$ 1,570	$ 1,570	$ 1,570	$ 1,009	$ 1,009	$ 1,009	$ 1,009
	Catcher Vessels 50' - 59.9' Fixed gear	$ -	$ 827	$ 414	$ 827	$ 827	$ 948	$ 474	$ 948	$ 948
	Catcher Vessels 40' - 49.9' Fixed gear	$ -	$ 210	$ 105	$ 105	$ 210	$ 233	$ 117	$ 117	$ 233
	Catcher Vessels < 40' Fixed gear	$ -	$ 65	$ 33	$ 33	$ 33	$ 67	$ 34	$ 34	$ 34
	Total CVs (excludes IFQ - halibut and sablefish)	$ 8,721	$ 12,845	$ 12,024	$ 12,707	$ 12,812	$ 11,336	$ 10,435	$ 11,186	$ 11,303
Processo	Motherships AFA and Non-AFA	$ 781	$ 465	$ 465	$ 465	$ 465	$ 538	$ 538	$ 538	$ 538
	Shore-based/Floating processors (AFA)	$ 2,828	$ 779	$ 779	$ 779	$ 779	$ 779	$ 779	$ 779	$ 779
	Shore-based/Floating processors (non-AFA)	$ 2,062	$ 1,180	$ 1,180	$ 1,180	$ 1,180	$ -	$ -	$ -	$ -
	Total	$ 39,338	$ 43,273	$ 37,861	$ 39,248	$ 39,482	$ 42,122	$ 36,731	$ 38,152	$ 38,379

Appendix 7 - 4: Estimated observer days purchased under Alternative 4 - Alternative 5, Option 1, based on 2008 data

		Alt 4	Alt 4 Option 1 < 60'	Alt 4 Option 1 < 50	Alt 4 Option 1 < 40	Alt 5	Alt 5 Option 1 < 60'	Alt 5 Option 1 < 50'	Alt 5 Option 1 < 40'
CPs	AFA CPs	$ 3,266	$ 3,266	$ 3,266	$ 3,266	$ 11,404	$ 11,404	$ 11,404	$ 11,404
CPs	CPs in GOA Rockfish Pilot Program	$ 77	$ 77	$ 77	$ 77	$ 95	$ 95	$ 95	$ 95
CPs	Sablefish CPs >= 60'	$ 2,003	$ 2,003	$ 2,003	$ 2,003	$ 320	$ 320	$ 320	$ 320
CPs	Sablefish CPs 50' - 59.9'	$ 133	$ 133	$ 133	$ 133	$ 62	$ 31	$ 62	$ 62
CPs	Halibut IFQ CPs	$ 155	$ 155	$ 155	$ 155	$ 135	$ 68	$ 68	$ 68
CPs	Non-Specified Trawl CPs >=60'	$ 5,271	$ 5,271	$ 5,271	$ 5,271	$ 3,467	$ 3,467	$ 3,467	$ 3,467
CPs	Non-Specified Fixed Gear CPs >= 60'	$ 8,115	$ 8,115	$ 8,115	$ 8,115	$ 3,548	$ 3,548	$ 3,548	$ 3,548
CPs	Fixed Gear CPs 50' - 59.9'	$ 168	$ 168	$ 168	$ 168	$ 6	$ 3	$ 6	$ 6
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ 311	$ 311	$ 311	$ 311	$ 96	$ 96	$ 96	$ 96
MGT CVs	Sablefish IFQ CVs >= 60'	$ 990	$ 990	$ 990	$ 990	$ 990	$ 990	$ 990	$ 990
MGT CVs	Sablefish CVs 50 - 59.9'	$ 1,340	$ 670	$ 1,340	$ 1,340	$ 1,340	$ 670	$ 1,340	$ 1,340
MGT CVs	Sablefish CVs 40 - 49.9'	$ 220	$ 110	$ 110	$ 220	$ 242	$ 121	$ 121	$ 242
MGT CVs	Sablefish IFQ CVs < 40'	$ 39	$ 20	$ 20	$ 20	$ 39	$ 20	$ 20	$ 39
MGT CVs	Halibut IFQ CVs	$ 7,380	$ 3,690	$ 3,690	$ 3,690	$ 7,380	$ 3,690	$ 3,690	$ 3,690
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ 5,763	$ 5,763	$ 5,763	$ 5,763	$ 10,340	$ 10,340	$ 10,340	$ 10,340
Unspecified CV	Catcher Vessels >= 60' trawl AFA (Non-Pollock Targets)	$ 1,242	$ 1,242	$ 1,242	$ 1,242	$ 1,533	$ 1,533	$ 1,533	$ 1,533
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	$ 1,520	$ 1,520	$ 1,520	$ 1,520	$ 1,520	$ 1,520	$ 1,520	$ 1,520
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	$ 554	$ 277	$ 554	$ 554	$ 554	$ 277	$ 554	$ 554
Unspecified CV	Catcher Vessels >= 60' Fixed gear	$ 1,009	$ 1,009	$ 1,009	$ 1,009	$ 1,009	$ 504	$ 1,009	$ 1,009
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	$ 948	$ 474	$ 948	$ 948	$ 948	$ 474	$ 948	$ 948
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	$ 233	$ 117	$ 117	$ 233	$ 233	$ 117	$ 117	$ 233
Unspecified CV	Catcher Vessels < 40' Fixed gear	$ 67	$ 34	$ 34	$ 34	$ 67	$ 34	$ 34	$ 34
	Total CVs (excludes IFQ - halibut and sablefish)	$ 11,336	$ 10,435	$ 11,186	$ 11,303	$ 16,204	$ 14,798	$ 16,053	$ 16,170
Processors	Motherships AFA and Non-AFA	$ 538	$ 538	$ 538	$ 538	$ -	$ -	$ -	$ -
Processors	Shore-based/Floating processors (AFA)	$ 779	$ 779	$ 779	$ 779	$ -	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total	$ 42,122	$ 36,731	$ 38,152	$ 38,379	$ 45,326	$ 39,319	$ 41,278	$ 41,535

Appendix 8 Deployment and observer effects in the North Pacific catcher vessel fleet

Introduction

Compared to vessels that have been harvesting Alaskan groundfish since the late 19th century, the history of groundfish fishery observers in Alaska is brief. The Fisheries Conservation and Management Act of 1976 (renamed the Magnuson-Stevens Fishery Conservation and Management Act, or MSA, in 1996) mandated the acceptance of U.S. Fisheries observers through direct program funding by appropriation. At the time when joint-venture operations between a developing U.S. owned fleet and the foreign fleet were beginning in earnest, this appropriation funded near 100 trips a year. In 1980, an Omnibus Fishery Bill mandated 100% observer coverage and the creation of a Foreign Fishery Observer Fund to pay in advance for the cost of observer coverage, and this plan was to be implemented during 1982-1984. During the period of 1976-1990, dominant fishing operations in terms of landed and processed groundfish catch within Alaska shifted from foreign-based to domestic-based. However because the MSA did not provide National Marine Fisheries Service (NMFS) with the authority to collect fees from domestic operations, the ensuing shift from foreign to domestic fishing operations in Alaska resulted in insufficient funding for observer operations.

In 1989, one year before joint venture operations were scheduled to end, NMFS and industry reached a compromise agreement to implement a interim domestic observer program with broad industry funding. Coverage levels for at-sea operations were set in regulation according to vessel size according to what was considered fair at the time: zero percent for vessels up to 60' in length, 30% for vessels 61-124' in length, and 100% for vessels > 125' in length. For the 30% catcher vessel fleet, coverage requirements were set at 30% of fishing days per quarter, plus one trip in each fishery. Selection of which days were observed was under industry control. In 2010, these regulations (679.50) still govern what is now known as the North Pacific Groundfish Observer Program (NPGOP), which has burgeoned into the largest of its kind in the U.S. Since 1990, the NPGOP has averaged over 31,000 days in shoreside plants and at sea in Alaska.

While information on retained catch may be obtainable from industry landing reports, information required for estimation of total catch (i.e., all species and discards at sea, fishing location and effort), are only obtainable from robust at-sea observer programs. This data source is important, since discarded fish account for more than 25% of total worldwide catches (Alverson et al. 1994), and high-grading and discarding can undermine the incentives under ITQs that encourage fishers to match catches to TACs (Branch and Hilborn 2008). For observer-derived information to be useful to managers or stock assessment authors, they should be representative of normal fishing operations. If information on catch is underestimated, the resulting TAC may be artificially high which would jeopardize the future of the resource. If catch is overestimated, the same process may result in decreased future harvest opportunities and profits.

Random selection of sample units protects against bias in observer-derived catch data. For this reason, the NPGOP instructs observers to employ randomization to identify which fishing events within a trip to sample, when to sample within these events, and which fish in the sample to collect biological tissues. The selection of trips for observer coverage is not randomized however. Since selection of fishing trips for observer coverage is under industry control, even the perception that such data may be used to limit fishing operations and future earnings creates incentive for vessel operators to fish such that observed trips have different catch characteristics than unobserved trips.

Differences in the dynamics of observed and unobserved trips can be manifested in two ways. In the first, the selection of fishing operations to be observed is such that those trips are not representative of unobserved trips (the "deployment effect"). In the second, a change in the fishing behavior of vessels when they are observed results in trips with characteristics of fishing operations (e.g., location, timing, duration) that are not representative of unobserved fishing operations (the "observer effect"). The presence of either effect precludes the utility of expanding observer data (at the trip level for NPGOP) to unobserved fishing events using design-based estimators because of the potential for bias and overestimation of precision in estimates.

Although bias in the NPGOP deployment model has been identified as a concern for some time (see Chapter 3.0 of this document), analysis of its effects have been limited to simulation exercises. A prerequisite of these simulations is that a fully observed fleet be available, thus limiting prior analyses to larger vessels (e.g., Dorn 1992; Karp 1997). A redesign of the NPGOP database in 2008 facilitated identification of which shoreside landings of groundfish from catcher vessels (eLandings database) were observed. Since eLandings represents the complete population of fishing trips made by groundfish catcher vessels, it is used for quota deduction of retained catch by NMFS Alaska Regional Office and can be used to assess deployment and observer effects in the 30% fleet.

Methods

Groundfish landings made during 2008 from catcher vessels within the NPGOP 30% fleet were obtained from the Alaska Fisheries Information Network (AKFIN). These records were used to determine the primary species in terms of weight and the Fishery Management Plan (FMP) area in which the majority of fish were harvested in for each trip. Trip landing date was used to determine calendar quarter of harvest. Fish ticket number from each landing, as recorded in both the observer database (NORPAC) and the eLandings database, was used to identify observed trips.

If there is no deployment effect present within the 30% fleet, then within a fishery, the duration of trips when a vessel is observed should not be different from those when it is not observed. Therefore, the regulations governing observer deployment (30% of days per quarter) should also apply to trips (30% of trips per quarter). Under this assumption, a null-hypothesis was developed to test the observer effect. Specifically, deployment effects were investigated by first summing the number of trips that were observed and unobserved in each fishery (defined by species, FMP, and gear type), and comparing the ratio of observed:unobserved trips to a 0.3:0.7 expected ratio using Pearson's Chi-square tests. Deviations from expected were interpreted as evidence of a deployment effect. However, because the number of comparisons was high, there was an increase in the chance of making a "false positive" or type-I error. To help control for this effect, significant α levels for each test were also assessed using a family-wise error rate of $\alpha=0.05$ (i.e., total of all individual p-values); hence a Bonferroni adjustment was used (taking α / n for each test, where n is the total number of Chi-square comparisons).

Observer effects were investigated within six fisheries. Fisheries were defined in terms of the principal species landed and gear type. An earlier finding that landed pounds per trip were not greatly different between longline and pot gears, but were greatly different from trawl gear landings guided a decision to keep fixed and trawl gear analyses separate (Appendix 7). For each fishery, a Box-Cox transformation was used to correct for non-normality of the residuals. Because landings have been shown to be related to fishing power, and fishing power differs between vessels (Cotter et al. 2002), mixed models that contain both fixed and random effects were fit to transformed landed pounds for each fishery. Fixed effects (those that influence the mean of the response) included vessel length in feet (VLength), Quarter (QTR), whether a trip was observed or unobserved (OBS), and where appropriate, gear type. In cases where quarter could not be used as a fixed effect because of a lack of both observed and unobserved trips, comparisons were made at the FMP area level. Vessel identification was included as a random effect. Full models including all possible combinations of fixed effects were fit to data using maximum likelihood methods. Likelihood ratio tests were used to compare the full model to a simplified version that had a non-significant interaction term removed. If the likelihood ratio test results indicated no significant difference in the fit of the reduced model and the full model, the simplified model was chosen as the new full model. This process of model simplification continued until either all factors included in the model were significant or only factors without interaction terms remained. The exception to this process was in cases where a generalized fit was required (see Results and Discussion section). In such cases, a final model that included all first and second order effects were included for comparison. All analyses were performed using the R programming language and associated statistical computing and graphing packages.[1]

Results and Discussion

A total of 31 Chi-square tests were performed to assess whether observer deployment into the fisheries followed a random pattern (existence of a deployment effect). Using a type 1 error rate of 5% (α=0.05) for each test, we would expect to have 2 test results with a significant difference from expected based on chance alone. Instead, a total of 9 tests were significant (Table B1). An alternative is to use the Bonferroni adjusted type 1 error rate for each test (0.0016). Table 1 highlights three significant outcomes. Regardless of our criteria, the number of significant test results in Table B1 exceeds the expected outcomes from chance, and therefore we must conclude that the deployment of observers in Alaska is non-random and that there is a significant deployment effect. The finding of a significant deployment effect is not surprising, since deployment of observers is not randomized, and industry has control over what fishing events are observed. However, this analysis does provide first quantitative evidence of its existence and extent within the 30% fleet.

Although evidence of an observer effect among studies of the world's fisheries is much less common than that of a deployment effect, prior analyses have mostly failed to account for individual vessel-level effects (Benoit and Allard 2009). Benoit and Allard (2009) found that landed catch of targeted species was generally 4-15% lower on trips with an observer than when one is not present. In the current analysis, a significant observer effect was found in the fixed gear sablefish (*Anoplopoma fimbria*) and Pacific cod (*Gadus macrocephalus*) fisheries (Table B2). In contrast to a negative observer effect, in which the catch of observed trips is less than in unobserved trips, a positive observer effect was found in these fisheries (Table B2A, Figure B1). Similarly, models for Pacific cod harvested with trawl gear also exhibited a positive observer effect (Table B2B). However, the nature of differences between observed and unobserved trips differed between FMP areas. While fewer pounds were landed from observed trips in the Gulf of Alaska FMP (GOA) compared to unobserved trips, the opposite was true in the Bering Sea-Aleutian Islands FMP (BSAI) (Figure B2).

Trawl caught arrowtooth flounder (*Atheresthes stomias*), rock sole (*Lepidopsetta bilineata* (Southern) and *L. polyxystra* (Northern))., and walleye pollock (*Theragra chalcogramma*) all exhibited smaller landings during observed trips compared to unobserved trips, however these differences were not significant (Table B2C-E). Differences between observed and unobserved trips were found to be consistent among quarters for arrowtooth flounder (Figure B3), whereas relationships among fixed variables changed with quarter for rock sole, with the second quarter exhibiting the greatest differences between observed and unobserved trips (Figure B4). A trip limit of 136 metric tons, or 300,000 lbs was imposed by regulation on vessels fishing walleye pollock in the GOA to meet the objectives of Steller sea lion protection measures (§679.7(b) Magnuson-Stevens Act). The impact of this trip limit was that rather than a symmetrical distribution of landings occurring around a single mode (as was observed in other fisheries examined here), the distribution of pollock landed pounds from the GOA was skewed heavily towards 300,000 lbs. (Figure B5). The skewed form of this distribution necessitated the use of a generalized form of the mixed model. After assessing the relationship of variance to the mean values we chose a quasi-liklihood modeling method with an inverse link and mu^2 variance structure. Like the pattern found for

[1] For more information visit http://www.r-project.org/; search packages nlme, and MASS.

rock sole, the magnitude of differences between observed and unobserved trips differed by quarter (Figure B6).

Summary and Conclusions

Analyses were conducted in an effort to quantify the degree to which observers in the 30% fleet are not deployed randomly, and to quantify the degree to which the presence of an observer affects landings data. Since fishery openings and closings in Alaska do not follow the quarterly structure governing observer coverage, it is acknowledged here that the use of quarter as a meaningful fixed effect is less than satisfactory at accurately capturing the nature of catcher vessel fisheries. However, it can be argued that the current regulatory structure governing observer deployment in Alaska (in which industry has dictates which trips are to be observed within a quarter) has facilitated a significant deployment effect, and in some cases, a significant observer effect.

Unlike smaller observer programs that operate in Europe (Stratoudakis et al. 1998), Canada (Benoit and Allard 2009), Australia (Liggins et al. 1997) and other fisheries and regions in the United States (McCracken 2008; Rago et al. 2005), the deployment of observers in Alaska does not facilitate the exchangeability between observed and unobserved units. Consequently, use of design-based estimators as recommended and explored elsewhere is not possible (Miller et al. 2007). The terms governing observer coverage in Alaska (days per quarter) do not match well with those that would be logical to use for observer deployment (trips). In contrast, randomization of trips to be observed (regardless of total days) with an adequate sample size would help ensure spatial and temporal coverage of fishing events. As demonstrated elsewhere, the implementation of a system of mandatory pre-departure hail-outs (i.e. a call-in system) can significantly improve the likelihood of achieving this result (Benoit and Allard 2009).

Randomization of trip selection in the portion of the groundfish fleet that is not subject to full coverage will increase the statistical credibility of the catch estimates used to regulate the fisheries, and may decrease the bias that arises from non-representative spatial and temporal distribution of observed catch (relative to total catch).

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Table B1. Pearson's Chi-square test results conducted on the number of observed trips (O) and unobserved trips (U) per quarter per fishery

Gear/Primary species/Quarter	**1**				**2**				**3**				**4**		
	U	**O**	**p-value**		**U**	**O**	**p-value**		**U**	**O**	**p-value**		**U**	**O**	**p-value**
A. Fixed Gear															
BSAI															
Pacific cod	82	38	0.6903		0	0			60	21	0.4236		34	22	0.1294
Sablefish	1	2	0.1658		14	14	**0.0209**		4	3	0.4579		16	6	0.7801
GOA															
Pacific cod	182	44	**5.5E-04**		0	0			29	6	0.0969		9	0	**0.0495**
Sablefish	6	1	0.3643		76	18	**0.0217**		16	12	0.1376		4	0	0.1904
B. Trawl															
BSAI															
Pacific cod	116	56	0.4641		5	17	**1.3E-06**		1	0			0	0	
GOA															
Arrowtooth	8	6	0.2938		76	14	**0.0028**		57	11	**0.0129**		18	3	0.1161
Pacific cod	138	39	**0.0207**		0	1			36	22	0.1875		18	10	0.5094
Rock sole	11	4	0.7782		51	12	0.0578		22	17	0.0640		54	20	0.5768
W. pollock	133	100	**1.7E-05**		12	2	0.1995		33	21	0.1540		69	30	0.9475

Note: Fishery is defined by primary species landed, gear, and FMP (Gulf of Alaska: GOA or Bering Sea/Aleutian Islands:BSAI).Tests compared the ratio of U:O vs. a ratio of 0.7:0.3. Significance levels were set at α=0.5 for each test, and significant tests based on this criteria are denoted in bold. Because multiple comparisons inflates the chance of finding a significant result (type I error), a Bonferroni correction was applied to adjust the family-wide significance level to α=0.5. Significant tests based on this criterion are underlined.

Table B2. Box-Cox and mixed-effects model of total retained pounds from six Alaskan fisheries, defined by predominant species landed and gear type

A. Fixed Gear Sablefish and Pacific cod				
Box Cox lambda (min, value, max)	0.29	0.34	0.39	
Lambda transformation applied		0.33		
Random effects: 1 / Vessel ID (Standard Deviation, Residual)		4.72	7.74	
Fixed effects: WT ~ Target species + OBS + Gear + Target species:Vlength	Value	SE	DF	p-value
(Intercept: Target=P. cod, Observed=No, Gear= H&L)	7.03	3.50	616	**0.0452**
Target=Sablefish	27.83	5.56	616	**<0.0001**
Observed=Yes	1.81	0.71	616	**0.0110**
VLength	0.31	0.04	100	**<0.0001**
Gear=Pot	-0.84	1.68	616	0.6166
Target=Sablefish:VLength	-0.45	0.06	616	**<0.0001**
B. Pacific Cod Trawl				
Box Cox lambda (min, value, max)	0.38	0.46	0.54	
Lambda transformation applied		0.50		
Random effects: 1 / Vessel ID (Standard Deviation, Residual)		49.11	103.89	
Fixed effects: WT ~ VLength + OBS + PFMP + OBS:PFMP	Value	SE	DF	p-value
(Intercept: BSAI; Observed=No)	-20.58	68.44	403	0.7638
VLength	3.22	0.67	51	**<0.0001**
Observed=Yes	18.42	16.17	403	0.2555
FMP=GOA	41.26	19.35	403	**0.0336**
Observed:GOA	-42.73	21.88	403	*0.0515*
C. Trawl Arrowtooth				
Box Cox lambda (min, value, max)	0.66	0.84	1.04	
Lambda transformation applied		1.00		
Random effects: 1 / Vessel ID (Standard Deviation, Residual)		35974.83	69613.92	
Fixed effects: WT ~ Vlength + OBS + QTR	Value	SE	DF	p-value
(Intercept: Observed=No, QTR=1)	-4344.63	78426.83	160	0.9559
VLength	1553.34	843.80	27	0.0767
Observed=Yes	-3300.91	14538.03	160	0.8207
QTR=2	55243.28	22520.14	160	**0.0152**
QTR=3	44655.29	22852.48	160	0.0524
QTR=4	7130.20	26370.04	160	0.7872

Table B2 continued.

D. Trawl Rock sole				
Box Cox lambda (min, value, max)	0.33	0.44	0.55	
Lambda transformation applied		0.50		
Random effects: 1 / Vessel ID (Standard Deviation, Residual)		47.27	98.73	
Fixed effects: WT ~ Vlength + OBS + QTR + Vlength:QTR + OBS:QTR	Value	SE	DF	p-value
(Intercept: Observed=No, QTR=1)	751.91	335.38	155	**0.0264**
VLength	-6.84	3.92	24	0.0939
Observed=Yes	-31.70	61.74	155	0.6084
QTR=2	-260.55	331.47	155	0.433
QTR=3	-504.31	341.98	155	0.1423
QTR=4	-139.58	331.92	155	0.6747
VLength:QTR=2	4.56	3.90	155	0.2435
VLength:QTR=3	8.54	3.99	155	**0.034**
VLength:QTR=4	3.45	3.89	155	0.3772
OBS1:QTR=2	-94.83	70.13	155	0.1782
OBS1:QTR=3	7.57	70.62	155	0.9147
OBS1:QTR=4	48.29	67.36	155	0.4745
E. Trawl Walleye pollock				
Random effects: 1 / Vessel ID (Standard Deviation, Residual)		1.09 E-06	0.459	
Fixed effects: WT ~ (Vlength + QTR + OBS)^2	Value	SE	DF	p-value
(Intercept: Observed=No, QTR=1)	1.22E-05	1.86E-06	346	**<0.0001**
VLength	-7.24E-08	1.90E-08	41	**0.0005**
QTR=2	4.43E-05	2.15E-05	346	**0.0405**
QTR=3	2.81E-07	3.70E-06	346	0.9396
QTR=4	-3.07E-06	2.77E-06	346	0.268
Observed=Yes	-3.97E-07	2.09E-06	346	0.8499
VLength:QTR=2	-4.11E-07	2.04E-07	346	**0.0453**
VLength:QTR=3	6.10E-09	3.69E-08	346	0.8688
VLength:QTR=4	3.11E-08	2.81E-08	346	0.2683
VLength:Observed=Yes	6.65E-09	2.16E-08	346	0.7587
QTR=2:Observed=Yes	1.57E-06	3.22E-06	346	0.626
QTR=3:Observed=Yes	-2.94E-07	8.55E-07	346	0.7314
QTR=4:Observed=Yes	-3.50E-10	5.97E-07	346	0.9995

Note: Fixed effects that influence the mean of the response included vessel length (VLength), Quarter (QTR), whether a trip was observed or unobserved (OBS), and where appropriate, Gear. Vessel identification was included in models as a random effect. Linear models fit with maximum likelihood methods were applied to landings data in all cases except walleye pollock, which was fit using a generalized model. In many cases, full inclusion of all fixed effects could not be accomplished because of missing data. For the Box-Cox lambda “min” and “max” are respectively the lower and upper bounds of the 95% confidence interval for the lambda estimate. SE: Standard error of estimate (Value); DF: Degrees of freedom.

Figure B1. Plots of linear mixed effects model results depicting landed pounds of Pacific cod and sablefish on observed (pink filled circles) and unobserved (open blue squares) trips by vessel size, gear type (Hook and line: HAL), and species

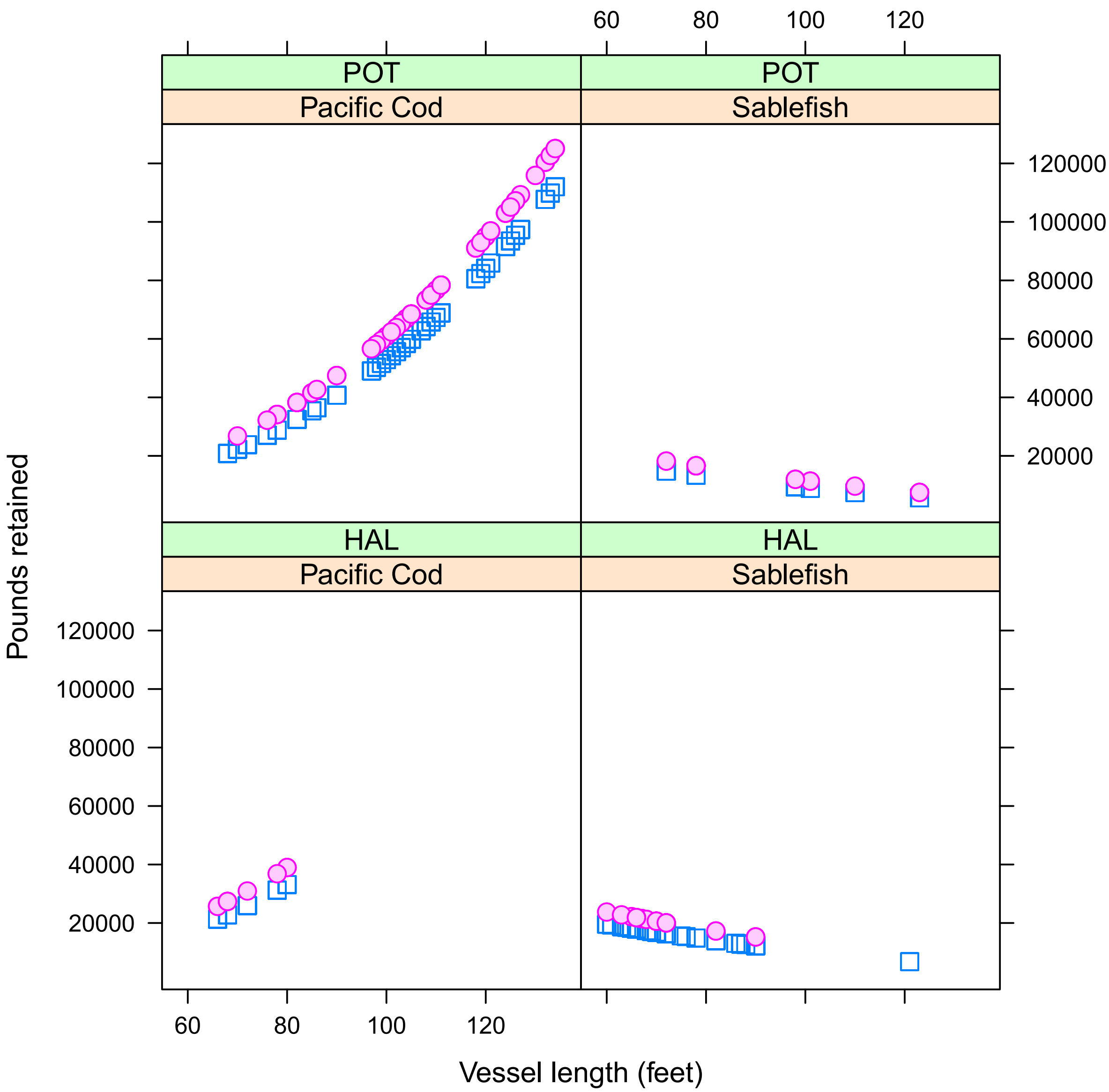


Figure B2. Plots of linear mixed effects model results depicting landed pounds of Pacific cod landed shoreside with trawl gear on observed (pink filled circles) and unobserved (open blue squares) trips by vessel size, and FMP area

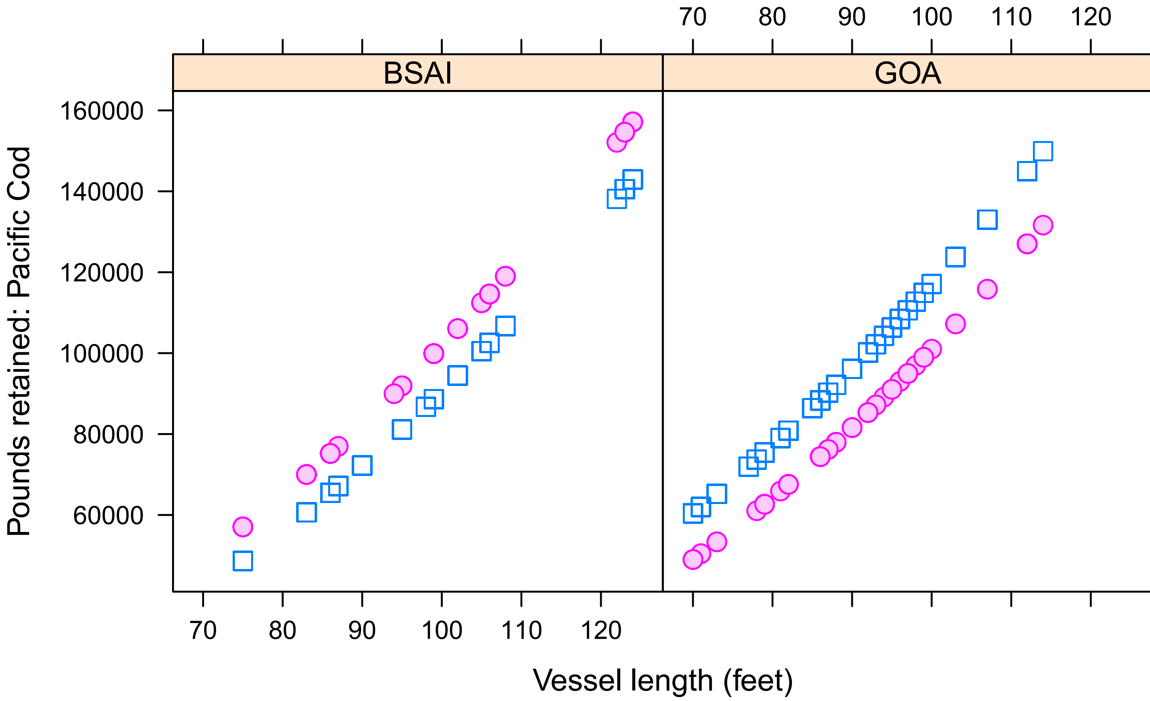


Figure B3. Plots of linear mixed effects model results depicting landed pounds of arrowtooth flounder landed shoreside with trawl gear on observed (pink filled circles) and unobserved (open blue squares) trips by vessel size, and Quarter (1-4).

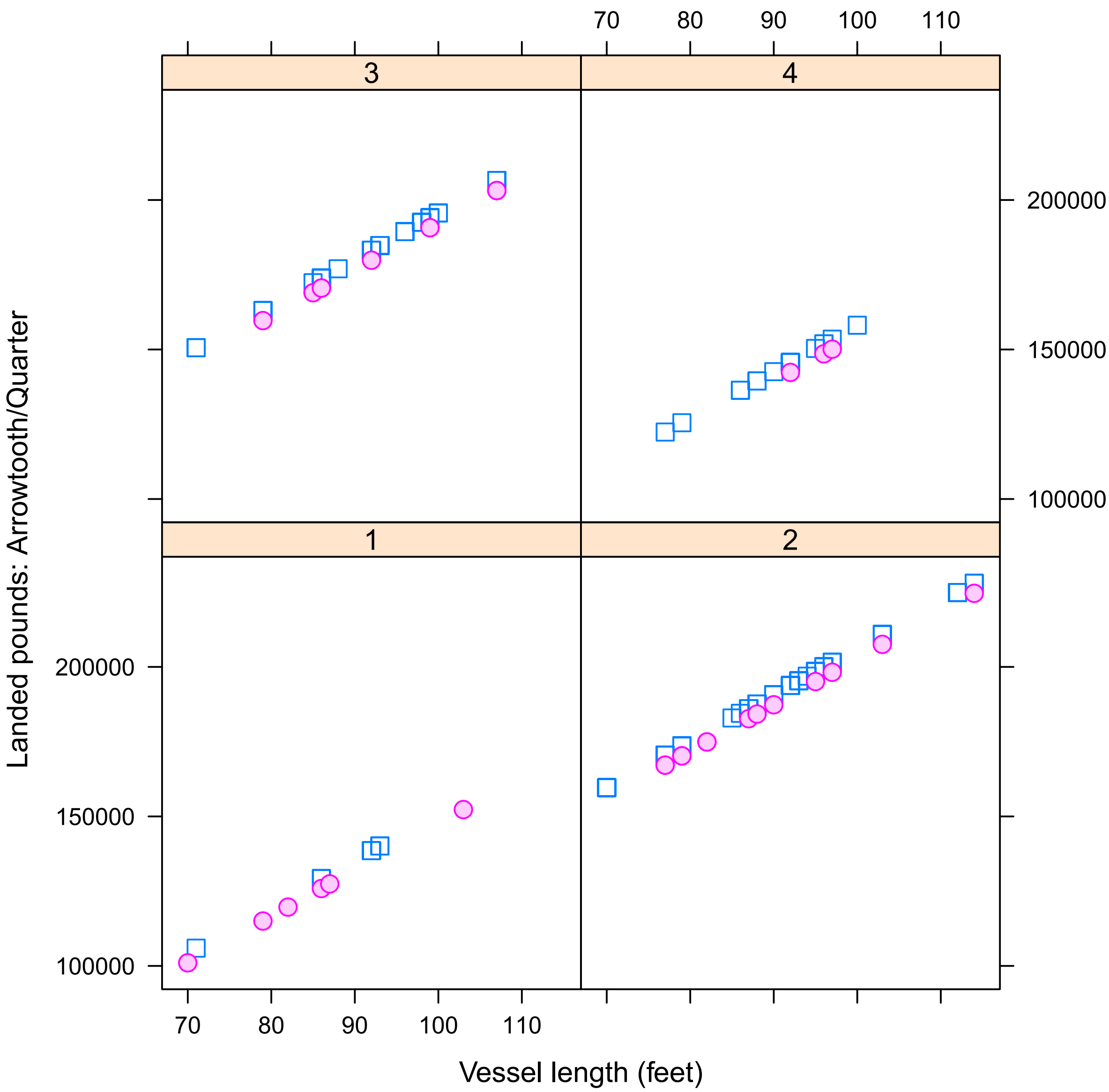


Figure B4. Plots of linear mixed effects model results depicting landed pounds of rock sole landed shoreside with trawl gear on observed (pink filled circles) and unobserved (open blue squares) trips by vessel size, and Quarter (1-4).

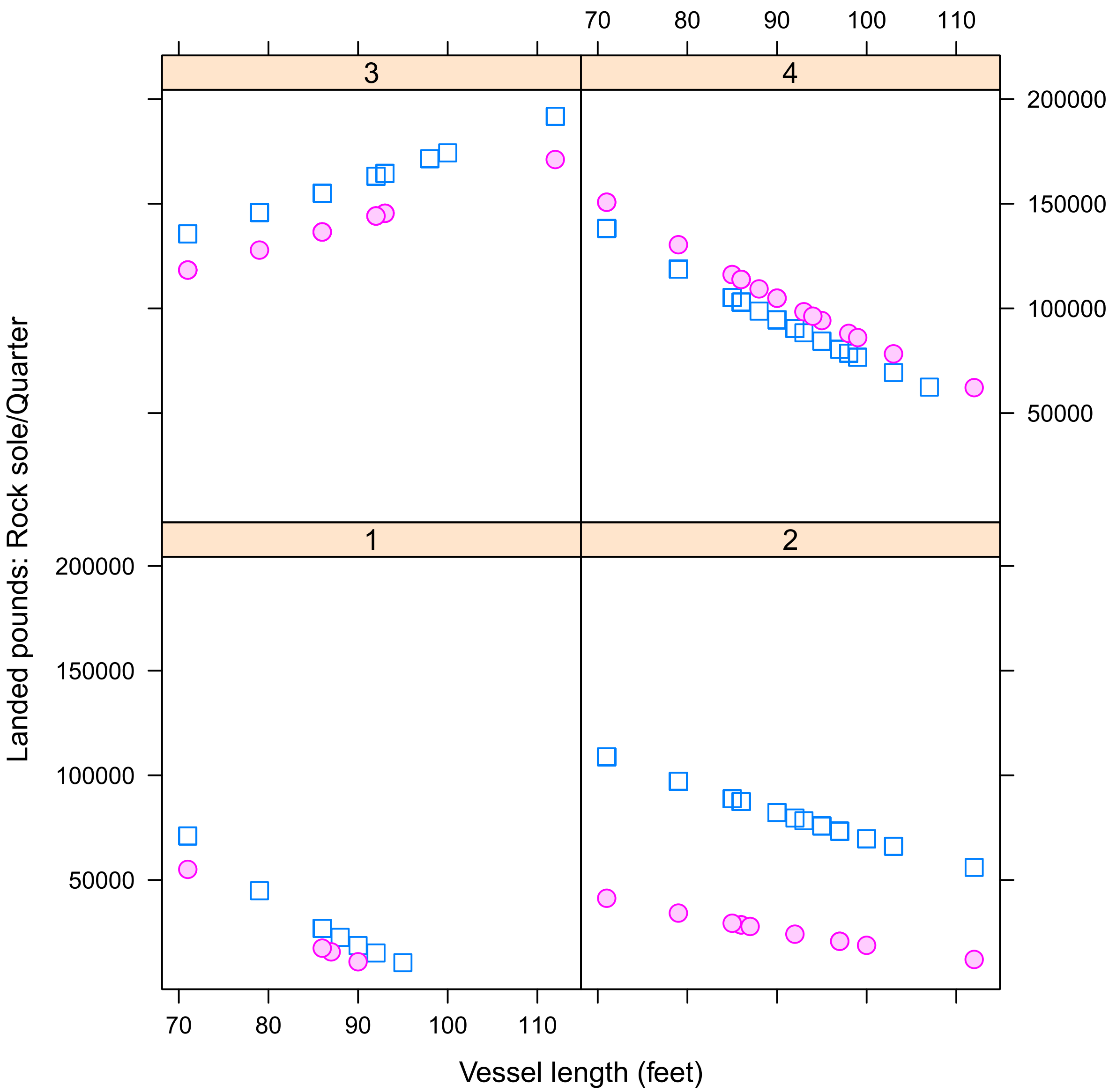


Figure B5. Asymmetrical frequency histogram of walleye pollock trawl gear landings influenced by trip limits in the Gulf of Alaska.

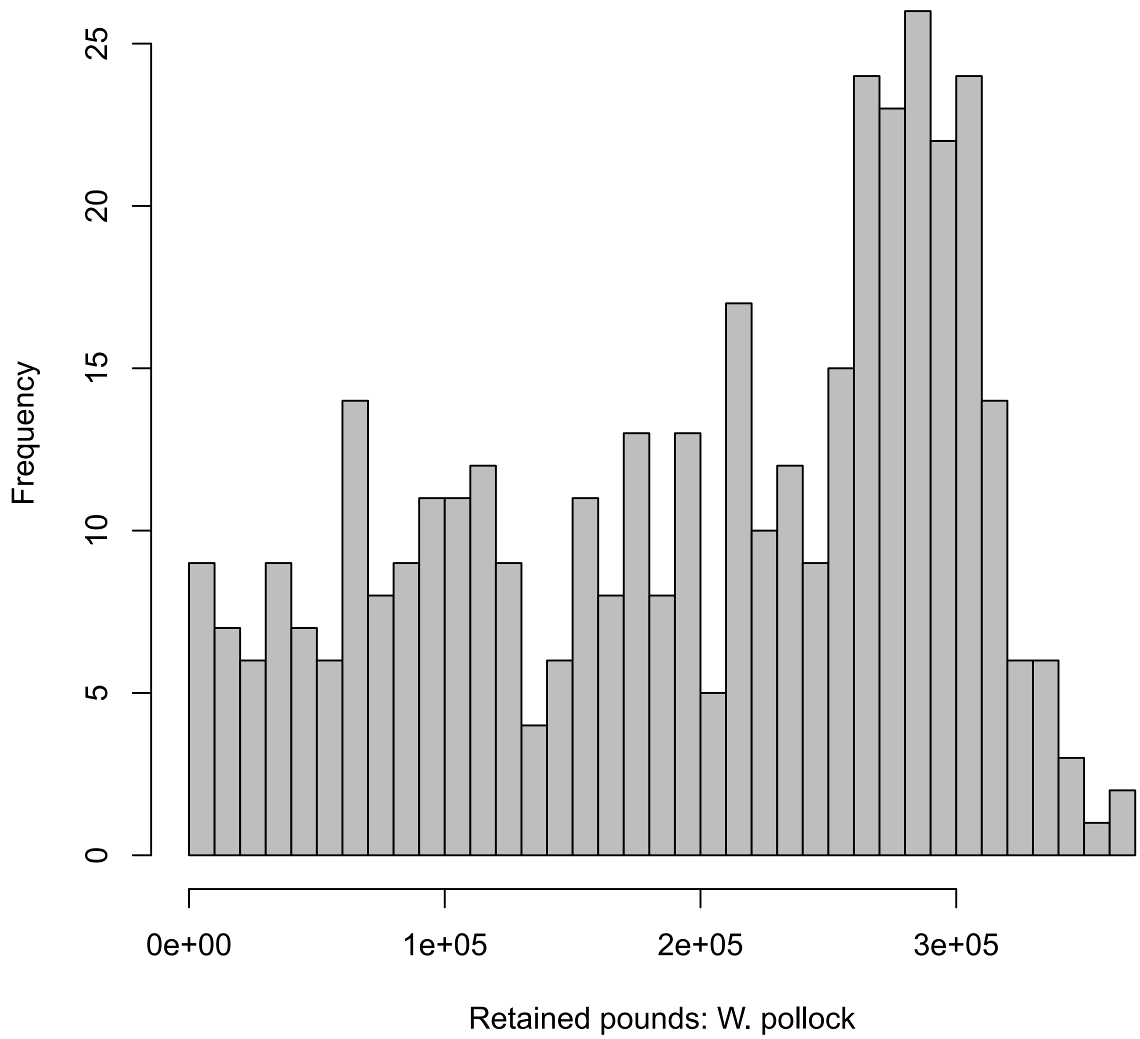
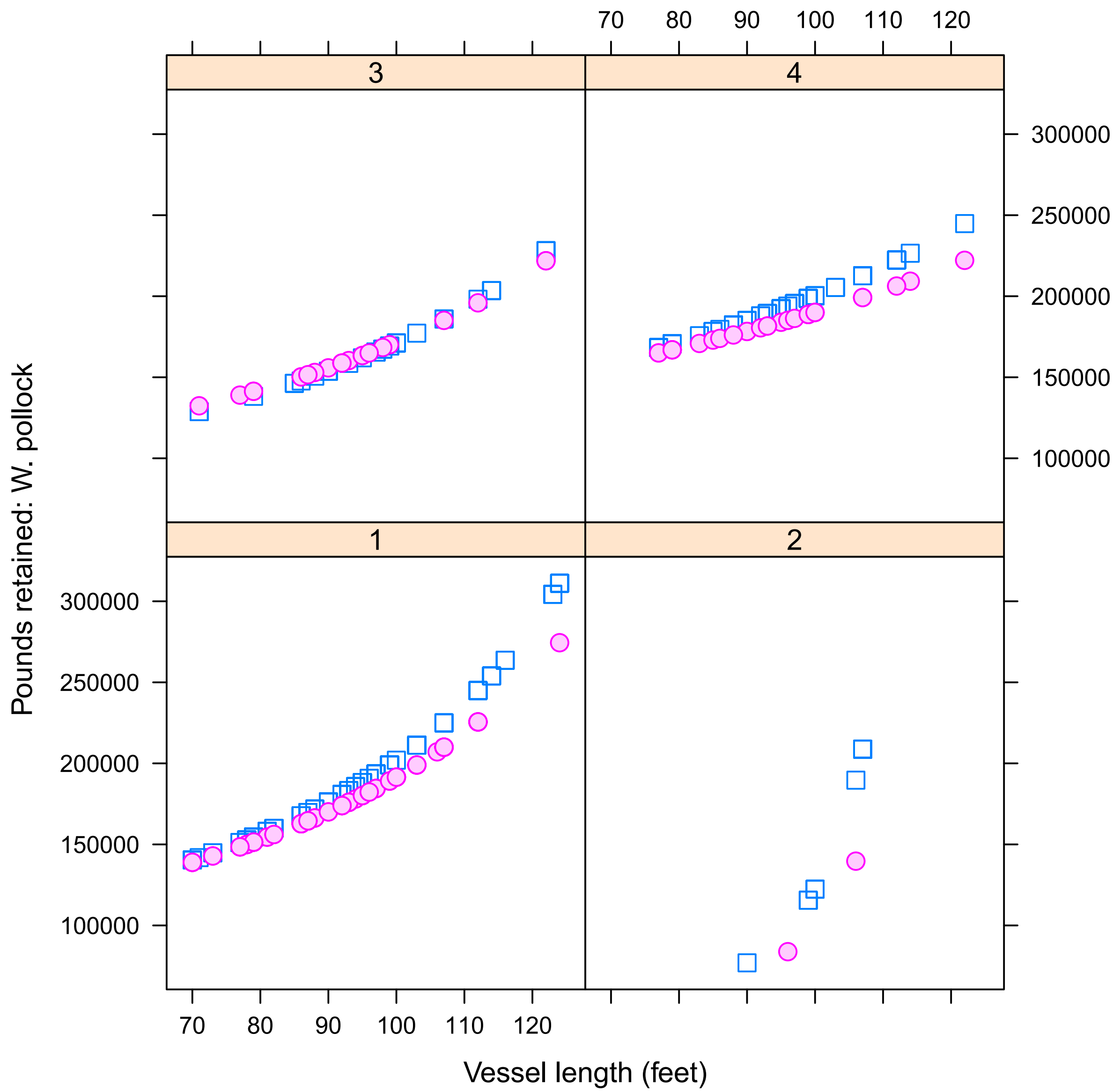


Figure B6. Plots of linear mixed effects model results depicting landed pounds of walleye pollock landed shoreside with trawl gear on observed (pink filled circles) and unobserved (open blue squares) trips by vessel size, and Quarter (1-4).



Appendix 9 Identification of stratum for the deployment of fishery observers onboard North Pacific groundfish catcher vessels

Introduction

Further development of how observers would be deployed within the partial coverage sector of the Alaskan groundfish fleet is warranted as part of the ongoing restructure effort of the North Pacific Groundfish Observer Program. What follows is an analysis towards this end.

Methods

For catcher vessels delivering shoreside, the catch accounting system uses landing data for quota deduction of retained catch, and rates from observers for discard estimation (Cahalan et al. 2010). The current regulations that govern observer deployment has facilitated introduction of a bias into catch estimates through deployment and observer effects, which are expected to be greater for observer discard estimates than for retained catch (Appendix 8). The possibility of observer data being biased rules out this metric for use in our analyses of catcher vessels that do not carry full coverage requirements. In contrast to observer data that may carry stigma to industry because it can be used to possibly negatively affect earnings (through fishery closure), landing reports act as a type of "receipt" between the vessel and processing plant and thus the vessel seller and the plant buyer have a mutual desire for accurate data on the fish landed to be reported. For these reasons, total landed weight (pounds) was selected as the explanatory (response) metric of study. Furthermore, the basis for landings reports is the trip, which corresponds to the anticipated unit governing observer deployment for restructure. Covariates included FMP area, vessel size (a measure of fishing power), and gear type (hook and line, pot, and trawl). In addition, whether a given fishing trip using fixed gear (hook and line, and pot) was conducted with one, two, or zero IFQ species landed was also included as covariates.

The ability for a single landing report to contain multiple records of these covariates was problematic. To help simplify the data for analyses, the maximum weight within each level of each covariate was used to assign a single "best" target species, area, FMP, and management group for the entire trip. This methodology is similar to that used by the catch accounting system to calculate trip target species. Landings data from 2007 and 2008 were obtained from the Alaska Fisheries Information Network (AKFIN) "fish-ticket" database for the basis of analyses. This database contained the labels and codes necessary to identify trips from catcher vessels delivering shoreside that: (1) belonged to a given management program, (2) excluded state waters, (3) were not within management programs defined as belonging to the full coverage stratum in the restructured program (Chapter 3.0 of this document), and (4) represented the most recent years for which electronic reporting of landings data (eLandings) available.

The purpose of this analysis was to identify similar groupings of landings data based on criteria known before a trip began. This is because sampling efficiency and ultimate precision in resulting estimates of the explanatory variable will be maximized by sampling within homogenous groups (stratum) that are greatly different from each other (Cochran 1977). Structural similarities in the landings data as well as interactions between variables were investigated through the use of tree models; computationally intensive methods that fit data using binary recursive partitioning. Tree models work by selecting a threshold value of a given explanatory variable y, using the mean in the response variable $\mu_{[j]}$ to calculate the between the newly created two groups, and repeating the process for all possible threshold values. At each iteration of new threshold values, the deviance (D) between groups is examined and compared to previous results where deviance (D) = $\sum_{\text{trips } j} (y_j - \mu_{[j]})^2$. The process continues until the threshold value that best (i.e., maximum deviance between groups) distinguishes the two groups is determined, and a "node" that divides the two groups is created with the final threshold value. This process is then repeated for each newly created subset of data (each consisting of a separate "branch" in the "tree") until there are too few data points to merit further subdivision (here set at a minimum deviance of 0.003).

There are likely to be more groups of trips identified from regression tree models than is reasonable to use for strata towards our eventual purpose to deploy observers. For this reason, it was necessary to examine the tradeoff between complexity (number of final groups) and explanatory power. A cost-complexity analysis was conducted to "prune" the tree to only include groupings that explained at least 1% of the total model's deviance. Fit of the reduced (=pruned) model to original data was explored through the use of analysis of residuals against the expectation that they are distributed around a mean of zero. All analyses were performed using the statistical program R (vers. 2.10.1)[1].

Results

Ten groups of similar trips were identified (Table M1). The first split separated landings made with trawl gear from those made with fixed gear, and explained nearly half (48%) of the deviance in the entire data set. The next four splits of landings were between fixed and trawl gear vessels of different size. The final reduced model contained six groups (Figure M1). For fixed gear, groups were defined as: (1) vessels under 57.5', (2) vessels 57.5-96.5', and (3) vessels > 96.5' long. For trawl gear, groups were defined as (1) vessels under 86.5', (2) vessels 86.5-152', and (3) vessels > 152' long. Breaks based on vessel lengths include half foot intervals (for example 57.5') because the model considers vessel length to be a continuous variable. Therefore breaks in vessel lengths can be made on either side of the "half-step" designated in the tree model. The final reduced model, based entirely on vessel size and gear, explained nearly 60% of the total deviance in the model, and there was a good spread in the average landed pounds among the groups (Table M1; Figure M1). True to expectations, each successive grouping level explained less percent deviance that its predecessor and residuals were centered around zero (Figure M2).

Summary and implications

Tree models were used to identify possible groupings of trips with similar landed pounds based on metrics of gear, FMP, IFQ species, and vessel size. The major contributing factors governing total landed pounds was found to be gear and vessel size. These may be the only required fields to be known to assign an observed probability during a call-in or vessel selection process in the first year of restructured implementation. Because the restructured in-season logistics governing observer deployment will be based on more refined spatial and temporal scales that that used here (for example port and statistical week), the results presented here are encouraging. Once data on discards at sea based on a random sampling of trips is obtained, it can be used as a new response measure. In this way analyses can iteratively increase the utility and accuracy of observer deployment towards the improvement of catch estimate precision and accuracy.

Literature cited

Cahalan, J., J. Mondragon, and J. Gasper. 2010. Catch sampling and estimation in the federal groundfish fisheries off Alaska. NOAA Technical Memorandum NMFS-AFSC-205.

Cochran, W. G. 1977. Sampling techniques, Third edition. John Wiley and Sons, New York.

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[1] Package 'tree' by B. Ripley. 2009. Classification and regression trees (version 1.0-27) published 07-30-2009 available at http://cran.r-project.org/. Accessed on 01-20-2010.

Table M1. Summary of regression model output summarizing the number of groups, the basis for the split (denoted in parenthesis), and changes in deviance at each grouping level. Using a criteria of a 1% contribution per grouping level, the result is a final pruned model consisting of six groups that accounts for nearly 60% of the total deviance.

Groups	Factor	Deviance (D)	Percent reduction	Total D included
1	Root	9.18E+13	-	0.0%
2	Gear (Fixed VS Trawl)	4.75E+13	48.2%	48.2%
3	Trawl V. length: (< 87' VS >= 87')	4.36E+13	4.2%	52.5%
4	Fixed Gear V. length: (< 58' VS >= 58')	4.03E+13	3.6%	56.1%
5	Fixed Gear V. length: (58-97' VS > 97')	3.91E+13	1.3%	57.4%
6	Trawl Gear V. length: (87-152' VS >152')	**3.80E+13**	**1.2%**	**58.6%**
7	Trawl Gear V. length: (87-104' VS >104 & <152')	3.75E+13	0.6%	59.2%
8	Trawl Gear V. length: (< 64' VS 64- <87')	3.71E+13	0.5%	59.6%
9	Fixed Gear V. length: (< 40' VS 40-58')	3.67E+13	0.3%	60.0%
10	Trawl Gear V. length 64<87 FMP: (GOA VS BSAI)	3.65E+13	0.3%	60.3%

Figure M1. Regression tree model results. Horizontal separation denotes groupings and criteria for splitting while vertical separation reflects the amount of deviance explained by the split. Labels refer to the group to the left of the split. Figure is read top to bottom. For example, the first split of landed pounds was based on gear type (labeled FMP.Gear in the data), with Hook and Line gear (denoted as gear "a" in the figure) and Pot gear (denoted as gear "d" in the figure) split to the left of the figure from Trawl gear to the right. Possible variables included in the model for splitting included Vessel length (denoted as VLength in figure), gear, FMP, whether a trip caught IFQ halibut (*Hippoglossus stenolepis*), whether a trip caught IFQ sablefish (*Anoplopoma fimbria*), or whether a trip caught both IFQ species. Numbers below each node of the tree depict average weight of trips belonging to a group (lbs).

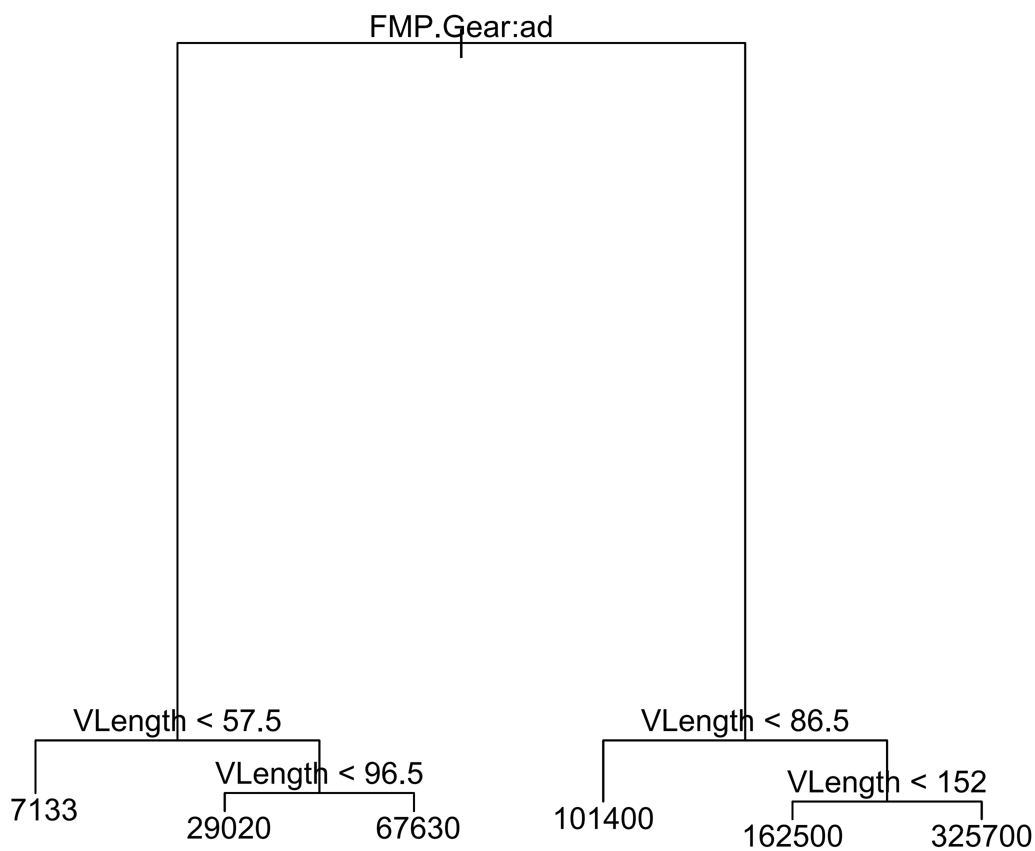
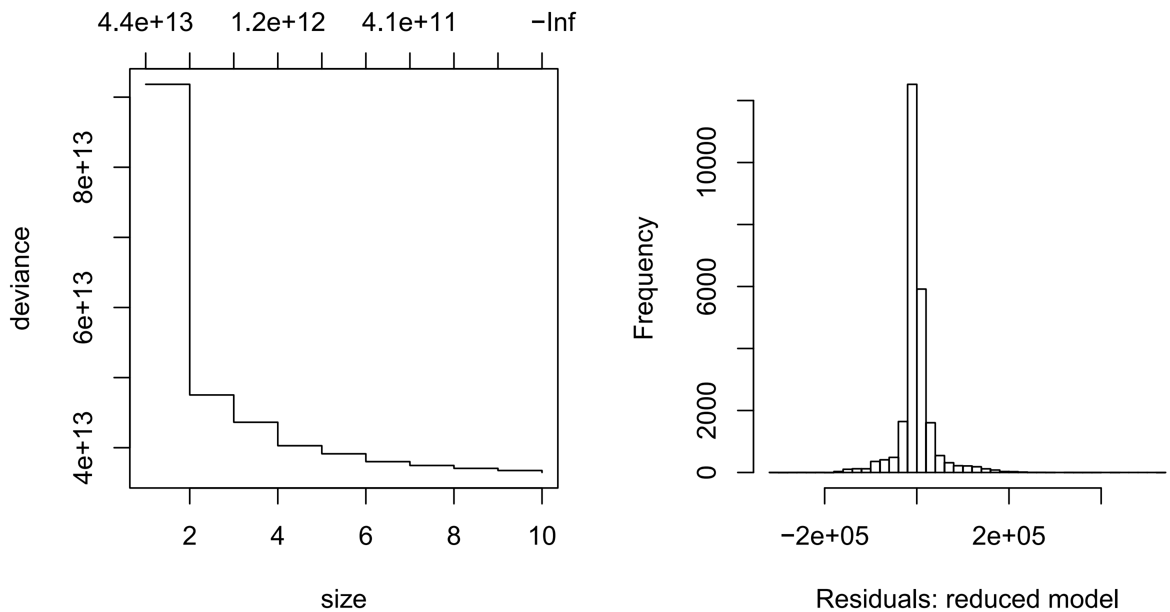


Figure M2. Diagnostic plots of regression tree models used to define catcher vessel stratum for deploying observers under a restructured deployment model. Left figure: The reduction in total deviance (vertical axis) as total model complexity (i.e size, or number of groups) increases (lower horizontal axis). Upper horizontal axis depicts the value of the cost-complexity pruning parameter (k) of each tree in the sequence. This k value reflects the trade-off between fit and explanatory power. Right figure depicts histogram of residuals of the pruned model centered around zero.



Appendix 10 Supporting documentation for logistical considerations

Figure L1. Frequency histogram of catcher vessels and groundfish trips realized (N) during 2007-2008 using fixed (hook and line and pot) gear. Data are binned by five foot length overall increments to meet confidentiality requirements. Bars are located at lower bounds of size bins. The influence of current regulations that change observer coverage requirements at 60’ and 125’ is evidenced by a large spike in the distribution of vessel size in the fleet at the 55’- 60’ size class.

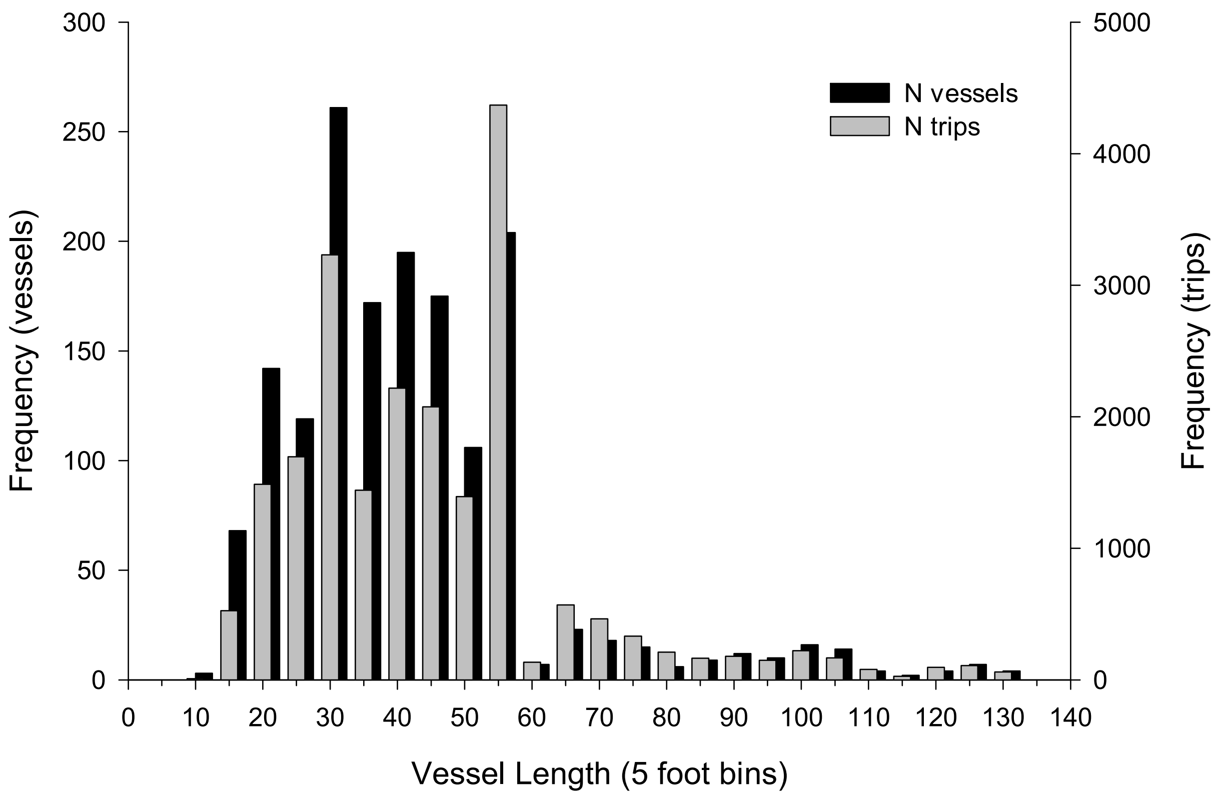
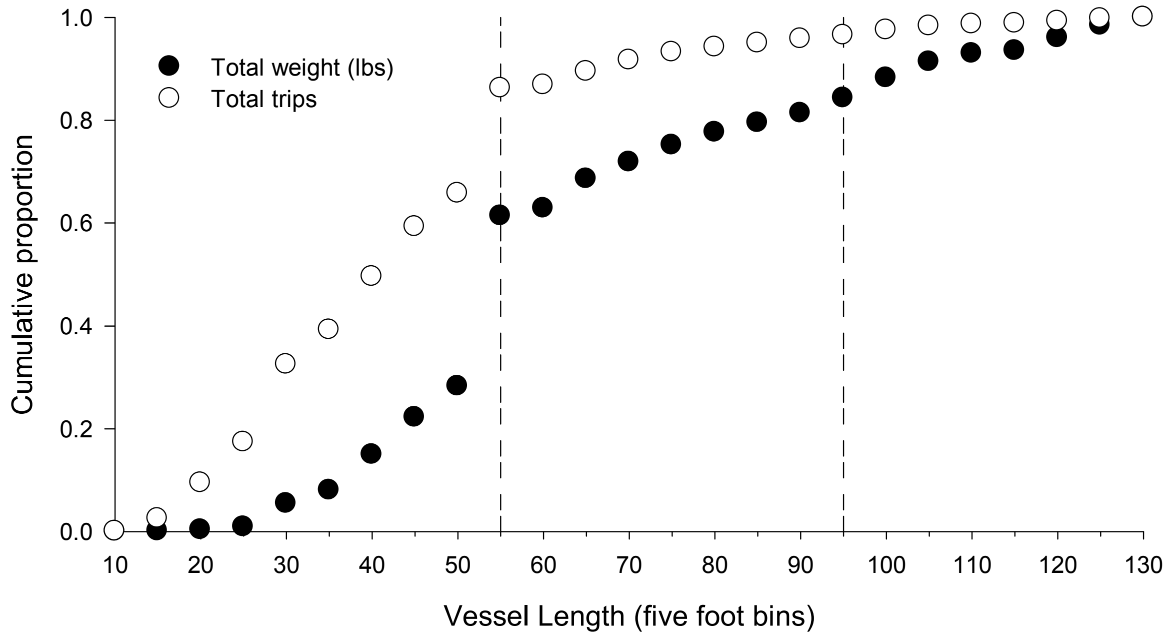


Figure L2. Top panel: Cumulative distribution plots of the total weight (lbs) and total number of trips realized by catcher vessels fishing fixed gear during 2007-2008 ordered by vessel size. Data are binned by five foot length overall increments to meet confidentiality requirements. Vertical lines indicate breaks identified from regression tree models. The relative difference, or gain between the two plots in the above panel is depicted in the lower panel.



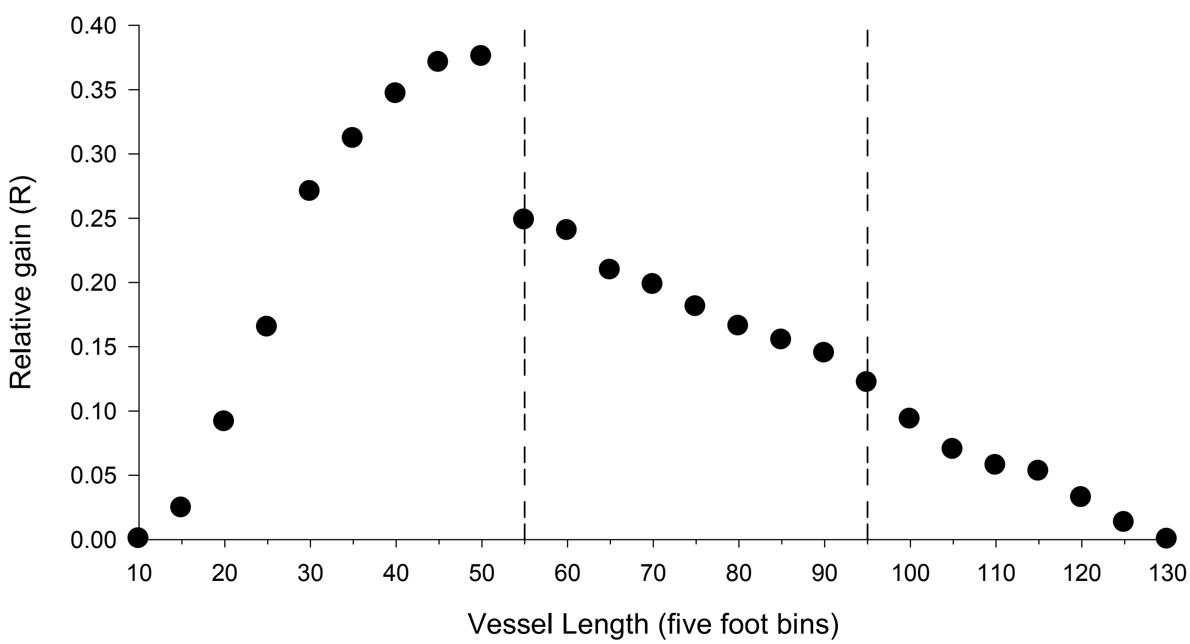


Figure L3. Top panel: Cumulative distribution plots of the total weight (lbs) and total number of trips realized by catcher vessels fishing fixed gear during 2007-2008 including only data up to 57' ordered by vessel size. Points represented by less than three vessels are not depicted to meet with confidentiality requirements. The relative difference, or gain between the two plots in the above panel is depicted in the lower panel. Vertical dashed line depicts maximum difference, which promotes a breakpoint between vessels smaller than and larger than 39'. Points represented by less than three vessels are not shown to meet confidentiality requirements.

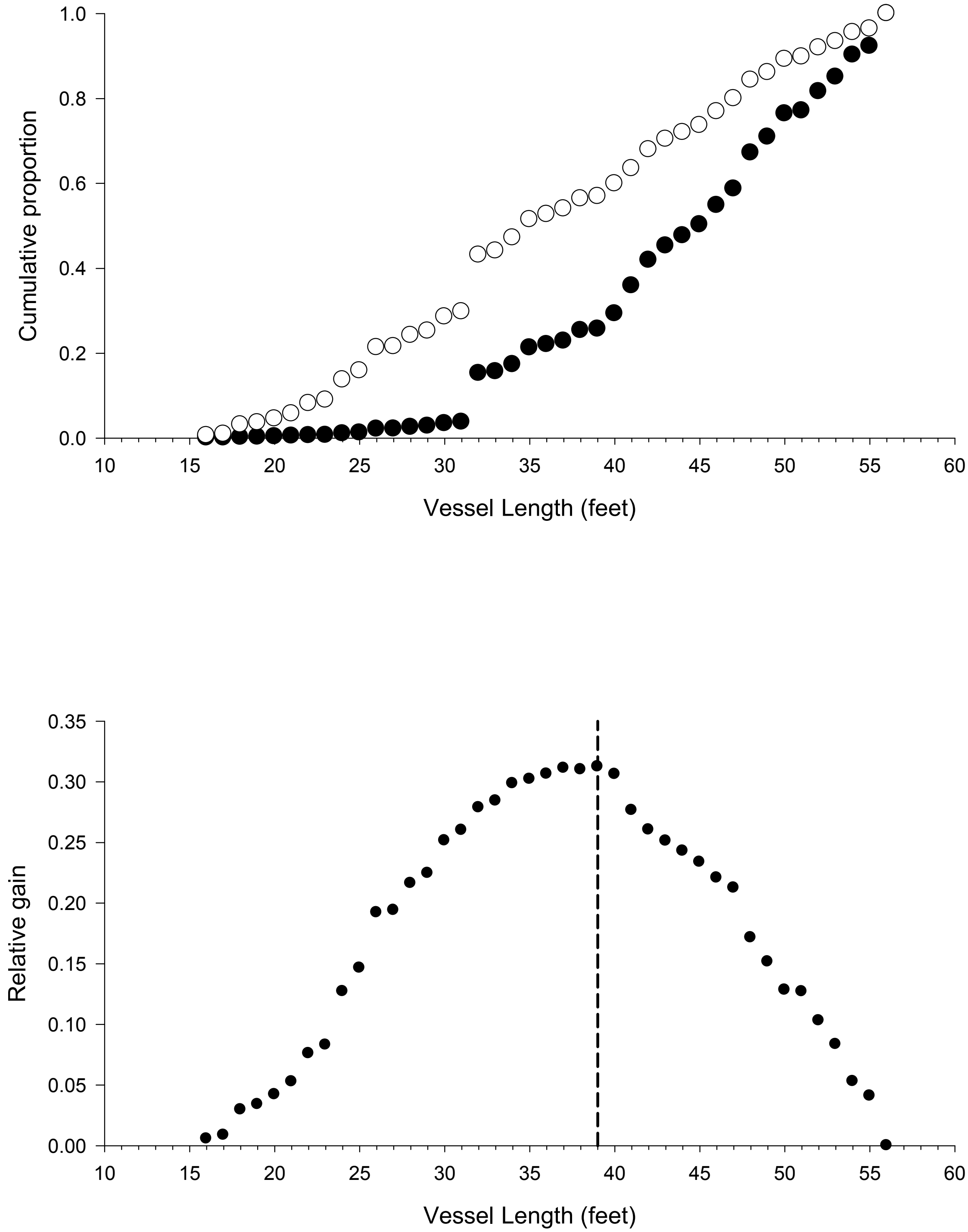
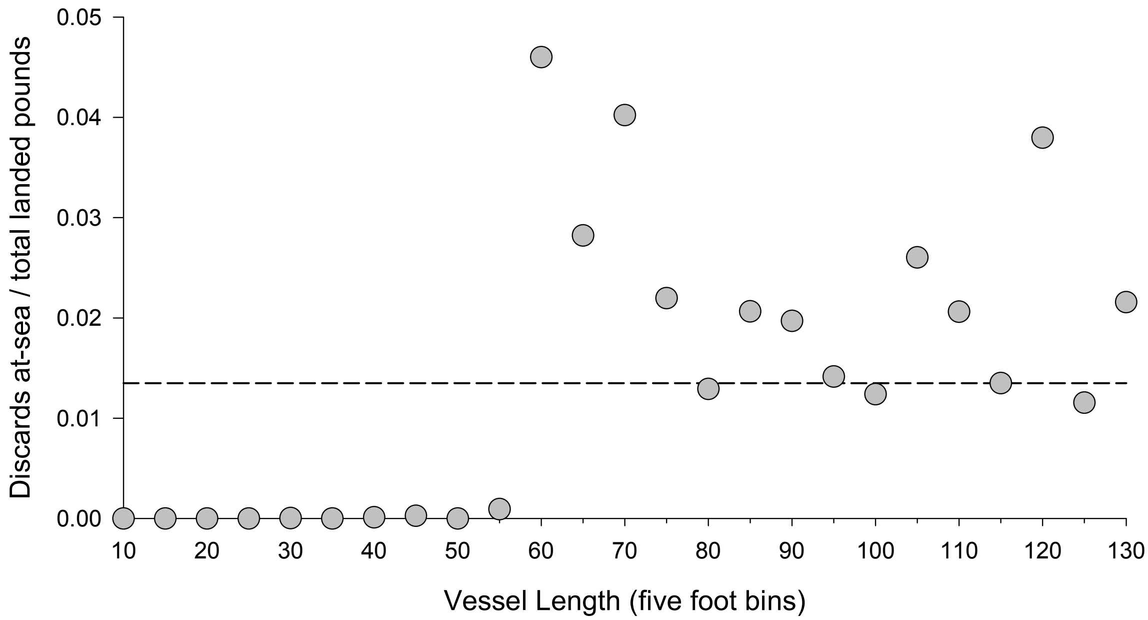


Figure L4. Top panel: Ratio of discards at sea to total retained pounds reported on landings reports by catcher vessels fishing fixed gear during 2007-2008 ordered by vessel size. Data are binned by five foot length overall increments to meet confidentiality requirements. In cases where size-specific information could not be displayed because of these requirements, the average value is depicted (horizontal line). Lower panel: Following the format of the top panel, the lower panel depicts the ratio of the most abundant species (primary species) to the total retained pounds on landings reports (an inverse measure of diversity, where a value of one indicates no other species in the delivery). A marked difference in the discards/total landings ratio is evident between vessels larger and smaller than 60', while there is no such break in the primary species/total landings ratio.



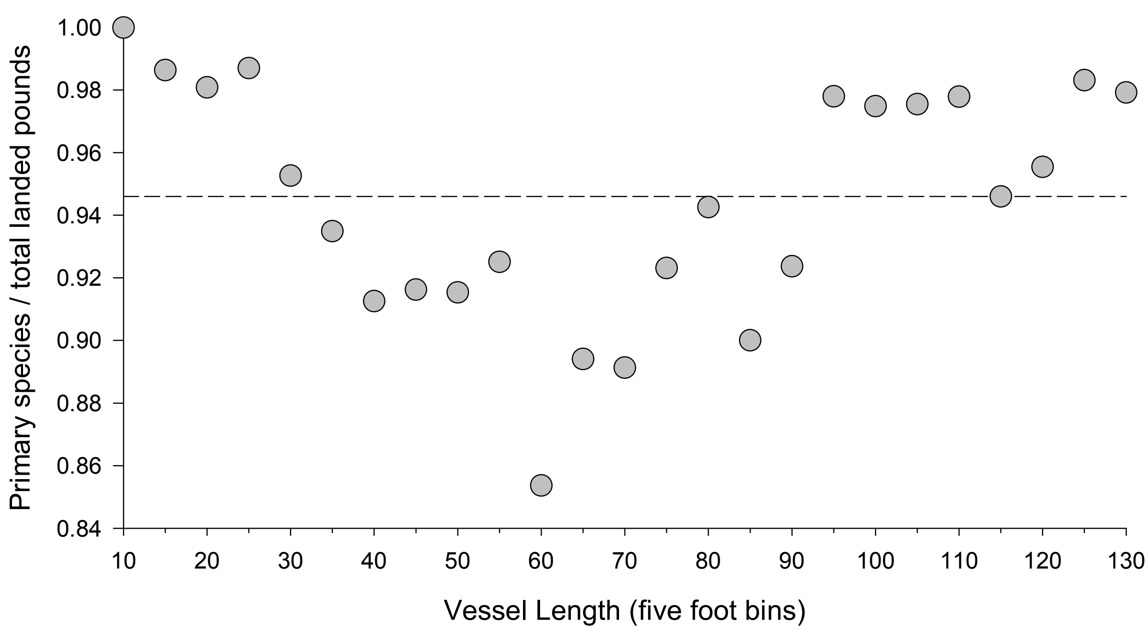


Figure L5. Frequency histogram of catcher vessels and groundfish trips realized (N) during 2007-2008 using trawl gear. Data are binned by five foot length overall increments to meet confidentiality requirements. Bars are located at lower bounds of size bins. The influence of current regulations that change observer coverage requirements at 60' and 125' is evidenced by large spikes in the distribution of vessel size in the fleet at the 55-60' and 120-125' size classes.

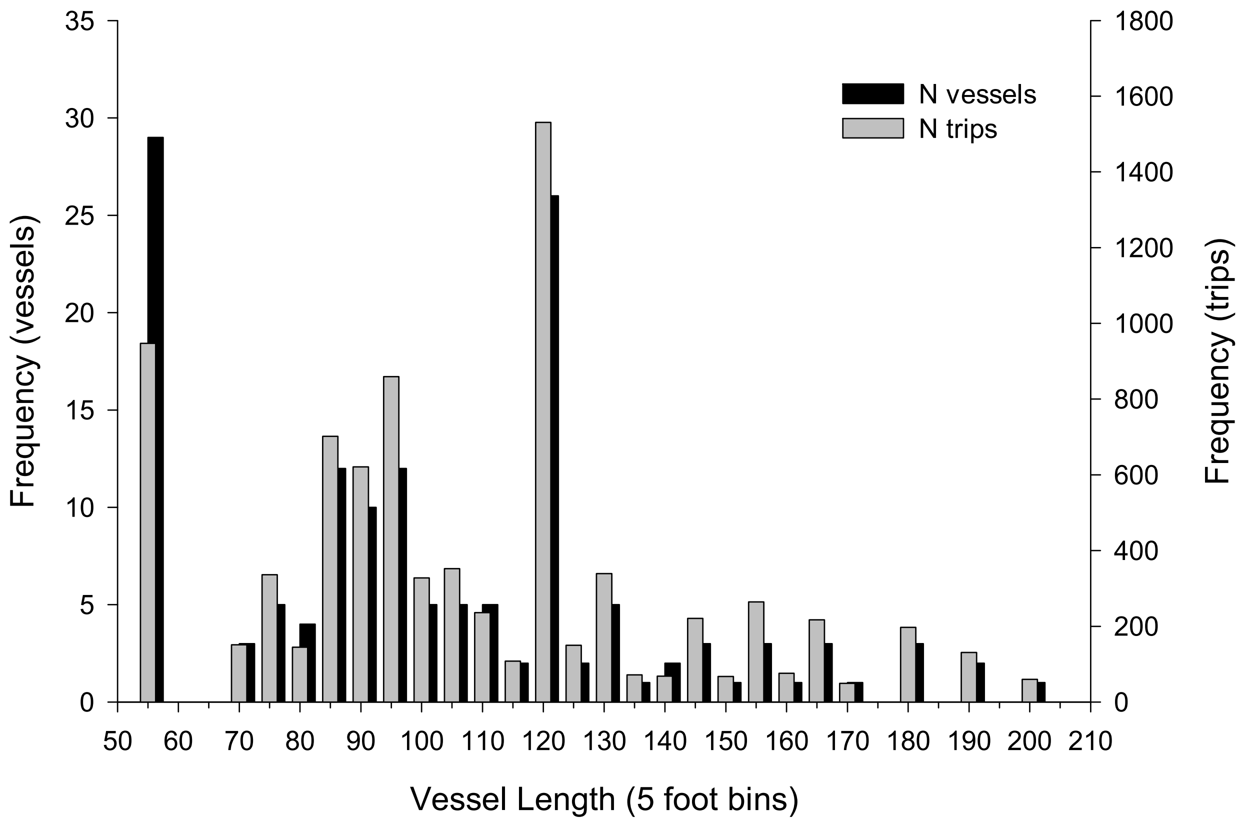
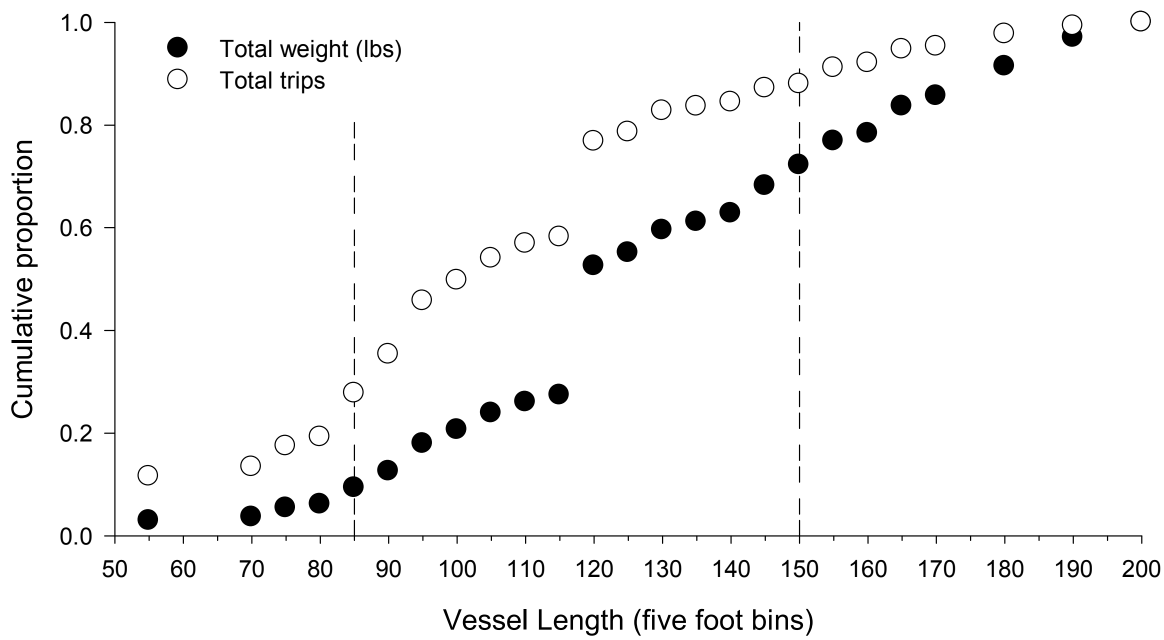


Figure L6. Top panel: Cumulative distribution plots of the total weight (lbs) and total number of trips realized by catcher vessels fishing trawl gear during 2007-2008 ordered by vessel size. Data are binned by five foot length overall increments to meet confidentiality requirements. Vertical lines indicate breaks identified from regression tree models. The relative difference, or gain between the two plots in the above panel is depicted in the lower panel.



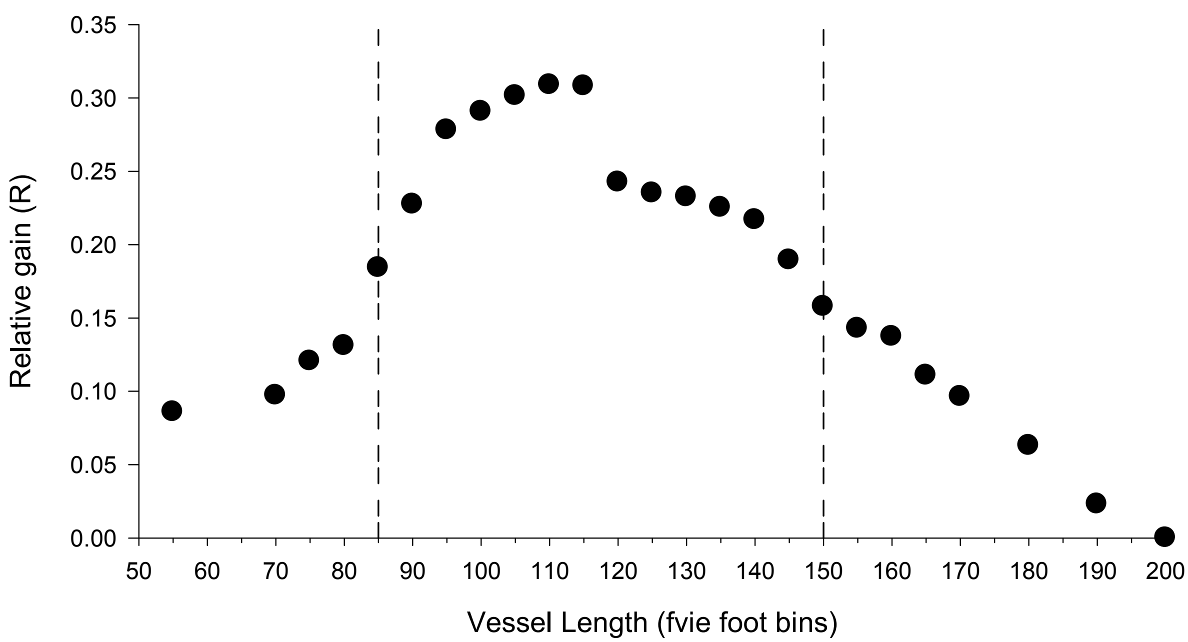
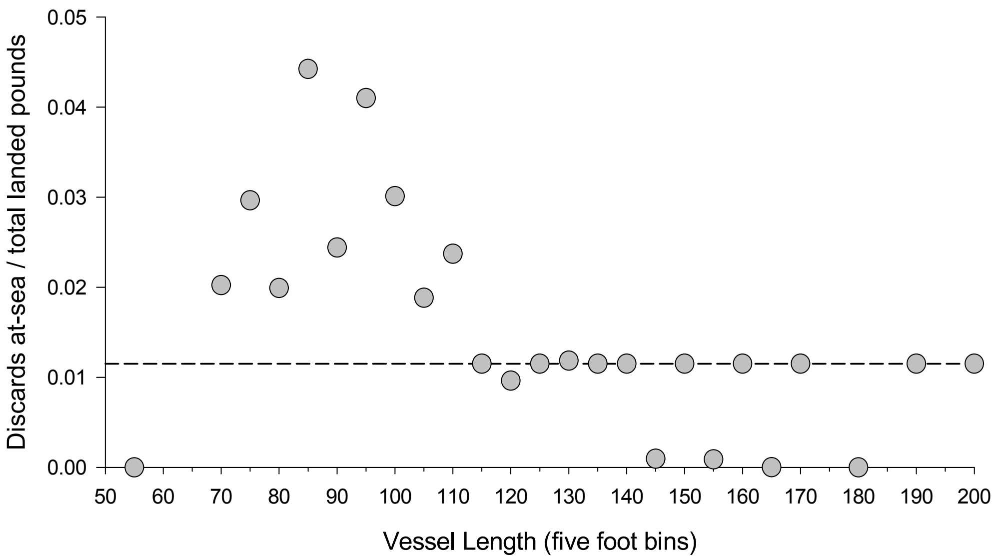
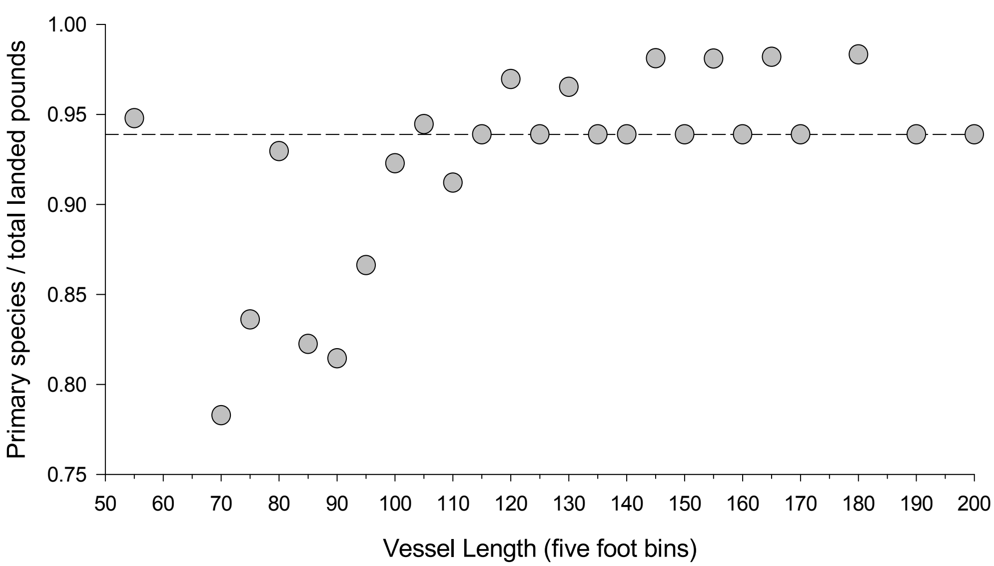


Figure L7. Top panel: Ratio of discards at sea to total retained pounds reported on landings reports by catcher vessels fishing trawl gear during 2007-2008 ordered by vessel size. Data are binned by five foot length overall increments to meet confidentiality requirements. In cases where size-specific information could not be displayed because of these requirements, the average value is depicted (horizontal line). Lower panel: Following the format of the top panel, the lower panel depicts the ratio of the most abundant species (primary species) to the total retained pounds on landings reports (an inverse measure of diversity, where a value of one indicates no other species in the delivery). A marked difference in both ratios is evident between vessels larger and smaller than 60' and 120'.





Appendix 11: Sector specific summary tables for Alternatives 1 – 5, and Option 1, based on 2008 data

Appendix 11 provides summary tables of Alternative 1 (*status quo)*, Alternatives 2 - 5, and Option 1, based solely on 2008 data. The primary objective of providing these tables is to show sector level information on the number of sea-days realized, and the number of observer days purchased and required (with associated costs) to meet the 100% and 30% coverage levels that define P2 deployment in Table 63. Observer day estimates are generated by multiplying the coverage rate (100% or 30%; r = 1.0 or 0.3) by the number of sea-days realized under Alternatives 2 -5. Calculations for sea-days realized come from landings reports and are described on page 167 - 168 of the analysis. Under the comprehensive restructuring alternatives, this method underestimates the number of observer days needed for vessels and processors that are required to have more than one observer during a day. For example, the tables provide an estimate of the number of days AFA CPs were at-sea during 2008. Sea-days were then multiplied by the 100% coverage rate (r = 1.0) to determine the number of observer days needed. Assuming those vessels are required to carry two observers, the number of observer days is underestimated. The estimates in the following tables may be considered for Alternative 5 as a "lower" estimate of the sea-days required, with corresponding overly optimistic excess revenues. However, estimates of the total number of observer days and their associated costs and excess revenues are also provided for CPs with a coverage rate of 2.0 to provide a comparable "upper" estimate for Alternative 5. Although these values are reported in Table 65, detailed tables corresponding to these calculations have not been provided in this appendix. The upper estimates reported in Table 65 for Alternative 5 can be derived from Appendix 11 Tables 11-14 through 11-17 by multiplying the required observer days and revenue by 2.

Note that the estimated number of observer days in Section 2.10 of the RIR differs from the estimates of observer days needed in this appendix. The reason for this discrepancy relates to the purpose and methods used to derive these estimates. The objective of Section 2.10 of the RIR is to estimate how the costs of the revised program would differ from the *status quo* under a variety of high and low revenue scenarios. In that section, ex-vessel costs are based on the 2005-2008 average. As the purpose of the analyses in this appendix is to evaluate relative performance of each alternative in terms of funded observer days and resulting coverage rates for the restructured fleet, a single year (2008) is used as an estimate of ex-vessel costs (revenue to fund the program). Following the convention of Section 3.2.10, the available funding to deploy observers is termed P1 funding.

Table Appendix 11 – 0: Estimates of observer costs under each alternative using sea-days realized and observer days

	2008 Estimates			2005-2008 Estimates		Difference in Revenue (2005-2008 Estimates minus 2008 Estimates)	
	Total revenue generated for P1	Revenue from restructured portion	Carry over revenue	Total revenue generated for P1	Revenue from restructured portion	Total	Restructured
Alt 1	$ 14,397,560	NA		$ 14,397,560	NA		
Alt 2	$ 17,327,465	$ 6,888,031	$ 554,024	$ 19,246,564	$ 6,713,626	$ 1,919,099	$ (174,405)
Alt 2 Option 1 < 60'	$ 14,800,444	$ 4,361,010	$ (1,972,997)	$ 16,614,489	$ 4,081,551	$ 1,814,044	$ (279,460)
Alt 2 Option 1 < 50'	$ 15,447,986	$ 5,008,552	$ (1,325,455)	$ 17,237,004	$ 4,704,066	$ 1,789,018	$ (304,486)
Alt 2 Option 1 < 40'	$ 15,557,398	$ 5,117,964	$ (1,216,043)	$ 17,333,503	$ 4,800,565	$ 1,776,105	$ (317,400)
Alt 3	$ 16,986,515	$ 7,258,539	$ 1,665,767	$ 19,363,625	$ 6,745,043	$ 2,377,110	$ (513,496)
Alt 3 Option 1 < 60'	$ 14,468,987	$ 4,741,011	$ (851,761)	$ 16,924,892	$ 4,306,310	$ 2,455,904	$ (434,702)
Alt 3 Option 1 < 50'	$ 15,132,558	$ 5,404,582	$ (188,190)	$ 17,517,540	$ 4,898,958	$ 2,384,982	$ (505,624)
Alt 3 Option 1 < 40'	$ 15,238,318	$ 5,510,342	$ (82,430)	$ 17,612,207	$ 4,993,625	$ 2,373,888	$ (516,717)
Alt 4	$ 19,671,011	$ 7,258,539	$ 1,665,767	$ 22,845,802	$ 6,745,043	$ 3,174,791	$ (513,496)
Alt 4 Option 1 < 60'	$ 17,153,484	$ 4,741,011	$ (851,761)	$ 20,407,069	$ 4,306,310	$ 3,253,585	$ (434,702)
Alt 4 Option 1 < 50	$ 17,817,054	$ 5,404,582	$ (188,190)	$ 20,999,717	$ 4,898,958	$ 3,182,662	$ (505,624)
Alt 4 Option 1 < 40	$ 17,922,814	$ 5,510,342	$ (82,430)	$ 21,094,384	$ 4,993,625	$ 3,171,569	$ (516,717)
Alt 5	$ 21,167,449	$ 21,167,449	$ 3,162,205	$ 18,645,384	$ 18,645,384	$ (2,522,066)	$ (2,522,066)
Alt 5 Option 1 < 60'	$ 18,361,988	$ 18,361,988	$ 356,744	$ 16,027,053	$ 16,027,053	$ (2,334,935)	$ (2,334,935)
Alt 5 Option 1 < 50'	$ 19,276,774	$ 19,276,774	$ 1,271,530	$ 16,638,884	$ 16,638,884	$ (2,637,890)	$ (2,637,890)
Alt 5 Option 1 < 40'	$ 19,396,883	$ 19,396,883	$ 1,391,639	$ 16,733,941	$ 16,733,941	$ (2,662,943)	$ (2,662,943)

Source: NMFS estimates of observer days, sea days, daily observer costs, and CFEC price estimates and eLandings data.

The status quo alternative is shown in Table Appendix 11-1. Sector definitions are provided in the first two columns. Reading from left to right, the next group of columns (by shading) show the cost ($; denoted as c_h on p. 168) of an observer day for each industry sector for the GOA and BSAI. Because it is the *status quo*, all sectors are assumed to pay $366/day for observer coverage (see Appendix 6). The third group of columns shows the estimated number of sea-days observed in 2008. The fourth group of columns shows the sea-days realized (N_h, p. 168). This is the estimated number of days these vessels were at-sea or shorebased processors were operating (p. 168). The fifth group of columns estimates the number of unique vessels/processors that were active during 2008 by sector and area. However, columns for BSAI and GOA are not additive; instead the number of unique vessels or processors is retained for the total column. The next group of columns shows the 2008 estimated observer costs for the sector. Observer costs are estimated by multiplying the number of sea-days observed by the cost per day ($366 in this table in all instances). This is also termed estimated revenue ($R_{est.h}$) on p. 168. Finally, the last group of columns shows the rate of observer coverage each sector purchased. This rate is calculated by dividing the sea-days observed by the sea-days realized. If the rate is greater than one, then there were more sea-days observed for the sector than sea-days realized. When the rate is less than one, it means the sector had more sea-days than observer days. For example, the sablefish CPs ≥60' had an estimated rate of 0.20 in the BSAI, so it is estimated that 20% of their sea-days had observer coverage during 2008.

The tables for Alternatives 2 – 5 provide additional information than is provided for Alternative 1. Information in the P2 columns reports:

(1) target observer coverage rate, *i.e.,* r_h; p. 168)
(2) number of observer days needed to reach that target coverage rate (target observer coverage rate multiplied sea-days realized, *i.e.,* n^*; p. 168).
(3) revenue required: observer days need to reach the target coverage level multiplied by the fee structure for that sector. (Recall that the restructured sectors are estimated to pay $467/day for observer coverage and the status quo sectors are estimated to pay $366/day, *i.e.,* R_{P2}; p. 168)
(4) days over or under the number needed to reach the target coverage rate. (days funded minus days required to reach the target rate).
(5) revenue generated by a sector that is over or under the amount needed to reach their target coverage level (*i.e.,* R_{estE}; p. 169).

Table Appendix 11 - 1: Alternative 1 (status quo) costs based on observed days during 2008

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days observed GOA	Sea-days observed BSAI	Sea-days observed Total	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost obs 2008 GOA	Cost obs 2008 BSAI	Cost obs 2008 Total	Rate Purchased P1 GOA	Rate Purchased P1 BSAI	Rate Purchased P1 Total
CPs	AFA CPs	366	366	20	4,204	4,224	0	3,266	3,266	-	17	17	$ 7,320	$ 1,538,664	$ 1,545,984	0.00	1.29	1.29
	CPs in GOA Rockfish Pilot Program	366	366			0	77	0	77	7	-	7	$ -	$ -	$ -	0.00	0.00	0.00
	Sablefish CPs >= 60'	366	366	213	198	411	1,008	995	2,003	10	15	18	$ 77,958	$ 72,468	$ 150,426	0.21	0.20	0.21
	Sablefish CPs 50' - 59.9'	366	366			0	113	20	133	1	1	2	$ -	$ -	$ -	0.00	0.00	0.00
	Halibut IFQ CPs	366	366	62	60	123	79	76	155	6	3	7	$ 22,836	$ 22,034	$ 44,870	0.79	0.79	0.79
	Non-Specified Trawl CPs >=60'	366	366	665	12,284	12,949	557	4,714	5,271	14	22	24	$ 243,390	$ 4,495,944	$ 4,739,334	1.19	2.61	2.46
	Non-Specified Fixed Gear CPs >= 60'	366	366	377	6,130	6,507	619	7,497	8,115	17	42	43	$ 137,982	$ 2,243,580	$ 2,381,562	0.61	0.82	0.80
	Fixed Gear CPs 50' - 59.9'	366	366			0	139	29	168	2	1	2	$ -	$ -	$ -	0.00	0.00	0.00
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311		311	311	0	311	26	-	26	$ 113,826	$ -	$ 113,826	1.00	0.00	1.00
	Sablefish IFQ CVs >= 60'	366	366	239	140	379	669	476	1,145	42	13	51	$ 87,474	$ 51,240	$ 138,714	0.36	0.29	0.33
	Sablefish CVs 50 - 59.9'	366	366			0	1,021	262	1,283	97	11	104	$ -	$ -	$ -	0.00	0.00	0.00
	Sablefish CVs 40 - 49.9'	366	366			0	257	81	338	51	3	52	$ -	$ -	$ -	0.00	0.00	0.00
	Sablefish IFQ CVs < 40'	366	366			0	99	0	99	16	-	16	$ -	$ -	$ -	0.00	0.00	0.00
	Halibut IFQ CVs	366	366	26	16	42	12,696	6,983	19,679	1,077	329	1,351	$ 9,516	$ 5,856	$ 15,372	0.00	0.00	0.00
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	366	366	0	5,098	5,098	0	5,763	5,763	-	82	82	$ -	$ 1,865,868	$ 1,865,868	0.00	0.88	0.88
	Catcher Vessels >= 60' trawl AFA (Non-Pollock Targets)	366	366	694	1,324	2,018	760	993	1,753	20	84	84	$ 254,004	$ 484,584	$ 738,588	0.91	1.33	1.15
	Catcher Vessels >= 60' trawl non-AFA	366	366	688	383	1,071	1,382	1,207	2,589	25	21	40	$ 251,808	$ 140,178	$ 391,986	0.50	0.32	0.41
	Catcher Vessels 50' - 59.9' trawl non-AFA	366	366			0	739	15	754	27	3	27	$ -	$ -	$ -	0.00	0.00	0.00
	Catcher Vessels >= 60' Fixed gear	366	366		534	534	795	1,189	1,983	104	74	138	$ -	$ 195,444	$ 195,444	0.00	0.45	0.27
	Catcher Vessels 50' - 59.9' Fixed gear	366	366			0	1,891	464	2,355	293	43	300	$ -	$ -	$ -	0.00	0.00	0.00
	Catcher Vessels 40' - 49.9' Fixed gear	366	366			0	815	181	996	339	20	347	$ -	$ -	$ -	0.00	0.00	0.00
	Catcher Vessels < 40' Fixed gear	366	366			0	415	148	563	491	268	744	$ -	$ -	$ -	0.00	0.00	0.00
	Total CVs (excludes IFQ - halibut and sablefish)			1,382	7,339	8,721	6,796	9,959	16,755				$ 505,812	$ 2,686,074	$ 3,191,886	0.20	0.74	0.52
Processors	Motherships AFA and Non-AFA	366	366	58	723	781	73	465	538			11	$ 21,228	$ 264,618	$ 285,846	0.79	1.55	1.45
	Shore-based/Floating processors (AFA)	366	366		2,828	2,828	0	779	779			7	$ -	$ 1,035,048	$ 1,035,048	0.00	3.63	3.63
	Shore-based/Floating processors (non-AFA)	366	366	1,645	417	2,062	5,204	1,180	6,384			24	$ 602,070	$ 152,622	$ 754,692	0.32	0.35	0.32
	Total	[redacted]		4,998	34,339	39,338	29,717	36,782	66,499				$ 1,829,412	$ 12,568,148	$ 14,397,560	0.17	0.93	**0.59**

Notes: (Apply to all tables in this appendix)

1. Sea-days observed for halibut CPs are calculated from the average coverage rate for all other CPs, because NORPAC cannot accurately calculate this line due to the lack of trip targeting information in the data.
2. Sea-days realized for halibut CVs in the GOA is calculated using IPHC mean trip duration for entire GOA.
3. Sea-days realized for halibut CVs in the BSAI is calculated using IPHC mean trip duration for entire BSAI.
4. The total number of participants *within each sector* is a count of unique vessel numbers. However, vessel counts cannot be added over all sectors because some vessels participated in more than one sector during 2008.
5. Costs in 2008 for sectors subject to the ex-vessel fee are calculated using the ex-vessel observer fee percentage multiplied by the ex-vessel revenue for that sector. Costs for the sectors not subject to the ex-vessel fee are calculated by multiplying observer days by the cost of an observer day for Alternative 1. For all the restructuring alternatives (Alt. 2 – 5), the cost is estimated by multiplying sea-days targeted by the cost of an observer day.
6. Shoreplant rate purchased (P1) in BSAI is likely high because only embark/disembark were available to make estimates.
7. Observer days purchased (P1) is a theoretical estimate and not the actual number of observer days purchased.
8. Ex-vessel cost estimates for sectors with less than three entities are blacked out to protect confidential information.

Table Appendix 11 – 2: Alternative 2

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
CPs	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
CPs	Sablefish CPs >= 60'	467	366	1,008	995	2,003	10	15	18	$ 134,395	$ 364,173	$ 498,569
CPs	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
CPs	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 53,364	$ 9,793	$ 63,157
CPs	Non-Specified Trawl CPs >=60'	467	366	557	4,714	5,271	14	22	24	$ 137,735	$ 1,725,324	$ 1,863,059
CPs	Non-Specified Fixed Gear CPs >= 60'	467	366	619	7,497	8,115	17	42	43	$ 98,087	$ 2,743,758	$ 2,841,845
CPs	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
MGT CVs	Sablefish IFQ CVs >= 60'	467	366	669	476	1,145	42	13	51	$ 416,104	$ 174,216	$ 590,320
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 92,251	$ 10,279	$ 102,530
MGT CVs	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 18,419	$ -	$ 18,419
MGT CVs	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 2,912,086	$ 534,392	$ 3,446,478
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	366	760	993	1,753	20	84	84	$ 259,993	$ 363,287	$ 623,280
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	366	1,382	1,207	2,589	45	105	124	$ 520,733	$ 441,762	$ 962,495
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 7,087	$ 251,401
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	366	795	1,189	1,983	104	74	138	$ 177,779	$ 435,116	$ 612,895
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 56,385	$ 386,419
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 11,115	$ 97,875
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 29,499	$ 999	$ 30,498
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,649,112	$ 3,425,009	$ 5,074,121
Processors	Motherships AFA and Non-AFA	467	366	73	465	538			11	$ -	$ 170,190	$ 170,190
Processors	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
Processors	Shore-based/Floating processors (non-AFA)	467	366	5,204	1,180	6,384			24	$ -	$ 431,880	$ 431,880
	Total			29,717	36,782	66,499				$ 6,191,865	$ 11,135,599	$ 17,327,465
	Total (restructured only) (467 cells)			29,717	8,259	37,976				$ 6,191,865	$ 696,165	$ 6,888,031

Table Appendix 11 – 2: Alternative 2 (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	288	995	1,283	0.29	1.00	0.64	1.00	0.00	1,008	0	1,008	$ 470,519	$ -	$ 470,519
	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
	Halibut IFQ CPs	114	21	135	1.45	0.28	0.87	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	295	4,714	5,009	0.53	1.00	0.95	1.00	0.00	557	0	557	$ 260,119	$ -	$ 260,119
	Non-Specified Fixed Gear CPs >= 60'	210	7,497	7,707	0.34	1.00	0.95	1.00	0.00	619	0	619	$ 289,000	$ -	$ 289,000
	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	891	476	1,367	1.33	1.00	1.19	0.30	0.00	201	0	201	$ 93,727	$ -	$ 93,727
	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	198	22	220	0.77	0.27	0.65	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	39	0	39	0.40	0.00	0.40	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	6,236	1,144	7,380	0.49	0.16	0.38	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	993	1,549	0.73	1.00	0.88	0.30	0.00	228	0	228	$ 106,470	$ -	$ 106,470
	Catcher Vessels >= 60' trawl non-AFA	1,115	1,207	2,322	0.81	1.00	0.90	0.30	0.00	415	0	415	$ 193,618	$ -	$ 193,618
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	15	538	0.71	1.01	0.71	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	1,189	1,570	0.48	1.00	0.79	0.30	0.00	238	0	238	$ 111,311	$ -	$ 111,311
	Catcher Vessels 50' - 59.9' Fixed gear	707	121	827	0.37	0.26	0.35	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	186	24	210	0.23	0.13	0.21	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	63	2	65	0.15	0.01	0.12	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,531	9,313	12,845	0.52	0.94	0.77			2,039	242	2,281	$ 952,126	$ 113,178	$ 1,065,303
Processors	Motherships AFA and Non-AFA	0	465	465	NA	1.00	0.86	1.00	0.00	73	0	73	$ 34,091	$ -	$ 34,091
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	0	1,180	1,180	NA	1.00	0.18	0.30	0.00	1,561	0	1,561	$ 729,080	$ -	$ 729,080
	Total	13,259	30,014	43,273											
	Total (restructured only) (467 cells)	13,259	1,491	14,750	0.45	0.18	**0.39**		**0.36**	10,998	2,565	13,563	$ 5,136,042	$ 1,197,965	$ 6,334,007

Table Appendix 11 – 2: Alternative 2 (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	0	-720	$ (336,124)	$ -	$ (336,124)
	Sablefish CPs 50' - 59.9'	[redacted]					
	Halibut IFQ CPs	35	-55	-20	$ 16,483	$ (25,793)	$ (9,310)
	Non-Specified Trawl CPs >=60'	-262	0	-262	$ (122,384)	$ -	$ (122,384)
	Non-Specified Fixed Gear CPs >= 60'	-409	0	-409	$ (190,913)	$ -	$ (190,913)
	Fixed Gear CPs 50' - 59.9'	[redacted]					
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	0	690	$ 322,377	$ -	$ 322,377
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	120	-2	118	$ 56,246	$ (1,069)	$ 55,176
	Sablefish IFQ CVs < 40'	10	0	10	$ 4,549	$ -	$ 4,549
	Halibut IFQ CVs	2,427	-950	1,476	$ 1,133,385	$ (443,872)	$ 689,513
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	0	329	$ 153,523	$ -	$ 153,523
	Catcher Vessels >= 60' trawl non-AFA	700	0	700	$ 327,115	$ -	$ 327,115
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	11	312	$ 140,780	$ 4,986	$ 145,765
	Catcher Vessels >= 60' Fixed gear	142	0	142	$ 66,468	$ -	$ 66,468
	Catcher Vessels 50' - 59.9' Fixed gear	140	-19	121	$ 65,148	$ (8,644)	$ 56,504
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-30	-89	$ (27,405)	$ (14,197)	$ (41,602)
	Catcher Vessels < 40' Fixed gear	-61	-42	-104	$ (28,642)	$ (19,736)	$ (48,378)
	Total CVs (excludes IFQ - halibut and sablefish)	1,492	-80	1,412	$ 696,987	$ (37,592)	$ 659,395
Processors	Motherships AFA and Non-AFA	-73	0	-73	$ (34,091)	$ -	$ (34,091)
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	0	-1,561	$ (729,080)	$ -	$ (729,080)
	Total	[redacted]					
	Total (restructured only) (467 cells)	2,261	-1,075	1,186	$ 1,055,823	$ (501,800)	$ 554,024

Table Appendix 11 – 3: Alternative 2, Option 1 <60’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
	Sablefish CPs >= 60'	467	366	1,008	995	2,003	10	15	18	$ 134,395	$ 364,173	$ 498,569
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 26,682	$ 4,896	$ 31,578
	Non-Specified Trawl CPs >=60'	467	366	557	4,714	5,271	14	22	24	$ 137,735	$ 1,725,324	$ 1,863,059
	Non-Specified Fixed Gear CPs >= 60'	467	366	619	7,497	8,115	17	42	43	$ 98,087	$ 2,743,758	$ 2,841,845
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
	Sablefish IFQ CVs >= 60'	467	366	669	476	1,145	42	13	51	$ 416,104	$ 174,216	$ 590,320
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 281,554	$ 31,371	$ 312,925
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	366	760	993	1,753	20	84	84	$ 259,993	$ 363,287	$ 623,280
	Catcher Vessels >= 60' trawl non-AFA	467	366	1,382	1,207	2,589	25	21	40	$ 520,733	$ 441,762	$ 962,495
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 122,157	$ 3,544	$ 125,700
	Catcher Vessels >= 60' Fixed gear	467	366	795	1,189	1,983	104	74	138	$ 177,779	$ 435,116	$ 612,895
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 165,017	$ 28,193	$ 193,209
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 5,558	$ 48,938
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 499	$ 15,249
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]			$ 1,303,809	$ 3,387,216	$ 4,691,025
Processors	Motherships AFA and Non-AFA	467	366	73	465	538			11	$ -	$ 170,190	$ 170,190
	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	467	366	5,204	1,180	6,384			24	$ -	$ 431,880	$ 431,880
	Total	[redacted]		29,717	36,782	66,499	[redacted]			$ 4,012,927	$10,787,517	$14,800,444
	Total (restructured only) (467 cells)			29,717	8,259	37,976	[redacted]			$ 4,012,927	$ 348,083	$ 4,361,010

Table Appendix 11 – 3: Alternative 2, Option 1 <60' (Continued)

	Sector	Observer Days Purchased (P1) GOA	Observer Days Purchased (P1) BSAI	Observer Days Purchased (P1) Total	Rate Purchased P1 GOA	Rate Purchased P1 BSAI	Rate Purchased P1 Total	Observer Rate Required (P2) GOA	Observer Rate Required (P2) BSAI	P2 Observer Days Required (P2) GOA	P2 Observer Days Required (P2) BSAI	P2 Observer Days Required (P2) Total	Revenue Required (P2) GOA	Revenue Required (P2) BSAI	Revenue Required (P2) Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
CPs	Sablefish CPs >= 60'	288	995	1,283	0.29	1.00	0.64	1.00	0.00	1,008	0	1,008	$ 470,519	$ -	$ 470,519
CPs	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
CPs	Halibut IFQ CPs	57	10	68	0.72	0.14	0.44	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
CPs	Non-Specified Trawl CPs >=60'	295	4,714	5,009	0.53	1.00	0.95	1.00	0.00	557	0	557	$ 260,119	$ -	$ 260,119
CPs	Non-Specified Fixed Gear CPs >= 60'	210	7,497	7,707	0.34	1.00	0.95	1.00	0.00	619	0	619	$ 289,000	$ -	$ 289,000
CPs	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
MGT CVs	Sablefish IFQ CVs >= 60'	891	476	1,367	1.33	1.00	1.19	0.30	0.00	201	0	201	$ 93,727	$ -	$ 93,727
MGT CVs	Sablefish CVs 50 - 59.9'	603	67	670	0.59	0.26	0.52	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	993	1,549	0.73	1.00	0.88	0.30	0.00	228	0	228	$ 106,470	$ -	$ 106,470
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	1,207	2,322	0.81	1.00	0.90	0.30	0.00	415	0	415	$ 193,618	$ -	$ 193,618
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	262	8	269	0.35	0.51	0.36	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	1,189	1,570	0.48	1.00	0.79	0.30	0.00	238	0	238	$ 111,311	$ -	$ 111,311
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	353	60	414	0.19	0.13	0.18	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	93	12	105	0.11	0.07	0.11	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	1	33	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	2,792	9,232	12,024	0.41	0.93	0.72			2,039	242	2,281	$ 952,126	$ 113,178	$ 1,065,303
Processors	Motherships AFA and Non-AFA	0	465	465	NA	1.00	0.86	1.00	0.00	73	0	73	$ 34,091	$ -	$ 34,091
Processors	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	0	1,180	1,180	NA	1.00	0.18	0.30	0.00	1,561	0	1,561	$ 729,080	$ -	$ 729,080
	Total	8,593	29,268	37,861											
	Total (restructured only) (467 cells)	8,593	745	9,338	0.29	0.09	0.25		0.36	10,998	2,565	13,563	$ 5,136,042	$ 1,197,965	$ 6,334,007

Table Appendix 11 – 3: Alternative 2, Option 1 <60’

	Sector	P2 Over-Under (days)			P2 Over-Under (Revenue)		
		GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	0	-720	$ (336,124)	$ -	$ (336,124)
	Sablefish CPs 50' - 59.9'	[redacted]					
	Halibut IFQ CPs	-22	-66	-88	$ (10,199)	$ (30,689)	$ (40,888)
	Non-Specified Trawl CPs >=60'	-262	0	-262	$ (122,384)	$ -	$ (122,384)
	Non-Specified Fixed Gear CPs >= 60'	-409	0	-409	$ (190,913)	$ -	$ (190,913)
	Fixed Gear CPs 50' - 59.9'	[redacted]					
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	0	690	$ 322,377	$ -	$ 322,377
	Sablefish CVs 50 - 59.9'	297	-11	285	$ 138,512	$ (5,335)	$ 133,176
	Sablefish CVs 40 - 49.9'	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	0	329	$ 153,523	$ -	$ 153,523
	Catcher Vessels >= 60' trawl non-AFA	700	0	700	$ 327,115	$ -	$ 327,115
	Catcher Vessels 50' - 59.9' trawl non-AFA	40	3	43	$ 18,623	$ 1,442	$ 20,065
	Catcher Vessels >= 60' Fixed gear	142	0	142	$ 66,468	$ -	$ 66,468
	Catcher Vessels 50' - 59.9' Fixed gear	-214	-79	-293	$ (99,869)	$ (36,837)	$ (136,706)
	Catcher Vessels 40' - 49.9' Fixed gear	-152	-42	-194	$ (70,785)	$ (19,755)	$ (90,540)
	Catcher Vessels < 40' Fixed gear	-93	-43	-136	$ (43,392)	$ (20,235)	$ (63,627)
	Total CVs (excludes IFQ - halibut and sablefish)	753	-161	592	$ 351,683	$ (75,385)	$ 276,299
Processors	Motherships AFA and Non-AFA	-73	0	-73	$ (34,091)	$ -	$ (34,091)
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	0	-1,561	$ (729,080)	$ -	$ (729,080)
	Total	[redacted]					
	Total (restructured only) (467 cells)	-2,405	-1,820	-4,225	$ (1,123,115)	$ (849,882)	$ (1,972,997)

Table Appendix 11 – 4: Alternative 2, Option 1 <50’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
CPs	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
CPs	Sablefish CPs >= 60'	467	366	1,008	995	2,003	10	15	18	$ 134,395	$ 364,173	$ 498,569
CPs	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2			
CPs	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 26,682	$ 4,896	$ 31,578
CPs	Non-Specified Trawl CPs >=60'	467	366	557	4,714	5,271	14	22	24	$ 137,735	$ 1,725,324	$ 1,863,059
CPs	Non-Specified Fixed Gear CPs >= 60'	467	366	619	7,497	8,115	17	42	43	$ 98,087	$ 2,743,758	$ 2,841,845
CPs	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2			
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
MGT CVs	Sablefish IFQ CVs >= 60'	467	366	669	476	1,145	42	13	51	$ 416,104	$ 174,216	$ 590,320
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
MGT CVs	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
MGT CVs	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	366	760	993	1,753	20	84	84	$ 259,993	$ 363,287	$ 623,280
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	366	1,382	1,207	2,589	25	21	40	$ 520,733	$ 441,762	$ 962,495
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 7,087	$ 251,401
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	366	795	1,189	1,983	104	74	138	$ 177,779	$ 435,116	$ 612,895
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 56,385	$ 386,419
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 5,558	$ 48,938
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 499	$ 15,249
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,590,983	$ 3,418,952	$ 5,009,935
Processors	Motherships AFA and Non-AFA	467	366	73	465	538			11	$ -	$ 170,190	$ 170,190
Processors	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
Processors	Shore-based/Floating processors (non-AFA)	467	366	5,204	1,180	6,384			24	$ -	$ 431,880	$ 431,880
	Total			29,717	36,782	66,499				$ 4,595,675	$ 10,852,311	$ 15,447,986
	Total (restructured only) (467 cells)			29,717	8,259	37,976				$ 4,595,675	$ 412,877	$ 5,008,552

Table Appendix 11 – 4: Alternative 2, Option 1 <50' (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
CPs	Sablefish CPs >= 60'	288	995	1,283	0.29	1.00	0.64	1.00	0.00	1,008	0	1,008	$ 470,519	$ -	$ 470,519
CPs	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
CPs	Halibut IFQ CPs	57	10	68	0.72	0.14	0.44	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
CPs	Non-Specified Trawl CPs >=60'	295	4,714	5,009	0.53	1.00	0.95	1.00	0.00	557	0	557	$ 260,119	$ -	$ 260,119
CPs	Non-Specified Fixed Gear CPs >= 60'	210	7,497	7,707	0.34	1.00	0.95	1.00	0.00	619	0	619	$ 289,000	$ -	$ 289,000
CPs	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
MGT CVs	Sablefish IFQ CVs >= 60'	891	476	1,367	1.33	1.00	1.19	0.30	0.00	201	0	201	$ 93,727	$ -	$ 93,727
MGT CVs	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	993	1,549	0.73	1.00	0.88	0.30	0.00	228	0	228	$ 106,470	$ -	$ 106,470
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	1,207	2,322	0.81	1.00	0.90	0.30	0.00	415	0	415	$ 193,618	$ -	$ 193,618
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	523	15	538	0.71	1.01	0.71	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	1,189	1,570	0.48	1.00	0.79	0.30	0.00	238	0	238	$ 111,311	$ -	$ 111,311
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	707	121	827	0.37	0.26	0.35	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	93	12	105	0.11	0.07	0.11	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	1	33	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,407	9,300	12,707	0.50	0.93	0.76			2,039	242	2,281	$ 952,126	$ 113,178	$ 1,065,303
Processors	Motherships AFA and Non-AFA	0	465	465	NA	1.00	0.86	1.00	0.00	73	0	73	$ 34,091	$ -	$ 34,091
Processors	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	0	1,180	1,180	NA	1.00	0.18	0.30	0.00	1,561	0	1,561	$ 729,080	$ -	$ 729,080
	Total	9,841	29,407	39,248											
	Total (restructured only) (467 cells)	9,841	884	10,725	0.33	0.11	**0.28**		**0.36**	10,998	2,565	13,563	$ 5,136,042	$ 1,197,965	$ 6,334,007

Table Appendix 11 – 4: Alternative 2, Option 1 <50' (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	0	-720	$ (336,124)	$ -	$ (336,124)
	Sablefish CPs 50' - 59.9'	[redacted]					
	Halibut IFQ CPs	-22	-66	-88	$ (10,199)	$ (30,689)	$ (40,888)
	Non-Specified Trawl CPs >=60'	-262	0	-262	$ (122,384)	$ -	$ (122,384)
	Non-Specified Fixed Gear CPs >= 60'	-409	0	-409	$ (190,913)	$ -	$ (190,913)
	Fixed Gear CPs 50' - 59.9'	[redacted]					
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	0	690	$ 322,377	$ -	$ 322,377
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	0	329	$ 153,523	$ -	$ 153,523
	Catcher Vessels >= 60' trawl non-AFA	700	0	700	$ 327,115	$ -	$ 327,115
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	11	312	$ 140,780	$ 4,986	$ 145,765
	Catcher Vessels >= 60' Fixed gear	142	0	142	$ 66,468	$ -	$ 66,468
	Catcher Vessels 50' - 59.9' Fixed gear	140	-19	121	$ 65,148	$ (8,644)	$ 56,504
	Catcher Vessels 40' - 49.9' Fixed gear	-152	-42	-194	$ (70,785)	$ (19,755)	$ (90,540)
	Catcher Vessels < 40' Fixed gear	-93	-43	-136	$ (43,392)	$ (20,235)	$ (63,627)
	Total CVs (excludes IFQ - halibut and sablefish)	1,368	-93	1,275	$ 638,857	$ (43,648)	$ 595,209
Processors	Motherships AFA and Non-AFA	-73	0	-73	$ (34,091)	$ -	$ (34,091)
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	0	-1,561	$ (729,080)	$ -	$ (729,080)
	Total	[redacted]					
	Total (restructured only) (467 cells)	-1,157	-1,681	-2,838	$ (540,367)	$ (785,088)	$ (1,325,455)

Table Appendix 11 – 5: Alternative 2, Option 1 <40’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
	Sablefish CPs >= 60'	467	366	1,008	995	2,003	10	15	18	$ 134,395	$ 364,173	$ 498,569
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 26,682	$ 4,896	$ 31,578
	Non-Specified Trawl CPs >=60'	467	366	557	4,714	5,271	14	22	24	$ 137,735	$ 1,725,324	$ 1,863,059
	Non-Specified Fixed Gear CPs >= 60'	467	366	619	7,497	8,115	17	42	43	$ 98,087	$ 2,743,758	$ 2,841,845
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
	Sablefish IFQ CVs >= 60'	467	366	669	476	1,145	42	13	51	$ 416,104	$ 174,216	$ 590,320
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 92,251	$ 10,279	$ 102,530
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 18,419	$ -	$ 18,419
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1,077	329	1,351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	366	760	993	1,753	20	84	84	$ 259,993	$ 363,287	$ 623,280
	Catcher Vessels >= 60' trawl non-AFA	467	366	1,382	1,207	2,589	25	21	40	$ 520,733	$ 441,762	$ 962,495
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 7,087	$ 251,401
	Catcher Vessels >= 60' Fixed gear	467	366	795	1,189	1,983	104	74	138	$ 177,779	$ 435,116	$ 612,895
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 56,385	$ 386,419
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 11,115	$ 97,875
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 499	$ 15,249
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]			$ 1,634,363	$ 3,425,009	$ 5,074,121
Processors	Motherships AFA and Non-AFA	467	366	73	465	538			11	$ -	$ 170,190	$ 170,190
	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	467	366	5,204	1,180	6,384			24	$ -	$ 431,880	$ 431,880
	Total	[redacted]		29,717	36,782	66,499	[redacted]			$ 4,694,391	$ 10,863,008	$ 15,557,398
	Total (restructured only) (467 cells)			29,717	8,259	37,976	[redacted]			$ 4,694,391	$ 423,574	$ 5,117,964

Table Appendix 11 – 5: Alternative 2, Option 1 <40' (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
CPs	Sablefish CPs >= 60'	288	995	1,283	0.29	1.00	0.64	1.00	0.00	1,008	0	1,008	$ 470,519	$ -	$ 470,519
CPs	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
CPs	Halibut IFQ CPs	57	10	68	0.72	0.14	0.44	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
CPs	Non-Specified Trawl CPs >=60'	295	4,714	5,009	0.53	1.00	0.95	1.00	0.00	557	0	557	$ 260,119	$ -	$ 260,119
CPs	Non-Specified Fixed Gear CPs >= 60'	210	7,497	7,707	0.34	1.00	0.95	1.00	0.00	619	0	619	$ 289,000	$ -	$ 289,000
CPs	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
MGT CVs	Sablefish IFQ CVs >= 60'	891	476	1,367	1.33	1.00	1.19	0.30	0.00	201	0	201	$ 93,727	$ -	$ 93,727
MGT CVs	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	198	22	220	0.77	0.27	0.65	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	39	0	39	0.40	0.00	0.40	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	993	1,549	0.73	1.00	0.88	0.30	0.00	228	0	228	$ 106,470	$ -	$ 106,470
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	1,207	2,322	0.81	1.00	0.90	0.30	0.00	415	0	415	$ 193,618	$ -	$ 193,618
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	523	15	538	0.71	1.01	0.71	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	1,189	1,570	0.48	1.00	0.79	0.30	0.00	238	0	238	$ 111,311	$ -	$ 111,311
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	707	121	827	0.37	0.26	0.35	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	186	24	210	0.23	0.13	0.21	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	1	33	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,500	9,312	12,812	0.51	0.94	0.76			2,039	242	2,281	$ 952,126	$ 113,178	$ 1,065,303
Processors	Motherships AFA and Non-AFA	0	465	465	NA	1.00	0.86	1.00	0.00	73	0	73	$ 34,091	$ -	$ 34,091
Processors	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	0	1,180	1,180	NA	1.00	0.18	0.30	0.00	1,561	0	1,561	$ 729,080	$ -	$ 729,080
	Total	10,052	29,430	39,482											
	Total (restructured only) (467 cells)	10,052	907	10,959	0.34	0.11	**0.29**		**0.36**	10,998	2,565	13,563	$ 5,136,042	$ 1,197,965	$ 6,334,007

Table Appendix 11 – 5: Alternative 2, Option 1 <40’ (Continued)

	Sector	P2 Over-Under (days) GOA	P2 Over-Under (days) BSAI	P2 Over-Under (days) Total	P2 Over-Under (Revenue) GOA	P2 Over-Under (Revenue) BSAI	P2 Over-Under (Revenue) Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	0	-720	$ (336,124)	$ -	$ (336,124)
	Sablefish CPs 50' - 59.9'	[redacted]					
	Halibut IFQ CPs	-22	-66	-88	$ (10,199)	$ (30,689)	$ (40,888)
	Non-Specified Trawl CPs >=60'	-262	0	-262	$ (122,384)	$ -	$ (122,384)
	Non-Specified Fixed Gear CPs >= 60'	-409	0	-409	$ (190,913)	$ -	$ (190,913)
	Fixed Gear CPs 50' - 59.9'	[redacted]					
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	0	690	$ 322,377	$ -	$ 322,377
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	120	-2	118	$ 56,246	$ (1,069)	$ 55,176
	Sablefish IFQ CVs < 40'	10	0	10	$ 4,549	$ -	$ 4,549
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	0	329	$ 153,523	$ -	$ 153,523
	Catcher Vessels >= 60' trawl non-AFA	700	0	700	$ 327,115	$ -	$ 327,115
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	11	312	$ 140,780	$ 4,986	$ 145,765
	Catcher Vessels >= 60' Fixed gear	142	0	142	$ 66,468	$ -	$ 66,468
	Catcher Vessels 50' - 59.9' Fixed gear	140	-19	121	$ 65,148	$ (8,644)	$ 56,504
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-30	-89	$ (27,405)	$ (14,197)	$ (41,602)
	Catcher Vessels < 40' Fixed gear	-93	-43	-136	$ (43,392)	$ (20,235)	$ (63,627)
	Total CVs (excludes IFQ - halibut and sablefish)	1,461	-82	1,379	$ 682,237	$ (38,091)	$ 644,146
Processors	Motherships AFA and Non-AFA	-73	0	-73	$ (34,091)	$ -	$ (34,091)
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	0	-1,561	$ (729,080)	$ -	$ (729,080)
	Total	[redacted]					
	Total (restructured only) (467 cells)	-946	-1,658	-2,604	$ (441,651)	$ (774,391)	$ (1,216,043)

Table Appendix 11 – 6: Alternative 3

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	366	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	366	366	77	0	77	7	0	7	$ 28,182	$ -	$ 28,182
	Sablefish CPs >= 60'	366	366	1,008	995	2,003	10	15	18	$ 368,758	$ 364,173	$ 732,931
	Sablefish CPs 50' - 59.9'	366	366	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	366	366	79	76	155	6	3	7	$ 28,905	$ 27,889	$ 56,794
	Non-Specified Trawl CPs >=60'	366	366	557	4,714	5,271	14	22	24	$ 203,862	$ 1,725,324	$ 1,929,186
	Non-Specified Fixed Gear CPs >= 60'	366	366	619	7,497	8,115	17	42	43	$ 226,497	$ 2,743,758	$ 2,970,255
	Fixed Gear CPs 50' - 59.9'	366	366	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311	0	311	26	0	26	$ 113,826	$ -	$ 113,826
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 92,251	$ 10,279	$ 102,530
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 18,419	$ -	$ 18,419
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 2,912,086	$ 534,392	$ 3,446,478
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 29,499	$ 1,997	$ 31,497
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]			$ 1,513,158	$ 3,198,896	$ 4,712,054
Processors	Motherships AFA and Non-AFA	366	366	73	465	538			11	$ 26,718	$ 170,190	$ 196,908
	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total	[redacted]		29,717	36,782	66,499	[redacted]			$ 6,604,106	$ 10,382,409	$ 16,986,515
	Total (restructured only) (467 cells)			26,742	13,178	39,920	[redacted]			$ 5,515,126	$ 1,743,413	$ 7,258,539

Table Appendix 11 – 6: Alternative 3 (Continued)

	Sector	Observer Days Purchased (P1) GOA	BSAI	Total	Rate Purchased P1 GOA	BSAI	Total	Observer Rate Required GOA	BSAI	P2 Observer Days Required (P2) GOA	BSAI	Total	Revenue Required (P2) GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77	$ 28,182	$ -	$ 28,182
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003	$ 368,758	$ 364,173	$ 732,931
	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133	$ 41,358	$ 7,320	$ 48,678
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155	$ 28,905	$ 27,889	$ 56,794
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271	$ 203,862	$ 1,725,324	$ 1,929,186
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115	$ 226,497	$ 2,743,758	$ 2,970,255
	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168	$ 50,874	$ 10,614	$ 61,488
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311	$ 113,826	$ -	$ 113,826
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	198	22	220	0.77	0.27	0.65	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	39	0	39	0.40	0.00	0.40	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	6,236	1,144	7,380	0.49	0.16	0.38	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	63	4	67	0.15	0.03	0.12	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,240	8,096	11,336	0.48	0.81	0.68			2,039	1,259	3,298	$ 952,126	$ 587,897	$ 1,540,022
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	14,785	27,337	42,122											
	Total (restructured only) (467 cells)	11,810	3,733	15,543	0.44	0.28	**0.39**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 6: Alternative 3 (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	120	-2	118	$ 56,246	$ (1,069)	$ 55,176
	Sablefish IFQ CVs < 40'	10	0	10	$ 4,549	$ -	$ 4,549
	Halibut IFQ CVs	2,427	-950	1,476	$ 1,133,385	$ (443,872)	$ 689,513
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
	Catcher Vessels < 40' Fixed gear	-61	-40	-101	$ (28,642)	$ (18,738)	$ (47,380)
	Total CVs (excludes IFQ - halibut and sablefish)	1,201	1,074	2,276	$ 561,033	$ 501,741	$ 1,062,774
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	3,787	-220	3,567	$ 1,768,575	$ (102,808)	$ 1,665,767

Table Appendix 11 – 7: Alternative 3, Option 1 <60’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	366	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
CPs	CPs in GOA Rockfish Pilot Program	366	366	77	0	77	7	0	7	$ 28,182	$ -	$ 28,182
CPs	Sablefish CPs >= 60'	366	366	1,008	995	2,003	10	15	18	$ 368,758	$ 364,173	$ 2,017,635
CPs	Sablefish CPs 50' - 59.9'	366	366	113	20	133	1	1	2	[redacted]		
CPs	Halibut IFQ CPs	366	366	79	76	155	6	3	7	$ 28,905	$ 27,889	$ 12,255
CPs	Non-Specified Trawl CPs >=60'	366	366	557	4,714	5,271	14	22	24	$ 203,862	$ 1,725,324	$ 2,935,947
CPs	Non-Specified Fixed Gear CPs >= 60'	366	366	619	7,497	8,115	17	42	43	$ 226,497	$ 2,743,758	$ 5,022,202
CPs	Fixed Gear CPs 50' - 59.9'	366	366	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311	0	311	26	0	26	$ 113,826	$ -	$ 113,826
MGT CVs	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 281,554	$ 31,371	$ 312,925
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
MGT CVs	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
MGT CVs	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 122,157	$ 7,087	$ 129,244
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 165,017	$ 56,385	$ 221,402
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,167,855	$ 3,123,310	$ 4,291,165
Processors	Motherships AFA and Non-AFA	366	366	73	465	538			11	$ 26,718	$ 170,190	$ 196,908
Processors	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
Processors	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 4,465,871	$ 10,003,117	$ 14,468,987
	Total (restructured only) (467 cells)			26,742	13,178	39,920				$ 3,376,891	$ 1,364,121	$ 4,741,011

Table Appendix 11 – 7: Alternative 3, Option 1 <60' (Continued)

	Sector	Observer Days Purchased (P1) GOA	BSAI	Total	Rate Purchased P1 GOA	BSAI	Total	Observer Rate Required (P2) GOA	BSAI	P2 Observer Days Required (P2) GOA	BSAI	Total	Revenue Required (P2) GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs 50' - 59.9'							0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Fixed Gear CPs 50' - 59.9'							0.00	0.00	0	0	0	$ -	$ -	$ -
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
MGT CVs	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
MGT CVs	Sablefish CVs 50 - 59.9'	603	67	670	0.59	0.26	0.52	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	262	15	277	0.35	1.01	0.37	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	353	121	474	0.19	0.26	0.20	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	2,501	7,934	10,435	0.37	0.80	0.62			2,039	1,259	3,298	$ 952,126	$ 587,897	$ 1,540,022
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	10,206	26,525	36,731											
	Total (restructured only) (467 cells)	7,231	2,921	10,152	0.27	0.22	**0.25**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 7: Alternative 3, Option 1 <60’ (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs 50' - 59.9'						
CPs	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
CPs	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
MGT CVs	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
MGT CVs	Sablefish CVs 50 - 59.9'	297	-11	285	$ 138,512	$ (5,335)	$ 133,176
MGT CVs	Sablefish CVs 40 - 49.9'	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
MGT CVs	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
MGT CVs	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	40	11	51	$ 18,623	$ 4,986	$ 23,609
Unspecified CV	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	-214	-19	-232	$ (99,869)	$ (8,644)	$ (108,513)
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
Unspecified CV	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	462	913	1,374	$ 215,729	$ 426,155	$ 641,884
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	-792	-1,032	-1,824	$ (369,661)	$ (482,100)	$ (851,761)

Table Appendix 11 – 8: Alternative 3, Option 1 <50’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	366	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	366	366	77	0	77	7	0	7	$ 28,182	$ -	$ 28,182
	Sablefish CPs >= 60'	366	366	1,008	995	2,003	10	15	18	$ 368,758	$ 364,173	$ 2,017,635
	Sablefish CPs 50' - 59.9'	366	366	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	366	366	79	76	155	6	3	7	$ 28,905	$ 27,889	$ 12,255
	Non-Specified Trawl CPs >=60'	366	366	557	4,714	5,271	14	22	24	$ 203,862	$ 1,725,324	$ 2,935,947
	Non-Specified Fixed Gear CPs >= 60'	366	366	619	7,497	8,115	17	42	43	$ 226,497	$ 2,743,758	$ 5,022,202
	Fixed Gear CPs 50' - 59.9'	366	366	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311	0	311	26	0	26	$ 113,826	$ -	$ 113,826
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,455,028	$ 3,186,782	$ 4,641,811
Processors	Motherships AFA and Non-AFA	366	366	73	465	538			11	$ 26,718	$ 170,190	$ 196,908
	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 5,034,598	$ 10,097,960	$ 15,132,558
	Total (restructured only) (467 cells)			26,742	13,178	39,920				$ 3,945,618	$ 1,458,964	$ 5,404,582

Table Appendix 11 – 8: Alternative 3 Option 1 <50' (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs 50' - 59.9'							0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
CPs	Fixed Gear CPs 50' - 59.9'							0.00	0.00	0	0	0	$ -	$ -	$ -
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
MGT CVs	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
MGT CVs	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,116	8,070	11,186	0.46	0.81	0.67			2,039	1,259	3,298	$ 952,126	$ 587,897	$ 1,540,022
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	11,424	26,728	38,152											
	Total (restructured only) (467 cells)	8,449	3,124	11,573	0.32	0.24	**0.29**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 8: Alternative 3, Option 1 <50' (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	1,077	1,048	2,125	$ 502,903	$ 489,628	$ 992,530
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	426	-829	-403	$ 199,067	$ (387,257)	$ (188,190)

Table Appendix 11 – 9: Alternative 3, Option 1 <40’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	366	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	366	366	77	0	77	7	0	7	$ 28,182	$ -	$ 28,182
	Sablefish CPs >= 60'	366	366	1,008	995	2,003	10	15	18	$ 368,758	$ 364,173	$ 2,017,635
	Sablefish CPs 50' - 59.9'	366	366	113	20	133	1	1	2			
	Halibut IFQ CPs	366	366	79	76	155	6	3	7	$ 28,905	$ 27,889	$ 12,255
	Non-Specified Trawl CPs >=60'	366	366	557	4,714	5,271	14	22	24	$ 203,862	$ 1,725,324	$ 2,935,947
	Non-Specified Fixed Gear CPs >= 60'	366	366	619	7,497	8,115	17	42	43	$ 226,497	$ 2,743,758	$ 5,022,202
	Fixed Gear CPs 50' - 59.9'	366	366	139	29	168	2	1	2			
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311	0	311	26	0	26	$ 113,826	$ -	$ 113,826
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 92,251	$ 10,279	$ 102,530
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,498,409	$ 3,197,897	$ 4,696,306
Processors	Motherships AFA and Non-AFA	366	366	73	465	538			11	$ 26,718	$ 170,190	$ 196,908
	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 5,124,104	$ 10,114,214	$ 15,238,318
	Total (restructured only) (467 cells)			26,742	13,178	39,920				$ 4,035,124	$ 1,475,218	$ 5,510,342

Table Appendix 11 – 9: Alternative 3, Option 1 <40’ (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'	[redacted]						0.00	0.00	0	0	0	$ -	$ -	$ -
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'	[redacted]						0.00	0.00	0	0	0	$ -	$ -	$ -
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	198	22	220	0.77	0.27	0.65	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,209	8,094	11,303	0.47	0.81	0.67			2,039	1,259	3,298	$ 952,126	$ 587,897	$ 1,540,022
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	0.00	0.00	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	11,616	26,763	38,379	[redacted]										
	Total (restructured only) (467 cells)	8,641	3,159	11,799	0.32	0.24	**0.30**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 9: Alternative 3, Option 1 <40' (Continued)

	Sector	P2 Over-Under (days)			P2 Over-Under (Revenue)		
		GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	120	-2	118	$ 56,246	$ (1,069)	$ 55,176
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	1,170	1,072	2,242	$ 546,283	$ 500,743	$ 1,047,026
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	618	-794	-177	$ 288,573	$ (371,003)	$ (82,430)

Table Appendix 11 – 10: Alternative 4

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 470,519	$ 464,669	$ 935,188
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 260,119	$ 2,201,438	$ 2,461,557
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 289,000	$ 3,500,915	$ 3,789,915
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 92,251	$ 10,279	$ 102,530
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 18,419	$ -	$ 18,419
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 2,912,086	$ 534,392	$ 3,446,478
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 29,499	$ 1,997	$ 31,497
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]			$ 1,513,158	$ 3,780,959	$ 5,294,117
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total	[redacted]		29,717	36,782	66,499	[redacted]			$ 6,904,617	$ 12,766,394	$ 19,671,011
	Total (restructured only) (467 cells)			26,742	13,178	39,920	[redacted]			$ 5,515,126	$ 1,743,413	$ 7,258,539

Table Appendix 11 – 10: Alternative 4 (Continued)

	Sector	Observer Days Purchased (P1) GOA	Observer Days Purchased (P1) BSAI	Observer Days Purchased (P1) Total	Rate Purchased P1 GOA	Rate Purchased P1 BSAI	Rate Purchased P1 Total	Observer Rate Required (P2) GOA	Observer Rate Required (P2) BSAI	P2 Observer Days Required (P2) GOA	P2 Observer Days Required (P2) BSAI	P2 Observer Days Required (P2) Total	Revenue Required (P2) GOA	Revenue Required (P2) BSAI	Revenue Required (P2) Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	198	22	220	0.77	0.27	0.65	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	39	0	39	0.40	0.00	0.40	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	6,236	1,144	7,380	0.49	0.16	0.38	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	63	4	67	0.15	0.03	0.12	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,240	8,096	11,336	0.48	0.81	0.68			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	14,785	27,337	42,122	0.50	0.74	0.63			10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only) (467 cells)	11,810	3,733	15,543	0.44	0.28	**0.39**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 10: Alternative 4 (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'	0	0	0	$ -	$ -	$ -
	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	120	-2	118	$ 56,246	$ (1,069)	$ 55,176
	Sablefish IFQ CVs < 40'	10	0	10	$ 4,549	$ -	$ 4,549
	Halibut IFQ CVs	2,427	-950	1,476	$ 1,133,385	$ (443,872)	$ 689,513
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
	Catcher Vessels < 40' Fixed gear	-61	-40	-101	$ (28,642)	$ (18,738)	$ (47,380)
	Total CVs (excludes IFQ - halibut and sablefish)	1,201	1,074	2,276	$ 561,033	$ 501,741	$ 1,062,774
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	3,787	-220	3,567	$ 1,768,575	$ (102,808)	$ 1,665,767

Table Appendix 11 – 11: Alternative 4, Option 1 <60'

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 470,519	$ 464,669	$ 2,017,635
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]	[redacted]	[redacted]
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 36,881	$ 35,585	$ 12,255
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 260,119	$ 2,201,438	$ 2,935,947
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 289,000	$ 3,500,915	$ 5,022,202
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]	[redacted]	[redacted]
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 281,554	$ 31,371	$ 312,925
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 122,157	$ 7,087	$ 129,244
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 165,017	$ 56,385	$ 221,402
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]	[redacted]	[redacted]	$ 1,167,855	$ 3,705,373	$ 4,873,228
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total	[redacted]	[redacted]	29,717	36,782	66,499	[redacted]	[redacted]	[redacted]	$ 4,766,382	$ 12,387,102	$ 17,153,484
	Total (restructured only) (467 cells)			26,742	13,178	39,920	[redacted]	[redacted]	[redacted]	$ 3,376,891	$ 1,364,121	$ 4,741,011

Table Appendix 11 – 11: Alternative 4, Option 1 <60’ (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	603	67	670	0.59	0.26	0.52	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	262	15	277	0.35	1.01	0.37	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	353	121	474	0.19	0.26	0.20	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	2,501	7,934	10,435	0.37	0.80	0.62			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	10,206	26,525	36,731	0.34	0.72	0.55			10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only) (467 cells)	7,231	2,921	10,152	0.27	0.22	**0.25**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 11: Alternative 4, Option 1 <60' (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	297	-11	285	$ 138,512	$ (5,335)	$ 133,176
	Sablefish CVs 40 - 49.9'	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	40	11	51	$ 18,623	$ 4,986	$ 23,609
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	-214	-19	-232	$ (99,869)	$ (8,644)	$ (108,513)
	Catcher Vessels 40' - 49.9' Fixed gear	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	462	913	1,374	$ 215,729	$ 426,155	$ 641,884
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	-792	-1,032	-1,824	$ (369,661)	$ (482,100)	$ (851,761)

Table Appendix 11 – 12: Alternative 4, Option 1 <50’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 470,519	$ 464,669	$ 2,017,635
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2			
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 36,881	$ 35,585	$ 12,255
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 260,119	$ 2,201,438	$ 2,935,947
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 289,000	$ 3,500,915	$ 5,022,202
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2			
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,455,028	$ 3,768,845	$ 5,223,874
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 5,335,109	$ 12,481,945	$ 17,817,054
	Total (restructured only) (467 cells)			26,742	13,178	39,920				$ 3,945,618	$ 1,458,964	$ 5,404,582

Table Appendix 11 – 12: Alternative 4, Option 1 <50' (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
CPs	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
CPs	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
CPs	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
CPs	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
CPs	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
CPs	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
CPs	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
MGT CVs	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
MGT CVs	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,116	8,070	11,186	0.46	0.81	0.67			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
Processors	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
Processors	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	11,424	26,728	38,152	0.38	0.73	0.57			10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only) (467 cells)	8,449	3,124	11,573	0.32	0.24	**0.29**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 12: Alternative 4, Option 1 <50’ (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	1,077	1,048	2,125	$ 502,903	$ 489,628	$ 992,530
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	426	-829	-403	$ 199,067	$ (387,257)	$ (188,190)

Table Appendix 11 – 13: Alternative 4, Option 1 <40'

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 470,519	$ 464,669	$ 2,017,635
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 36,881	$ 35,585	$ 12,255
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 260,119	$ 2,201,438	$ 2,935,947
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 289,000	$ 3,500,915	$ 5,022,202
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 92,251	$ 10,279	$ 102,530
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,498,409	$ 3,779,960	$ 5,278,369
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 5,424,615	$ 12,498,200	$ 17,922,814
	Total (restructured only) (467 cells)			26,742	13,178	39,920				$ 4,035,124	$ 1,475,218	$ 5,510,342

Table Appendix 11 – 13: Alternative 4, Option 1 <40' (Continued)

	Sector	Observer Days Purchased (P1) GOA	BSAI	Total	Rate Purchased P1 GOA	BSAI	Total	Observer Rate Required (P2) GOA	BSAI	P2 Observer Days Required (P2) GOA	BSAI	Total	Revenue Required (P2) GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	198	22	220	0.77	0.27	0.65	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,209	8,094	11,303	0.47	0.81	0.67			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	11,616	26,763	38,379	0.39	0.73	0.58			10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only) (467 cells)	8,641	3,159	11,799	0.32	0.24	**0.30**		**0.30**	8,023	3,953	11,976	$ 3,746,551	$ 1,846,221	$ 5,592,772

Table Appendix 11 – 13: Alternative 4, Option 1 <40' (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs >= 60'	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs 50' - 59.9'						
CPs	Halibut IFQ CPs	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Trawl CPs >=60'	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Fixed Gear CPs >= 60'	0	0	0	$ -	$ -	$ -
CPs	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	0	0	0	$ -	$ -	$ -
MGT CVs	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
MGT CVs	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
MGT CVs	Sablefish CVs 40 - 49.9'	120	-2	118	$ 56,246	$ (1,069)	$ 55,176
MGT CVs	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
MGT CVs	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	0	0	$ -	$ -	$ -
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	38	679	716	$ 17,569	$ 316,885	$ 334,453
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
Unspecified CV	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
Unspecified CV	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	1,170	1,072	2,242	$ 546,283	$ 500,743	$ 1,047,026
Processors	Motherships AFA and Non-AFA	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (AFA)	0	0	0	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total						
	Total (restructured only) (467 cells)	618	-794	-177	$ 288,573	$ (371,003)	$ (82,430)

Table Appendix 11 – 14: Alternative 5

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 5,325,489	$ 5,325,489
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 134,395	$ 14,974	$ 149,370
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2			
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 53,364	$ 9,793	$ 63,157
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 137,735	$ 1,481,211	$ 1,618,946
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 98,087	$ 1,558,732	$ 1,656,819
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2			
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 102,530	$ 10,279	$ 112,809
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 18,419	$ -	$ 18,419
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 2,912,086	$ 534,392	$ 3,446,478
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 4,828,565	$ 4,828,565
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 259,993	$ 455,700	$ 715,693
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 29,499	$ 1,997	$ 31,497
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,649,112	$ 5,917,957	$ 7,567,069
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 6,202,144	$ 14,965,305	$ 21,167,449
	Total (restructured only)			29,717	36,782	66,499				$ 6,202,144	$ 14,965,305	$ 21,167,449

Table Appendix 11 – 14: Alternative 5 (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	11,404	11,404	0.00	3.49	3.49	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
CPs	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
CPs	Sablefish CPs >= 60'	288	32	320	0.29	0.03	0.16	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
CPs	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
CPs	Halibut IFQ CPs	114	21	135	1.45	0.28	0.87	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
CPs	Non-Specified Trawl CPs >=60'	295	3,172	3,467	0.53	0.67	0.66	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
CPs	Non-Specified Fixed Gear CPs >= 60'	210	3,338	3,548	0.34	0.45	0.44	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
CPs	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
MGT CVs	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
MGT CVs	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	220	22	242	0.85	0.27	0.71	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	39	0	39	0.40	0.00	0.40	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	6,236	1,144	7,380	0.49	0.16	0.38	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	10,340	10,340	0.00	1.79	1.79	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	976	1,533	0.73	0.98	0.87	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	63	4	67	0.15	0.03	0.12	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,531	12,672	16,204	0.00	0.00	0.97			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	0	0	0	0.00	0.00	0.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
Processors	Shore-based/Floating processors (AFA)	0	0	0	0.00	0.00	0.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
Processors	Shore-based/Floating processors (non-AFA)	0	0	0	0.00	0.00	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	13,281	32,046	45,326	0.45	0.87	0.68			10,998	27,557	38555.1	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only)	13,281	32,046	45,326	0.45	0.87	**0.68**		**0.58**	10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245

Table Appendix 11 – 14: Alternative 5 (Continued)

	Sector	P2 Over-Under (days) GOA	P2 Over-Under (days) BSAI	P2 Over-Under (days) Total	P2 Over-Under (Revenue) GOA	P2 Over-Under (Revenue) BSAI	P2 Over-Under (Revenue) Total
CPs	AFA CPs	0	8,138	8,138	$ -	$ 3,800,267	$ 3,800,267
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	-963	-1,683	$ (336,124)	$ (449,695)	$ (785,818)
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	35	-55	-20	$ 16,483	$ (25,793)	$ (9,310)
	Non-Specified Trawl CPs >=60'	-262	-1,542	-1,804	$ (122,384)	$ (720,227)	$ (842,611)
	Non-Specified Fixed Gear CPs >= 60'	-409	-4,159	-4,568	$ (190,913)	$ (1,942,183)	$ (2,133,096)
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	142	-2	140	$ 66,524	$ (1,069)	$ 65,455
	Sablefish IFQ CVs < 40'	10	0	10	$ 4,549	$ -	$ 4,549
	Halibut IFQ CVs	2,427	-950	1,476	$ 1,133,385	$ (443,872)	$ 689,513
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	4,577	4,577	$ -	$ 2,137,244	$ 2,137,244
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	678	1,007	$ 153,523	$ 316,638	$ 470,161
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
	Catcher Vessels < 40' Fixed gear	-61	-40	-101	$ (28,642)	$ (18,738)	$ (47,380)
	Total CVs (excludes IFQ - halibut and sablefish)	1,492	5,650	7,143	$ 696,987	$ 2,638,739	$ 3,335,726
Processors	Motherships AFA and Non-AFA	-73	-465	-538	$ (34,091)	$ (217,155)	$ (251,246)
	Shore-based/Floating processors (AFA)	0	-779	-779	$ -	$ (363,793)	$ (363,793)
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total	2,283	4,488	6,771	$ 1,066,102	$ 2,096,103	$ 3,162,205
	Total (restructured only)	2,283	4,488	6,771	$ 1,066,102	$ 2,096,103	$ 3,162,205

Table Appendix 11 – 15: Alternative 5, Option 1 <60’

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 5,325,489	$ 5,325,489
CPs	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
CPs	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 134,395	$ 14,974	$ 149,370
CPs	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
CPs	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 26,682	$ 4,896	$ 31,578
CPs	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 137,735	$ 1,481,211	$ 1,618,946
CPs	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 98,087	$ 1,558,732	$ 1,656,819
CPs	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
MGT CVs	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 281,554	$ 31,371	$ 312,925
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 51,265	$ 5,139	$ 56,404
MGT CVs	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
MGT CVs	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 4,828,565	$ 4,828,565
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 259,993	$ 455,700	$ 715,693
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 122,157	$ 7,087	$ 129,244
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 88,890	$ 146,618	$ 235,508
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 165,017	$ 56,385	$ 221,402
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]			$ 1,214,919	$ 5,695,753	$ 6,910,672
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ -	$ -	$ -
Processors	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ -	$ -
Processors	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total	[redacted]		29,717	36,782	66,499	[redacted]			$ 3,929,177	$ 14,432,811	$ 18,361,988
	Total (restructured only)			29,717	36,782	66,499	[redacted]			$ 3,929,177	$ 14,432,811	$ 18,361,988

Table Appendix 11 – 15: Alternative 5, Option 1 <60' (Continued)

	Sector	Observer Days Purchased (P1) GOA	BSAI	Total	Rate Purchased P1 GOA	BSAI	Total	Observer Rate Required (P2) GOA	BSAI	P2 Observer Days Required (P2) GOA	BSAI	Total	Revenue Required (P2) GOA	BSAI	Total
CPs	AFA CPs	0	11,404	11,404	0.00	3.49	3.49	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	288	32	320	0.29	0.03	0.16	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
	Halibut IFQ CPs	57	10	68	0.72	0.14	0.44	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	295	3,172	3,467	0.53	0.67	0.66	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
	Non-Specified Fixed Gear CPs >= 60'	210	3,338	3,548	0.34	0.45	0.44	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	603	67	670	0.59	0.26	0.52	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	110	11	121	0.43	0.14	0.36	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	10,340	10,340	0.00	1.79	1.79	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	976	1,533	0.73	0.98	0.87	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	262	15	277	0.35	1.01	0.37	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	190	314	504	0.24	0.26	0.25	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	353	121	474	0.19	0.26	0.20	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	2,602	12,196	14,798	0.00	0.00	0.88			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	0	0	0	0.00	0.00	0.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	0	0	0	0.00	0.00	0.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	0	0	0	0.00	0.00	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	8,414	30,905	39,319	0.28	0.84	0.59			10,998	27,557	38555.1	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only)	8,414	30,905	39,319	0.28	0.84	**0.59**		**0.58**	10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245

Table Appendix 11 – 15: Alternative 5, Option 1 <60' (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	8,138	8,138	$ -	$ 3,800,267	$ 3,800,267
CPs	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
CPs	Sablefish CPs >= 60'	-720	-963	-1,683	$ (336,124)	$ (449,695)	$ (785,818)
CPs	Sablefish CPs 50' - 59.9'	[redacted]					
CPs	Halibut IFQ CPs	-22	-66	-88	$ (10,199)	$ (30,689)	$ (40,888)
CPs	Non-Specified Trawl CPs >=60'	-262	-1,542	-1,804	$ (122,384)	$ (720,227)	$ (842,611)
CPs	Non-Specified Fixed Gear CPs >= 60'	-409	-4,159	-4,568	$ (190,913)	$ (1,942,183)	$ (2,133,096)
CPs	Fixed Gear CPs 50' - 59.9'	[redacted]					
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
MGT CVs	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
MGT CVs	Sablefish CVs 50 - 59.9'	297	-11	285	$ 138,512	$ (5,335)	$ 133,176
MGT CVs	Sablefish CVs 40 - 49.9'	33	-13	19	$ 15,259	$ (6,209)	$ 9,051
MGT CVs	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
MGT CVs	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	4,577	4,577	$ -	$ 2,137,244	$ 2,137,244
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	678	1,007	$ 153,523	$ 316,638	$ 470,161
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	40	11	51	$ 18,623	$ 4,986	$ 23,609
Unspecified CV	Catcher Vessels >= 60' Fixed gear	-48	-43	-91	$ (22,422)	$ (19,939)	$ (42,360)
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	-214	-19	-232	$ (99,869)	$ (8,644)	$ (108,513)
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
Unspecified CV	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	563	5,175	5,737	$ 262,794	$ 2,416,535	$ 2,679,329
Processors	Motherships AFA and Non-AFA	-73	-465	-538	$ (34,091)	$ (217,155)	$ (251,246)
Processors	Shore-based/Floating processors (AFA)	0	-779	-779	$ -	$ (363,793)	$ (363,793)
Processors	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total	-2584	3348	763.91	$ (1,206,865)	$ 1,563,609	$ 356,744
	Total (restructured only)	-2,584	3,348	764	$ (1,206,865)	$ 1,563,609	$ 356,744

Table Appendix 11 – 16: Alternative 5, Option 1 <50'

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 5,325,489	$ 5,325,489
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 134,395	$ 14,974	$ 149,370
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 26,682	$ 4,896	$ 31,578
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 137,735	$ 1,481,211	$ 1,618,946
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 98,087	$ 1,558,732	$ 1,656,819
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 51,265	$ 5,139	$ 56,404
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 4,828,565	$ 4,828,565
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 259,993	$ 455,700	$ 715,693
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,590,983	$ 5,905,843	$ 7,496,826
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 4,600,815	$ 14,675,960	$ 19,276,774
	Total (restructured only)			29,717	36,782	66,499				$ 4,600,815	$ 14,675,960	$ 19,276,774

Table Appendix 11 – 16: Alternative 5, Option 1 <50’ (Continued)

	Sector	Observer Days Purchased (P1) GOA	BSAI	Total	Rate Purchased P1 GOA	BSAI	Total	Observer Rate Required (P2) GOA	BSAI	P2 Observer Days Required (P2) GOA	BSAI	Total	Revenue Required (P2) GOA	BSAI	Total
CPs	AFA CPs	0	11,404	11,404	0.00	3.49	3.49	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
CPs	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
CPs	Sablefish CPs >= 60'	288	32	320	0.29	0.03	0.16	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
CPs	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
CPs	Halibut IFQ CPs	57	10	68	0.72	0.14	0.44	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
CPs	Non-Specified Trawl CPs >=60'	295	3,172	3,467	0.53	0.67	0.66	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
CPs	Non-Specified Fixed Gear CPs >= 60'	210	3,338	3,548	0.34	0.45	0.44	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
CPs	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
MGT CVs	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
MGT CVs	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
MGT CVs	Sablefish CVs 40 - 49.9'	110	11	121	0.43	0.14	0.36	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
MGT CVs	Sablefish IFQ CVs < 40'	20	0	20	0.20	0.00	0.20	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
MGT CVs	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	10,340	10,340	0.00	1.79	1.79	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	976	1,533	0.73	0.98	0.87	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
Unspecified CV	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
Unspecified CV	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,407	12,646	16,053	0.00	0.00	0.96			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	0	0	0	0.00	0.00	0.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
Processors	Shore-based/Floating processors (AFA)	0	0	0	0.00	0.00	0.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
Processors	Shore-based/Floating processors (non-AFA)	0	0	0	0.00	0.00	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	9,852	31,426	41,278	0.33	0.85	0.62			10,998	27,557	38555.1	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only)	9,852	31,426	41,278	0.33	0.85	**0.62**		**0.58**	10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245

Table Appendix 11 – 16: Alternative 5, Option 1 <50' (Continued)

	Sector	P2 Over-Under (days) GOA	P2 Over-Under (days) BSAI	P2 Over-Under (days) Total	P2 Over-Under (Revenue) GOA	P2 Over-Under (Revenue) BSAI	P2 Over-Under (Revenue) Total
CPs	AFA CPs	0	8,138	8,138	$ -	$ 3,800,267	$ 3,800,267
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	-963	-1,683	$ (336,124)	$ (449,695)	$ (785,818)
	Sablefish CPs 50' - 59.9'	[redacted]					
	Halibut IFQ CPs	-22	-66	-88	$ (10,199)	$ (30,689)	$ (40,888)
	Non-Specified Trawl CPs >=60'	-262	-1,542	-1,804	$ (122,384)	$ (720,227)	$ (842,611)
	Non-Specified Fixed Gear CPs >= 60'	-409	-4,159	-4,568	$ (190,913)	$ (1,942,183)	$ (2,133,096)
	Fixed Gear CPs 50' - 59.9'	[redacted]					
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	33	-13	19	$ 15,259	$ (6,209)	$ 9,051
	Sablefish IFQ CVs < 40'	-10	0	-10	$ (4,660)	$ -	$ (4,660)
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	4,577	4,577	$ -	$ 2,137,244	$ 2,137,244
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	678	1,007	$ 153,523	$ 316,638	$ 470,161
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	1,368	5,624	6,992	$ 638,857	$ 2,626,625	$ 3,265,482
Processors	Motherships AFA and Non-AFA	-73	-465	-538	$ (34,091)	$ (217,155)	$ (251,246)
	Shore-based/Floating processors (AFA)	0	-779	-779	$ -	$ (363,793)	$ (363,793)
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total	-1146	3869	2722.8	$ (535,227)	$ 1,806,757	$ 1,271,530
	Total (restructured only)	-1,146	3,869	2,723	$ (535,227)	$ 1,806,757	$ 1,271,530

Table Appendix 11 – 17: Alternative 5, Option 1 <40'

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	467	467	0	3,266	3,266	0	17	17	$ -	$ 5,325,489	$ 5,325,489
	CPs in GOA Rockfish Pilot Program	467	467	77	0	77	7	0	7	$ 44,418	$ -	$ 44,418
	Sablefish CPs >= 60'	467	467	1,008	995	2,003	10	15	18	$ 134,395	$ 14,974	$ 149,370
	Sablefish CPs 50' - 59.9'	467	467	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	467	467	79	76	155	6	3	7	$ 26,682	$ 4,896	$ 31,578
	Non-Specified Trawl CPs >=60'	467	467	557	4,714	5,271	14	22	24	$ 137,735	$ 1,481,211	$ 1,618,946
	Non-Specified Fixed Gear CPs >= 60'	467	467	619	7,497	8,115	17	42	43	$ 98,087	$ 1,558,732	$ 1,656,819
	Fixed Gear CPs 50' - 59.9'	467	467	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	467	467	311	0	311	26	0	26	$ 44,745	$ -	$ 44,745
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 563,108	$ 62,742	$ 625,850
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 102,530	$ 10,279	$ 112,809
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 18,419	$ -	$ 18,419
	Halibut IFQ CVs	467	467	12,696	6,983	19,679	1077	329	1351	$ 1,456,043	$ 267,196	$ 1,723,239
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	467	0	5,763	5,763	0	82	82	$ -	$ 4,828,565	$ 4,828,565
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 259,993	$ 455,700	$ 715,693
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,634,363	$ 5,916,958	$ 7,551,321
Processors	Motherships AFA and Non-AFA	467	467	73	465	538			11	$ -	$ -	$ -
	Shore-based/Floating processors (AFA)	467	467	0	779	779			7	$ -	$ -	$ -
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,717	36,782	66,499				$ 4,704,669	$ 14,692,214	$ 19,396,883
	Total (restructured only)			29,717	36,782	66,499				$ 4,704,669	$ 14,692,214	$ 19,396,883

Table Appendix 11 – 17: Alternative 5, Option 1 <40' (Continued)

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required (P2)		P2 Observer Days Required (P2)			Revenue Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total	GOA	BSAI	Total
CPs	AFA CPs	0	11,404	11,404	0.00	3.49	3.49	1.00	1.00	0	3,266	3,266	$ -	$ 1,525,222	$ 1,525,222
	CPs in GOA Rockfish Pilot Program	95	0	95	1.24	0.00	1.24	1.00	1.00	77	0	77	$ 35,959	$ -	$ 35,959
	Sablefish CPs >= 60'	288	32	320	0.29	0.03	0.16	1.00	1.00	1,008	995	2,003	$ 470,519	$ 464,669	$ 935,188
	Sablefish CPs 50' - 59.9'	[redacted]						1.00	1.00	113	20	133	$ 52,771	$ 9,340	$ 62,111
	Halibut IFQ CPs	57	10	68	0.72	0.14	0.44	1.00	1.00	79	76	155	$ 36,881	$ 35,585	$ 72,467
	Non-Specified Trawl CPs >=60'	295	3,172	3,467	0.53	0.67	0.66	1.00	1.00	557	4,714	5,271	$ 260,119	$ 2,201,438	$ 2,461,557
	Non-Specified Fixed Gear CPs >= 60'	210	3,338	3,548	0.34	0.45	0.44	1.00	1.00	619	7,497	8,115	$ 289,000	$ 3,500,915	$ 3,789,915
	Fixed Gear CPs 50' - 59.9'	[redacted]						1.00	1.00	139	29	168	$ 64,913	$ 13,543	$ 78,456
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	96	0	96	0.31	0.00	0.31	1.00	1.00	311	0	311	$ 145,237	$ -	$ 145,237
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344	$ 93,727	$ 66,688	$ 160,415
	Sablefish CVs 50 - 59.9'	1,206	134	1,340	1.18	0.51	1.04	0.30	0.30	306	79	385	$ 143,042	$ 36,706	$ 179,748
	Sablefish CVs 40 - 49.9'	220	22	242	0.85	0.27	0.71	0.30	0.30	77	24	101	$ 36,006	$ 11,348	$ 47,354
	Sablefish IFQ CVs < 40'	39	0	39	0.40	0.00	0.40	0.30	0.30	30	0	30	$ 13,870	$ -	$ 13,870
	Halibut IFQ CVs	3,118	572	3,690	0.25	0.08	0.19	0.30	0.30	3,809	2,095	5,904	$ 1,778,701	$ 978,265	$ 2,756,965
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	10,340	10,340	0.00	1.79	1.79	1.00	1.00	0	5,763	5,763	$ -	$ 2,691,321	$ 2,691,321
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	557	976	1,533	0.73	0.98	0.87	0.30	0.30	228	298	526	$ 106,470	$ 139,062	$ 245,532
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777	$ 193,618	$ 169,101	$ 362,719
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226	$ 103,534	$ 2,102	$ 105,635
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595	$ 111,311	$ 166,557	$ 277,868
	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706	$ 264,886	$ 65,029	$ 329,915
	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299	$ 114,165	$ 25,312	$ 139,477
	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	124	44	169	$ 58,141	$ 20,735	$ 78,876
	Total CVs (excludes IFQ - halibut and sablefish)	3,500	12,670	16,170	0.00	0.00	0.97			2,039	7,022	9,061	$ 952,126	$ 3,279,218	$ 4,231,343
Processors	Motherships AFA and Non-AFA	0	0	0	0.00	0.00	0.00	1.00	1.00	73	465	538	$ 34,091	$ 217,155	$ 251,246
	Shore-based/Floating processors (AFA)	0	0	0	0.00	0.00	0.00	1.00	1.00	0	779	779	$ -	$ 363,793	$ 363,793
	Shore-based/Floating processors (non-AFA)	0	0	0	0.00	0.00	0.00	0.30	0.30	1,561	354	1,915	$ 729,080	$ 165,318	$ 894,398
	Total	10,074	31,461	41,535	0.34	0.86	0.62			10,998	27,557	38555.1	$ 5,136,042	$ 12,869,202	$ 18,005,245
	Total (restructured only)	10,074	31,461	41,535	0.34	0.86	**0.62**		**0.58**	10,998	27,557	38,555	$ 5,136,042	$ 12,869,202	$ 18,005,245

Table Appendix 11 – 17: Alternative 5, Option 1 <40' (Continued)

	Sector	P2 Over-Under (days) GOA	BSAI	Total	P2 Over-Under (Revenue) GOA	BSAI	Total
CPs	AFA CPs	0	8,138	8,138	$ -	$ 3,800,267	$ 3,800,267
	CPs in GOA Rockfish Pilot Program	18	0	18	$ 8,459	$ -	$ 8,459
	Sablefish CPs >= 60'	-720	-963	-1,683	$ (336,124)	$ (449,695)	$ (785,818)
	Sablefish CPs 50' - 59.9'						
	Halibut IFQ CPs	-22	-66	-88	$ (10,199)	$ (30,689)	$ (40,888)
	Non-Specified Trawl CPs >=60'	-262	-1,542	-1,804	$ (122,384)	$ (720,227)	$ (842,611)
	Non-Specified Fixed Gear CPs >= 60'	-409	-4,159	-4,568	$ (190,913)	$ (1,942,183)	$ (2,133,096)
	Fixed Gear CPs 50' - 59.9'						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	-215	0	-215	$ (100,492)	$ -	$ (100,492)
	Sablefish IFQ CVs >= 60'	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
	Sablefish CVs 50 - 59.9'	899	56	955	$ 420,066	$ 26,036	$ 446,101
	Sablefish CVs 40 - 49.9'	142	-2	140	$ 66,524	$ (1,069)	$ 65,455
	Sablefish IFQ CVs < 40'	10	0	10	$ 4,549	$ -	$ 4,549
	Halibut IFQ CVs	-691	-1,523	-2,214	$ (322,658)	$ (711,068)	$ (1,033,726)
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	4,577	4,577	$ -	$ 2,137,244	$ 2,137,244
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	329	678	1,007	$ 153,523	$ 316,638	$ 470,161
	Catcher Vessels >= 60' trawl non-AFA	700	43	744	$ 327,115	$ 20,183	$ 347,298
	Catcher Vessels 50' - 59.9' trawl non-AFA	301	26	327	$ 140,780	$ 12,073	$ 152,853
	Catcher Vessels >= 60' Fixed gear	142	271	414	$ 66,468	$ 126,679	$ 193,148
	Catcher Vessels 50' - 59.9' Fixed gear	140	102	242	$ 65,148	$ 47,741	$ 112,889
	Catcher Vessels 40' - 49.9' Fixed gear	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
	Catcher Vessels < 40' Fixed gear	-93	-42	-135	$ (43,392)	$ (19,736)	$ (63,128)
	Total CVs (excludes IFQ - halibut and sablefish)	1,461	5,648	7,109	$ 682,237	$ 2,637,740	$ 3,319,978
Processors	Motherships AFA and Non-AFA	-73	-465	-538	$ (34,091)	$ (217,155)	$ (251,246)
	Shore-based/Floating processors (AFA)	0	-779	-779	$ -	$ (363,793)	$ (363,793)
	Shore-based/Floating processors (non-AFA)	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total	-923.7	3904	2980	$ (431,373)	$ 1,823,012	$ 1,391,639
	Total (restructured only)	-924	3,904	2,980	$ (431,373)	$ 1,823,012	$ 1,391,639

Alternative 3 (2% fee), with Option 1 applied to all vessels < 60’ LOA (1% fee)

NOTE: Assumes no observer deployment in <40’ sectors

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	366	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
CPs	CPs in GOA Rockfish Pilot Program	366	366	77	0	77	7	0	7	$ 28,182	$ -	$ 28,182
CPs	Sablefish CPs >= 60'	366	366	1,008	995	2,003	10	15	18	$ 368,758	$ 364,173	$ 732,931
CPs	Sablefish CPs 50' - 59.9'	366	366	113	20	133	1	1	2	[redacted]		
CPs	Halibut IFQ CPs	366	366	79	76	155	6	3	7	$ 28,905	$ 27,889	$ 56,794
CPs	Non-Specified Trawl CPs >=60'	366	366	557	4,714	5,271	14	22	24	$ 203,862	$ 1,725,324	$ 1,929,186
CPs	Non-Specified Fixed Gear CPs >= 60'	366	366	619	7,497	8,115	17	42	43	$ 226,497	$ 2,743,758	$ 2,970,255
CPs	Fixed Gear CPs 50' - 59.9'	366	366	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311	0	311	26	0	26	$ 113,826	$ -	$ 113,826
MGT CVs	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
MGT CVs	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 281,554	$ 31,371	$ 312,925
MGT CVs	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
MGT CVs	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
MGT CVs	Halibut IFQ CVs >= 60'	467	467	879	152	1,031	77	27	83	$ 731,107	$ 146,772	$ 877,879
MGT CVs	Halibut IFQ CVs 40 - 59.9'	467	467	5,873	512	6,384	537	45	560	$ 858,614	$ 172,370	$ 1,030,983
MGT CVs	Halibut IFQ CVs <40'	467	467	5,957	6,330	12,287	463	257	708	$ 231,876	$ 21,440	$ 253,316
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 122,157	$ 7,087	$ 129,244
Unspecified CV	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 165,017	$ 56,385	$ 221,402
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 43,380	$ 11,115	$ 54,495
Unspecified CV	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 14,750	$ 999	$ 15,748
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755				$ 1,167,855	$ 3,123,310	$ 4,291,165
Processors	Motherships AFA and Non-AFA	366	366	73	465	538			11	$ 26,718	$ 170,190	$ 196,908
Processors	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
Processors	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total			29,730	36,793	66,523				$ 4,831,424	$ 10,076,503	$ 14,907,927
	Total (restructured only) (467 cells)			26,755	13,189	39,944				$ 3,742,444	$ 1,437,507	$ 5,179,951

	Sector	Observer Days Purchased (P1)			Rate Purchased P1			Observer Rate Required		P2 Observer Days Required (P2)		
		GOA	BSAI	Total	GOA	BSAI	Total	GOA	BSAI	GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003
	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115
	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344
	Sablefish CVs 50 - 59.9'	603	67	670	0.59	0.26	0.52	0.30	0.30	306	79	385
	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101
	Sablefish IFQ CVs < 40'	20	0	20	0.20	0	0.20	0.30	0.30	0	0	0
	Halibut IFQ CVs >= 60'	1,566	314	1,880	1.78	2.07	1.82	0.30	0.30	264	46	309
	Halibut IFQ CVs 40 - 59.9'	1,839	369	2,208	0.31	0.72	0.35	0.30	0.30	1,762	154	1,916
	Halibut IFQ CVs <40'	497	46	542	0.08	0.01	0.04	0.30	0.30	0	0	0
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	1.00	0	5,763	5,763
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777
	Catcher Vessels 50' - 59.9' trawl non-AFA	262	15	277	0.35	1.01	0.37	0.30	0.30	222	5	226
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595
	Catcher Vessels 50' - 59.9' Fixed gear	353	121	474	0.19	0.26	0.20	0.30	0.30	567	139	706
	Catcher Vessels 40' - 49.9' Fixed gear	93	24	117	0.11	0.13	0.12	0.30	0.30	244	54	299
	Catcher Vessels < 40' Fixed gear	32	2	34	0.08	0.01	0.06	0.30	0.30	0	0	0
	Total CVs (excludes IFQ - halibut and sablefish)	2,501	7,934	10,435	0.37	0.80	0.62			1,914	6,977	8,892
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	0.00	0.00	0	0	0
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915
	Total	10,989	26,682	37,671								
	Total (restructured only) (467 cells)	8,014	3,078	11,092	0.30	0.23	0.28		**0.30**	6,085	2,013	8,099

Sector	Revenue Required (P2) GOA	Revenue Required (P2) BSAI	Revenue Required (P2) Total	P2 Over-Under (days) GOA	P2 Over-Under (days) BSAI	P2 Over-Under (days) Total	P2 Over-Under (Revenue) GOA	P2 Over-Under (Revenue) BSAI	P2 Over-Under (Revenue) Total
AFA CPs	$ -	$ 1,195,356	$ 1,195,356	0	0	0	$ -	$ -	$ -
CPs in GOA Rockfish Pilot Program	$ 28,182	$ -	$ 28,182	0	0	0	$ -	$ -	$ -
Sablefish CPs >= 60'	$ 368,758	$ 364,173	$ 732,931	0	0	0	$ -	$ -	$ -
Sablefish CPs 50' - 59.9'	$ 41,358	$ 7,320	$ 48,678						
Halibut IFQ CPs	$ 28,905	$ 27,889	$ 56,794	0	0	0	$ -	$ -	$ -
Non-Specified Trawl CPs >=60'	$ 203,862	$ 1,725,324	$ 1,929,186	0	0	0	$ -	$ -	$ -
Non-Specified Fixed Gear CPs >= 60'	$ 226,497	$ 2,743,758	$ 2,970,255	0	0	0	$ -	$ -	$ -
Fixed Gear CPs 50' - 59.9'	$ 50,874	$ 10,614	$ 61,488						
Catcher Vessels in GOA Rockfish Pilot Program	$ 113,826	$ -	$ 113,826	0	0	0	$ -	$ -	$ -
Sablefish IFQ CVs >= 60'	$ 93,727	$ 66,688	$ 160,415	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
Sablefish CVs 50 - 59.9'	$ 143,042	$ 36,706	$ 179,748	297	-11	285	$ 138,512	$ (5,335)	$ 133,176
Sablefish CVs 40 - 49.9'	$ 36,006	$ 11,348	$ 47,354	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
Sablefish IFQ CVs < 40'	$ -	$ -	$ -	20	0	20	$ 9,210	$ -	$ 9,210
Halibut IFQ CVs >= 60'	$ 123,148	$ 21,295	$ 144,443	1,302	269	1,571	$ 607,959	$ 125,477	$ 733,436
Halibut IFQ CVs 40 - 59.9'	$ 822,807	$ 71,731	$ 894,539	77	216	292	$ 35,806	$ 100,639	$ 136,445
Halibut IFQ CVs <40'	$ -	$ -	$ -	497	46	542	$ 231,876	$ 21,440	$ 253,316
Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ -	$ 2,109,258	$ 2,109,258	0	0	0	$ -	$ -	$ -
Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	$ 106,470	$ 139,062	$ 245,532	38	679	716	$ 17,569	$ 316,885	$ 334,453
Catcher Vessels >= 60' trawl non-AFA	$ 193,618	$ 169,101	$ 362,719	700	43	744	$ 327,115	$ 20,183	$ 347,298
Catcher Vessels 50' - 59.9' trawl non-AFA	$ 103,534	$ 2,102	$ 105,635	40	11	51	$ 18,623	$ 4,986	$ 23,609
Catcher Vessels >= 60' Fixed gear	$ 111,311	$ 166,557	$ 277,868	142	271	414	$ 66,468	$ 126,679	$ 193,148
Catcher Vessels 50' - 59.9' Fixed gear	$ 264,886	$ 65,029	$ 329,915	-214	-19	-232	$ (99,869)	$ (8,644)	$ (108,513)
Catcher Vessels 40' - 49.9' Fixed gear	$ 114,165	$ 25,312	$ 139,477	-152	-30	-182	$ (70,785)	$ (14,197)	$ (84,982)
Catcher Vessels < 40' Fixed gear	$ -	$ -	$ -	32	2	34	$ 14,750	$ 999	$ 15,748
Total CVs (excludes IFQ - halibut and sablefish)	$ 893,984	$ 2,676,420	$ 3,570,404	586	957	1,543	$ 273,871	$ 446,890	$ 720,761
Motherships AFA and Non-AFA	$ -	$ -	$ -	0	0	0	$ -	$ -	$ -
Shore-based/Floating processors (AFA)	$ -	$ -	$ -	0	0	0	$ -	$ -	$ -
Shore-based/Floating processors (non-AFA)	$ 729,080	$ 165,318	$ 894,398	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
Total									
Total (restructured only) (467 cells)	$ 2,841,794	$ 940,248	$ 3,782,043	1,929	1,065	2,993	$ 900,650	$ 497,258	$ 1,397,908

Alternative 3 (2% fee), with Option 1 applied to all halibut and sablefish vessels <60’ LOA (1% fee)

NOTE: Assumes no observer deployment in <40’ sectors

	Sector	Fee Structure GOA	Fee Structure BSAI	Sea-days realized GOA	Sea-days realized BSAI	Sea-days realized Total	Number of Participants GOA	Number of Participants BSAI	Number of Participants Total	Cost 2008 GOA	Cost 2008 BSAI	Cost 2008 Total
CPs	AFA CPs	366	366	0	3,266	3,266	0	17	17	$ -	$ 1,195,356	$ 1,195,356
	CPs in GOA Rockfish Pilot Program	366	366	77	0	77	7	0	7	$ 28,182	$ -	$ 28,182
	Sablefish CPs >= 60'	366	366	1,008	995	2,003	10	15	18	$ 368,758	$ 364,173	$ 732,931
	Sablefish CPs 50' - 59.9'	366	366	113	20	133	1	1	2	[redacted]		
	Halibut IFQ CPs	366	366	79	76	155	6	3	7	$ 28,905	$ 27,889	$ 56,794
	Non-Specified Trawl CPs >=60'	366	366	557	4,714	5,271	14	22	24	$ 203,862	$ 1,725,324	$ 1,929,186
	Non-Specified Fixed Gear CPs >= 60'	366	366	619	7,497	8,115	17	42	43	$ 226,497	$ 2,743,758	$ 2,970,255
	Fixed Gear CPs 50' - 59.9'	366	366	139	29	168	2	1	2	[redacted]		
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	366	366	311	0	311	26	0	26	$ 113,826	$ -	$ 113,826
	Sablefish IFQ CVs >= 60'	467	467	669	476	1,145	42	13	51	$ 416,104	$ 46,362	$ 462,466
	Sablefish CVs 50 - 59.9'	467	467	1,021	262	1,283	97	11	104	$ 281,554	$ 31,371	$ 312,925
	Sablefish CVs 40 - 49.9'	467	467	257	81	338	51	3	52	$ 46,126	$ 5,139	$ 51,265
	Sablefish IFQ CVs < 40'	467	467	99	0	99	16	0	16	$ 9,210	$ -	$ 9,210
	Halibut IFQ CVs >= 60'	467	467	879	152	1,031	77	27	83	$ 731,107	$ 146,772	$ 877,879
	Halibut IFQ CVs 40 - 59.9'	467	467	5,873	512	6,384	537	45	560	$ 858,614	$ 172,370	$ 1,030,983
	Halibut IFQ CVs <40'	467	467	5,957	6,330	12,287	463	257	708	$ 231,876	$ 21,440	$ 253,316
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	467	366	0	5,763	5,763	0	82	82	$ -	$ 2,109,258	$ 2,109,258
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	467	467	760	993	1,753	20	84	84	$ 124,039	$ 455,946	$ 579,985
	Catcher Vessels >= 60' trawl non-AFA	467	467	1,382	1,207	2,589	25	21	40	$ 520,733	$ 189,284	$ 710,017
	Catcher Vessels 50' - 59.9' trawl non-AFA	467	467	739	15	754	27	3	27	$ 244,314	$ 14,175	$ 258,488
	Catcher Vessels >= 60' Fixed gear	467	467	795	1,189	1,983	104	74	138	$ 177,779	$ 293,236	$ 471,015
	Catcher Vessels 50' - 59.9' Fixed gear	467	467	1,891	464	2,355	293	43	300	$ 330,034	$ 112,770	$ 442,804
	Catcher Vessels 40' - 49.9' Fixed gear	467	467	815	181	996	339	20	347	$ 86,760	$ 22,230	$ 108,990
	Catcher Vessels < 40' Fixed gear	467	467	415	148	563	491	268	744	$ 29,499	$ 1,997	$ 31,497
	Total CVs (excludes IFQ - halibut and sablefish)			6,796	9,959	16,755	[redacted]			$ 1,513,158	$ 3,198,896	$ 4,712,054
Processors	Motherships AFA and Non-AFA	366	366	73	465	538			11	$ 26,718	$ 170,190	$ 196,908
	Shore-based/Floating processors (AFA)	467	366	0	779	779			7	$ -	$ 285,114	$ 285,114
	Shore-based/Floating processors (non-AFA)	467	467	5,204	1,180	6,384			24	$ -	$ -	$ -
	Total	[redacted]		29,730	36,793	66,523	[redacted]			$ 5,176,727	$ 9,866,975	$ 16,986,515
	Total (restructured only) (467 cells)			26,755	13,189	39,944	[redacted]			$ 4,087,747	$ 1,513,093	$ 5,600,840

	Sector	Observer Days Purchased (P1) GOA	BSAI	Total	Rate Purchased P1 GOA	BSAI	Total	Observer Rate Required GOA	BSAI	P2 Observer Days Required (P2) GOA	BSAI	Total
CPs	AFA CPs	0	3,266	3,266	0.00	1.00	1.00	1.00	1.00	0	3,266	3,266
	CPs in GOA Rockfish Pilot Program	77	0	77	1.00	0.00	1.00	1.00	1.00	77	0	77
	Sablefish CPs >= 60'	1,008	995	2,003	1.00	1.00	1.00	1.00	1.00	1,008	995	2,003
	Sablefish CPs 50' - 59.9'							1.00	1.00	113	20	133
	Halibut IFQ CPs	79	76	155	1.00	1.00	1.00	1.00	1.00	79	76	155
	Non-Specified Trawl CPs >=60'	557	4,714	5,271	1.00	1.00	1.00	1.00	1.00	557	4,714	5,271
	Non-Specified Fixed Gear CPs >= 60'	619	7,497	8,115	1.00	1.00	1.00	1.00	1.00	619	7,497	8,115
	Fixed Gear CPs 50' - 59.9'							1.00	1.00	139	29	168
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	311	0	311	1.00	0.00	1.00	1.00	1.00	311	0	311
	Sablefish IFQ CVs >= 60'	891	99	990	1.33	0.21	0.86	0.30	0.30	201	143	344
	Sablefish CVs 50 - 59.9'	603	67	670	0.59	0.26	0.52	0.30	0.30	306	79	385
	Sablefish CVs 40 - 49.9'	99	11	110	0.38	0.14	0.32	0.30	0.30	77	24	101
	Sablefish IFQ CVs < 40'	20	0	20	0.20	0	0.20	0.30	0.30	0	0	0
	Halibut IFQ CVs >= 60'	1,566	314	1,880	1.78	2.07	1.82	0.30	0.30	264	46	309
	Halibut IFQ CVs 40 - 59.9'	1,839	369	2,208	0.31	0.72	0.35	0.30	0.30	1,762	154	1,916
	Halibut IFQ CVs <40'	497	46	542	0.08	0.01	0.04	0.30	0.30	0	0	0
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	0	5,763	5,763	0.00	1.00	1.00	1.00	1.00	0	0	0
	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	266	976	1,242	0.35	0.98	0.71	0.30	0.30	228	298	526
	Catcher Vessels >= 60' trawl non-AFA	1,115	405	1,520	0.81	0.34	0.59	0.30	0.30	415	362	777
	Catcher Vessels 50' - 59.9' trawl non-AFA	523	30	554	0.71	2.02	0.73	0.30	0.30	222	5	226
	Catcher Vessels >= 60' Fixed gear	381	628	1,009	0.48	0.53	0.51	0.30	0.30	238	357	595
	Catcher Vessels 50' - 59.9' Fixed gear	707	241	948	0.37	0.52	0.40	0.30	0.30	567	139	706
	Catcher Vessels 40' - 49.9' Fixed gear	186	48	233	0.23	0.26	0.23	0.30	0.30	244	54	299
	Catcher Vessels < 40' Fixed gear	63	4	67	0.15	0.03	0.12	0.30	0.30	0	0	0
	Total CVs (excludes IFQ - halibut and sablefish)	3,240	8,096	11,336	0.48	0.81	0.68			1,914	1,214	3,129
Processors	Motherships AFA and Non-AFA	73	465	538	1.00	1.00	1.00	0.00	0.00	0	0	0
	Shore-based/Floating processors (AFA)	0	779	779	NA	1.00	1.00	1.00	0.00	0	0	0
	Shore-based/Floating processors (non-AFA)	0	0	0	NA	NA	0.00	0.30	0.30	1,561	354	1,915
	Total	11,729	26,844	38,572								
	Total (restructured only) (467 cells)	8,753	3,240	11,993	0.33	0.25	0.30		**0.30**	6,085	2,013	8,099

	Sector	Revenue Required (P2) GOA	Revenue Required (P2) BSAI	Revenue Required (P2) Total	P2 Over-Under (days) GOA	P2 Over-Under (days) BSAI	P2 Over-Under (days) Total	P2 Over-Under (Revenue) GOA	P2 Over-Under (Revenue) BSAI	P2 Over-Under (Revenue) Total
CPs	AFA CPs	$ -	$ 1,195,356	$ 1,195,356	0	0	0	$ -	$ -	$ -
CPs	CPs in GOA Rockfish Pilot Program	$ 28,182	$ -	$ 28,182	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs >= 60'	$ 368,758	$ 364,173	$ 732,931	0	0	0	$ -	$ -	$ -
CPs	Sablefish CPs 50' - 59.9'	$ 41,358	$ 7,320	$ 48,678						
CPs	Halibut IFQ CPs	$ 28,905	$ 27,889	$ 56,794	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Trawl CPs >=60'	$ 203,862	$ 1,725,324	$ 1,929,186	0	0	0	$ -	$ -	$ -
CPs	Non-Specified Fixed Gear CPs >= 60'	$ 226,497	$ 2,743,758	$ 2,970,255	0	0	0	$ -	$ -	$ -
CPs	Fixed Gear CPs 50' - 59.9'	$ 50,874	$ 10,614	$ 61,488						
MGT CVs	Catcher Vessels in GOA Rockfish Pilot Program	$ 113,826	$ -	$ 113,826	0	0	0	$ -	$ -	$ -
MGT CVs	Sablefish IFQ CVs >= 60'	$ 93,727	$ 66,688	$ 160,415	690	-44	647	$ 322,377	$ (20,325)	$ 302,052
MGT CVs	Sablefish CVs 50 - 59.9'	$ 143,042	$ 36,706	$ 179,748	297	-11	285	$ 138,512	$ (5,335)	$ 133,176
MGT CVs	Sablefish CVs 40 - 49.9'	$ 36,006	$ 11,348	$ 47,354	22	-13	8	$ 10,120	$ (6,209)	$ 3,911
MGT CVs	Sablefish IFQ CVs < 40'	$ -	$ -	$ -	20	0	20	$ 9,210	$ -	$ 9,210
MGT CVs	Halibut IFQ CVs >= 60'	$ 123,148	$ 21,295	$ 144,443	1,302	269	1,571	$ 607,959	$ 125,477	$ 733,436
MGT CVs	Halibut IFQ CVs 40 - 59.9'	$ 822,807	$ 71,731	$ 894,539	77	216	292	$ 35,806	$ 100,639	$ 136,445
MGT CVs	Halibut IFQ CVs <40'	$ -	$ -	$ -	497	46	542	$ 231,876	$ 21,440	$ 253,316
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Pollock Targets)	$ -	$ -	$ -	0	0	0	$ -	$ 2,109,258	$ 2,109,258
Unspecified CV	Catcher Vessels >= 60' trawl AFA (BS Non-Pollock Targets)	$ 106,470	$ 139,062	$ 245,532	38	679	716	$ 17,569	$ 316,885	$ 334,453
Unspecified CV	Catcher Vessels >= 60' trawl non-AFA	$ 193,618	$ 169,101	$ 362,719	700	43	744	$ 327,115	$ 20,183	$ 347,298
Unspecified CV	Catcher Vessels 50' - 59.9' trawl non-AFA	$ 103,534	$ 2,102	$ 105,635	301	26	327	$ 140,780	$ 12,073	$ 152,853
Unspecified CV	Catcher Vessels >= 60' Fixed gear	$ 111,311	$ 166,557	$ 277,868	142	271	414	$ 66,468	$ 126,679	$ 193,148
Unspecified CV	Catcher Vessels 50' - 59.9' Fixed gear	$ 264,886	$ 65,029	$ 329,915	140	102	242	$ 65,148	$ 47,741	$ 112,889
Unspecified CV	Catcher Vessels 40' - 49.9' Fixed gear	$ 114,165	$ 25,312	$ 139,477	-59	-7	-65	$ (27,405)	$ (3,082)	$ (30,487)
Unspecified CV	Catcher Vessels < 40' Fixed gear	$ -	$ -	$ -	63	4	67	$ 29,499	$ 1,997	$ 31,497
	Total CVs (excludes IFQ - halibut and sablefish)	$ 893,984	$ 567,162	$ 1,461,146	1,326	1,119	2,445	$ 619,174	$ 2,631,734	$ 3,250,908
Processors	Motherships AFA and Non-AFA	$ -	$ -	$ -	0	0	0	$ 26,718	$ 170,190	$ 196,908
Processors	Shore-based/Floating processors (AFA)	$ -	$ -	$ -	0	0	0	$ -	$ 285,114	$ 285,114
Processors	Shore-based/Floating processors (non-AFA)	$ 729,080	$ 165,318	$ 894,398	-1,561	-354	-1,915	$ (729,080)	$ (165,318)	$ (894,398)
	Total									
	Total (restructured only) (467 cells)	$ 2,841,794	$ 940,248	$ 3,782,043	2,668	1,227	3,895	$ 1,245,953	$ 572,844	$ 1,818,798

Council Final Motion on Observer Restructuring

BSAI Amendment 86/GOA Amendment 76

October 8, 2010

The Council adopts Alternative 3, the "coverage-based" restructuring alternative as its preferred alternative, with the following components that include a modified version of Option 2:

Two tier system for general coverage categories: All vessels and processors in the groundfish and halibut fisheries off Alaska would be placed into one of two observer coverage categories. These categories would be established in regulation:

1. the "greater than or equal to 100%" (≥100%) coverage category, and
2. the "less than 100 percent" (<100%) coverage category.

Vessels and processors in the ≥100% coverage category would not be included under the ex-vessel fee-based program and would continue to obtain observers by contracting directly with observer providers ("status quo").

Vessels and processors that would be placed in the ≥100% include:

1. all catcher/processors and motherships participating in the groundfish and halibut fisheries,
2. all catcher vessels while fishing under a management system that uses prohibited species caps in conjunction with a catch share program, and
3. all shoreside and floating processors when taking deliveries of AFA or CDQ pollock.

100% coverage would not be mandated for vessels <60' with a history of CP and CV activity in a single year or any catcher processor vessel with an average daily production of less than 5,000 pounds[1], in the most recent full calendar year of operation prior to January 1, 2010. These vessels would make a one-time election as to whether they will be in the <100% coverage and ex-vessel based fee structure or the ≥100% coverage and (status quo) fee structure category.

All other catcher vessel landings in the groundfish and halibut fisheries, and processors taking deliveries of this catch, would fall into the <100% coverage category. Observer coverage for vessels and processors in the <100% coverage category would be managed under an ex-vessel fee based observer service delivery model with the following features:

Basis of the fee assessment: A fee would be assessed on the ex-vessel value of the landed catch weight of groundfish and halibut. The landed catch weight would be the weight equivalents used to debit quotas (e.g., round weight for groundfish and headed and gutted net weight for halibut) which are reported on the processor's or registered buyer's landing report submitted to NMFS.

Ex-vessel value fee percentage of 1.25%: The fee percentage would be set in regulation at 1.25% of the ex-vessel value of groundfish and halibut. The fee percentage will be reviewed annually by the Council after the second year of the program (see Option 2 annual reports, below).

Selection of vessels and processors for observer coverage: The selection of vessels and processors that must carry an observer under the restructured program would be determined through a sampling and deployment plan. Observer coverage rates (trips or vessels) would not be in regulation.

[1]Staff note: The 5,000 pounds would be calculated as the round weight equivalent. The Council clarified that this would be calculated by dividing total annual production by the number of days of processing activity.

Standard ex-vessel prices to apply to (non-IFQ) groundfish landings to determine the ex-vessel value based fee liability would be based on standardized ex-vessel nominal prices calculated using data derived from COAR using the methodology developed by the CFEC for their gross earnings estimates.

Standard ex-vessel prices would be established for groundfish by species, port of landing, and gear. Three gear type categories would be established: pelagic trawl gear, non-pelagic trawl gear, and fixed gear (everything else besides trawl gear). Because of data confidentiality issues, standardized price data must be aggregated if there are fewer than 3 entities in a price category.

A 3-year rolling average would be used to calculate the standard ex-vessel prices for groundfish (excluding fixed gear IFQ/CDQ sablefish)**.**

Standard annual ex-vessel prices for halibut and sablefish IFQ and CDQ: The most recent available standard annual ex-vessel price for IFQ halibut and IFQ sablefish developed for the IFQ cost recovery program would be applied to landings by:

- catcher vessels in the <100% observer coverage category of halibut IFQ,
- halibut CDQ,
- sablefish IFQ, and
- sablefish that accrues against the fixed gear sablefish CDQ allocation.

This standard ex-vessel price is established annually by port or port group from registered buyer reports.

How to define a catcher/processor: The determination of whether a vessel is a catcher/processor or a catcher vessel for assignment to an observer coverage category would be based on the designation that is on that vessel's Federal Fisheries Permit (FFP). Once established prior to the beginning of each fishing year, the designation as a catcher/processor or catcher vessel determines the vessel operation category assignment within the restructured observer program sampling and deployment plan for the calendar year. A different approach would be used for vessels that are included in the program, but not required to obtain an FFP. The appropriate approach would be determined during development of the proposed rule

<u>The following exclusions would be made</u>:

State water GHL and state-managed fisheries: Vessels participating in GHL groundfish fisheries and other state managed non-groundfish fisheries (e.g., lingcod) would be excluded from Federal observer coverage requirements, but non-GHL groundfish incidentally caught in the State GHL and other non groundfish managed fisheries that are landed by vessels with FFPs would be subject to the fee assessment.

Vessels with an FFP fishing in the State of Alaska parallel groundfish fisheries would be subject to the Federal observer coverage requirements and the ex-vessel fee assessment.

Catcher vessels delivering unsorted cod ends to a mothership: As is the case under status quo, observers would not be required on catcher vessels delivering groundfish in unsorted codends to a mothership. Because all motherships are in the ≥100% observer coverage category, no fee would be assessed on these groundfish landings, and observer coverage of the catch would occur on the mothership under the status quo system of observer coverage requirements.

Landings from catcher vessels in the <100% coverage category that deliver groundfish or halibut catch that is retrieved onboard the catcher vessel before delivery to the mothership ("sorted catch") would be subject to the fee assessment and observer coverage under the restructured program.

Start-up funding: Funds must be collected prior to deployment of observers under the restructured portion of the program to initiate contracts for observer deployment. Alternative 3 is expected to provide start-up funding in one year. During the start-up period ("year-0"), vessels and processors subject to the 1.25% fee assessment would continue to pay for current observer coverage requirements. Processors would be billed at the end of the year. Vessels and processors will only be required to pay the difference between the fee assessment and the actual year-0 observer costs under the status quo deployment model.

Federal funding for start-up costs: The Alaska Region NMFS will continue to seek federal funding for start-up costs of implementation of the restructured observer program. If federal funding is available, it would be used towards the initial deployment of observers under a restructured program.

Modified Option 2: Annual Report and Review of the Sampling and Deployment Plan and the 1.25% fee assessment:

The following statement replaces the existing language for Option 2:

NMFS will release an observer report by September 1 of each year. The report will contain the proposed stratum and coverage rates for the deployment of observers in the following calendar year, as well as a detailed financial spreadsheet by budget category on the financial aspects of the program. The Council may request its Observer Advisory Committee, Groundfish Plan Teams and/or the SSC to review and comment on this draft plan. NMFS will consult with the Council each year on the draft plan for the upcoming year, at a meeting of the Council's choosing that provides sufficient time for Council review and input to NMFS.

NMFS also would prepare an annual report on the observer program for presentation to the Council each year, including information on how industry participants have adapted to and been able to accommodate the new program. As part of this annual report, the 1.25% fee percentage would be reviewed by the Council after completion of the second year of observer deployment in the restructured program. The Council could revise the fee assessment percentage in the future through rulemaking after it had an opportunity to evaluate program revenues and costs, observer coverage levels, fishery management objectives, and future sampling and observer deployment plans. This report would be provided to the Council at the same time the annual deployment plan is being provided.

Development of regulations (deeming):

The Council requests to see the draft proposed regulations prior to their submission to the Secretary of Commerce.

Program review:

The Council approved a review of the observer program, to begin five years after implementation (i.e., first year of deployment is year one), to assess whether the goals and objectives of the problem statement to restructure the observer program have been achieved.

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