

INITIAL REVIEW DRAFT

**Regulatory Impact Review/
Initial Regulatory Flexibility Analysis**

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***An action for placing certain small
catcher/processors in
partial observer coverage***

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Abstract: This Regulatory Impact Review/Initial Regulatory Flexibility Analysis (RIR/IRFA) analyzes proposed management measures that would allow certain catcher/processors, with relatively small levels of groundfish production, to qualify for partial observer coverage under the annual observer deployment plan, in place of the full observer coverage normally required of catcher/processor vessels. The cost-benefit analysis and small entity analysis in this document meets the requirements of Executive Order 12866 and the Regulatory Flexibility Act.

List of Acronyms and Abbreviations

'	Feet
AAC	Alaska Administrative Code
ABC	acceptable biological catch
ADF&G	Alaska Department of Fish and Game
AEQ	adult equivalent
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AGDB	Alaska Groundfish Data Bank
AKFIN	Alaska Fisheries Information Network
ANILCA	Alaska National Interest Lands Conservation Act
BASIS	Bering Sea-Aleutian Salmon International Survey
BEG	biological escapement goal
BOF	Board of Fish
BSAI	Bering Sea and Aleutian Islands
CAS	Catch Accounting System
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COAR	Commercial Operators Annual Report
Council	North Pacific Fishery Management Council
CP	catcher/processor
CV	catcher vessel
CWT	coded-wire tag
DPS	distinct population segment
E	East
E.O.	Executive Order
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ESU	endangered species unit
FMA	Fisheries Monitoring and Analysis
FMP	fishery management plan
FONSI	Finding of No Significant Impact
FR	<i>Federal Register</i>
FRFA	Final Regulatory Flexibility Analysis
ft	foot or feet
GHL	guideline harvest level
GOA	Gulf of Alaska
ID	Identification
IRFA	Initial Regulatory Flexibility Analysis
IPA	Incentive Plan Agreement
IQF	individually quick frozen
JAM	jeopardy or adverse modification
lb(s)	pound(s)
LEI	long-term effect index
LLP	license limitation program
LOA	length overall
m	meter or meters

Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
MSST	minimum stock size threshold
mt	metric ton
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act
NMFS	National Marine Fishery Service
NOAA	National Oceanographic and Atmospheric Administration
NPAFC	North Pacific Anadromous Fish Commission
NPFMC	North Pacific Fishery Management Council
NPPSD	North Pacific Pelagic Seabird Database
Observer Program	North Pacific Groundfish Observer Program
OEG	optimal escapement goal
OMB	Office of Management and Budget
PBR	potential biological removal
PSC	prohibited species catch
PPA	Preliminary preferred alternative
PRA	Paperwork Reduction Act
PSEIS	Programmatic Supplemental Environmental Impact Statement
PWS	Prince William Sound
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future action
RIR	Regulatory Impact Review
RPA	reasonable and prudent alternative
RSW	refrigerated seawater
SAFE	Stock Assessment and Fishery Evaluation
SAR	stock assessment report
SBA	Small Business Act
Secretary	Secretary of Commerce
SEG	sustainable escapement goal
SET	sustainable escapement threshold
SNP	single nucleotide polymorphism
SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
SRKW	Southern Resident killer whales
SSFP	Sustainable Salmon Fisheries Policy
SW	southwest
TAC	total allowable catch
U.S.	United States
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VMS	vessel monitoring system
W	West

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Executive Summary

Under the Restructured Observer Program, all catcher/processors are in the full observer coverage category unless they meet the requirements for an allowance to be placed in partial coverage. The placement of catcher/processors in full coverage enables NMFS to obtain independent estimates of catch, at-sea discards, and prohibited species catch (PSC) for catcher/processor vessels. In recognition of the relatively high cost of full coverage for smaller catcher/processors and the limited amount of catch and bycatch by these vessels, the Council recommended two limited allowances for placing a catcher/processor in partial coverage. Both of these allowances were based on vessel activity from 2003 to 2009.

Since implementation of the Restructured Observer Program, owners and operators of some catcher/processors with relatively small production have requested that the Council and NMFS revise these allowances to include vessels that began processing after 2009. These operators believe that the costs they incur for full observer coverage are disproportionate to the revenues they earn and that these high costs preclude them from operating in some fisheries.

In December 2014, the Council adopted a motion, reprinted in Appendix A. The Council Motion contained a Purpose and Need statement that the allowance for placing a catcher/processor in partial coverage should, at a minimum, be based on a measurement of ongoing production that shows that the catcher/processor processes a small amount of groundfish relative to the rest of the catcher/processor fleet. The Council Motion also stated that the current regulations do not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage.

The Council Motion stated that the this action should maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category, provide an appropriate balance between data quality and the cost of observer coverage; and establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and to enforce.

This Regulatory Impact Review (RIR) examines the benefits and costs of a proposed regulatory amendment to modify provisions of the Restructured Observer Program that allowed certain small catcher/processors to qualify for partial observer coverage rather than the full observer coverage generally required of catcher/processors. The modifications would increase the number of catcher/processors that may qualify for partial coverage. The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735: October 4, 1993).

Based on information to date, NMFS has concluded that this action would qualify for a Categorical Exclusion from further review under the National Environmental Protection Act (NEPA) because it would be an amendment to a previously analyzed and approved action and would have no effect on the human environment beyond what was analyzed in prior actions.

Description of Alternatives

Two alternatives (no action and action) are under consideration.

Alternative 1. No action; maintain existing exemptions. The existing exemptions from full coverage exempt three classes of catcher/processors: (1) vessels under 60 feet which acted as a catcher vessel and a catcher/processor in any year from 2003 through 2009; (2) vessels that processed less than 5,000 pounds on an average daily basis in their last year of production from 2003 through 2009; (3) vessels that

processed less than one metric ton of groundfish on every day during the preceding fishing year, which means a maximum of 365 metric tons in a year.

The first two exemptions are permanent, namely if a catcher/processor meets those exemptions based on the vessel's activity from 2003 to 2009, the catcher/processor is in partial coverage permanently, without any limit on the groundfish production by the vessel. NMFS has placed three vessels in partial coverage under these two exemptions.

The third exemption—processing one metric ton or less on every day in a year—is valid for one year. Under this exemption, NMFS placed one vessel in partial coverage for one year because this vessel processed no groundfish in the prior year and therefore processed one metric ton or less on every day in the year. No catcher/processor that actually did any processing from 2009 to 2014 processed one metric ton or less on every day in any of those years. The one metric ton exemption has very limited utility. One vessel has qualified for the one metric ton exemption in 2015. However, if this vessel operates in an economically meaningful way in 2015, it will not be able to use the exemption in 2016.

Alternative 1, the Status Quo alternative, is essentially a closed system. It allows the owners of catcher/processors that met production criteria from 2003 through 2009 to permanently choose partial coverage. It allows these catcher/processor owners to maintain partial coverage irrespective of how much groundfish they process.

Alternative 1 does not meet most of the Council's objectives for this action. Alternative 1 does not place catcher/processors in partial coverage based on any determination of the vessel's ongoing production and therefore it is not based on whether the vessel's ongoing production is small relative to the rest of the fleet. Alternative 1 does not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage. Alternative 1 does not provide a balance between data quality and the cost of observer coverage because vessels are placed in partial coverage based on their activity from 2003 to 2009; the hybrid allowance is based on any activity by a catcher/processor as a catcher vessel between 2003 to 2009; and the 5,000 pounds allowance was not the result of an empirical examination of fleet-wide production data.

Alternative 1 does create an extremely limited exemption by essentially excluding any catcher/processor that began processing after 2009. Alternative 1 is not unduly difficult to apply and enforce.

Alternative 2. Revise the allowances for NMFS to place small catcher/processors into partial coverage. Under this alternative, the basic criterion for placing a catcher/processor in partial coverage in a fishing year is the vessel's prior production *except* if the catcher/processor is under an independent obligation to operate subject to full coverage due to its participation in a catch share program or similar arrangement.

Catcher/processors subject to independent requirements for $\geq 100\%$ coverage include catcher/processors operating under the American Fisheries Act (AFA), the Amendment 80 Quota Share Program, the Rockfish Quota Share Program, the Community Development Quota (CDQ) Program, the Aleutian Islands pollock fishery, and the longline catcher/processor subsector. While operating under an independent requirement for $\geq 100\%$ observer coverage, a catcher/processor under this action would not be eligible for partial coverage. This limitation significantly reduces the catcher/processor activity that is even potentially subject to partial coverage under the action alternative.

With this limitation, Alternative 2 has five elements.

Element 1 – What is the production threshold for placing a catcher/processor in partial coverage?

Element 1 has 10 options, corresponding to five measures of production and two levels (a lower and higher) for each measure of production. The Council chooses one option.

ES-1 Production thresholds for analysis from Council’s December 2014 Motion (action alternative)

Option	Measure	Threshold based on 10 th percentile approach		Threshold based on kernel density distribution approach	
		Pounds (metric tons)			
1.	Average daily production	1A.	11,000 (5.0)	1B.	15,500 (7.0)
2.	Average weekly production	2A.	42,000 (19.1)	2B.	79,000 (35.8)
3.	Maximum daily production	3A.	26,000 (11.8)	3B.	44,000 (20.0)
4.	Maximum weekly production	4A.	94,000 (42.6)	4B.	197,000 (89.4)
5.	Annual production	5A.	677,000 (307.1)	5B.	2,665,000 (1,208.8)

Sources: Percentile based thresholds summarized from Table 4 in Appendix B of Discussion Paper (Nov. 28, 2014); kernel density based thresholds derived from Table 5 in Appendix B. Tonnage estimates based on rounded pound values reported in table.

Analysts examined NMFS’s production data for catcher/processors for six years: 2009 to 2014. When we excluded processing activity subject to an independent requirement for ≥ 100% coverage, no trawl catcher/processors would have been eligible for partial coverage under any production alternatives in the Council Motion.

Analysts compared the past production of the three vessels that currently qualify for partial coverage with each of the production thresholds in the Council Motion [Table 7]. These three vessels processed below all of the higher production thresholds [Options 1B, 2B, 3B, 4B, 5B] in every year and would have qualified for partial coverage in every year. In most years, these three vessels processed below most of the lower production thresholds [Options 1A, 2A, 3A, 4A, 5A]

Analysts compared the production of the catcher/processors currently in full coverage from 2009 to 2014 with each of the production thresholds in the Council Motion [Table 8]. Between four and eight vessels produced below the production thresholds in the Council Motion. In this category of vessels, six vessels was the most common number of vessels that met the production threshold.

The owners of some vessels have stated that they would begin processing if partial coverage were available. These are persons that wish to process sablefish A Quota Share in the BSAI and owners of jig catcher/processors.

The Council could choose any production threshold in Element 1 and “maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category.” [Council Motion, Appendix A] The production threshold in Option 5B—the higher annual production—includes the most groundfish production [Table 14]. Therefore, an estimate of groundfish production under Option 5B provides an estimate of the maximum amount of groundfish production that would be subject to partial coverage under Alternative 2. The RIR estimates that, under Option 5B, Alternative 2 would place in partial coverage two-tenths of one percent of aggregate BSAI and GOA groundfish production:

The catcher/processor production by the eleven vessels directly regulated by this action accounted for about 3 percent of non-trawl catcher/processor production during the six years from 2009 through 2014. If the fixed gear catcher/processor production estimate was increased by another 400 metric tons, a hypothetical figure suggested in the

discussion of sablefish “A” quota shares, the percentage of fixed gear catcher/processor production under partial coverage would not change.

The sum of the catcher/processor production by these eleven vessels plus a hypothetical 400 metric tons of sablefish catcher/processor production, accounted for about two-tenths of a percent of aggregate BSAI and GOA groundfish production during the same 2009 through 2014 period. [Section 3.7.12]

Even though none of the production measures would include a significant amount of groundfish production, the production measures have different features. The *maximum daily or maximum weekly production measure* could exclude a catcher/processor from partial coverage for an outlier day or week, even though it overall processed a small amount of groundfish relative to the rest of the fleet. The *average daily production measure* is not in line with how NMFS defines a trip by a catcher/processor, namely production in a week. The *average weekly production measure* is in line with how NMFS defines a trip by a catcher/processor. This measure would put in full coverage a catcher/processor that has intense periods of production, even if the vessel was quiescent during part of the year, because that activity would increase the vessel’s average weekly production figures. The *annual measure* is easy to understand and is a direct measure of the vessel’s impact on the resource but might allow a catcher/processor in partial coverage that has intense periods of activity during the year.

Element 2. What is the basis year for placing a catcher/processor in partial coverage?

NMFS cannot use the vessel’s production in the year immediately prior to the fishing year to determine whether a catcher/processor is eligible for partial coverage. The calendar year ends December 31 and fishing begins January 1. Even if NMFS could somehow discount the last few weeks of fishing in December, NMFS uses the entire year before the fishing year to develop the Annual Deployment Plan (ADP) for the upcoming fishing year. And if a vessel owner must request partial coverage, an option under Element 4, the vessel owner needs time after the end of the fishing year to make that request.

NMFS will determine whether a catcher/processor may be placed in partial coverage by the vessel’s production in the fishing year minus two years. Thus, for fishing year 2017, NMFS will develop the ADP during 2016 and will determine whether a catcher/processor is eligible for partial coverage based on the vessel’s activity in 2015. If the vessel had no activity in 2015, NMFS will go back to the vessel’s most recent year of production before 2015 but not prior to 2009.

Element 3. If a vessel has no production in the basis year as determined under Element 2, how should NMFS determine whether to place a catcher/processor in partial coverage?

This situation would be a new catcher/processor or a catcher/processor with a gap in processing activity since 2008 with, again, the important caveat that a new catcher/processor in any catch share program with $\geq 100\%$ observer requirements would not be eligible for partial coverage while operating in that program.

The Council must choose one option. Under **Option 1**, NMFS would place a new catcher/processor in full coverage until the vessel had its own production history. Under **Option 2**, NMFS would place a new catcher/processor in partial coverage until the vessel had its own production history. Under **Option 3**, NMFS would place a new trawl catcher/processor in full coverage until it had its own production history. Since almost all trawl catcher/processor activity is in full coverage anyway due to independent requirements, Option 3 will largely be unnecessary but it would guarantee that 100% of trawl catcher/processor activity would always be in full coverage.

Element 4. For a catcher/processor to be in partial coverage, will the vessel owner have to choose partial coverage?

The Council must choose one option. Under **Option 1**, the vessel owner must choose partial coverage for the upcoming fishing year by a deadline in the prior year. Under **Option 2**, NMFS would place a catcher/processor in partial coverage based on its prior production without any action by the owner. These options are only for vessels that produce below the production threshold for partial coverage.

Upon review, it appears that Option 1 is clearly better. Option 1 allows owner choice, which is a good feature of a regulation as long as owner choice does not infringe upon another objective. Option 1 allows the owner to choose full coverage, which does provide NMFS with additional data. NMFS has allowed other vessel owners who were eligible for partial coverage to choose full coverage. Option 1 does not place on NMFS the obligation to notify each year the vessels that do, and do not, qualify for partial coverage. Option 1 places the responsibility on the vessel owner to request full coverage.

Element 5. Should the basic production criterion for placing a catcher/processor in partial coverage be modified based on additional factors? If so, which factors?

The Council may choose any or all factors. **Option 1 is an annual hybrid allowance**, namely whether a catcher/processor acts as a catcher vessel and a catcher/processor during the year. This would not meet the Council's objectives because it would not place a catcher/processor in partial coverage based on whether it processed a small amount of groundfish relative to the overall groundfish fleet. A catcher/processor could process high levels of groundfish even if it sometimes operated as a catcher vessel.

Option 2 examines a gear factor, namely whether a catcher/processor that processes below the production threshold should be excluded from partial coverage because it used particular gear. As discussed under Element 3, a categorical exclusion of trawl catcher/processors would exclude with certainty a class of vessels that probably would already be excluded because they almost always operate in programs that have independent $\geq 100\%$ observer coverage requirements. Although the Council Motion referred to whether a catcher/processor uses "particular gear," it is most likely that the Council had in mind trawl gear under this factor.

As for the three catcher/processors currently in partial coverage, the exclusion of vessels that use hook-and-line gear would exclude from partial coverage 97% of the processing activity of these three vessels. A gear exclusion for hook-and-line vessels would essentially eliminate the exemption from full coverage for three currently qualified vessels, which is likely not the intent of the Council. As for the eight additional vessels that might qualify in any given year for partial coverage, an exclusion of vessels that use hook-and-line gear would exclude about one-third (36%) of the groundfish production of those eight vessels.

An exclusion of vessels that use pot gear would exclude about two-third (63%) of the groundfish production of those eight vessels. As for the two to four additional vessels that might harvest IFQ sablefish in the BSAI, these are also hook-and-line vessels and this is a fishery where vessels owners have requested relief from the cost of full coverage because of the high cost of operating in the remote BSAI sablefish fishery. A hook-and-line gear exclusion would exclude from the possibility of partial coverage a category of vessels that have brought this issue to the Council's attention.

An exclusion from partial coverage of catcher/processors that use jig gear would be unreasonable and was almost certainly was not contemplated by the Council. Catcher/processors using jig gear process a tiny amount of groundfish relative to the rest of the fleet. Jig gear vessels are not subject to any PSC limits.

This is the other category of vessel owners—in addition to the sablefish hook-and-line vessels—that has submitted oral and written testimony that the cost of full coverage has deterred them from processing.

Option 3 examines a PSC factor, namely whether a catcher/processor that otherwise qualifies for partial coverage should be excluded when it is operating in a fishery with a PSC limit, namely a PSC limit on harvest of halibut, salmon, crab, and herring. All trawl catcher/processors operate in fisheries with one or more PSC limits. As noted, trawl catcher/processors are already subject to independent requirements for $\geq 100\%$ observer coverage but if the Council adopted a gear limitation under Option 2, this would eliminate categorically from partial coverage the group of vessels with the most closely monitored PSC limits.

The other category of vessels that operates under a halibut PSC limit are catcher/processors using hook-and-line gear while directed fishing for groundfish other than sablefish. This is primarily hook-and-line catcher/processors targeting Pacific cod. With the three vessels in partial coverage under the status quo, 11% of their activity is targeting Pacific cod. If Alternative 2 included a PSC factor, Alternative 2 would remove from partial coverage some fishing that is currently in partial coverage. With the eight catcher/processors that might newly qualify for partial coverage, most of their activity (63%) is with pot gear, which does not have a halibut PSC limit. About one-third of their activity is with hook-and-line, mostly targeting Pacific cod. From 2010 – 2014, these eight vessels caught two percent of fixed gear (non-trawl) PSC halibut. [Table 13]. The RIR in section 3.7.2 concluded that, in general, this action would have a negligible impact on PSC data.

It would not create administrative difficulties to exclude trawl gear from this action. It would create administrative difficulties to exclude small catcher/processors based on a hybrid vessel factor, other gear types, or what a vessel was targeting. It would be easier to administer Alternative 2 if, at the beginning of the year, NMFS could determine whether a small catcher/processor would be in partial or full coverage for the entire fishing year, based on their production in the basis year.

Alternative 2, without additional factors, achieves the Council objective of maintaining a very limited exception to the rule that catcher/processor activity is subject to full observer coverage. Applying the highest production threshold for partial coverage, namely the high annual production threshold in Option 5B, NMFS estimates that Alternative 2 would place two-tenths of one percent of aggregate BSAI and GOA production in partial coverage.¹

Summary of the RIR Cost-benefit analysis

Table ES-2 (based on Table 15 in Section 3.8) summarizes the impacts of this action, as discussed in this RIR. Alternative 1 is the status quo, the no action alternative, and the baseline for this analysis. Thus, impact measures are provided for Alternative 2, the action alternative, measured as a deviation from Alternative 1. Since Alternative 1 impacts are the inverse of Alternative 2 impacts, they are not described separately in the table. An Alternative 1 column is provided to emphasize the existence of the two alternatives.

Table ES-2 Summary of alternatives and major impacts

Costs or benefits	Impact	Alternative 1	Alternative 2
Objectives of this action	Exemption for small C/Ps		All options provide relief from high full observer costs for a class of small catcher/processors.
	Exemption based on current C/P production		All options are based on ongoing production. This makes it possible for new vessels to obtain the exemption, and for vessels to be moved to full coverage if

¹ Table 14 and text after Table 14.

	Relatively limited exemption	Baseline. Impacts are reverse of those identified for Alternative 2 (the action alternative)	their production levels increase. However, basing exemption on previous year production is impracticable; basis year must be two years before the current fishing year.
	Appropriate data quality and cost balance		The exemption appears to be limited with respect to the production by the vessels potentially qualifying for partial coverage. Eight catcher/processors that processed between 2009 to 2014 may newly qualify for partial coverage. These eight vessels accounted for a small percent (about 2/10ths of a percent from 2009 through 2014) of groundfish production. An additional 400 tons of sablefish may be harvested by two to four vessels that may begin processing under these provisions.
			The options under consideration appear to have relatively modest net adverse impacts on data quality.
Benefits	Impact on C/Ps with current partial coverage eligibility		Six C/Ps currently qualify for partial coverage under current regulations; only three of these have ever taken advantage of their partial coverage eligibility. The three C/Ps that have taken advantage of their partial coverage exemption would have been eligible for partial coverage in each year from 2011 to 2016 under options 1A, 4A, and 1B through 5B. From 2011 to 2013, one of these vessels would not have been eligible under options 2A, 3A, and 5A.
	Impact on C/Ps currently operating with full coverage		The number of catcher/processors qualifying in a year from 2011 to 2014 that actually fished in that year varies for each of the ten options under consideration, and is never as many as eight under any option in any year. From 5 to 7 vessels qualify in 2015 and 2016, but the number that will fish in those years cannot be identified at this time.
	Impact on CVs currently operating with partial coverage		NMFS examined the vessels that would have qualified and fished in 2013, and estimates that these operations would have saved about \$200,000 in observer costs. From a national perspective, costs would have been reduced as well, but by considerably less, since the cost of providing observer coverage to the catcher/processors newly eligible for partial coverage (described as the fiscal impact in the analysis) would have fallen on the vessels already eligible for partial coverage.
	Impact on vessels using sablefish "A" quota shares		The analysis did not identify many of these that were expected to begin to operate as catcher/processors. In general, there would be a slight reduction in observer coverage requirements for these vessels, as the fiscal impact of the action reduced assessment revenues available for their coverage.
Costs	Impact on estimates of retained catch		The alternatives under consideration may improve the profitability of catcher/processor sablefish operations in the Aleutian Islands for some small vessels. Analysts best estimate is increased harvests on the order of 150 to 400 metric tons by two to four vessels.
	Impact on estimates of discarded groundfish catch		Some loss of information as fewer observer days of information are collected from directly regulated vessels, and as fiscal impacts reduce the number of days that observers may be deployed on vessels currently under partial coverage. Some additional information on sablefish stocks in the Aleutian Islands is possible, if fishing activity increases there. Impacts, and impacts on discarded groundfish, PSC, and other ecosystem elements, are mitigated by the small proportion of FMP groundfish catch that may be impacted by this action.
	Impact on estimates of PSC		On C/Ps with full coverage, discard estimates are made by observers; currently, partial coverage C/P discard estimates are based on vessel self-reports. However this is likely to change to extrapolations from similar operations. Once this happens, the net impact would be to reduce the precision of discard estimates.
	Impact on estimates of other ecosystem impacts		Primary impact on PSC estimates will be on estimates of crab catch by pot vessels, particularly Golden King Crab. This fishery is not subject to PSC limits, thus economic impact is likely to be small. These C/Ps account for small percentages of other fixed gear PSC.
Other types	Crew		Reduced information on seabird takes from observers. Mitigated somewhat by the large proportion of catch from pot vessels, which are believed to have small seabird takes. Additional sablefish fishing in the Aleutian Islands may increase potential for actual seabird takes. Impact on information about marine mammal takes will be minimal, as fixed gear is responsible for few takes. Impact on information on benthic habitat will be minimal given the limited role of observer data in monitoring benthic habitat impacts.
			Crew are paid on a share system, and will share, along with vessel owners and

of impacts			operators, in possible benefits from this action.
	Observers and observer providers		Observers and observer providers associated with the full observer coverage program will lose some business; the observers and observer provider associated with the partial coverage program will gain some business. Net impact would be fewer observer days needed overall.
	Safety		Net impact on safety at sea cannot be determined. Fewer observers on vessels means fewer souls at risk. More vessel activity in remote Aleutians can have two opposing impacts: (1) more souls in waters remote from assistance in case of trouble; (2) for operations already out in Aleutians, greater potential for good Samaritan assistance if more boats are out there.
	Communities		There may be some community impacts if some vessels begin to process fish at sea instead of delivering it to shore. This might be offset by increased viability and activity by qualifying catcher/processers if this occurs. Overall impact is likely to be small given small part of the fleet impacted.
	Management and enforcement		Limited impacts on in-season management. Loss of information may result in more conservative approach to in-season management in certain instances, but impact would be mitigated by small volume of production, and use of IFQ management for sablefish, and the fact that most impacted fisheries are not PSC limited. Loss of some spatial data from observers could be compensated for with strengthened VMS requirements for qualifying vessels. Weekly average catch measure may be best since it accounts for intensity of fishing activity.
Net impact			The net efficiency impact of the action is likely to be small. Minor reductions in observer costs must be set against minor changes in the value of the data on the fisheries and their impacts. On balance, given the uncertainty associated with both the cost and benefit measures, this action may create either net efficiency benefits or costs, but neither are likely to be large. The Council's objectives are primarily concerned with equitable treatment of small catcher/processers, and with respect to this, this action appears to reduce their burdens, while maintaining a relatively limited exception of the general requirement that all catcher/processers remain in partial coverage.

Table ES-3 summarizes information for the three catcher/processers that currently permanently qualify for partial coverage, and for the catcher/processers that may qualify under Alternative 2, on the number of fishing years they would qualify. The basis years underlying these calculations are 2009 through 2014; the fishing years are 2011 through 2016. Clearly, only limited fishing has taken place thus far in 2015, and no fishing during 2016. This table does not account catcher vessels which may shift to catcher/processor operations if they could do so and qualify for partial coverage.

Table ES-3 Number of years active fixed gear catcher/processers would qualify for partial coverage under each threshold, 2011 through 2016 (six years).

Vessel ID	Lower thresholds					Upper thresholds				
	Avg daily	Avg weekly	Max daily	Max weekly	Annual	Avg daily	Avg weekly	Max daily	Max weekly	Annual
A	5	5	5	5	5	5	5	5	5	5
B	6	6	5	6	4	6	6	6	6	6
C	2	3	6	6	5	6	6	5	5	6
D	3	3	3	3	3	3	3	3	3	3
E	0	0	0	0	0	0	0	0	0	2
F	6	5	6	6	6	6	6	6	6	6
G	3	3	3	3	4	3	3	4	4	4
H	2	2	2	2	2	2	2	2	2	2
I	0	0	0	0	0	0	0	0	3	4
J	6	6	6	6	6	6	6	6	6	6
K	4	4	4	4	4	4	4	4	4	4

Source: NMFS AKRO CAS2 and AKRO calculations.

In Chapter 4, an 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 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.

- NMFS estimates that about 15 entities may be directly regulated by this action. These include three catcher/processors that already qualify for partial coverage under the status quo; eight vessels currently acting as catcher/processors that may qualify for partial coverage in some years under the action alternative; an estimated four vessels that may begin to operate as catcher/processors in the Aleutian Islands sablefish fishery under the action alternative. Any account of directly regulated vessels must be an estimate, since this action may cause some vessels to begin to operate as catcher/processors. NMFS does not believe that this will be a large number. An estimate of the number of small directly regulated entities will be prepared after the Council chooses a preliminary preferred alternative.
- Directly regulated entities, seeking to take advantage of their eligibility for partial observer coverage under the action alternative, will have to contact NMFS and notify NMFS of their desire to do so. Persons will have to apply for eligibility in each year using a simple form. NMFS estimates the annual cost for all members of the public who will apply will be \$600.
- No relevant Federal rules have been identified that would duplicate or overlap with the proposed action.
- The action alternative is meant to reduce relative burdens on directly regulated smaller catcher/processors, and in fact does so, in comparison with the status quo.

1 Introduction

This document analyzes proposed modifications to regulations adopted with the Restructured Observer Program in 2012. These regulations allowed certain small catcher/processors to qualify for partial observer coverage rather than the full observer coverage generally required of catcher/processors. Under these regulations, NMFS permanently places certain small catcher/processors into partial coverage based on the vessel's activity from 2003 to 2009.² Under the proposed modifications, a catcher/processor could be placed in partial coverage for one year based on whether a vessel produced at or below a specified production threshold and based on other factors, if any, that the Council finds appropriate.

This document is a Regulatory Impact Review/Initial Regulatory Flexibility Analysis (RIR/IRFA).³ An RIR/IRFA provides assessments of the economic benefits and costs of the action alternatives, as well as their distribution (the RIR), and the impacts of the action on directly regulated small entities (the IRFA). This RIR/IRFA addresses the statutory requirements of the Magnuson-Stevens Fishery Conservation and Management Act, Presidential Executive Order 12866, and the Regulatory Flexibility Act. An RIR/IRFA is a standard document produced by the North Pacific Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) Alaska Region to provide the analytical background for decision-making.

Based on information to date, NMFS has concluded NMFS has reached the preliminary conclusion that this action would qualify for a Categorical Exclusion from further review under the National Environmental Protection Act (NEPA) because it would be an amendment to a previously analyzed and approved action and this action would have no effect on the human environment beyond what was analyzed in prior actions.⁴

The Observer Program provides the regulatory framework for NMFS-certified observers (observers) to obtain information necessary for the conservation and management of the Bering Sea and Aleutian Islands (BSAI) and Gulf of Alaska (GOA) groundfish and halibut fisheries. Observers collect biological samples and fishery-dependent information on total catch and interactions with protected species. Managers use data collected by observers to monitor quotas, manage groundfish and prohibited species catch, and document and reduce fishery interactions with protected resources. Scientists use observer-collected data for stock assessments and marine ecosystem research.

In 2012, the Secretary of Commerce adopted the recommendation of the Council and NMFS to restructure the Observer Program. The first year of fishing under the Restructured Observer Program was 2013. Under the Restructured Observer Program, NMFS places all vessels and processors in the groundfish and halibut fisheries off Alaska into one of two categories: (1) the full coverage category, where vessels and processors obtain observers by contracting directly with observer providers, and (2) the partial coverage category, where NMFS has the flexibility to deploy observers when and where they are

² 50 CFR 679.51(a)(2), reprinted in Appendix B. The current regulations also have a provision for a one-year placement in partial coverage for a catcher/processor that processed one metric ton or less on every day in the previous year, 50 CFR 679.51(a)(2)(iv)(B). This very low level of production is not sufficient for the owner of a catcher/processor to operate a viable processing operation. See Section 2.1.1 *infra*.

³ The proposed action has no potential to effect individually or cumulatively on the human environment (as defined in NAO 216-6). The only effects of the action are economic, as analyzed in this RIR/IRFA. As such, it is categorically excluded from the need to prepare an Environmental Assessment.

⁴ This is the basis for a Categorical Exclusion in Section 5.05b and Section 6.03a.3(b)(1) of NOAA Administrative Order 216-6 (May 20, 1999), "Environmental Review Procedures for Implementing the National Environmental Policy Act." NMFS also stated this as its preliminary conclusion in the Discussion Paper, "Revising Allowances for Placing Small Catcher/Processors in the Partial Observer Category – Proposed Amendment to the North Pacific Groundfish and Halibut Observer Program," (November 28, 2014), available on the Council website at http://legistar2.granicus.com/npfmc/meetings/2014/12/904_A_North_Pacific_Council_14-12-08_Meeting_Agenda.

needed based on an annual deployment plan developed in consultation with the Council. Funds for deploying observers in the partial coverage category are provided through a system of fees based on the ex-vessel value of retained groundfish and halibut in fisheries that are not in the full coverage category.

The Restructured Observer Program was implemented through Amendment 86 to the Fishery Management Plan (FMP) for Groundfish of the Bering Sea and Aleutian Islands Management Area (BSAI) and Amendment 76 to the FMP for Groundfish of the Gulf of Alaska (GOA)(Amendments 86/76).⁵ The Council's Problem Statement for Amendments 86/76 stated that the structure of the Observer Program had led to problems with data quality and reliability. The Council also identified cost inequity as a problem with the Observer Program: "The current program is also one in which many smaller vessels face observer costs that are disproportionately high relative to their gross earnings."⁶

Under the Restructured Observer Program, the Council and NMFS made decisions about whether to place vessels or processors in full coverage or partial coverage based on considerations of both data quality and cost. Under the Restructured Observer Program, the general rule is that catcher/processors are placed in the full coverage category to obtain independent estimates of catch, at sea discards, and prohibited species catch (PSC) for these vessels and to enhance the accuracy of NMFS's catch accounting system.⁷

Before the Restructured Observer Program, most catcher/processors and all motherships were required to have one or two observers onboard at all times due to their participation in catch share programs.⁸ But for catcher/processors with less than full observer coverage, NMFS used a product recovery rate to convert a vessel's reports of retained processed weight to a whole-fish (round weight) weight equivalent and used data from observed vessels to estimate at sea discards, including PSC. The Council concluded that this process may have introduced error into NMFS's catch accounting.⁹ Under the Restructured Observer Program, with at least one observer on each catcher/processor, NMFS can estimate a vessel's total retained catch and discards based on data collected independently by observers on the vessel.

The Restructured Observer Program, however, contained three, limited exceptions to full coverage for a catcher/processor: two allowances for partial coverage were introduced in the Council final motion on Amendments 86/76 and one allowance for partial coverage was introduced in the proposed rule.

Based on testimony before the Council and in recognition of the relatively high cost of full coverage for smaller catcher/processors and the limited amount of catch and bycatch by these vessels, the Council final motion introduced two limited exceptions to the requirement for full coverage on catcher/processors:

[1] a hybrid allowance for partial coverage: available to a vessel that is under 60 feet and acted as a catcher and a catcher/processor in any year between 2003 – 2009;

[2] an under 5,000 pounds allowance: available to a vessel that processed less than 5,000 pounds on an average daily basis in its last year of production between 2003 – 2009.¹⁰

⁵ The proposed rule for Amendments 86/76 was published in the Federal Register on April 18, 2012 (77 FR 23326). The final rule was published in the Federal Register on November 21, 2012 (77 FR 70062). Regulations implementing Amendments 86/76 are at 50 CFR part 679. General regulations governing observers also are in 50 CFR part 600.

⁶ Council's BSAI Amendment 86/GOA Amendment 76 Problem Statement in Analysis of Restructured Observer Program at page xii (March 2011).

⁷ Proposed Rule, 77 FR 23326, 23328 – 23330 (April 18, 2012).

⁸ Before the Restructured Observer Program, for example, catcher/processors operating pursuant to the American Fisheries Act (AFA), Amendment 80, and the Rockfish Program were required to have 100% or 200% observer coverage. 50 CFR 679.50(c)(5), (6), and (7)(2011).

⁹ Proposed Rule, 77 FR 23326, 23329 (April 18, 2012).

¹⁰ Council Final Motion on Observer Restructuring, BSAI Amendment 86/GOA Amendment 76 (Oct. 8, 2010) at http://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/ObserverMotion1010.pdf

These two allowances for partial coverage are based on a vessel's activity from 2003 through 2009.

During development of the proposed rule, NMFS added, with the concurrence of the Council and the Observer Advisory Committee (OAC), a one metric ton allowance for placing a catcher/processor in partial coverage. NMFS added this for consistency with the License Limitation Program (LLP), which allows a catcher vessel that is 60 feet or less to process one metric ton of groundfish a day without an LLP license with a catcher/processor endorsement.¹¹ Under the Restructured Observer Program, a catcher/processor may be placed in partial coverage if it processed less than one metric ton of groundfish on every day of the prior year.¹² This allowance is not limited to a vessel's processing activity from 2003 to 2009 but, as explained in section 2.1, this allowance has extremely limited utility for catcher/processors.

Beginning with comments on the proposed rule, industry participants have stated that the Restructured Observer Program essentially does not allow catcher/processors that began, or wish to begin, processing after 2009 to be placed in partial coverage even though they are similarly situated to the vessels that were placed in partial coverage based on their processing activities before 2009. These industry participants have stated that it is impossible to sustain a processing operation by processing no more than one metric ton on every single day during the year. In public comment on the final rule, these industry participants asked for a provision in the final rule allowing NMFS to place small catcher/processors that began processing after 2009 in partial coverage. In response to these comments, NMFS stated that neither the Council nor NMFS had analyzed the situation of small catcher/processors after 2009. NMFS explained that if these industry participants wished to be considered for placement in partial coverage, they should go through the Council process to seek recognition of their circumstances.¹³

1.1 Purpose and Need

In December 2014, the Council adopted the following statement of purpose and need for this action:

Under the Restructured Observer Program, all catcher/processors are in the full coverage category unless they meet the requirements for an allowance to be placed in partial coverage. The placement of catcher/processors in full coverage enables NMFS obtain independent estimates of catch, at sea discards, and prohibited species catch (PSC) for catcher/processor vessels. In recognition of the relatively high cost of full coverage for smaller catcher/processors and the limited amount of catch and bycatch by these vessels, the Council recommended two limited allowances for placing a catcher/processor in partial coverage. Both of these allowances were based on vessel activity between 2003 and 2009.

Since implementation of the Restructured Observer Program, owners and operators of some catcher/processors have requested that the Council and NMFS revise these allowances to include vessels that began processing after 2009. First, the allowance for placing a catcher/processor in partial coverage should, at a minimum, be based on a measurement of ongoing production that shows that the catcher/processor processes a small amount of groundfish relative to the rest of the catcher/processor fleet. Second, the current regulations do not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage.

¹¹ 50 CFR 679.4(k)(3)(ii)(D).

¹² 50 CFR 679.51(a)(2)(iv)(B), reprinted in Appendix B.

¹³ NMFS's Response to Comment 50, Final Rule, 77 FR 70062, 70075 (Nov. 21, 2012).

This action would maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category, provide an appropriate balance between data quality and the cost of observer coverage; and establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and to enforce.

1.2 History of this Action

The following chronology shows the key events in the development of the Restructured Observer Program that bear on this action. Under the Restructured Observer Program, the system for vessel owners to register trips and for NMFS to assign observers is the Observer Declare and Deploy System or ODDS.

June 2010	Council and NMFS staff prepare Initial Review Draft of the Analysis of Amendments 86/76. Alternative 3 places all catcher/processors in the full coverage category.
Oct. 2010	Council releases Public Review Draft Analysis of Amendments 86/76. Alternative 3 still places all catcher/processors in the full coverage category.
Oct. 2010	At Council meeting, Council receives public testimony in favor of exempting small catcher/processors from full coverage based on the catcher/processor's activity from 2003 to 2009.
Oct. 2010	Council takes final action on Amendments 86/76. Council changes Alternative 3 and adds two allowances for catcher/processors to choose partial coverage based on activity from 2003 to 2009: the hybrid allowance and the under 5,000 pounds allowance. Council Final Motion on October 8, 2010, adopts Alternative 3 with this change as the Council's Preferred Alternative.
March 2011	Council and NMFS staff complete Analysis of Amendments 86/76 including Council's Preferred Alternative 3. ¹⁴
March 2012	NMFS publishes Notice of availability of Amendments 86/76, 77 FR 15019 (March 24, 2012).
April 2012	NMFS publishes a proposed rule to implement Amendments 86/76, 77 FR 23326 (April 18, 2012). The proposed rule contains three allowances for catcher/processors to choose partial coverage: the hybrid allowance, the under 5,000 pounds allowance, and, with the concurrence of the Council and the OAC, the one metric ton allowance (which provided consistency with the LLP regulation). The one metric ton allowance allows a vessel to choose partial coverage if it processed one metric ton or less on every day of the previous year. It is not limited to the years 2003 – 2009.
June 2012	Secretary of Commerce approves Amendments 86/76.
Nov. 2012	NMFS publishes final rule. NMFS received public comments on the proposed rule from owners and operators of catcher/processors that began processing after 2009. These comments asked that the rule allow these catcher/processors to be in partial coverage on a similar basis to what the rule allowed for catcher/processors that processed before 2009. NMFS responds that this issue was not analyzed. NMFS states that these members of the public should bring this issue to the Council for separate rulemaking. See NMFS's response to Comment 50. 77 FR 70062, 70075 (Nov. 21, 2012).
June 2013	OAC discusses specific proposals to amend the Restructured Observer Program including [1] allowing more catcher/processors to be in partial coverage category based on activity of a catcher/processor as both a catcher vessel and a catcher/processor and [2] allowing

¹⁴ The Analysis of Amendments 86/76 is on the NMFS Alaska Region website at https://alaskafisheries.noaa.gov/analyses/observer/amd86_amd76_eairirifa0311.pdf.

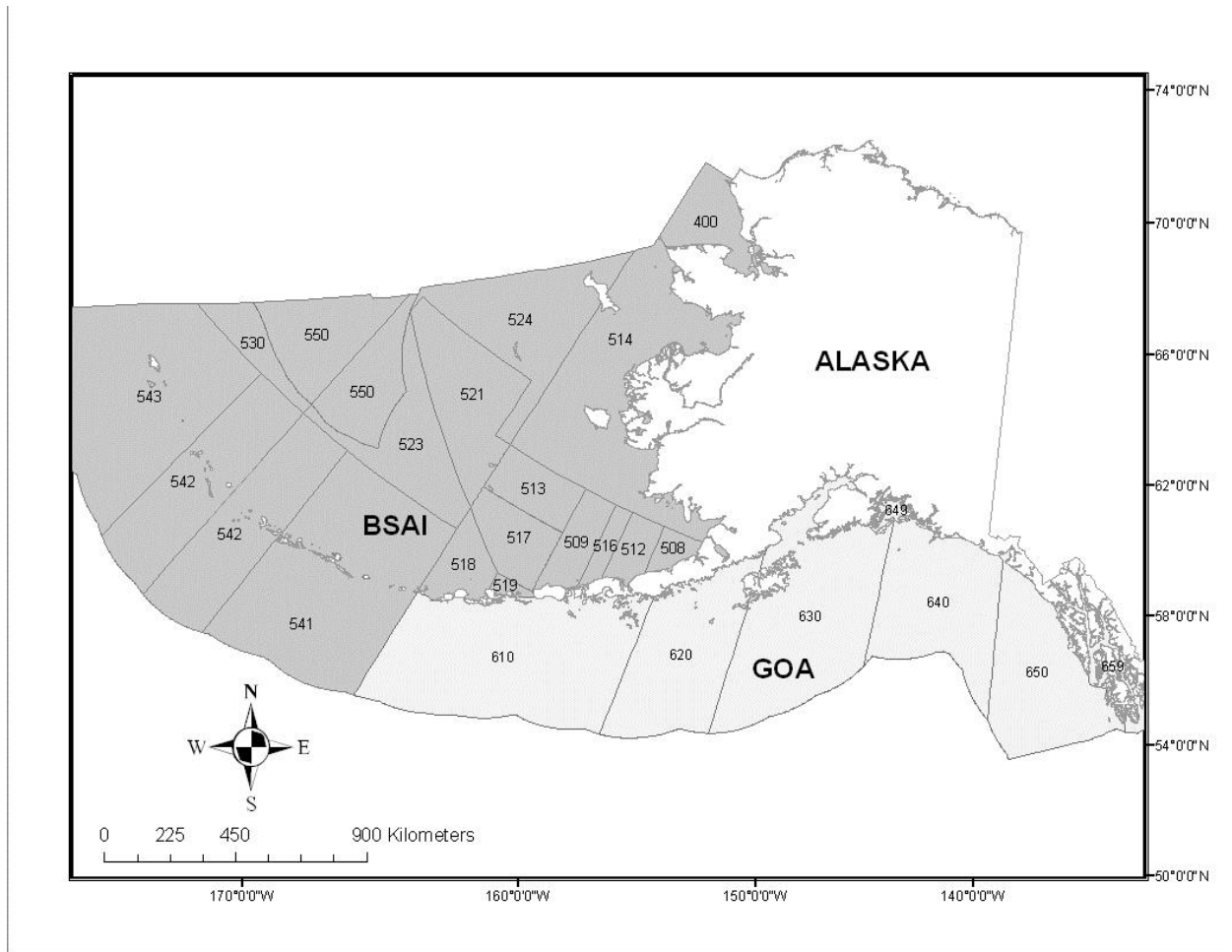
- more catcher/processors to be in partial coverage based on production levels. (OAC Report, June 2013)
- June 2013 Council requests a discussion paper on proposals for changes in the Restructured Observer Program including a change in the allowances for catcher/processors to choose partial coverage “[f]or vessels that previously operated as CVs and CPs within a year, consider options to allow an annual election; revisions to the control date for making the election and production tonnage criteria.” Council Motion (June 7, 2013).
- Jan. 2014 NMFS provides Discussion Paper to Council, “Scoping and Prioritization of Proposed Amendments to the North Pacific Groundfish and Halibut Observer Program.” NMFS analyzes five possible regulatory amendments on these topics: [1] vessels IFQ fishing in multiple regulatory areas; [2] allowing catcher vessels in the BSAI Pacific cod fishery to be in full observer coverage; [3] exempting from observer coverage vessels fishing for small amounts of IFQ; [4] changing the method for fee collection from the IFQ fishery; [5] revising the allowances for small catcher/processors to be placed in partial coverage.
- Feb. 2014 OAC places a high priority on revising the allowances for placing small catcher/processors in partial coverage: “Many members cited the need to resolve an ongoing financial hardship caused by the current implementation of the program as the reason for prioritizing some amendments over others. Using this rationale, the majority of OAC members identified the changes of coverage category for the BSAI Pacific cod trawl CVs, and for small catcher/processors, as the two highest priority issues.” OAC Report (Feb. 2014)
- Feb. 2014 Council adopts motion, “The Council identifies changes to observer coverage for small catcher/processors as the highest priority, followed by changes for BSAI trawl CVs. These will not have precedence over existing priorities.” Council Motion (Feb. 9, 2014).¹⁵
- Dec. 2014 The Council received the discussion paper requested in February (NMFS, 2014), and passed a motion containing a statement of purpose and need for a small catcher/processor action, and describing a set of alternatives for analysis.
- March 2015 The Council receives this initial review draft of the analysis for this action.

1.3 Description of Action Area

This action will affect catcher/processor vessels operating in Federal waters of the Gulf of Alaska and the Bering Sea and Aleutian Islands management areas. The regulatory areas included in the Gulf of Alaska and Bering Sea and Aleutian Islands areas are shown in Figure 1.

¹⁵ The “existing priorities” were the annual observer report (on the prior year); the annual deployment plan (for the upcoming year); electronic monitoring; analyzing issues on data from vessels delivering to tenders; and analyzing alternatives to encourage participation by small vessels in the Pacific cod CDQ fishery. Discussion Paper – Scoping and Prioritization of Proposed Amendments to the Observer Program at page 5 (Jan. 29, 2014) available at Council website, <http://www.npfmc.org/observer-program/>.

Figure 1 Regulatory and reporting areas in the Bering Sea, Aleutian Islands, and Gulf of Alaska.



2 Description of Alternatives

The Council Motion, reprinted in Appendix A, states that the allowance for placing a catcher/processor in partial coverage should “at a minimum, be based on a measurement of ongoing production that shows that the catcher/processor processes a small amount of groundfish relative to the rest of the catcher/processor fleet.” The Council Motion also notes that the current regulations “do not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increase to a level deemed appropriate for full coverage.”

In this context, the Council Motion states the goals for this action: “This action would maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category, provide a balance between data quality and the cost of the observer coverage, and establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and to enforce.”

2.1 Alternative 1, No Action

The No Action Alternative is the same as the Status Quo Alternative. If NMFS takes no action, the current regulations will remain in effect. The current regulations at 50 CFR 679.51(a)(2) specify the criteria for determining which catcher/processors may be in partial coverage. Appendix B contains 50 CFR 679.51(a)(2).

The current regulation [50 CFR 679.51(a)(2)] states that NMFS will place all catcher/processors in the full coverage category except if the owner of the catcher/processor meets the requirements for NMFS to place the catcher/processor in partial coverage. The current regulation allows NMFS to place a catcher/processor in partial coverage in three circumstances:

1. The hybrid allowance [50 CFR 679.5(a)(2)(ii)(v)]: The hybrid allowance applies to a vessel that acted as both a catcher vessel and a catcher/processor vessel in the same year in any year from 2003 - 2009. The owner of a catcher/processor less than 60 feet may make a one-time election of partial coverage, if the vessel had a history of catcher/processor and catcher vessel activity in one (or more) years from 2003 to 2009 and if the owner elects partial coverage at least 30 days before the vessel’s first trip under ODDS.
2. The under 5,000 pounds allowance [50 CFR 679.5(a)(2)(ii)(v)]: The owner of a catcher/processor may make a one-time election of partial observer coverage, if that catcher/processor had an average daily production of less than 5,000 pounds round weight equivalent in its most recent full calendar year of operation from 2003 through 2009 and if the owner makes the election before the catcher/processor’s first trip under ODDS. This exception is also based on the activity of the catcher/processor from 2003 to 2009 but is not limited to vessels under 60 feet. The selection of 5,000 pounds as a basis for this allowance did not result from an analysis of fleet-wide production data.
3. The one metric ton allowance [50 CFR 679.5(a)(2)(iv)(B)]: Under this allowance, the owner of a catcher/processor may be included in the partial coverage category if that catcher/processor processed one metric ton round weight of groundfish or less on every day in the immediately preceding year, which means a maximum of 365 metric tons in a year. This allowance is the only current exception to full coverage for a catcher/processor that is not based on the vessel’s from 2003 to 2009. This allowance is based on the catcher/processor’s activity in any year after implementation of the restructured Observer Program. However, it lasts for only one year. It is

reevaluated every year. This allowance ends the year after the year in which the catcher/processor processes more than one metric ton on any day of the year.

2.1.1 Utility of the one metric ton allowance in current regulation

The one metric ton allowance in the current regulation has extremely limited utility. NMFS has received comments from industry that a production level of one metric ton every day is too low to sustain a viable, small-scale processing operation. The data supports that contention. From 2009 to 2014, no catcher/processors with any processing activity in a year processed one metric ton or less on every day in a year.¹⁶

NMFS notes one situation where the one metric ton allowance in current regulation can be used. Under current regulations, a catcher/processor that was starting a processing operation, or resuming processing after not processing for one or more years, could elect partial coverage because it would have processed zero pounds in the prior year and zero pounds is one metric ton or less on every day in the prior year.

However, the election of partial coverage under this allowance is only good for a year. Even if a catcher/processor owner that was starting a processing operation could use this allowance for its first year of operation, the owner would almost certainly process more than one metric ton in at least one day during its first year of operation and would be placed in the full coverage category for its second and subsequent years. At most, the one metric ton allowance would enable a catcher/processor to alternate years of zero production and partial coverage. This is not a stable or viable plan of operation for a business.

NMFS's experience under the one metric ton allowance bears out this contention. NMFS received no requests to place a catcher/processor in partial coverage in 2013 and 2014. NMFS has received one request from a catcher/processor for partial coverage in 2015 on this basis and granted it. NMFS received this request from a vessel that did not process any groundfish in 2014. NMFS was able to grant this request because, as noted, a vessel that does *no* processing in a year processes less than one metric ton on every day in that year. But this vessel will not be able to stay in partial coverage if the vessel processes more than one metric ton on any day in 2015, which it almost certainly will. Thus, under current regulation, the vessel will almost certainly not be eligible for partial coverage in 2016 and, under current regulation, would only qualify for partial coverage if the vessel sat out another year in the future and, then, again, it would only qualify for partial coverage for one year.

NMFS notes that the one metric ton allowance in current regulation was not designed to identify small catcher/processors for purposes of determining a sound threshold for placing small catcher/processors in partial coverage. NMFS recommended this provision for consistency with the LLP which allows a catcher vessel to harvest and freeze up to one metric ton a day even though the catcher vessel does not have an LLP with a catcher/processor vessel designation.¹⁷ The purpose of the LLP provision is to allow limited processing by catcher vessels. The LLP provision would remain in place under Alternative 2. Under Alternative 2, a catcher vessel could still harvest and freeze up to one metric ton a day even if the catcher vessel did not have an LLP with a catcher/processor vessel designation.

¹⁶ The December 2014 Discussion Paper stated that one catcher/processor was exempt from full coverage under the current regulation by meeting all three allowances. Discussion Paper – Scoping and Prioritization of Proposed Amendments to the Observer Program at page 11 (Jan. 29, 2014). That is inaccurate. One catcher/processor met two allowances (the hybrid allowance and the under 5,000 pounds allowance) but that catcher/processor did not meet the third allowance (the one metric ton allowance).

¹⁷ 50 CFR 679.4(k)(3)(ii)(D).

Table 1 Characteristics of the current three partial allowances in 50 CFR 679.51(a)(2)

Allowance	Election	Production Requirement	Vessel Length	Duration (FFP = Federal Fisheries Permit)
Hybrid allowance	One-time – 30 days before first trip under ODDS	Vessel operated as catcher/processor and catcher vessel in any year from 2003 to 2009	< 60 feet	As long as vessel is designated without interruption as C/P and CV on FFP; allowance is transferable to future vessel owner
Under 5,000 pounds allowance	One-time – 30 days before first trip under ODDS	Average daily groundfish production < 5,000 pounds in last full year of production from 2003 to 2009	no limit	As long as same person that initially received allowance is FFP holder; allowance is not transferable to future FFP holder
One metric ton allowance	Every year	≤ 1 metric ton round weight of groundfish every day of previous year	no limit	one year

How many catcher/processors have participated in the Restructured Observer Program?

Table 2 shows the number of active catcher/processors from 2009 to 2014. The average number of active catcher/processors over those six five years was 77. The years 2013 and 2014 were the first two years under the Restructured Observer Program: 73 catcher/processors participated in the Restructured Observer Program in 2013, 72 catcher/processors in 2014.

Table 2 Counts of non-trawl and trawl catcher/processors in BSAI and GOA FMP fisheries

	2009	2010	2011	2012	2013	2014
Non-trawl	44	43	39	41	38	37
Trawl	38	36	37	37	35	35
Total	82	79	76	78	73	72

Source NMFS AKRO CAS2

How many vessels has NMFS placed permanently in partial coverage under current regulations? Three vessels.

NMFS may place a vessel into partial coverage permanently under either the “hybrid allowance”, or the “under 5,000 pounds allowance”. NMFS has placed three catcher/processors permanently in partial coverage based on the vessel’s activity between 2003 to 2009: one catcher/processor met both the hybrid allowance and the under 5,000 pounds allowance; one catcher/processor met only the hybrid allowance; one catcher/processor met only the under 5,000 pounds allowance.

When NMFS places a catcher/processor in partial coverage based on the vessel’s activity from 2003 to 2009, the vessel may remain in partial coverage irrespective of how much groundfish it produces in a year. These three catcher/processors therefore are under no limit as to how much they may process and remain in partial coverage. Under the current regulations, these three catcher/processors are permanently in partial coverage.

Are there any additional vessels that NMFS could place permanently in partial coverage under the current regulations? Three vessels.

If a catcher/processor has not taken a trip under ODDS but meets the requirements of the hybrid allowance or the under 5,000 pounds allowance, the catcher/processor could still qualify for partial coverage as long as the vessel owner elects partial coverage at least thirty days before the vessel's first trip under ODDS.

According to NMFS's historical production data, two catcher/processors would qualify for partial coverage under the hybrid allowance but have not taken a trip under ODDS. That means that these two catcher/processors are less than 60 feet LOA and operated as both a catcher vessel and a catcher/processor in at least one year from 2003 to 2009.

According to NMFS's historical production data, one catcher/processor would qualify for partial coverage under the under 5,000 pounds allowance but has not taken a trip under ODDS. That means that this catcher/processor had an average daily groundfish production of less than 5,000 pounds in its last full year of production between 2003 to 2009.

How many vessels has NMFS placed in partial coverage for one year under the one metric ton allowance? One vessel for one year.

As noted, NMFS received no requests for partial coverage under this allowance for 2013 or 2014. NMFS received one request to place a catcher/processor in partial coverage on this basis for 2015. NMFS determined that the catcher/processor processed no groundfish in 2014, which is one metric ton or less on every day in 2014. NMFS therefore placed that vessel in partial coverage for 2015.

In sum, the status quo alternative is essentially a closed system. It allows the owners of catcher/processors that met production criteria from 2003 through 2009 to permanently choose partial coverage. It allows these catcher/processor owners to maintain partial coverage irrespective of how much groundfish they process. Although the one metric ton allowance for partial coverage is theoretically open every year, this level of processing is too low to support a viable processing operation by a catcher/processor. The only way that the owner of a catcher/processor can use this allowance is to process zero pounds – nothing – in a year and then the vessel would almost certainly be in partial coverage only for one year because, as part of an ongoing processing operation, the vessel would almost certainly process more than one metric ton of groundfish on at least one day during the vessel's year of partial coverage.

2.2 Alternative 2

Revise the allowances for NMFS to place small catcher/processors in partial coverage. Under this alternative, the basic criterion for placing a catcher/processor in partial coverage is the vessel's production in a past year. To adopt a preliminary preferred alternative, the Council must address five elements of this action:

Element 1: What is the production threshold for placing a catcher/processor in partial coverage? Council chooses one option.

Option	Measure	Threshold based on 10 th percentile approach		Threshold based on kernel density distribution approach	
		Pounds (metric tons)			
1.	Average daily production	1A.	11,000 (5.0)	1B.	15,500 (7.0)
2.	Average weekly production	2A.	42,000 (19.1)	2B.	79,000 (35.8)
3.	Maximum daily production	3A.	26,000 (11.8)	3B.	44,000 (20.0)
4.	Maximum weekly production	4A.	94,000 (42.6)	4B.	197,000 (89.4)
5.	Annual production	5A.	677,000 (307.1)	5B.	2,665,000 (1,208.8)

Sources: Percentile based thresholds summarized from Table 4 in Appendix B of Discussion Paper (Nov. 28, 2014); kernel density based thresholds derived from Table 5 in Appendix B. Tonnage estimates based on rounded pound values reported in table.

Element 2: What is the basis year for placing a catcher/processor in partial coverage?

Element 3: If a catcher/processor has no production in the basis year as determined under Element 2, how should NMFS determine whether to place a catcher/processor in partial coverage until the catcher/processor has production in a basis year? Council chooses one option.

Option 1: Place catcher/processor in full coverage.

Option 2: Place all catcher/processor in partial coverage.

Option 3: Place trawl catcher/processor in full coverage until vessel has production history; place other catcher/processers in partial coverage until vessel has production history.

Element 4. For a catcher/processor to be in partial coverage, will the vessel owner have to choose partial coverage? Council chooses one option.

Option 1. Vessel owner must choose partial coverage for the upcoming fishing year by an annual deadline.

Option 2. NMFS places vessel in partial coverage for the upcoming year without any action by owner.

Element 5: Should NMFS modify the placement of a catcher/processor in partial coverage based on any additional factors in the Council motion? Council chooses any or all options.

Option 1. Whether a catcher/processor is a hybrid vessel;

Option 2. Whether a catcher/processor uses particular gear: trawl, hook-and-line, pot, jig gear.

Option 3. Whether a catcher/processor operates in a fishery with a PSC limit.

Before examining the elements of Alternative 2, we note that the Council motion contained this statement concerning Alternative 2: “Under this alternative, if a catcher/processor is required to have $\geq 100\%$ observer coverage because of the vessel’s participation in a catch share program, the vessel would be ineligible for partial observer coverage under this action.” The Council discussion on the motion made clear that this limitation meant that the vessel would be ineligible for partial coverage *when the vessel was participating in the catch share program pursuant to a $\geq 100\%$ observer coverage.*¹⁸ The Council motion and the Council discussion simply state the obvious, namely that when a catcher/processor is required to have $\geq 100\%$ observer coverage by virtue of a catch share program or other action that is independent of the Observer Program, this proposed action would not supersede a separate, independent requirement for $\geq 100\%$ observer coverage.

¹⁸ Council Discussion of Agenda Item C-9 and Motion by NMFS’s Representative (December 15, 2014).

The following catcher/processors are under independent requirements to have $\geq 100\%$ observer coverage when fishing in these programs or sectors: the American Fisheries Act, the Amendment 80 Program, the Rockfish Quota Share Program, the Community Development Quota (CDQ) fisheries, the Aleutian Islands pollock fishery, and the longline catcher/processor subsector. Thus, under this action, any vessel would be excluded from partial coverage while operating in any of these programs, in the unlikely event that their overall production was at or below the production threshold in Element 1 for choosing partial coverage.

2.2.1 Element 1: What is the production threshold for placing a catcher/processor in partial coverage?

Council Motion

Under Alternative 2, the Council must select a production threshold for placing a catcher/processor in partial coverage. The Council Motion contained different production thresholds that are listed in Table 3.

Each option looks at a different measure of a vessel's groundfish production in a year: average daily production, average weekly production, maximum daily production, maximum weekly production, and annual production. For each of those measures, each option looks at production thresholds calculated by two different methods: the 10th percentile approach and the kernel density distribution approach.¹⁹ In essence, the five options are really ten options. To refer to each production threshold, the Analysis will refer to them as Option 1A, 1B, 2A, 2B, etc., as in Table 3 below:

Table 3 Production thresholds for analysis from the Council December 2014 motion.

Option	Measure	Threshold based on 10 th percentile approach		Threshold based on kernel density distribution approach	
		Pounds (metric tons)			
1.	Average daily production	1A.	11,000 (5.0)	1B.	15,500 (7.0)
2.	Average weekly production	2A.	42,000 (19.1)	2B.	79,000 (35.8)
3.	Maximum daily production	3A.	26,000 (11.8)	3B.	44,000 (20.0)
4.	Maximum weekly production	4A.	94,000 (42.6)	4B.	197,000 (89.4)
5.	Annual production	5A.	677,000 (307.1)	5B.	2,665,000 (1,208.8)
Sources: Percentile based thresholds summarized from Table 4 in Appendix B of Discussion Paper (Nov. 28, 2014); kernel density based thresholds derived from Table 5 in Appendix B. Tonnage estimates based on rounded pound values reported in table.					

The RIR describes in detail the examination of production data for catcher/processors for six years: 2009 to 2014. When analysts excluded processing activity subject to an independent requirement for $\geq 100\%$ coverage, no trawl catcher/processors would have been eligible for partial coverage under any production alternatives in the Council Motion.

Analysts compared the past production of the three vessels that currently qualify for partial coverage with each of the production thresholds in the Council Motion [Table 7]. These three vessels uniformly qualified for partial coverage at the higher production thresholds. These three vessels all qualified for partial coverage at the lower production thresholds in three of six years. For the other three years, the three catcher/processors currently exempted from full coverage mostly qualified for partial coverage.

¹⁹ The 10th percentile method set a threshold at the 10th percentile of production, the kernel density method evaluated alternative kernel density characterizations of the distribution of production, and set thresholds at a measure of a local minima between lower and upper concentrations of vessel production. These were discussed in the December 2014 discussion paper, and key parts of that discussion are included as Appendix C of this RIR/IRFA.

The top half of Table 7 shows how many of these three vessels would have qualified for partial coverage under each of the options in Element 1:

- For all six years [2011 – 2016], these three vessels processed below all of the higher production thresholds [Options 1B, 2B, 3B, 4B, 5B] in every year and would have qualified for partial coverage in every year.
- For 2014, 2015, and 2016, these three vessels would have qualified at every lower threshold [Options 1A, 2A, 3A, 4A, 5A,], meaning that all three vessels processed at or below all the low production thresholds in the basis years for 2014, 2015, and 2016.
- For 2013, one catcher/processor exceeded one lower threshold, the lower maximum daily threshold [Option 3B]; two out of three processed below that production threshold. Three out of three vessels processed below the other low production thresholds [Options 1B, 2B, 4B, 5B]
- For 2012, one the three catcher/processors exceeded one low threshold, the low annual production threshold [Option 5A]; two out of three vessels were under this threshold; three out of three processed under the other four low thresholds [Options 1A, 2A, 3A, 4A].
- For 2011, one of three catcher/processors exceeded the average weekly production threshold [Option 2A]; two out of three were under this threshold; one of three catcher/processors exceeded the annual low production threshold [Option 5A]; two out of three were under this threshold; and three out of three were under the other low production thresholds [Options 1A, 3A, 4A]

Analysts compared the production of the catcher/processors currently in full coverage from 2009 to 2014 with each of the production thresholds in the Council Motion [Table 8]. A maximum of eight catcher/processors in any year would have qualified for partial coverage. The minimum number was four that would have qualified. In this category of vessels, six vessels was the most common number of vessels that processed below a production threshold in the Council Motion.

The owners of some vessels have stated that they would begin processing if partial coverage were available. These are persons that wish to process sablefish A Quota Share in the BSAI and owners of jig catcher/processors. Section 3.7.5 of the RIR explained the difficulty in providing any estimate of how many additional catcher/processors would begin processing sablefish A Quota Share in the BSAI.²⁰ Sablefish A Quota Share is Quota Share that can be processed on a catcher/processor. The RIR does document that a great deal of sablefish A Quota Share is not being used [Table 10] but this was also occurring before the Restructured Observer Program placed catcher/processors in full coverage. Section 3.7.5 of the RIR concludes by providing a best estimate that Alternative 2 might lead to an additional two to four vessels might begin processing sablefish Q Quota Share and this may lead to an additional 400 metric tons of sablefish being processed under Alternative 2.²¹

The operators of some jig gear vessels have stated that they would start processing in federal waters if partial coverage were available to them. Jig gear vessels catch a very small amount of groundfish.²² Jig gear vessels do not operate under any PSC limits.²³ Although the availability of partial coverage is

²⁰ Section 3.7.5.

²¹ Section 3.7.5

²² Analysis of Restructured Observer Program at page 160 (March 2011). Figure 9 in that Analysis has the total weight of groundfish landings by gear type in 2008 and the landings by jig gear are an exceedingly small part of overall groundfish landings.

²³ 50 CFR 679.21.

important to the owners of jig gear vessels,²⁴ Section 3.7.4 of the RIR estimates that the increased processing that may occur under this action by jig gear catcher/processors would be insignificant for purposes of evaluating overall impacts of this action.

The Council could choose any production threshold in Element 1 and “maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category.” [Council Motion, Appendix A] The production threshold in Option 5B—the higher annual production—includes the most groundfish production [Table 14]. Therefore, an estimate of groundfish production under Option 5B provides an estimate of the maximum amount of groundfish production that would be subject to partial coverage under Alternative 2. The RIR estimates that, under Option 5B, Alternative 2 would place in partial coverage two-tenths of one percent of aggregate BSAI and GOA groundfish production:

The catcher/processor production by the eleven vessels directly regulated by this action accounted for about 3 percent of non-trawl catcher/processor production during the six years from 2009 through 2014. If the fixed gear catcher/processor production estimate was increased by another 400 metric tons, a hypothetical figure suggested in the discussion of sablefish “A” quota shares, the percentage of fixed gear catcher/processor production under partial coverage would not change.

The sum of the catcher/processor production by these eleven vessels plus a hypothetical 400 metric tons of sablefish catcher/processor production, accounted for about two-tenths of a percent of aggregate BSAI and GOA groundfish production during the same 2009 through 2014 period. [Section 3.7.12]

A description of the different measures of production

Under the maximum daily production measure, NMFS would look at a vessel’s production during the basis year and place the vessel in partial coverage if it did not exceed, on any day, the specified threshold of production. Under the maximum weekly production measure, NMFS would look at a vessel’s production during the basis year and place the vessel in partial coverage if it did not exceed, in any week, the specified threshold of production. This measure would result in the exclusion of individual catcher/processors from partial coverage because of a single high production day or week, when they should not be excluded. A catcher/processor could have an outlier day or week of unusually high production but could still, by a more meaningful measure of production, process a small amount of groundfish relative to the rest of the fleet. Similarly, it might be possible for a catcher/processor to manipulate production. A catcher/processor could process less than the maximum every day and process a relatively large amount of groundfish relative to the rest of the fleet.

Under the average daily production measure, NMFS would take the round weight equivalent of a groundfish production in the basis year and divide the total production by the number of days on which the vessel produced, or processed, any groundfish. If the vessel’s average daily production was at or less than the production threshold adopted under Element 1, NMFS would place the vessel in partial coverage. Under the current regulation, a vessel may be placed in partial coverage if it processed less than 5,000 pounds on an average daily basis in its last year of production in the period from 2003 through 2009. This measure of production was not the result of an analysis of what particular production measure would

²⁴ Written Statement of Ken Christiansen, attached to Agenda Item C 13 for Council Meeting (February 2014); Written Statement of Darius Kasprzak, President, Alaska Jig Association, attached to Agenda Item C 13 (February 2014); Written Statement of Adam Lalich, attached to Agenda Item C-9 for Council Meeting (December 2014). These statements are available on the Council website for Archives of Council Meetings: <http://www.npfmc.org/council-meeting-archive/>

identify small catcher/processors compared to the rest of the catcher/processor fleet. Aside from this determination, NMFS does not use average daily production data as a basis for conferring any fishing privilege in any management program. During a single trip, a vessel may, and often does, process nothing on some days, and then a great deal on others. The regulations generally define the end of a fishing trip for a catcher/processor as the end of the weekly reporting period.²⁵ NMFS uses weekly production data, not daily production data, to generate rates for Prohibited Species Catch (PSC) by the catcher/processor fleet.

Under the average weekly production measure, NMFS would take a vessel's round weight equivalent of groundfish production in the basis year and divide the total production by the number of weeks during which the vessel processed any groundfish. If the vessel's average weekly production was at or less than the production threshold adopted under Element 1, NMFS would place the vessel in partial coverage. Since it is a weekly measure, this measure has the virtue of measuring groundfish production in accord with the way NMFS generally defines fishing trips for catcher processors, namely the amount of groundfish processed during a week. This measure would capture activity by catcher/processors that was intense in nature, such as when a catcher/processor processes intensely for several weeks or several months, because periods of intense activity would increase the vessel's average weekly production. This measure could exclude catcher/processors that still process a small amount of groundfish relative to the rest of the fleet from partial coverage because they process intensely for a short period of time during the year, but do not process throughout large periods of the year.

Under the annual production measure, NMFS would determine a vessel's total round weight groundfish production in the basis year. If the vessel was at or below the specified annual threshold, NMFS would place the vessel in partial coverage. A vessel's annual total production is the easiest measure to understand. A vessel's annual production of groundfish is the most direct measure of the vessel's overall processing activity and the effect of that vessel's processing activity on the resource. The annual production measure would be the easiest for a vessel operator to monitor and to process under that amount, if the vessel operator was approaching the limit and wished to remain in partial coverage in the upcoming year. However, this measure may not place in full coverage activity by catcher/processors that was intense in nature, such as when a catcher/processor processes intensely for several weeks or several months. NMFS must carefully monitor these bursts of activity during a fishing year for effective inseason management.

2.2.2 Element 2: What is the basis year for placing a catcher/processor in partial coverage?

The basis year is the year that NMFS will use to determine whether a catcher/processor may be placed in partial coverage. NMFS will apply the production threshold to the basis year. If the vessel's production in the basis year is at or below the production threshold chosen in Element 1, the vessel will be eligible for partial coverage in the fishing year under consideration, subject to any other requirements in the regulation. If the vessel's production exceeds the production threshold chosen in Element 1, the vessel will not be eligible for partial coverage in the fishing year under consideration.

Under Alternative 2, NMFS cannot use the production data from the year immediately prior to the fishing year as the basis year, namely Fishing Year minus one year, because NMFS prepares the Annual Deployment Plan during that year. Under Alternative 2, therefore, the standard basis year will be two years prior to the fishing year, that is, the Fishing Year minus two years. It is necessary to have an alternate method for determining whether to place a vessel in partial coverage when a catcher/processor

²⁵ See 50 CFR 679.2, the definition of fishing trip for catcher/processors and motherships. The regulation lists other events that mark the end of a trip for these vessels, such as the vessel offloads all its fish or the vessel begins fishing with a different type of authorized gear, but only if these events occur before the end of a weekly reporting period.

did no processing in the standard basis year. In that situation, NMFS would evaluate the most recent fishing year before the standard basis year when the catcher/processor had any production. NMFS would, however, not test for years prior to 2009. The following subsections discuss these points in more detail.

Under Alternative 2, it would not be feasible for NMFS to place a catcher/processor in partial coverage based on the production data of the immediately preceding year: Fishing Year minus year one is not feasible.

The Council motion stated that, under Alternative 2, the basic criterion for placing a catcher/processor in partial coverage is the vessel's production "in the prior year or most recent year of production." In the process of preparing this analysis, NMFS realized that it would be virtually impossible to use a vessel's production in the year immediately prior to the year in which the exemption from full coverage might be in effect. This is because the fishing year lasts from January 1 to December 31. It would be impossible on January 1 to calculate production for the year that ended on December 31 and determine, starting on January 1, which vessels would be eligible for partial coverage for that fishing year.

Even if NMFS could somehow discount production in the last weeks of December, NMFS uses the entire year immediately prior to the fishing year to develop the Annual Deployment Plan (ADP) for that fishing year. The year immediately before the fishing year is the ADP development year. In developing the ADP, NMFS uses the data from the year before the ADP development year.

The ADP describes the process and schedule for development and implementation of the ADP.²⁶ Using the year 2015 as an example, these are the key dates in developing the ADP that will govern fishing in 2015:

June 2014: NMFS presents the 2013 Annual Report to the Council and the public. The 2013 Annual Report is the report on the Observer Program for the 2013 fishing year (January 1 – December 31, 2013).

June – September 2014: Using information from the 2013 Annual Report and any Council recommendations or input on the 2013 Annual Report, NMFS prepares and releases the Draft 2015 Annual Deployment Plan. The ADP proposes coverage in the partial coverage sector for 2015.

October 2014: The Council and its Scientific and Statistical Committee (SSC) review the Draft 2015 ADP and recommendations on the 2015 Draft ADP by the Groundfish Plan Team and the Council's Observer Advisory Committee (OAC).

November – December 2014: NMFS analyzes the Council's recommendations from the October 2014 meeting and prepares a Final 2015 ADP.

December 2014: NMFS releases the 2015 Final ADP prior to the December Council meeting.

For our purposes, what is important is that the ADP for fishing year 2015 is not, and could not be, based on data from 2014 because the ADP for 2015 is prepared *during* 2014. NMFS needs 2014 to analyze fishing data from 2013; propose an ADP; receive Council and public input on the proposed ADP; and then adjust the ADP, if need be, in response to that input.

²⁶ Section 2.2, 2015 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska (NMFS, 2014) (hereinafter 2015 ADP).

Further, under Element 4, the Council will decide whether to require a vessel owner whose vessel is eligible for partial coverage to request partial coverage. If the Council recommends requiring the owner to elect partial coverage, this adds a new step to the current process. The new step is that the vessel owner must determine the production data for the vessel and, if the vessel processed below the production thresholds for partial coverage, the vessel owner must notify NMFS that the owner wishes partial coverage.

Under Alternative 2, NMFS would not use a special time period for determining placement of catcher/processors in partial coverage

It is theoretically possible that this action could adopt a special time period for determining whether a catcher/processor might be placed in partial coverage. For example, for the fishing year 2015, NMFS could analyze production data for catcher/processors from June 2013 to June 2014. If NMFS used this time period, it would give NMFS time to calculate production and allow owners to opt out by September 1, 2014. If NMFS used this time period, NMFS would be placing a catcher/processor in partial coverage in 2015 based on production data six months closer to 2015: June 2013 to June 2014 versus January to December 2013.

NMFS believes the benefits of using a special time period for determining catch are outweighed by the problems it would create. The data is only six months more recent. The cost of that increase in the recency of the data is that NMFS would determine the placement of catcher/processors in partial coverage based on data from one time period and would determine the rest of the ADP based on data from a different time period. This approach would create an inconsistency in data sets used to determine different aspects of the ADP. In the example above of the 2015 fishing year, NMFS would determine coverage and sample rates based on data from January through December 2013 and would determine which vessels could be placed in partial coverage based on production data from June 2013 to June 2014.

Further, preparation of the ADP is on a tight timeline. The adoption of a special time period for determining placement of catcher/processors in partial coverage would require a separate calculation of June-to-June data at the same time NMFS is formulating the rest of the ADP based on the January-to-December. The calculation of this separate time period might interfere with timely preparation of the rest of the ADP.

Under Alternative 2, NMFS would use a standard basis year, which is Fishing Year minus two, and an alternate basis year, which is the most recent year of a vessel's production prior to the standard basis year.

The Council motion states that under Alternative 2, “the basic criterion for placing a catcher/processor in partial coverage is the vessel’s production in the prior year or most recent year of production.” [Appendix A]. NMFS believes that the Council intended that the basic criterion for placing a catcher processor in partial coverage under Alternative 2 would be “the vessel’s production in the prior year *for which full data is available* or [*the vessel’s*] most recent year of production.”

Therefore, NMFS believes that, under Alternative 2, the standard basis year should be the year before the immediately preceding year, namely the Fishing Year minus two years. Table 4 describes this process for the fishing years 2016 through 2019. In Table 4, each line shows the standard basis year; the ADP development year, which is the next year; and the fishing year for placing a catcher/processor in partial coverage.

Table 4 Illustration of partial coverage eligibility calculation time frame

Standard basis year	ADP development year	Fishing year for placing vessel in partial coverage
2014	2015	2016
2015	2016	2017
2016	2017	2018
2017	2018	2019

Note: Standard basis year is the year NMFS will use to determine assignment of catcher/processor to partial coverage. If vessel has no production in the standard basis year, NMFS will use production in an alternate basis year.

Under Alternative 2, if the vessel has no production in the standard basis year, NMFS will go back to the most recent year before the standard basis year during which a catcher/processor was active. This will be the alternate basis year. If the vessel processed any groundfish in the alternate basis year, NMFS will determine whether to place the vessel in partial coverage based on the vessel’s production in the alternate basis year.

NMFS will not, however, go back farther than 2009 for two reasons. First, NMFS has more complete production data beginning in 2009 because NMFS began in 2009 to receive daily production reports from catcher/processors. Second, in preparing this analysis, NMFS examined production data from 2009 to 2014.

If the vessel has no production in the standard basis year or an alternative basis year, NMFS will use the method for placing a catcher/processor in full or partial coverage that the Council chooses in Element 3.

2.2.3 Element 3: If a catcher/processor has no production in the basis year as determined under Element 2, how should NMFS determine whether to place a catcher/processor in partial coverage?

Under Element 3, the Council would choose one option:

- Option 1: Place catcher/processor in full coverage.
- Option 2: Place all catcher/processor in partial coverage.
- Option 3: Place trawl catcher/processor in full coverage until vessel has production history; place other catcher/processors in partial coverage until vessel has production history.

Element 3 responds to the circumstance of a catcher/processor with no history of production after 2008. This vessel would either be a newly built catcher/processor, a newly rebuilt catcher/processor, or a catcher/processor that, for some reason, had an extended gap in processing, meaning that it processed before 2009 but not in 2009 or after 2009. This section sometimes refers to these vessels as new catcher/processors, but it is possible that a catcher/processor may not be a vessel completely new to processing. NMFS would use the rule in Element 3 for a maximum of two years: the catcher/processor’s first and second year of activity. After that, NMFS could use the vessel’s actual production in a basis year.

Under Option 1, NMFS would place a new catcher/processor in full coverage until it had production history in a basis year. Option 1 has the benefit of foreclosing the possibility that a new catcher/processor with high production would be in partial coverage. Option 1 has the risk of placing a vessel in full coverage even when the vessel is likely to process a small amount of groundfish relative to the rest of the fleet and even when the cost of observer coverage might be disproportionate to the potential revenues

from processing. Option 1 could deter some vessels that have requested relief from entering processing if, for two years, they would still be in full coverage.

Under Option 2, NMFS would place a new catcher/processor in partial coverage until it has a history of production. The benefits and risk of Option 2 are the inverse of Option 1. Option 2 has the benefit of allowing new catcher/processors in partial coverage, when they would likely process under the threshold and therefore would likely experience the cost of full coverage as disproportionate to the revenues from processing. Option 2 has the risk of placing a catcher/processor in partial coverage, when the vessel would likely process over the production threshold for partial coverage, possibly greatly over the production threshold for partial coverage.

The possible placement of a catcher/processor in partial coverage with relatively high production for up to two fishing years is mitigated by several factors. First, if a new catcher/processor is participating in a catch share program with $\geq 100\%$ coverage, the new catcher/processor would still be subject to the 100% observer coverage requirements. Thus, a new AFA catcher/processor or a new Amendment 80 catcher/processor will be subject to $\geq 100\%$ coverage requirements. Second, a catcher/processor in partial coverage is still subject to placement of observers according to a scientifically sound sampling plan developed through the ADP process. Theoretically, the ADP could even require 100% observer coverage for vessels that are in the partial coverage category.²⁷ Third, if, under Element 4 of this action, a vessel owner must choose partial coverage, it is possible that the owner of a catcher/processor that would process in excess of the production threshold would choose full coverage anyway (A vessel grossing in excess of about approximately \$21 million may have lower costs for an observer if the vessel owner chooses full coverage at a cost in the vicinity of \$367 a day²⁸ rather than partial coverage with a 1.25 percent assessment).²⁹

Option 3 originated in a desire to provide the Council with an alternative to placing all new catcher/processors in full coverage (Option 1) or all new catcher/processors in partial coverage (Option 2). Until a catcher/processor has processing history, could NMFS employ another criterion to place some catcher/processors in full coverage and some in partial coverage?

NMFS looked to the historical data on production by catcher/processors for characteristics of catcher/processors that are likely, and that are not likely, to process at or below the production thresholds in Element 1. The data showed that a catcher/processor's use of trawl gear predicts to a near certainty that a vessel would likely process over the production thresholds for partial coverage in Element 1.

NMFS has reviewed fishing activity by trawl catcher/processors over six years (2009 through 2014) and compared it to the ten thresholds under consideration in Element 1. Out of these 60 situations, there were only two instances where, in one year, a trawl catcher/processor processed below one of the production thresholds under consideration in Element 1.³⁰ Thus, in 58 out of 60 situations, a trawl catcher/processor processed over the production thresholds for partial coverage.

It should be noted, however, that even in these two instances, these vessels would have been precluded from partial coverage because the fishing by these vessels was subject to $\geq 100\%$ observer coverage by

²⁷ Vessels in the partial coverage category pay 1.25% of their ex-vessel revenue regardless of the percent of the time that an observer is actually onboard the vessel. Just as some vessels in the "partial" coverage category are in the "no coverage" strata, it would be possible under the ADP for NMFS to establish a 100% observer coverage requirement for vessels in the "partial" coverage category.

²⁸ This was the daily cost of full coverage in 2013. Section 2.4 at page 24, North Pacific Groundfish and Halibut Observer Program 2013 Annual Report (NMFS, 2014), available at <https://alaskafisheries.noaa.gov/sustainablefisheries/observers/annualrpt2013.pdf>

²⁹ Section 2.2.5.2.

³⁰ One vessel fell below the [high annual production measure or whichever one] [Option 5B] and one vessel fell below the _____ measure [Option XX]. [See section 2.7.1 *infra*

the AFA or Amendment 80 requirements. Thus, based on 2009 to 2014 production data, no trawl catcher/processors would have qualified for partial coverage under any of the production thresholds under consideration. But if the Council wished to guarantee that a new trawl catcher/processor would be precluded from partial coverage, the Council could choose Option 3.

Therefore, if a catcher/processor with no production history has a trawl gear designation on its FFP license, the Council could reasonably conclude that such a catcher/processor would likely exceed the production thresholds in Element 1 in its first two years of operation. It is far more likely that such a vessel would exceed the production thresholds under consideration than the vessel would process at or below those production thresholds.

When a catcher/processor begins to have production in the standard basis year or an alternate year, NMFS will use the vessel's own production in the standard basis year or alternate basis year to place the catcher/processor in partial or full coverage, except that a vessel will always be in $\geq 100\%$ observer coverage when the vessel is subject to an independent 100% observer coverage requirement.

2.2.4 Element 4. For a catcher/processor to be in partial coverage, will the vessel owner have to choose partial coverage?

Under Element 4, the Council would choose one option:

- Option 1. Vessel owner must choose partial coverage for the upcoming fishing year by an annual deadline.
- Option 2. NMFS places vessel in partial coverage for the upcoming year without any action by owner.

Under Option 1, if a vessel processed at or below the production threshold for partial coverage, and the vessel owner wanted to choose partial coverage, the vessel owner would have to notify NMFS by an annual deadline. NMFS believes that a July 1 deadline gives vessel owners ample time to choose partial or full coverage for the upcoming year and gives NMFS sufficient time to incorporate the vessel's choice into the development of the ADP for the upcoming fishing year. If the vessel owner does not choose partial coverage by the regulatory deadline, the catcher/processor would remain in full coverage.

Option 1 would not require that NMFS place a catcher/processor in partial coverage. Option 1 requires the vessel owner to choose partial coverage. If the vessel owner concluded that full coverage was beneficial, for whatever reason, Option 1 allows the vessel owner to let its catcher/processor remain in full coverage. If the vessel owner wishes its vessel to remain in full coverage, that provides NMFS with more data about the vessel's activities. Further, NMFS has allowed the owners of BSAI Pacific cod catcher vessels to choose full coverage, even though, by regulation, these vessels are in partial coverage.³¹

Under Option 2, NMFS would place catcher/processors in partial coverage if the vessels processed at or below the production threshold for partial coverage during the basis year; the owner would have no ability to opt out of partial coverage and request full coverage. Under Option 2, NMFS would have the responsibility to determine what vessels met the requirements for partial coverage. NMFS would then notify the vessel owners that their vessel would be in partial coverage for the upcoming year. Option 2 would place on NMFS the responsibility to place the vessel in partial coverage. Option 1 places the

³¹ For a description of the "BSAI Full Coverage Compliance Agreement," see Section 4.5 and Appendix F of the 2015 ADP. The ADP states at page 13: "NMFS is extending the voluntary full coverage option through 2015, and recognizes this activity would be best addressed in the long-term through a regulatory change." The owners of these catcher vessels both pay for full observer coverage and pay the 1.25% ex vessel fee for partial coverage. Under Option 1 of Element 4 for this action, the catcher/processors who choose full coverage would be relieved of partial coverage obligations (principally registration in ODDS and payment of the 1.25% ex vessel fee) and would instead arrange directly with, and pay directly to, the observer provider to take an observer on every trip.

responsibility on the vessel owner to request partial coverage if they want partial rather than full coverage.

Under both options, if the owner disagreed with NMFS's determination that its vessel should, or should not, be in partial coverage, the owner would have the right to appeal NMFS's determination pursuant to 15 CFR Part 906.³² During the pendency of the appeal, NMFS's initial determination would remain in effect.

NMFS expects few, if any, appeals under Option 1 or Option 2. The basis for placement of catcher/processors in partial coverage is actual, historical, groundfish production data.³³ The requirements to submit catch and processing data are detailed, comprehensive, and known to all in the industry. After data is placed in the catch accounting system, vessel owners and operators have access to the system and work with NMFS to correct their data. NMFS believes that whether a vessel processed above or below the production threshold will rarely be in dispute.

2.2.5 Element 5. Should the basic production criterion for placing a catcher/processor in partial coverage be modified based on additional factors?

The Council Motion stated:

The Analysis should evaluate whether the basic production criterion for placing a catcher/processor in partial coverage should be modified based on any of the following factors:

- Whether a catcher/processor is a hybrid vessel, that is, a catcher/processor operates as a catcher vessel for part of the year and a catcher/processor for part of the year;
- Whether the owner of a catcher/processor chooses partial coverage;
- Whether a catcher/processor uses particular gear;
- Whether a catcher/processor operates in a fishery with a PSC limit;
- Whether a catcher/processor is just starting or is resuming processing and therefore its production in the prior year was zero.

The Analysis considered the last factor under Elements 2 and 3. Under Element 2, NMFS will use the production of a catcher/processor in the most recent year for which NMFS has full production data. That will generally be the fishing year minus two years. If a catcher/processor has no production in that year but has production in an earlier year, going back to 2009, NMFS will use the vessel's most recent year of production. If a catcher/processor has zero production in all those years, the Council will choose an option under Element 3.

The Analysis considered the second factor, namely whether the owner of a catcher/processor chooses partial coverage, under Element 4.

The Analysis will now consider the other factors in the motion.

2.2.5.1 Whether a catcher/processor is a hybrid vessel.

The Council Motion directed the Analysis to consider whether, during the annual determination of the catcher/processors eligible for partial coverage, NMFS should examine "[w]hether a catcher/processor is

³² NMFS adopted appeal procedures in 15 CFR part 906 in 2012. Final Rule, 79 FR 7056 (Feb. 6, 2014).

³³ Cf. 50 CFR 679.4(k)(8)(iv)(issuance of LLP permit based on proving would have happened in the absence of an unavoidable circumstance).

a hybrid vessel, that is, a catcher/processor operates as a catcher vessel for part of the year and a catcher/processor for part of the year.” To act as a catcher vessel and a catcher/processor for part of the year means during the year, the same vessel caught and processed the fish it caught *and also* caught fish which were then processed by another vessel or a shoreside plant.

The argument in favor of an ongoing hybrid allowance is that catcher vessels are in the partial coverage category, unless they are directed fishing for pollock in the Bering Sea, using trawl gear or hook-and-line gear while groundfish CDQ fishing, or participating in the Rockfish Program.³⁴ Therefore, the argument is that if a catcher/processor is catching (and not processing) fish in a fishery where a catcher vessel would not be required to have full coverage, the catcher/processor that is operating as a catcher vessel in that same fishery should also not be required to have full coverage.

Before analyzing this factor, it is helpful to understand how a vessel is permitted as a catcher/processor on a Federal Fishing Permit (FFP). To operate as a catcher/processor, a vessel must have an FFP with a catcher/processor designation.³⁵ The FFP is issued on a three-year cycle.³⁶ With a few exceptions, an FFP with a catcher/processor designation, if surrendered, cannot be reissued until the beginning of a new three-year cycle. Similarly, an FFP with a catcher/processor designation generally cannot be amended to remove the catcher/processor designation.³⁷ For purposes of the Observer Program, a vessel designated as a catcher/processor on its FFP at any time during a year is classified as a catcher/processor for the remainder of the year.³⁸

Alternative 2 without a hybrid allowance factor

Under Alternative 2, without a hybrid allowance factor, a vessel that operates as a catcher/processor at any time during the fishing year would be placed in full coverage for the entire year, unless the vessel processed at or below the production threshold for partial coverage. Alternative 2, without this factor, would not remove the catcher/processor from full coverage for a period of time during the year when the catcher/processor was operating as a catcher vessel. Alternative 2, without this factor, would place a catcher/processor in partial or full coverage for an *entire* year, one year at a time, except when the vessel was operating in a fishery with an independent 100% observer coverage requirement. For example, a catcher/processor, when operating in the CDQ Program, is subject to an independent requirement for 100% observer coverage, which this action would not abrogate. But, under Alternative 2, without this factor, if a catcher/processor had an overall level of production below the threshold for partial coverage, the catcher/processor could be in partial coverage for its non-CDQ fishing activities

Alternative 2, without this factor, would generally continue to place in partial coverage all three vessels that currently qualify for partial coverage under the Status Quo Alternative. Two of the three vessels currently in partial coverage met the requirements for the hybrid allowance in current regulation; one vessel met only the 5,000 pound allowance for partial coverage in current regulation.

As explained, Table 7 analyzes six years of production data for the three catcher/processors that are currently in partial coverage. All three vessels continue to qualify for partial coverage at all the higher production thresholds in Element 1 [Options 1B, 2B, 3B, 4B, 5B]. All three vessels continue to qualify partial coverage at all the lower production thresholds in Element 1 [Options 1A, 2A, 3A, 4A, 5A] for the

³⁴ 50 CFR 679.51(a)(2)(i)(C).

³⁵ 50 CFR 679.4(b)(1).

³⁶ For a summary of the rules on amending, surrendering and reissuing FFPs, see the NMFS Alaska Region website as <https://alaskafisheries.noaa.gov/ram/ffp/ffpreissuance1212.pdf>

³⁷ 50 CFR 679.4(b)(3)(ii)(surrendered FFPs); 50 CFR 679.4(b)(3)(iii)(amended FFPs).

³⁸ 50 CFR 679.51(a)(2)(iv)(A), reprinted in Appendix B. The regulations place some limit on a permit holder's ability to surrender an FFP and have it reissued. See 50 CFR 679.4(b)(4).

most recent three years. For the other three years, these three catcher/processor vessels mostly continue to qualify under most of the production measures.³⁹

Thus, under Alternative 2, without an additional hybrid vessel factor, a hybrid catcher/processor vessel would continue to qualify for partial coverage as long as it continued to process a small amount of groundfish relative to the rest of the fleet.

Alternative 2 with a hybrid vessel factor

Consider Alternative 2, with a hybrid vessel factor. The focus of public testimony and comment was that the Council should establish an annual production level for vessels that began processing after 2008. The only reference in public testimony and comment to a hybrid allowance was to the hybrid allowance in the current regulation. Under the hybrid allowance in current regulation, the owner of a catcher/processor that was under 60 feet could permanently choose partial coverage if the catcher/processor, in any of the years 2003 through 2009, acted as both a catcher/processor and a catcher vessel.⁴⁰ Thus, we will analyze how Alternative 2 would work if the Council chose to continue the current hybrid allowance on an annual basis, without the length limitation, or if the Council chose to adopt new methods for placing catcher/processors in partial coverage that act as both catcher/processors and catcher vessels.

To adopt this as a factor for placing a catcher/processor in partial coverage, the Council would have to answer two questions. To be placed in partial coverage, how long in the basis year would a catcher/processor have had to operate as a catcher vessel? And for how long in the fishing year would a catcher/processor be able to operate in partial coverage?

The answers to those questions in the current hybrid allowance do not meet the Council's objectives for this action. Under the current hybrid allowance, how long did a catcher/processor have to act as a catcher vessel to be placed in partial coverage? The answer is any time at all in the years 2003 through 2009. The vessel simply had to have acted as a catcher vessel at all in one of those years. Under the current hybrid allowance, when in the fishing year does the catcher/processor operate in partial coverage? The answer is 100% of the time.⁴¹

If Alternative 2 continued the current hybrid allowance, but simply on an annual basis, Alternative 2 would not achieve the objectives in the Council Motion [Appendix A]. Unless independently required to have full observer coverage on some other grounds, the owner of any catcher/processor could simply choose partial coverage by acting as a catcher vessel at any time during the basis year. Alternative 2 with this factor would essentially eliminate the production criterion as the basis for placing a catcher/processor in partial coverage. Alternative 2 would not be placing catcher/processors in partial coverage whether or not they processed "a small amount of groundfish relative to the rest of the catcher/processor fleet." Alternative 2 would not "maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category." It would not "provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage." If the Council does not want "any" time by a catcher/processor acting as a catcher vessel to qualify the catcher/processor for partial coverage, the Council and the regulations would have to determine how long a catcher/processor would have had to have acted as a catcher vessel.

This raises several questions: Should the criteria be based on weeks? On months? Should the catcher vessel have acted as a catcher vessel on an uninterrupted basis during that time period? Should it have caught but not processed 100% of the catch during the selected time period? The production data

³⁹ This is explained in detail in section 2.2.1 and is based on Table 7.

⁴⁰ 50 CFR 679.51(a)(2)(v), reprinted in Appendix B.

⁴¹ The current hybrid allowance is limited to vessels under 60 feet.

analyzed for this document does not show that catcher/processors operate in some months only as catcher/processors and then operate in other months only catcher vessels. A catcher/processor can act as a catcher vessel and a catcher/processor in the same trip. This happens when a vessel catches IFQ halibut, because halibut may not be processed on board a vessel.⁴² Thus, during any trip where a catcher/processor catches IFQ halibut and groundfish, the catcher/processor will not process the IFQ halibut and will likely process the groundfish.

If the Council wished to limit how long during the fishing year that a catcher/processor could be in partial coverage – for example, if it required that a vessel had to act a certain number of months as only a catcher vessel – NMFS would have to specify the time limits before the fishing year and NMFS would have to enforce the time limits during the fishing year. A vessel would have to register at the beginning of the year for the months when it would be acting solely as a catcher vessel and could not change that pattern during the year. This would lock the vessel into a pattern of fishing at the beginning of the year that it might want to change during the year. This factor would require a change in the current FFP regulations, which allow the operator of a vessel with an FFP authorized to operate as a catcher/processor or a catcher vessel at will, as long as the vessel meets other legal requirements for doing that. Or the regulations could specify the grounds for a catcher/processor to change its plan of operation during the year, the process for submitting that change, and the effect of a change. Either approach would be “unduly difficult to apply and enforce.”

An alternative to a catcher/processor submitting a plan before the fishing year is that an operator of a catcher/processor would simply go back and forth between operating as a catcher/processor vessel or a catcher processor at will during the year, as they do now, and that the catcher/processor would be in full coverage when it was operating as a catcher/processor and in partial coverage when it was operating as a catcher vessel. A catcher/processor going back and forth at will between full and partial coverage would create administrative difficulties. The essential feature of the ADP is that the ADP calculates coverage rates based on the estimated number of vessels that will be in partial coverage and the estimated revenues from those vessels. It would increase the difficulty of administering the Observer Program if a group of vessels could frequently switch back and forth between partial and full coverage and not on the basis of stable, preset categories.

Catcher vessels in full and partial coverage under the status quo alternative

Under current regulations, some catcher vessels are both in partial and full coverage as a result of current categories in regulations.⁴³ For example, catcher vessels are in full coverage when they are participating in the Rockfish Program or CDQ Program but in partial coverage when they are participating in non-catch fisheries. It is fairly clearcut when a vessel is operating in one of these catch share programs. Even when it is clearcut, the placement of the same vessels in both categories does impose some administrative costs because the same vessel switches between the observer providers and NMFS must enforce and monitor compliance by the same vessels with different observer coverage requirements.

It is also true that NMFS has allowed a group of vessels – catcher vessels using non-pelagic trawl gear in the BSAI – to voluntarily choose full coverage at the beginning of the year, even though by regulation, they are in the partial coverage category and remain in that category. This group of vessels targets Pacific cod. When these vessels operate in the BSAI, they are in full coverage. If these vessels operate in the

⁴² See Annual Halibut Management Measures of IPHC, Section 17, Receipt and Possession of Halibut, 79 FR 13906, 13914-15 (March 12, 2014).

⁴³ 50 CFR 679.51(a)(2)(i)(C).

GOA, where catcher vessels are in partial coverage, these vessels are in partial coverage.⁴⁴ Thus, a group of vessels is in full coverage and partial coverage during the same year depending where they are operating.

For several reasons, the policy for the BSAI Pacific cod vessels in the status quo works differently from the way a continued hybrid allowance would be expected to work if that was part of Alternative 2. Using the BSAI First, the policy in the status quo does not take funds away from the Observer Program and does not introduce uncertainty into the revenue estimates for the partial coverage sector; the BSAI trawl vessels that opt into full coverage pay the 1.25% vessel assessment and the fees for 100% observer coverage. Second, the vessels choose before the fishing year begins. Third, the BSAI trawl vessels choose to be in the full coverage category for the entire fishing year when they are fishing in the BSAI. Finally, this policy does not entail different observer coverage categories between the BSAI and the GOA. Thus, this policy is not comparable to continuing a hybrid allowance that would be difficult to formulate and that could entail catcher/processors switching back and forth frequently between full coverage and partial coverage during the fishing year.

Whether a continuation of a hybrid allowance meets Council's objectives

Overall, Alternative 2, with a hybrid vessel factor, does not appear to meet the Council's objectives for this action as set out in the Council Motion (Appendix A). A continuation of the current allowance on an annual basis would not "maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category." A modification of the current hybrid allowance may also not maintain a limited exception and would be "unduly difficult to apply and enforce."

A hybrid vessel factor does not seem to provide "an appropriate balance between data quality and the cost of observer coverage." This factor would make partial coverage open to any catcher/processor, irrespective of how much the vessel processes, the cost burden of full coverage, and how much revenue the vessel makes from that processing. This factor divides the operation of a single vessel into two categories: (1) when the vessel operates as a catcher/processor, and (2) when the vessel operates as a catcher vessel. But the same vessel owner controls the vessel's operations in both categories and receives income from the vessel's operations in both categories.

Alternative 2, without this factor, has a type of built-in hybrid allowance because the production thresholds in Element 1 are based on pounds of groundfish *processed* by a vessel, either in a day, a week, or a year. The production thresholds do not include groundfish caught by a catcher/processor but processed by some other vessel or plant. Thus, the production thresholds in Element 1 place a catcher/processor in partial coverage if the vessel spends a significant period of time as a catcher vessel but, compared to the rest of the groundfish catcher/processor fleet, processes relatively little groundfish.

2.2.5.2 Whether a catcher/processor uses particular gear.

Under Alternative 2, without this factor, NMFS would place a vessel in partial coverage if it processed at or below the production thresholds specified in Element 1 in the basis year. Except possibly when a catcher/processor no production history,⁴⁵ under Alternative 2, the gear that a vessel used to catch all or some of that groundfish would not be a separate factor, by itself, for placing a catcher/processor in full or partial coverage.

⁴⁴ For a description of this policy, see Section 4.5 and Appendix F of the 2015 ADP. The ADP states at page 13: "NMFS is extending the voluntary full coverage option through 2015, and recognizes this activity would be best addressed in the long-term through a regulatory change."

⁴⁵ Option 3 under Element 3 examines a limited situation for placing a catcher/processor in full coverage based on whether it has an FFP with a trawl gear designation. The limited situation is when the catcher/processor has no history of groundfish production in the standard basis year or any year going back to 2009. See section 2.2.3 *supra*.

Alternative 2 without a gear factor

Alternative 2, even without an explicit gear factor, excludes most, and probably all, trawl catcher/processor activity for two reasons. First, Alternative 2 excludes catcher/processors from the possibility of partial coverage while they are participating in a catch share program or other program that requires full coverage. The following fisheries/programs are prosecuted by catcher/processors with trawl gear and also have independent requirements for $\geq 100\%$ observer coverage: American Fisheries Act; the Amendment 80 Quota Share program, the Rockfish Quota Share Program, and the Aleutian Islands pollock fishery. Further, vessels fishing with any gear, including trawl gear, in the Community Development Quota (CDQ) program have an independent requirement for $\geq 100\%$ observer coverage. Thus, under this action, these catcher/processors are excluded from even the possibility of partial coverage while operating in any of these fisheries, in the unlikely event that their overall production was below the production threshold in Element 1 for choosing partial coverage.

Second, when catcher/processor production in the above programs are included in the history production data, two vessels in one year processed below one production threshold. would have qualified for partial coverage. When this production is excluded, as it would be under this action, no trawl catcher/processors processed below any of the production thresholds in Element 1. None of the three vessels that currently qualify for partial coverage use trawl gear.⁴⁶ As for the additional eight catcher/processor vessels that might qualify for partial coverage, when the production thresholds in Element 1 are applied to their historical production, the gear used by these is as follows: 63% of groundfish caught with pot gear; 36% with hook-and-line gear; and 1% with jig gear.⁴⁷ The production thresholds are so low that the production thresholds themselves exclude vessels that use trawl gear.

Finally, it is possible that even if a trawl catcher/processor were eligible for partial coverage in one year, the vessel might nonetheless choose full coverage. It is possible that, for such a vessel, the daily cost of full coverage might be less than the 1.25% ex vessel fee for partial coverage. For example, the 2013 report on the observer program estimated that the average daily cost of full observer coverage was about \$367 (NMFS 2014, page 24). At this rate, and making the strong assumption that a vessel operated every day during the year with observer coverage, the total cost of observer coverage would be about \$134,000. A vessel would have to have implicit ex-vessel revenues equivalent to about \$10.7 million for its observer coverage assessment to be this high at the 1.25% rate. For the sake of this example, if ex-vessel revenues were equal to half of wholesale revenues, this would translate into wholesale revenues of about \$21 million. Thus, in this example, if the vessel's expected revenues from processed production were greater than \$21 million, it would be less expensive for the operation to select full observer coverage. This is a crude example, created to illustrate the approximate magnitudes under consideration.

Alternative 2 with a gear factor

Under Alternative 2, with a gear factor, NMFS would exclude a vessel from partial coverage based on the vessel's use of particular gear even though the vessel processed at or below the production threshold in the basis year. The Council Motion does not specify the type of gear that should be analyzed. Four types of gear are used to catch groundfish: trawl, pot gear, hook-and-line, and jig gear.

Trawl gear. Excluding vessels from partial coverage based on their use of trawl gear does not appear necessary to provide an appropriate balance because, as noted, most trawl activity occurs in fisheries subject to $\geq 100\%$ observer coverage and trawl vessels process above the production thresholds for partial

⁴⁶ Section 3.7.2

⁴⁷ Section 3.7.3 and Table 10 and explanatory text after Table 10.

coverage. A catcher/processor using trawl gear is highly unlikely to qualify for partial coverage for any of its activity.

By the same token, however, excluding vessels from partial coverage based on the vessel's use of trawl gear is unlikely to exclude any vessels that would otherwise qualify for partial coverage. Further, it would not be difficult to define the category of vessels that could be excluded by this factor. Catcher/processors that fish with trawl gear typically use only trawl gear and have a trawl gear designation on their Federal Fisheries Permit.

Hook-and-line and pot gear. As for the three catcher/processors currently in partial coverage, the exclusion of vessels that use hook-and-line gear would exclude from partial coverage 97% of the processing activity of these three vessels.⁴⁸ A gear exclusion for hook-and-line vessels would essentially eliminate the exemption from full coverage for three vessels that currently qualify for partial coverage, which is likely not the intent of the Council.

As for the eight additional vessels that are currently in full coverage and might qualify for partial coverage, 63% was caught with pot gear, 36% with hook-and-line gear, 1% with jig gear.⁴⁹ If the Council excluded from partial coverage any catcher/processor that used hook-and-line gear or pot gear, that would exclude some of the eight additional vessels that could qualify for partial coverage.

Further, some vessels use both hook-and-line gear and pot gear, sometimes on the same trip. This occurs because a vessel may not use pot gear to catch halibut.⁵⁰

Jig gear. A gear criterion excluding vessels from partial coverage based on jig gear would be completely inconsistent with the Council objective because these vessels catch a tiny amount of groundfish relative to the rest of the fleet.⁵¹ Jig gear vessels do not operate under any PSC limit.⁵² Relative to other gear types, the need for observed data from jig gear vessels is low as evidenced by the fact that all catcher vessels using jig gear have been placed in the no selection or zero coverage pool in the partial coverage category under the Restructured Observer Program.⁵³

2.2.5.3 Whether a catcher/processor operates in a fishery with a PSC limit.

The Council Motion directed NMFS to analyze whether a catcher/processor that met the production threshold for partial observer coverage might nevertheless be placed in full coverage based on whether the catcher/processor operates in a fishery with a PSC limit. The PSC limit in this factor is a PSC limit for the prohibited species catch of halibut, salmon, crab and herring.⁵⁴

The reason to analyze modifying the placement of catcher/processors in partial coverage when they are operating in a fishery with a PSC limit is that those vessels are under increased incentive to misreport the catch of those prohibited species. Every salmon or halibut caught by a catcher/processor counts against the sector's PSC limit which, if exceeded, can cause NMFS to close the fishery.

The Discussion Paper lists the vessels that operate, and do not operate, with a PSC limit:

⁴⁸ Section 3.7.2

⁴⁹ Section 3.7.3 and Table 10 and explanatory text after Table 10.

⁵⁰ 50 CFR 679.2 (definition of authorized gear, section (4) fixed gear).

⁵¹ Analysis of Restructured Observer Program at page 160 (March 2011). Figure 9 in that Analysis has the total weight of groundfish landings by gear type in 2008 and the landings by jig gear are an exceedingly small part of overall groundfish landings.

⁵² 50 CFR 679.21.

⁵³ Section 1.5.1 (ADP 2013); Section 1.4.1 (ADP 2014); Section 4.1 (ADP 2015). The ADPs for the Restructured Observer Program are available on the NMFS Alaska Region website. <https://alaskafisheries.noaa.gov/sustainablefisheries/observers/default.htm>

⁵⁴ In this context, PSC refers to the prohibited species catch of halibut, salmon, crab, and herring (as opposed groundfish species put on "prohibited species" status to limit further retained catch). Discussion Paper at 16 note 28.

- [1] Vessels directed fishing for IFQ or CDQ halibut are not subject to a PSC limit.
- [2] Halibut discarded by vessels directed fishing for groundfish using pot or jig gear does not accrue to a halibut PSC limit. This decision is made annually by the Council in the harvest specifications process.
- [3] Halibut discarded by vessels directed fishing for sablefish using hook-and-line gear does not accrue to a halibut PSC limit. This decision is made annually by the Council in the harvest specifications process.
- [4] **Halibut discarded by vessels using hook-and-line gear and directed fishing for groundfish other than sablefish accrues to a halibut PSC limit.** For the catcher/processors using hook-and-line gear, the halibut PSC limit primarily affects those directed fishing for Pacific cod.
- [5] **All vessels using trawl gear are subject to one or more PSC limits (halibut, salmon, crab, and herring).**⁵⁵

Under Alternative 2, without this factor, a catcher/processor would not be eligible for partial coverage when the catcher/processor is operating in a fishery with an independent $\geq 100\%$ observer coverage requirement, that is, a $\geq 100\%$ observer coverage that comes from a vessel's participation in a catch share program or limited sector.

Vessels using trawl gear are subject to one or more PSC limits

Consider the fifth category in the above list: "All vessels using trawl gear are subject to one or more PSC limits (halibut, salmon, crab, and herring)." Almost all activity by trawl catcher/processors occurs in fisheries or sectors where the catcher/processors are subject to an independent 100% observer coverage requirement: the American Fisheries Act, the Amendment 80 Quota Share program, the Rockfish Quota Share Program, the Community Development Quota (CDQ) fisheries, the Aleutian Islands pollock fishery, and the longline catcher/processor subsector. The catcher/processors that operate in fisheries with the most closely monitored PSC limits will be subject to $\geq 100\%$ observer coverage when they operate in those fisheries and Alternative 2, without an additional PSC factor, will not change that. Even if a trawl catcher/processor processes a small amount of groundfish in a fishery without an independent requirement for 100% observer coverage, it is highly likely that the overall production of the vessel will exceed the production thresholds in Element 1 and the vessel would not be eligible for partial coverage. If the Council wishes to exclude trawl catcher/processors because their catch is subject to PSC limits, it would be administratively easier to adopt a trawl gear exclusion rather than an exclusion from partial coverage when a vessel is operating in a PSC-limited fishery.

Halibut discarded by hook-and-line vessels fishing for groundfish other than sablefish are subject to halibut PSC limits

Consider now the fourth category: "Halibut discarded by vessels using hook-and-line gear and directed fishing for groundfish other than sablefish." Under Alternative 2, without this factor, the catcher/processors using hook-and-line gear would be eligible for partial coverage if they processed at or below the production thresholds selected in Element 1.

Alternative 2, without a PSC factor, would result in a very small amount of fishing in PSC-limited fisheries in full coverage. Under Alternative 2, the three vessels that currently qualify for partial coverage would generally continue to qualify. Most of their fishing is not subject to a PSC limit because 75% is

⁵⁵ Discussion Paper at 16. This list may not be exhaustive.

taken in a sablefish target fishery and 14% in a halibut fishery. Only 11% is in the Pacific cod fishery, which does have a halibut PSC limit.⁵⁶

Of the eight additional vessels that might qualify for partial coverage in a year, most of their fishing (63%) is done with pot gear. About one-third of their activity (36%) is with hook-and-line gear and almost all of that is in the Pacific cod target fishery.⁵⁷ fish production by these vessels (94%) is in a Pacific cod target fishery, which does have a PSC halibut limit. Table 13 shows the percentage of PSC-limited species taken by these eight vessels. These vessels collectively take 2% of fixed gear halibut PSC.

The RIR concluded in section 3.7.2: “In general, this action is likely to have a negligible impact on PSC information due to the small numbers of existing catcher/processors that may be directly regulated, their relatively small target species catches relative to overall fixed gear and overall all gear catches, the high proportion of pot production among the directly regulated vessels, and the generally relatively small shares of PSC they are estimated to be taking.”

Under Alternative 2, without a PSC factor, a catcher/processor in partial coverage is subject to observer coverage under the Annual Deployment Plan. The Council and NMFS can monitor the activities of catcher/processors in partial coverage and adjust the placement of observers on them if warranted. Further, under Alternative 2, if a catcher/processor no longer processes a small amount of groundfish relative to the rest of the fleet, and therefore potentially catches more PSC-limited species, NMFS will move the catcher/processor into full coverage, something that NMFS cannot do under the status quo. In this way, Alternative 2 may improve NMFS’s long-term capabilities to manage PSC limits.

Alternative 2, with a PSC factor, would exclude a hook-and-line catcher/processor from partial coverage when the catcher/processor was fishing for groundfish other than sablefish. Alternative 2, with this factor, would exclude hook-and-line catcher/processors when they were targeting Pacific cod. Based on historical fishing patterns, Alternative 2, with this factor, would exclude from partial coverage 11% of the activity of the three vessels that are currently in partial coverage; 11% of their fishing is directed fishing for Pacific cod. Based on historical fishing patterns, Alternative 2, with this factor, would exclude from partial coverage 36% of the fishing historically done by the eight additional catcher/processors that might otherwise qualify for partial coverage; 36% of their fishing is directed fishing for Pacific cod.

Alternative 2, with this type of PSC factor, would mean that the same vessels would be in full coverage when they were directed fishing for Pacific cod and would be in partial coverage when they were directed fishing for sablefish and for halibut. NMFS generally determines whether a vessel was directed fishing for a particular species by whether the vessel catches more of that species than the maximum retainable amount for that species.⁵⁸ A vessel operator may intend to target one species before the trip but during the trip targets another species. This category—when a vessel is directed fishing for a particular species—is not as clearcut as other situations where a vessel may be in partial or full coverage, such as whether a catcher vessel is fishing in the Rockfish Program or other catch share program specifically listed in the regulation.⁵⁹ Even if the category were clearcut, or could be made more clearcut, this factor would require NMFS to monitor and enforce the placement of small catcher/processors in partial or full coverage during the year.

Alternative 2, without a PSC factor, achieves the Council objective of maintaining a very limited exception to the rule that catcher/processor activity is subject to full observer coverage. Alternative 2

⁵⁶ Section 3.7.2.

⁵⁷ Of the groundfish production of these vessels, 94% is taken in a Pacific cod target fishery. Section 3.7.3, discussion after Table 8.

⁵⁸ 50 CFR 679.2 (definition of directed fishing)

⁵⁹ 50 CFR 679.51(a)(2)(i)(C)

would place two-tenths of one percent percent of aggregate BSAI and GOA production in partial coverage.⁶⁰

2.3 Alternatives Considered but not Analyzed Further

In the Discussion Paper that the Council received in December 2014, analysts recommended that the following three alternatives not be advanced for further analysis: [1] eliminating all allowances to place a catcher/processor in partial coverage; [2] another one-time election; [3] an allowance based on crew size.

The Discussion paper described the alternatives and the rationale for the lack of further consideration as follows:

[1] Eliminating all allowances to place a catcher/processor in partial coverage. Neither the Council nor the public has suggested completely eliminating the allowance for placing some small catcher/processors in partial coverage. Further, the history of this action, fairly read, does not include consideration of eliminating entirely all allowances for placing small catcher/processors in partial coverage. The final Council Motion adopting the Restructured Observer Program recognized the principle that the Program should allow for some small catcher/processors to be placed in partial coverage. In response to requests from industry participants to establish that privilege for a vessel that began, or wishes to begin, processing after 2009, the OAC in June 2013 and in February 2014 recommended analyzing expanding the allowances. The OAC Report in February 2014 cited “ongoing financial hardship” caused by the requirement for full observer coverage as the rationale for prioritizing this action.

The Council Motion in June 2013 asked for discussion paper on actions that would provide for a limited expansion of the allowances for small catcher/processors to be placed in partial coverage. Finally, the Council Motion in February 2014 identified “changes to observer coverage for small catcher/processors as the highest priority.” Although the word “changes” in the Council Motion technically could include “elimination,” in the context of the history of this action, analysts concluded that the Council is seeking ways to revise, but not eliminate, the limited provisions for small catcher/processors to be placed in partial coverage. This conclusion also is consistent with the draft problem statement and objectives for this action presented in Section 3 [of the Discussion Paper].

[2] Another one-time election for partial coverage. NMFS does not recommend advancing for analysis another one-time election. The current regulations allow the owner of a catcher/processor to choose partial coverage based on activity from 2003 to 2009. It is possible that the NMFS could establish, by regulation, another window for owners of catcher/processors to choose partial coverage, such as activity from 2010 to 2015. This would not meet the objectives for this action for two reasons. First, although it would enlarge the closed category, the allowance would still be a closed category that was not based on a catcher/processor’s ongoing production activity. Second, it would not terminate the vessel’s placement in the partial coverage category once it stopped processing small amounts of groundfish relative to the rest of the catcher/processor fleet.

[3] An allowance for partial coverage based on crew size. An industry participant recommended analyzing an exemption from full observer coverage based on the crew

⁶⁰ Table 14 and discussion after Table 14.

size of the catcher/processor as well as analyzing an exemption for small catcher/processors measured by a vessel's production. An exemption based on crew size does not meet the objectives for this action because it does not place a catcher/processor in partial coverage, and have them remain in partial coverage, by determining whether they process a small amount of groundfish relative to the other vessels in the catcher/processor fleet.

Further, NMFS sees several additional problems with this alternative. First, NMFS has never based a regulatory requirement on crew size. It is an untested criterion. Second, even though NMFS collects data on crew size, since NMFS has never based a regulatory requirement on crew size, NMFS is not confident that it has reliable data to analyze this criterion. Third, this criterion would be hard to define. Would crew include a cook? Would the allowance be based on the average number of crew or the number of crew on a catcher/processor on any one day? Fourth, this criterion would be hard to enforce. A catcher/processor could drop off crew before coming to shore. Finally, the criterion of a catcher/processor's production in the prior year is a direct measurement of the catcher/processor's production relative to the rest of the fleet. It is possible that a catcher/processor with relatively low production would likely be a catcher/processor with a small crew. But NMFS sees no reason to further analyze placing a catcher/processor in partial coverage based on the crew size when the Analysis will be evaluating placing a catcher/processor in partial coverage on these grounds: a vessel's production, a vessel's operation as a hybrid vessel, a vessel owner's election of partial coverage, a vessel's gear type, a vessel's operation in a fishery with a PSC limit, and a vessel's beginning or resuming processing.⁶¹

The Council did not request further analysis of any of these alternatives. NMFS has not conducted any further analysis of any of these alternatives.

⁶¹ Discussion Paper at 17 – 18 (Nov. 2014).

3 Regulatory Impact Review

This Regulatory Impact Review (RIR) examines the benefits and costs of a proposed regulatory amendment to modify provisions of the Observer Restructuring Program that allowed certain small catcher/processors to qualify for partial observer coverage rather than the full observer coverage generally required of catcher/processors. The modifications would increase the number of catcher/processors that may qualify for partial coverage and will require catcher/processors that currently enjoy partial coverage to requalify for partial coverage each year.

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735: October 4, 1993).⁶² The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the E.O.:

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.

3.1 Statutory Authority

Under the Magnuson-Stevens Fishery and Conservation Act (Magnuson-Stevens Act) (16 USC 1801, *et seq.*), the United States has exclusive fishery management authority over all marine fishery resources found within the exclusive economic zone (EEZ). The management of these marine resources is vested in the Secretary of Commerce (Secretary) and in the regional fishery management councils. In the Alaska Region, the North Pacific Fishery Management Council (Council) has the responsibility for preparing fishery management plans (FMPs) and FMP amendments for the marine fisheries that require conservation and management, and for submitting its recommendations to the Secretary. Upon approval by the Secretary, NMFS is charged with carrying out the federal mandates of the Department of Commerce with regard to marine and anadromous fish.

⁶² National Marine Fisheries Service (2007) provides current NMFS guidance for preparation of an RIR; Queirolo (2013) provides a more accessible overview.

The groundfish fisheries in the EEZ off Alaska are managed under the FMPs for Groundfish of the Gulf of Alaska and Bering Sea and Aleutian Islands. The proposed action under consideration would amend Federal regulations at 50 CFR 679. Actions taken to implement regulations governing these fisheries must meet the requirements of Federal law and regulations.

3.2 Purpose and Need for Action

As discussed in Section 1.1, in December 2014, the Council adopted the following statement of purpose and need for this action:

Under the Restructured Observer Program, all catcher/processors are in the full coverage category unless they meet the requirements for an allowance to be placed in partial coverage. The placement of catcher/processors in full coverage enables NMFS obtain independent estimates of catch, at sea discards, and prohibited species catch (PSC) for catcher/processor vessels. In recognition of the relatively high cost of full coverage for smaller catcher/processors and the limited amount of catch and bycatch by these vessels, the Council recommended two limited allowances for placing a catcher/processor in partial coverage. Both of these allowances were based on vessel activity between 2003 and 2009.

Since implementation of the Restructured Observer Program, owners and operators of some catcher/processors have requested that the Council and NMFS revise these allowances to include vessels that began processing after 2009. First, the allowance for placing a catcher/processor in partial coverage should, at a minimum, be based on a measurement of ongoing production that shows that the catcher/processor processes a small amount of groundfish relative to the rest of the catcher/processor fleet. Second, the current regulations do not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage.

This action would maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category, provide an appropriate balance between data quality and the cost of observer coverage; and establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and to enforce.

3.3 Alternatives

The alternatives are described in detail in Chapter 2. In summary, these are:

Alternative 1, No Action; maintain existing exemptions

Alternative 2, Revise the allowances for NMFS to place small catcher/processors into partial coverage. Under this alternative, the basic criterion for placing a catcher/processor in partial coverage is the vessel's production in the prior year or most recent year of production. As discussed in Chapter 2.2, the most recent year is interpreted as the most recent year prior to the year in which a fishing year observer Annual Deployment Plan (ADP) was prepared; that will be two years prior to the year fishing takes place under the partial coverage exemption.

Table 5 Production thresholds for analysis from the Council motion

Option	Measure	Threshold based on 10 th percentile approach	Threshold based on kernel density distribution approach
		Pounds (metric tons)	
1.	Average daily production	11,000 (5.0)	15,500 (7.0)
2.	Average weekly production	42,000 (19.1)	79,000 (35.8)
3.	Maximum daily production	26,000 (11.8)	44,000 (20.0)
4.	Maximum weekly production	94,000 (42.6)	197,000 (89.4)
5.	Annual production	677,000 (307.1)	2,665,000 (1,208.8)

Sources: Percentile based thresholds summarized from Table 4 in Appendix B of Discussion Paper (Nov. 28, 2014); kernel density based thresholds derived from Table 5 in Appendix B. Tonnage estimates based on rounded pound values reported in table.

Under this alternative, if a catcher/processor is required to have $\geq 100\%$ observer coverage because of the vessel’s participation in a catch share program or to meet another regulatory requirement, the vessel would be ineligible for partial observer coverage under this action.

The Council motion included the following notes to the analysts: The Analysis should evaluate whether the basic production criterion for placing a catcher/processor in partial coverage should be modified based on any of the following factors:

- Whether a catcher/processor is a hybrid vessel, that is, a catcher/processor operates as a catcher vessel for part of the year and a catcher/processor for part of the year;
- Whether the owner of a catcher/processor chooses partial coverage;
- Whether a catcher/processor uses particular gear;
- Whether a catcher/processor operates in a fishery with a PSC limit;
- Whether a catcher/processor is just starting or is resuming processing and therefore its production in the prior year was zero.

3.4 Methodology

Cost-benefit analysis and the distribution of impacts

The evaluation of impacts in this analysis is designed to meet the requirement of E.O. 12866, which dictates that an RIR evaluate the costs and benefits of the alternatives, including both quantifiable and qualitative considerations. Additionally, the analysis should provide information for decision makers “to maximize net benefits (including potential economic, environment, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.”

The costs and benefits of this action are described in the sections that follow, comparing the “No Action” Alternative 1 with the “Action” Alternative 2. The analysis then provides a qualitative assessment of the net benefit to the Nation of the action alternative, compared to no action.

A cost benefit analysis framework identifies and measures the costs and benefits from a national perspective. Broadly speaking, in this instance, the benefits include the savings in costs of observer coverage, while the costs are those associated with the loss of the fishery-dependent data that had been obtained from observers. It has not been possible to fully monetize these costs and benefits. However, an overall cost benefit framework has been used to organize the analysis. Where costs and benefits could be

monetized, they have been. Where it has not been possible to do so, the analysts have tried to provide quantitative, albeit non-monetary, measures of the impacts, to the extent this was practicable.

Cost-benefit analysis is only one input into decision making, and may not always be the most important. In this case, equity considerations with respect to burdens on small fishing operations are an important concern. The analysis has sought to complement the cost-benefit analysis and address distributional considerations.

Time period used in this analysis

This analysis makes use of fisheries data collected from 2009 through 2014, inclusive. The year 2009 was chosen as the first year because that year the at-sea fleet switched from weekly to daily filing of at-sea production reports. This makes it possible to evaluate partial coverage criteria based on daily fishing. The year 2014 is the most recent year for which complete annual information is available. This period of six years includes four years before the observer restructuring program (2009 through 2012) and the first two years during which the observer restructuring program was in effect (2013-2014). At the time of writing (March 2015), one year's (2013) information on the costs of full and partial observer coverage is available.

Definitions

“Small” as an observer coverage status for catcher/processors is not defined in statute or regulation. In this RIR vessels are small if the round weight of their groundfish production falls below one of the thresholds under consideration. Since the thresholds differ, the vessels considered small may differ, but the context should make the definition clear in each instance.

The definition of “small” used in the RIR differs from the definition of “small” used in the IRFA. The IRFA definition is given in statute and in Small Business Administration (SBA) regulation and is discussed in detail in the IRFA. Because the word is so appropriate in each instance, it has been used in these two different ways in the document despite the risk of confusion. However, if the two definitions are kept in mind, the potential for confusion should be minimal.

The terms “bycatch,” “incidental catch,” and “prohibited species catch” (PSC), are used here as defined in statute and regulations. “Bycatch” is defined in the Magnuson-Stevens Fishery Conservation and Management Act as “fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards” (16 U.S.C. 1802, Sec 3). Incidental catch (or incidental species) “means fish caught and retained while targeting on some other species, but does not include discard of fish that were returned to the sea” (50 CFR 679.2). Prohibited species catch includes specific species listed in Table 2b as “Groundfish PSC,” and includes 13 species of crab, Pacific halibut, Pacific herring, 5 species of salmon, and steelhead trout (50 CFR 679.2; 50 CFR 679 Table 2b). Special rules govern PSC bycatch management (50 CFR 679.21).

As discussed in Section 3.3, eligibility for partial observer coverage in one calendar year will depend on fishing activity two calendar years before. During the intervening year, production data from the preceding year will be used to determine partial coverage eligibility in the succeeding year. Thus, fishing activity in calendar year 2015 will be used in calendar year 2016 to determine partial coverage eligibility in calendar year 2017. For the purposes of subsequent discussion, the fishing activity year (in the example, 2015) will be described as the “basis year,” the intervening year (in the example, 2016) will be

described as the “ADP year,”⁶³ and the year in which partial coverage eligibility is available (in the example, 2017) will be described as the “fishing year.”

Cost-benefit analysis can legitimately be conducted from the perspective of different groups. The costs and benefits can be measured from the perspective of a specific gear group, of the residents of a specific community, of the residents of a state, such as Alaska, of all citizens, or residents in, the United States, or from the perspective of all persons in the world. A cost or a benefit from the perspective of one group may not be a cost or a perspective from the members of another group. In the present analysis, a group of vessels will be relieved of requirements for 100 percent observer coverage, but will be required to meet the partial observer coverage requirements, and to pay an assessment proportional an implicit measure of their gross revenues rather than to their level of activity. The assessment will be a cost to them; from the national perspective, however, the assessment is not a cost but a transfer from one group of citizens to another. This analysis will provide information about the costs and benefits to the fishing operations affected, as well as to the nation. The word “perspective” will be used to identify the group whose costs and benefits are being measured (for example, “from a national perspective,” or “from the perspective of directly regulated entities.”).

Some of the effects of this action may be indirect, as catcher/processors become eligible for partial coverage, changing the assessment revenues available to the partial coverage program, as well as the costs it must incur for placing observers on new vessels. These impacts will be referred to as “fiscal” impacts.

Catcher/processors with partial coverage are assessed 1.25 percent of an estimate of the ex-vessel value of their gross revenues to support the partial coverage observer program. This estimated gross revenue does not correspond to any flow of receipts actually received by the catcher/processors for their processed production. These vessels are paid for their processed fish with revenue that corresponds to the value of the processed, not of the raw fish. NMFS uses ex-vessel prices from catcher vessel harvests and estimates of the raw fish equivalent of the processed production to calculate a basis for the assessment on ex-vessel revenues. This basis will be referred to below as the “implicit” ex-vessel price or value.

Entities directly regulated by this action

Four classes of vessels or persons may be directly regulated by this action. The first class of vessels operates as catcher/processors, however, these vessels currently qualify for partial coverage under the existing Restructured Observer Program. Prior to 2015 this has been a small class of three vessels. These vessels currently qualify for partial coverage each year. Under this action, each year’s partial coverage eligibility would depend on their production in the preceding year, and how that compares to the thresholds. It is possible that these vessels may not qualify for partial coverage in each year, if this action is taken. Moreover, this action may create incentives for them to modify their activity levels from what they would otherwise have been, in order to maintain their eligibility for partial coverage.

The second class are the vessels with groundfish LLPs (except in the case of vessels using jig gear) and FFPs that are endorsed for catcher/processor operation that would operate as catcher/processors with full observer coverage in the absence of this action. Under this action, these vessels would be able to operate with partial observer coverage rather than full coverage, and would become subject to the partial observer coverage fee. This group should also include vessels acting as catcher/processors and using jig gear. This latter class would have to have an FMP endorsed for catcher/processor operation, but would not need an LLP with a similar endorsement. Vessels operating with jig gear are largely exempt from the requirement to have an LLP.⁶⁴

⁶³ Following the discussion in Section 3.3, ADP in “ADP year” is an acronym for “Annual Deployment Plan.”

⁶⁴ See 50 CFR 679.4(k)(2)(iii)&(iv).

In 2015, one vessel, that chose not to operate as a catcher/processor in 2014 because of the high cost of full observer coverage, has applied for partial coverage under the provision of the observer restructuring program that allowed vessels that had processed less than a metric ton of round weight per day in the preceding year to qualify for partial coverage. If this vessel operates in a meaningful way, it will not be able to qualify for partial coverage under this provision in 2016. To some extent this vessel falls mid-way between the first and second categories of vessels. In this analysis, this vessel has been treated as belonging to the second category.

The third class of vessels target groundfish, may or may not carry an FFP endorsement to operate as a catcher/processor, carry an LLP endorsed for catcher/processor operation, but nevertheless would operate as catcher vessels in the absence of this action. These vessels may, or may not begin to operate as catcher/processors when this action is taken. These vessels are currently subject to partial coverage rules, and, if their catcher/processor production remained small, they would remain subject to partial observer coverage rules.⁶⁵

A fourth and final class includes persons holding sablefish IFQ program “A”QS. This is a difficult class to define. First, unlike the other classes, it applies to individual quota share holders, rather than vessels. “A” quota shares may be fished on different vessels in different years; an individual may fish their quota shares off multiple vessels in a single year. Second, this quota share may be fished from vessels that do not have LLP endorsements for catcher/processor operation. Other FMP groundfish species caught and processed by a single vessel at sea must be processed on a vessel with a catcher/processor endorsement on its LLP, but sablefish need not meet this requirement. While sablefish must be processed on a vessel with a catcher/processor endorsement on its FFP, the number of FFPs is not limited. NMFS issues an FFP with a catcher/processor endorsement upon a simple application by the vessel owner that does not require the owner to prove anything about the applicant’s or the vessel’s past participation.⁶⁶ LLPs endorsed for catcher/processor activity are limited in supply and were originally issued based on proof about the vessel’s past participation.⁶⁷ Therefore, the holder of an LLP license with a catcher/processor endorsement is either an original recipient of the license or obtained the license by purchasing it from the holder of an LLP license through a transfer approved by NMFS.⁶⁸

Thresholds

Thresholds evaluated in this analysis are those recommended by the Council at its December 2014 meeting. These were based on recommendations in a discussion paper (NMFS, 2014c). The Council chose two thresholds for each of five measures. The measures were the round weight equivalent of, (1) average daily processed production in a year; (2) average weekly production in a year; (3) maximum daily production during a year; (4) maximum yearly production during a year; (5) annual total production during a year. The two thresholds evaluated for each measure were chosen to provide a range of threshold levels. A set of lower thresholds was based on production levels corresponding to the 10th percentile of active operations, and a set of higher thresholds were based on local minima between local maxima in bimodal kernel distributions of production. A discussion of the procedure, taken from the discussion paper, may be found in “Appendix C: Rationale for proposed thresholds” of this RIR/IRFA.

⁶⁵ Limited processing by catcher vessels. Up to 1 mt of round weight equivalent of license limitation groundfish or crab species may be processed per day on a vessel less than or equal to 60 ft (18.3 m) LOA that is authorized to fish with an LLP license with a catcher vessel designation. 679.4, page 13

⁶⁶ The regulations have some limitations on surrendering and amending the catcher/processor designations on FFPs. 50 CFR 679.4(b)(3)(ii) & (iii)

⁶⁷ 50 CFR 679.4(k)(4)(qualification for original LLP groundfish license).

⁶⁸ 50 CFR 679.4(k)(7)(transfer process for LLP license).

Estimated thresholds incorporate production from fish harvested within state GHL fisheries, despite the fact that these fisheries do not require observer coverage. This has been necessary because the production data set does not identify production from fish caught in these fisheries separately from other production. Moreover, it is likely that fishing activity in the GHL fisheries will produce incidental catch from non-GHL fisheries that is produced. Most of the observed GHL fishing activity was from jig vessels that are treated differently in the rules. Finally, production levels from all sources have been used to identify small vessels. The analysis showed that production levels were bi-modal, perhaps reflecting overlays of two separate distributions of vessel activity characteristics. A small scale producing vessel might be able to substitute production in one fishery for production in another. What is crucial is its overall production level in comparison to those of other vessels. Thus, GHL production is treated comparably to other production.

Each vessel year observation includes data on the average daily production, average weekly production, maximum daily production, maximum weekly production, and annual production. Total annual production is an estimated round weight of processed fish, created by summing the volumes of all processed groundfish products reported to NMFS on daily production reports after applying standard product recovery rates. Average daily production is this annual round weight estimate for a catcher/processor, divided by the number of separate days on which production occurred, as determined from the daily product reports; average weekly production is this annual round weight estimate for a catcher/processor, divided by the number of separate weeks during which production occurred, as determined from the daily product reports. Maximum daily production is the round weight equivalent of the product production on the day during the year in which the catcher/processor processed the most product, and the maximum weekly production is the round weight equivalent of the production during the week during the year in which the catcher/processor processed the most product.

What is the value of fishery information?

This action will affect the sources of, and nature of, information gathered from the groundfish fisheries. These effects may be direct, as directly regulated vessels qualify for partial observer coverage and drop their full observer coverage. There may also be indirect, fiscal, impacts as revenues available for partial coverage, and as partial coverage program costs, increase at different rates.

Whether through direct, or indirect, impacts, this action will affect the nature of the data collected. Ultimately, the benefit or cost of this change in the nature of the data will be equal to the change in the present value of future services from the fish stocks harvested by the directly regulated catcher/processors, and of the other ecosystem resources affected by fishing. For example, impacts on marine mammal populations that also prey on those fish stocks. The impact of the action on these ecosystem resources will depend on other policy decisions made by the agency, for example annual harvest specifications for those stocks. These decisions may be affected by this action.

The present value of the fishery and ecosystem resources cannot be estimated at this time, given the limits on our current knowledge of fishery and ecosystem linkages, and ecosystem and economic linkages, and given uncertainty about the nature of Council and Secretarial decision making in light of the changed information. The discussion of these issues must be qualitative.

Relevant research

Bisack and Magnusson have recently published a paper, measuring the interaction between observer coverage and the economic value of increased precision in estimates of marine mammal abundance and bycatch in the Northeast U.S. gill-net fishery (Bisack and Magnusson, 2014). While Bisack and Magnusson were able to make estimates of economically optimal levels of coverage, the information on

the Alaskan fisheries impacted by this action is not sufficient to permit application of the Bisack and Magnusson approach in this analysis. However, the Bisack and Magnusson analysis does point to two considerations that inform this qualitative discussion: (1) various monitoring inputs can be substituted for one another; (2) optimal levels of observer coverage depend on a balancing of the costs of additional coverage, with the potential benefits of additional information.

NMFS is currently preparing its annual report for the observer program in 2014, the second year the restructured program was in effect. This annual report will be available for the June 2015 Council meeting. Data on the cost of an observer day, and on the trip selection rate, under the restructured program in 2013, available from the report on operations in 2013, are used in later sections of this analysis to provide estimates of the cost to the partial coverage budget of providing partial coverage to new catcher/processor vessels. Data for 2014 had not been compiled and reviewed at the time this analysis was prepared.

This analysis uses observer provider invoices to estimate the cost of observer coverage for catcher/processers currently under full observer coverage. Since 2011, certified observer providers have been required to submit copies of all invoices for observer coverage under 50 CFR part 679 (75 FR 69016; November 10, 2010). The invoices are submitted to, and compiled by, observer program staff. Regulations governing the submission of observer invoices are at § 679.52(b)(11)(viii). These regulations require the submission of vessel or processor name, dates of observer coverage, information about any dates billed that are not observer coverage days, rate charged for observer coverage in dollars per day (the daily rate), total amount charged (number of days multiplied by daily rate), the amount charged for air transportation, and the amount charged for any other observer expenses with each cost category separated and identified. These invoices provided the data used to calculate the average cost of observer coverage in the full coverage category for 2013. (NMFS 2014b, page 23-24) A similar data set of observer provider invoices is currently in preparation for 2014, however, the data is not available for the current analysis.

Catch data

This analysis was prepared using data from the NMFS catch accounting system, which is the best available data to estimate total catch in the groundfish fisheries off Alaska. Total catch estimates are generated from information provided through a variety of required industry reports of harvest and at-sea discard, and data collected through an extensive fishery observer program. In 2003, NMFS changed the methodologies used to determine catch estimates from the NMFS blend database (1995 through 2002) to the catch accounting system (2003 through present).

The catch accounting system was implemented to better meet the increasing information needs of fisheries scientists and managers. Currently, the catch accounting system relies on data derived from a mixture of production and observer reports as the basis of the total catch estimates. The 2003 modifications in catch estimation included providing more frequent data summaries at finer spatial and fleet resolution, and the increased use of observer data. Redesigned observer program data collections were implemented in 2008, and include recording sample-specific information in lieu of pooled information, increased use of systematic sampling over simple random and opportunistic sampling, and decreased reliance on observer computations. As a result of these modifications, NMFS is unable to recreate blend database estimates for total catch and retained catch after 2002. Therefore, NMFS is not able to reliably compare historical data from the blend database to the current catch accounting system.

Revenue data

Historical revenue data are available at both the ex-vessel and the first wholesale level. Ex-vessel price estimates are generally provided by CFEC from annual commercial operator processor reports (COAR)

and fish tickets. Wholesale revenues are collected from commercial operators' annual reports at the individual processing plant level

Observer cost data

This analysis draws on two classes of observer cost data: (1) data from FMA on the cost of partial observer coverage, and (2) a data set of observer provider invoice data compiled by FMA for 2013.⁶⁹

3.5 Background

Costs of an observer on board a full coverage vessel

In 2013, the average cost per day of observer coverage in the full category was \$367. The 2013 Annual Report on the Observer Program provides the specifics: "The total cost billed to 182 vessels and processing facilities for observer coverage in the full coverage category in 2013 was \$13,642,543. The total number of observer days represented by these invoices was 37,137. Based on this information, the average cost per day of observer coverage in the full coverage category in 2013 was \$367."⁷⁰ The average cost per day of full coverage in 2014 is not publicly available at the time of preparation of this analysis. (NMFS, 2014b, page 24)

Partial coverage assessment

The Restructured Observer Program is a system of observer fees that was implemented under Section 313 of the Magnuson-Stevens Act.⁷¹ The Analysis of the Restructured Observer Program explained: "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."⁷² The vessels in the full coverage category pay a fixed amount reflecting actual costs. For the vessels in the partial coverage category, the Council chose a 1.25 percent ex vessel fee, not the maximum 2 percent. But if observers are paid through an assessment based on the vessel's revenue, that assessment cannot be more than 2% of ex vessel value.

Ex-vessel values are standardized values published in the Federal Register in the year before the landings are made. Ex-vessel prices are paid for unprocessed, or very lightly processed, fish landed by catcher vessels. Catcher/processors, delivering a processed product, receive processed product rather than ex-vessel prices. Nevertheless, ex-vessel prices for catcher/processor production have been imputed from the standardized prices and applied to production to calculate assessments for catcher/processors with partial coverage qualifications under the status quo.

⁶⁹ FMA is currently (March 2015) compiling data from observer provider invoices for 2014. This may be available for use in the preparation of a Council final review draft, and a Secretarial review draft of this analysis.

⁷⁰ Section 2.4 at page 24 (emphasis in original omitted), North Pacific Groundfish and Halibut Observer Program 2013 Annual Report (NMFS, 2014), available at NMFS Alaska Region website:

<https://alaskafisheries.noaa.gov/sustainablefisheries/observers/annualrpt2013.pdf>

⁷¹ 16 USC 1862 (b)(2)(E).

⁷² Analysis of the Restructured Observer Program, section 2.7 at page 26 (NMFS 2011).

Cost of placing an observer on board a partial coverage vessel

In 2013, the average cost per day of observer coverage in the full category was \$1,024 per day. Again, the 2013 Annual Report on the Observer Program provides the specifics: "To date, NMFS has spent \$6,600,128 to procure 6448 observer days for an average cost per observer day is [sic] \$1024 per day."⁷³ The average cost per day of observer coverage in the partial coverage sector for 2014 is not available at the time of preparation of this analysis. (NMFS, 2014b, page 23)

3.6 Analysis of Impacts: Alternative 1, No Action

Alternative 1 is the no action, status quo, and baseline alternative. Alternative 1 is described in detail in Section 2.1.

If the Council takes no action, only six catcher/processor vessels will remain eligible for partial observer coverage in every year. In the past, only three of these vessels have taken advantage of this opportunity, and this may continue in the future. These vessels may expand production in the future, but there would be no opportunity under Alternative 1 to reclassify them with respect to their observer coverage status. New catcher/processors operating at levels of production similar to those of the vessels that are eligible for partial coverage would be required to carry full coverage.

In 2015, one vessel was placed in partial coverage for one year under the one metric ton allowance because this vessel processed no pounds in 2014 which was less than one metric ton every day in 2014. If this vessel operates in a meaningful way in 2015, it will not be able to qualify for partial coverage under this provision in 2016.

Since this alternative is the baseline alternative, its benefits and costs are essentially the reverse of those for the action alternative, and are not discussed in detail here. Section 3.7 describes the impacts of the action alternative, with reference to the baseline, and Section 3.8 summarizes those impacts, again, with respect to the baseline.

3.7 Analysis of Impacts: Alternative 2

3.7.1 Directly regulated entities

The starting point in this analysis is the identification of the entities that may be directly regulated by this action. An analysis of how these entities may be affected, and how their behavior may change, provides the basis for an evaluation of the impacts of the action on those not directly regulated, but who may be indirectly impacted.

As discussed in Section 3.4, four classes of directly regulated entities have been identified for this analysis:

1. Groundfish fixed gear catcher/processor operations currently qualifying for partial coverage;
2. Groundfish fixed gear catcher/processor operations that currently qualify only for full coverage;
3. Catcher vessel fixed gear operations that may switch to catcher/processor operation under a partial coverage option;

⁷³ Section 2.3.2 at page 23, North Pacific Groundfish and Halibut Observer Program 2013 Annual Report (NMFS, 2014), available at NMFS Alaska Region website: <https://alaskafisheries.noaa.gov/sustainablefisheries/observers/annualrpt2013.pdf>

4. Holders of sablefish “A” quota share (which allow both catcher vessel and catcher/processor harvesting of IFQ sablefish).

These entities may be categorized by whether or not they have an LLP endorsed for operation as a catcher/processor, and whether or not they operated as a catcher/processor, or simply as a catcher vessel during the years 2009 through 2014. Table 6 shows the sections in which the different categories of entities are evaluated. The four sections that follow the table evaluate these sectors.

Table 6 Categories of directly regulated operations

With or without LLP endorsed for C/P operation	Operated as a catcher/processor (C/P) in at least one year from 2009 through 2014	Operates only as a catcher vessel (CV) from 2009 through 2014
LLP with C/P endorsement	Section 3.7.2 and Section 3.7.3	Section 3.7.4
LLP without C/P endorsement	Section 3.7.5	Section 3.7.5

NMFS compared groundfish production by trawl catcher/processors against the thresholds discussed in this analysis for the years 2011 through 2016 (using production in basis years 2009 through 2014). Only two of these vessels, each in one year, produced at levels below one of the thresholds. These vessels were AFA and A80 vessels, and would have been required to carry full observer coverage in the years they qualified because of other provisions of regulations, and so would not have been able to take advantage of this exemption. Thus, trawl catcher/processors are not directly regulated by this action.

3.7.2 Groundfish catcher/processor operations currently qualifying for partial coverage

Under the observer restructuring program (starting in 2013) NMFS placed three catcher/processors permanently into the partial coverage category: one catcher/processor met both the hybrid allowance and the under 5,000 pounds allowance; one catcher/processor met only the hybrid allowance; one catcher/processor met only the under 5,000 pounds allowance. These coverage assignments are permanent under the status quo.

In addition to these three vessels, three additional vessels may qualify for partial coverage but have not requested the exemption. According to NMFS’s historical data, two catcher/processors less than 60 feet LOA operated as catcher vessels and catcher/processors in at least one year from 2003 through 2009, and one catcher/processor had an average daily groundfish production of less than 5,000 pounds in its last full year of production from 2003 through 2009. However, NMFS has not received requests from any of these three vessel operators to place the vessel under the partial coverage category.

Finally, in addition to the vessels discussed above, one vessel which did not process groundfish in 2014, and thus, which processed less than one metric ton of groundfish in the year, has qualified for partial coverage in 2015. If this vessel operates in any significant way in 2015, it would not qualify for partial coverage in 2016.

The discussion in this section will focus on the three catcher/processors which qualified for and used the partial coverage exemption in their catcher/processor operation prior to 2015. To the extent that the three catcher/processors which qualified for, but did not use the permanent exemption, operated in recent years as catcher/processors or catcher vessels, their potential eligibility will be discussed in Section 3.7.3 or Section 3.7.4. In addition, the vessel which qualified in 2015 under the one metric ton exemption will be discussed with the vessels in Section 3.7.3.

These three fixed gear vessels predominantly act as catcher/processors, although some do deliver unprocessed groundfish. In aggregate, they process 82 percent of their groundfish catch on board, and

deliver 18 percent of it unprocessed (this and the following characterizations are based on aggregate production by the three vessels from 2009 through 2014). With respect to their processed production:

- about 97 percent of their groundfish during this period was taken with hook-and-line gear, and about 3 percent with jig gear;
- 75 percent is taken in a sablefish target fishery, 14 percent in a halibut fishery, and 11 percent in a Pacific cod fishery;
- 66 percent is taken in an IFQ fishery, 20 percent in a CDQ fishery, 10 percent in a state managed fishery, and 4 percent in an open access fishery;
- 51 percent is taken in the BSAI, and 49 percent in the GOA.

Under the status quo, the three operations which qualify for partial coverage based on their operations from 2003 through 2009 are in partial coverage every year. Their qualification for partial coverage does not expire. However, under the action alternative, these three operations would have to requalify for the exemption for each year, based on catcher/processor activity two years earlier (as discussed Section 2.2.2), qualification in one year, such as 2015, would depend on activity two years earlier, in this example, 2013). It is possible that one or more of these fishing operations may fail to qualify for the exemption in future years under the action alternative.

NMFS reviewed the fishing data from 2009 through 2014 to evaluate the extent to which these vessels might have qualified for the exemption based on their fishing activity during those years. In particular, a forward looking projection would have to take account of the possibility that operators, knowing that future qualification for partial coverage depended on current catcher/processing activity, would adjust that activity to obtain that qualification.

Table 7 summarizes the numbers of these three catcher/processors that qualified for partial coverage under the different threshold options considered the action alternative.⁷⁴ Table 7 does not include information on the vessel that qualified for partial coverage in 2015, based on processing less than one ton on any given day in 2014. This vessel has been included in the category of catcher/processors, currently with full coverage, that would qualify for partial coverage under the alternatives.

⁷⁴ The numbers of years under which each of these eight vessels would qualify is shown for each vessel (with identities masked to protect confidentiality) in the summary section, Section 3.8.

Table 7 Number of vessels qualifying for partial coverage in each year (out of three vessels in total)

Three catcher/processors qualified for partial coverage in 2013 and 2014. The numbers in parentheses in the top row show the number of these vessels actually fishing in each year.						
Alternative and Option	2011 (3)	2012 (3)	2013 (2)	2014 (1)	2015 (unknown)	2016 (unknown)
Vessels qualified this year						
Average daily: low (1A)	3	3	3	3	3	3
Average weekly: low (2A)	2	3	3	3	3	3
Maximum daily: low (3A)	3	3	2	3	3	3
Maximum weekly: low (4A)	3	3	3	3	3	3
Annual low (5A)	2	2	3	3	3	3
Vessels qualified & fishing this year						
Average daily: low (1A)	3	3	2	1	na	na
Average weekly: low (2A)	2	3	2	1	na	na
Maximum daily: low (3A)	3	3	1	1	na	na
Maximum weekly: low (4A)	3	3	2	1	na	na
Annual low (5B)	2	2	2	1	na	na
All three vessels qualified for partial coverage under the high thresholds in every year. To simplify the table, this information has not been reported.						
Source: AKRO CAS2 evaluated by AKRO staff.						

Table 7 shows the number of vessels which did qualify for partial coverage under the status quo, which also would have qualified for coverage in each year under the action alternative. Qualification is based on the round weight equivalent of production in the basis year, which ends 12 months before the start of the fishing year, or on round weight production in earlier years if the vessel did not fish in the basis year. For the years 2015 and 2016, it is impossible to show the number of active vessels, however it is still possible to estimate the number that might qualify under the action alternative, as the qualification is based on activity in 2013 and 2014.

All three of the vessels with partial coverage under the status quo would qualify for partial coverage under the action alternative with the high thresholds under each threshold standard (average daily production, average weekly production, etc.) and in each of the qualification years. Thus, to simplify the table, this information has not been presented in it. While it is theoretically possible for one of these three vessels to exceed an action alternative in a future year, this evidence suggests that this is unlikely unless it significantly changes its operational pattern. Thus, these thresholds are unlikely to create meaningful costs or benefits for these operations.

The partial coverage status under the action alternative has been shown for each of the low thresholds under each threshold standard. There are four instances in which a single vessel (of the three) fails to meet the standard. These cells associated with these instances have been shaded in the figure. These alternatives were: (1) the average weekly measure with the low threshold; (2) the maximum daily measure with the low threshold; and (3) the annual measure with the low threshold.

These instances affect two of the three vessels. These estimates are based on instances in which the catcher/processors' production exceeded the threshold levels in 2009, 2010, or 2011. The information on the extent to which they exceeded the different thresholds cannot be reported because of its confidential nature, and the small number of observations.

This analysis is retrospective, describing what would have happened to catcher/processors in the past, given their past behavior. However, these operators made their decisions at that time without being

subject to the partial coverage threshold. Had they been subject to such a threshold, they might have processed less fish in order to qualify for partial rather than full observer coverage in the future.

The analysis indicates that, while in general the lower thresholds will not affect these three catcher/processors, in some years they may have to constrain harvests to qualify for partial coverage in subsequent years, or they may have to pay the additional costs of full coverage in subsequent years.

3.7.3 Groundfish catcher/processor operations currently operating under full coverage

The vessels directly affected by this action

The fixed gear vessels currently operating as Federal catcher/processors under full coverage, that may be directly regulated by this action, are those that would be qualified for partial coverage under the most liberal of the potential thresholds, but that are not required to carry observers by special regulations. Special regulations are those that require observer coverage to meet special management needs, such as the need for special monitoring of harvest in the presence of a Council, or private, rights based management program. The most liberal threshold (every vessel that qualifies, qualifies under this threshold) is option 5.B., the annual measure using the upper threshold (a threshold of 2,655,000 pounds round weight per year). Within this group, the number of vessels that may qualify in a given year varies by year. Under these criteria, eight vessels, in addition to the three that already qualify for partial coverage, would qualify for partial coverage in at least one year from 2011 through 2016.^{75 76} (AKRO CAS2)

The number of vessels that would qualify under any given threshold in any specific year is less than the eight described as directly regulated, since not every vessel qualified for partial coverage in every year.⁷⁷ Table 8 summarizes the counts of separate vessels that might have qualified for partial coverage under each threshold in each year.⁷⁸ The top part of the table shows the numbers of vessels that would have qualified for each fishing year, while the bottom part of the table shows the numbers that not only would have been qualified for the fishing year, but which were actually active in the fishing year.⁷⁹ The bottom part of the table for 2015 and 2016 cannot be completed year because we do not know yet which vessels will actually be active in those years.

⁷⁵ These are the numbers eligible for partial coverage in the fishing years; these are the numbers within the threshold in the basis year two years earlier. For example, the number qualifying under the lower average daily threshold in 2011 is based on activity two years before, in 2009. The counts include vessels that would qualify in 2015 and 2016, based on activity in 2013 and 2014.

⁷⁶ In addition to the vessels with other regulatory requirements for full coverage two catcher/processors were removed from consideration. One operated only in state waters, and one is known to have left Alaskan fisheries.

⁷⁷ The numbers of years under which each of these eight vessels would qualify is shown for each vessel (with identities masked to protect confidentiality) in the summary section, Section 3.8.

⁷⁸ The volumes of groundfish harvested by these vessels under the different threshold options are summarized and discussed in Section 3.7.6, which discusses the impacts of the action on fishery-dependent biological information.

⁷⁹ These numbers are the same in 2015 and 2016, since we do not have complete annual fishing information for those years. Both parts of the table show the numbers of vessels qualifying.

Table 8 Counts of non-trawl catcher/processors that would have qualified for partial observer coverage in each year from 2011 through 2016 under each of the ten potential thresholds.

Cell shows the number of fishing catcher/processors that would have <u>qualified</u> for partial coverage under the threshold for that row (data from 2015 and 2016 only show numbers qualifying for those years based on 2013 and 2014 activity).							
Alternative and Option		2011	2012	2013	2014	2015	2016
Low	Average daily (1A)	4	4	6	5	6	5
	Average weekly (2A)	4	5	6	5	6	5
	Maximum daily (3A)	4	5	6	4	6	5
	Maximum weekly (4A)	4	5	5	4	6	5
	Annual (5A)	4	5	5	5	6	5
High	Average daily (1B)	6	6	6	5	6	5
	Average weekly (2B)	6	6	6	5	6	5
	Maximum daily (3B)	5	6	6	6	6	5
	Maximum weekly (4B)	5	7	6	6	7	6
	Annual (5B)	8	7	8	6	6	6
Cell shows the number of <u>active</u> fishing catcher/processors that would have <u>qualified</u> for partial coverage under the threshold for that row (data from 2015 and 2016 only show numbers qualifying for those years based on 2013 and 2014 activity).							
Alternative and Option		2011	2012	2013	2014	2015	2016
Low	Average daily (1A)	2	4	3	1	na	na
	Average weekly (2A)	2	4	3	1	na	na
	Maximum daily (3A)	2	4	3	0	na	na
	Maximum weekly (4A)	2	4	2	0	na	na
	Annual (5A)	2	4	2	1	na	na
High	Average daily (1B)	3	5	3	1	na	na
	Average weekly (2B)	3	5	3	1	na	na
	Maximum daily (3B)	2	5	3	2	na	na
	Maximum weekly (4B)	2	6	3	2	na	na
	Annual (5B)	5	6	5	2	na	na

Source: AKRO CAS2; calculations by AKRO staff.

These eight fixed gear vessels are predominately catcher/processors, although some do deliver unprocessed groundfish. In aggregate, they process 92 percent of their groundfish catch on board, and deliver 8 percent of it unprocessed (this and the following characterizations are based on aggregate production by the eight vessels from 2009 through 2014). With respect to their processed production:

- about 63 percent of their groundfish during this period was taken with pot gear, about 36 percent was taken with hook-and-line gear, and almost 1 percent with jig gear;
- 94 percent is taken in a Pacific cod target fishery⁸⁰, 5 percent in a sablefish target fishery⁸¹, and small percents in halibut and Greenland turbot target fisheries;
- 74 percent is taken in an open access fishery, 16 percent in a CDQ fishery, 5 percent in an IFQ fishery, and 5 percent in a state managed GHL fishery;
- 71 percent is taken in the BSAI, and 29 percent in the GOA.

While only 5 percent was taken in the sablefish target fishery, at least one vessel operator, the operator of the F/V Pacific Sounder, has indicated in public testimony that he did not operate in the sablefish fishery

⁸⁰ Remember that it the fish taken in a target fishery may include species other than the targets.

⁸¹ The relatively small activity in sablefish targets may be due in part to the cost of full observer coverage. Sablefish fishermen, or their representatives, testified at the December 2014 Council meeting that they had not fished as catcher/processors for sablefish in the Aleutian Islands because of the high cost of full observer coverage. This is discussed further in Section 3.7.5.

as a catcher/processor in 2014 because of the high full coverage observer costs experienced in 2013.⁸² As discussed in the next section, the operators of several vessels have indicated that they would like to catch and process sablefish with their vessels if they had a partial observer coverage option. Thus, with a change in observer coverage rules, this fishery segment may expand for these vessels.

While less than 1 percent was taken with jig gear, several vessels that operate with jig gear, and the Alaska Jig Association, have stated that some jig gear vessels would like to operate as catcher/processors but that the cost of full observer coverage has deterred them from doing so.⁸³

Cost savings from elimination of full observer coverage

The observer provider invoice data base prepared by the Alaska Fishery Science Center's Fisheries Monitoring and Analysis Division (FMA), described in Section 3.4, was evaluated for the five vessels that might have qualified for partial coverage in 2013 under the most liberal of the options (Option 5B, the higher annual catch threshold) and actually processed in 2013. At the time this data set was prepared, invoice data was only available for 2013. The estimates of cost savings below may be smaller if an option is chosen that qualifies fewer vessels (options 1A to 5A and 1B to 4B), but the numbers involved are small enough that the cost estimates cannot be reported.

These five vessels were billed a total of about \$243,000 for full observer coverage in 2013. Thus the average cost of coverage was about \$48,600 in 2013. (FMA data evaluated by AKRO). Since this full coverage would no longer be required, these are estimates of the cost savings from the action alternative options, both from a national accounting stance, and from the point of view of the catcher/processor vessels that are directly regulated.

Public testimony by representatives of two firms indicates that with full coverage, the cost of observer coverage is high compared to vessel revenues. In February 2014, the operators of the F/V Pacific Sounder provided estimates of the implicit ex-vessel value of their production in 2012 and 2013, and compared this to their observer coverage in the two years. In 2012, the F/V Pacific Sounder was required to carry observers 30% of the time, under the earlier length-based observer coverage rules; in 2013, the F/V Pacific Sounder was required to carry observers full time. For 240 days fishing and running in 2012, they reported actual observer costs of \$42,285; for 190 days fishing and running in 2013, they reported observer costs of \$77,130. The actual observer fee as a percent of implicit ex-vessel gross revenues was reported to have been 2.49 percent in 2012, and to have been 8.81 percent in 2013. As a catcher/processor, the true gross revenues for the F/V Pacific Sounder would have been considerably higher than the revenues reported in this exercise, and observer costs, as a percent of revenues, would have been correspondingly lower.

The operators of the F/V Pacific Sounder estimated that, with a 1.25 percent assessment of their implicit ex-vessel revenues, their total observer cost would have been \$10,945 in 2013. With 25 percent observer coverage for 190 days of fishing and running activity, and a partial coverage observer cost of \$1,024/day, the total cost of their observer coverage would have been \$48,640 in 2013. The difference between the total cost to the partial coverage program of observer coverage, and the assessment revenues, would have been \$37,695; at \$1,024 per day, this would have led to a reduction in partial coverage on existing partial coverage vessels of 37 days of observer coverage. If the reduced cost of observer coverage had led the

⁸² Written Statement of Oystein Lone, attached to Agenda Item C-9 for Council Meeting (December 2014) available at <http://www.npfmc.org/council-meeting-archive/>; Council Testimony of Oystein Lone (December 15, 2014).

⁸³ Written Statement of Ken Christiansen, attached to Agenda Item C 13 for Council Meeting (February 2014); Written Statement of Darius Kasprzak, President, Alaska Jig Association, attached to Agenda Item C 13 (February 2014); Written Statement of Adam Lulich, attached to Agenda Item C-9 for Council Meeting (December 2014). These statements are available on the Council website for Archives of Council Meetings: <http://www.npfmc.org/council-meeting-archive/>

operators of the F/V Pacific Sounder to increase the number of their fishing days, this impact on the partial coverage program could have been greater.

In February 2014, the operators of the F/V Cynosure provided estimates of prospective costs in 2014 under full and partial observer coverage.⁸⁴ These are hypothetical cost estimates for the upcoming year, and not estimates of realized activity and costs in earlier years. However, they illustrate the relationship between observer costs and revenues that concerned the owners and operators. The operators of the F/V Cynosure provided examples of BSAI sablefish and halibut fishing, with hypothetical implicit ex-vessel revenues of \$1,700,000, 190 days of fishing and running, and estimated full coverage costs of 5.03 percent of revenues. Full coverage was estimated at \$450/day. Average full coverage costs for hook-and-line catcher/processors in 2013 appear to have been about \$367/day (see Section 3.5). At this rate, the full observer coverage cost would have been a somewhat lower percentage of revenues, about 4.1 percent. A similar example of Pacific cod pot fishing, with hypothetical revenues of about \$260,000, 40 days of fishing and running, and estimated full coverage costs of 6.92 percent of revenues. With the estimated 2013 daily observer costs, the rate would have been lower, about 5.6 percent.

Estimates of observer costs for catcher/processors have been compiled from observer provider invoices by the AFSC FMA program. These have been compared to first wholesale revenues from catcher/processor operations, made available by AFSC, and the ratio of costs to revenues calculated separately for catcher/processors that would be eligible for partial coverage in 2013 under one or more of the threshold options, and for catcher/processors that would not. The percentage for five vessels that would qualify was 2.9 percent, while the percentage for the 66 vessels that would not was 1.2 percent. The percentages for the five vessels that would qualify ranged from 3.2 percent to 6.2 percent, while the percentages for the vessels that would not qualify ranged from 1.7 percent to 3.0 percent. These percentages would be higher if the invoiced costs had been compared to implicit ex-vessel revenues for these vessels. In this case, and making the rough assumption that ex-vessel revenues would have been half of first wholesale revenues, the average for the five qualifying vessels would have been about 6 percent, while the average for the vessels that would not qualify would have been about 2 percent.

Estimated cost of partial observer coverage

From a national perspective, the savings in full observer coverage costs are offset in part by the increased costs of partial observer coverage. However, the costs of partial observer coverage are not an offset from the point of view of the catcher/processors that are affected. These vessels do not bear these costs directly.⁸⁵ The cost to the catcher/processors that are affected is the cost of the annual 1.25 percent assessment of the implied ex-vessel value of their catches. This cost, which may be greater or less than the cost of the partial observer coverage itself, is discussed in the next sub-section.

The estimate of the cost of partial observer coverage here is the product of three things: (1) the number of days a catcher/processor spent fishing; (2) a hypothetical rate of fishing days with observer coverage, based on 2013-2014 experience; and (3) a cost of \$1,024 per fishing day, based on experience in 2013.

Under the partial coverage option, vessel trips will be selected at random for observer coverage. If a trip is selected, the vessel will be required to carry an observer throughout the trip. Some trips may be longer than others, so a random selection of a stated proportion of trips does not translate into an equal proportionate coverage of days at sea. Ideally, if a data set was available for a vessel that listed its trips

⁸⁴ Written Statement of Sullivan & Richards (February 2014) regarding Agenda Item C 13 for Council Meeting (February 2014).

⁸⁵ This section deals with the financial costs of deploying observers on fishing vessels. Vessel operators incur other costs as well, associated with the inconvenience of carrying additional crew who do not contribute directly to vessel fish production. There is some offset of these costs savings from the reduction in full coverage, associated with the substitution of partial coverage, and this is discussed below.

during a year, and the number of days for each trip, NMFS could simulate the impact of the trip selection rate directly on trips, and estimate its impact on the number of days the vessel would have carried an observer. However, while NMFS has data on the number of days in which a catcher/processor was active processing during a given year, it does not have data that would allow it to identify a set of catcher/processor trips with counts of days for each. Therefore, NMFS has applied the trip selection rate directly to the days of fishing activity for each catcher/processor, to estimate the number of days it would have been required to carry an observer if it qualified for partial coverage.

In 2013, NMFS began the year applying a trip selection rate of 0.15 in the trip selection stratum. An adjustment was made to the trip selection stratum to reduce the sampling rate from approximately 0.15 to 0.11 for the period from June 22 through August 17. This adjustment was required because more fishing effort occurred during the first 20 weeks of the year than was anticipated under the 2013 annual deployment plan. A downward adjustment to the sampling rate reduced the number of days observed and their cost to ensure the program did not go over budget before the end of 2013. The rate was increased to approximately 0.15 from August 17 until the end of 2013. (NMFS, 2014b). In 2014, the initial trip deployment rate was 13.7 percent. (NMFS, 2013b) In 2015, the initial trip deployment rate for the category of vessels into which these catcher/processors would have fallen was 24 percent (NMFS 2014d).

In 2013, the first year of the program, NMFS spent \$6,600,128 to procure 6,448 observer days, for an average cost per observer day is \$1,024 per day. The cost includes the daily rate which was paid for the days the observer was on a boat or at a shoreside processing plant, as well as reimbursable travel costs. The detailed breakdown between daily rate and travel is confidential. (NMFS, 2014b)

Costs in the partial coverage sector were higher than those in the full coverage sector. Pending a more complete analysis, NMFS can suggest several possible reasons why this may be the case. The contractor must recoup their total costs and profit through the daily rate. This includes the costs for days the observers are not on a boat. These days include training, travel, deployed but not on a boat, and debriefing. Partial coverage is inherently inefficient compared to full coverage as days when they are not deployed are expected, but they were difficult to predict. Regarding the contract, risk and uncertainty regarding the number of unobserved days are likely influenced the contract bidding process. In addition, the federal contract requires wages and benefits consistent with Service Compensation Act determinations for the profession and area. All travel costs and expenses incurred are reimbursed in accordance with the Government's Travel Regulations which includes specified per diem rates which are paid regardless of actual expenses. (NMFS, 2014b)

In this analysis, NMFS has estimated hypothetical partial coverage costs for the catcher/processor vessels that might have been directly regulated in 2013. As explained above, these costs are the product of the number of processing days (derived from daily processing reports), a hypothetical coverage rate, and a hypothetical cost per day of \$1,024.

Specifically, for the 14.8 percent effective rate observed in 2013, the total cost for these five vessels would have been about \$108,000; at the 24 percent target rate for 2015, the total cost would have been about \$175,000, and for a hypothetical rate of 35 percent, the total cost would have been about \$255,000.⁸⁶

Estimated change in partial coverage assessment

⁸⁶ A similar estimate cannot be prepared for 2014 because of the small number of vessels that both would have qualified, and fished, in that year.

The catcher/processor vessels that operated during 2013 and 2014 would have been assessed 1.25 percent of the implied ex-vessel value of their fish production if they had been eligible for partial observer coverage during those years. This assessment is a payment from the catcher/processor operators to the partial observer program. However, the payment is not for the specific observer services provided by the program to these vessels. The cost of those services to the public is discussed above. Thus, this cost element is not a cost from a national accounting stance. However, this represents a real cost from the point of view of the catcher/processor operations involved.

Although the vessels considered here would operate as catcher/processors, and their gross revenues would reflect the wholesale value of the processed products, the partial coverage system is based on standardized ex-vessel prices published annually in a Federal Register notice. That is, the prices used for partial coverage assessments are the prices for unprocessed product as observed in Alaska port markets.

NMFS tried, but was unable to adapt the existing billing system to back-calculate the assessments for directly regulated vessels in 2013.⁸⁷ Thus, the assessment costs in this analysis are based on the round weight of the fish processed by the catcher/processors that would have qualified for partial coverage in 2013 and 2014, and that actually fished in those years, and the standard prices published in the Federal Register for the relevant years. Because of confidentiality limits on reporting data from fewer than three observations, we only report the assessment revenues associated with the alternatives in 2013 under which the most vessels qualified. The assessment revenues under these alternatives in 2013 would have been about \$39,000.

Other burdens of observer coverage

Observer coverage places non-financial burdens on fishing operations as well as the financial burdens associated with paying for full coverage or paying partial coverage assessments. Costs could include costs associated with interference with vessel operations due to the need to transport an observer to and from the vessel, costs associated with feeding and providing a berth for the observer on board the vessel, costs associated with vessel liability insurance, costs associated with the interruption of vessel operations due to the need to cooperate with an observer (for example, if the crew size must be reduced to accommodate an observer). These costs are likely to be more important to smaller vessel operations. These types of costs have not been successfully estimated quantitatively. The action alternatives considered in this analysis would reduce observer coverage on the directly regulated vessels, and would thus tend to reduce these types of costs.

Summary of impacts on vessels currently operating as catcher/processors with full coverage

Table 9 summarizes information from this section on the cost impact of this action in 2013 on the directly regulated catcher/processors that currently have full coverage, and the cost impact on the nation, assuming that this class of vessels had carried observers at the rate realized in 2013.

This action would have saved this class of directly regulated entities about \$200,000 in 2013. From the national perspective, using the rate in effect in 2013, and ignoring for the moment the impact on the quality of information, this program produced a small net benefit in 2013 (but if the coverage rate had

⁸⁷ It is not practical to back-calculate what observer fees would-have-been using the methodology of changing "do fees apply" rules and re-running the existing billing system. The observer fee "do fees apply" rules were not designed to apply to observer reporting (because 100% observed boats are not charged observer fees.) These vessels do also complete production reports and landing reports as required by regulation. But because catch accounting transactions for these vessels have always come from observer reports, it has not been necessary to develop methodologies to ensure that all catch products reported by these vessels on landing reports and production reports are counted once and only once. It is more cost-effective to calculate what observer fees would have been through a one-time research and analysis effort than to re-engineer a production system to add functionality that it was not designed to support.

been higher, this could have turned slightly negative, as the example illustrates. All other persons in the nation incur a net cost from this action, as the assessment does not offset the additional costs for the partial coverage program.

Because the partial coverage assessment is dedicated to purchasing partial observer coverage, and because this program is meant to be self-sustaining, without subsidies in the long run, and without transfers of funds to the general funds of the United States, any reduced net benefits to the nation would be concentrated in reduced partial observer coverage rates for vessels already in the partial coverage program. Table 9 shows a decline of 67 to 211 partial coverage observer days in 2013, depending on the coverage rate used to make the calculation. NMFS purchased 3,538 partial coverage observer days in 2013 (NMFS, 2013b, page 22), so this reduction in days translates into a reduction of 2 percent to 6 percent in partial observer day coverage that year. The partial observer coverage rate was 14.8 percent in 2013; reductions in observer days on this order would have led to an observer coverage rate between 13.9 and 14.5 percent.^{88 89} The fiscal impact on partial coverage will depend on subsequent policy decisions by the observer program on whether or not to place partial coverage vessels in a strata that requires coverage on all trips.

Table 9 Impacts of allowing selected existing full coverage catcher/processors to qualify for partial coverage in 2013 (assuming the 2013 realized partial coverage rate of 14.8 percent)

	Perspective of directly regulated vessel operators and crew	National perspective	Everyone in the nation other than the directly regulated vessel operators and crew	Net fiscal impact on partial coverage program
Decrease in full coverage observer costs	\$243,000	\$243,000	Not a consideration	Not a consideration
Increase in partial coverage observer costs	Not a cost consideration	\$108,000 to \$255,000	\$108,000 to \$255,000	\$108,000 to \$255,000
Increase in partial coverage assessment	\$39,000	Transfer payment (ignore)	\$39,000	\$39,000
Change in other burdens of coverage (extra crew)	Reduced	reduced	Not a cost consideration.	Not a cost consideration
Net change in costs	Financial expense decreased \$204,000; other burdens reduced	Changed financial costs by -\$135,200 to +\$12,000; other reduced burdens have some value. At the coverage rate in 2015, would reduce costs by \$68,000	Increased \$69,000 to \$216,000	\$69,000 to \$216,000 less available for partial coverage on catcher vessels; perhaps 67 to 211 fewer observer days on existing partial coverage vessels

3.7.4 Groundfish catcher vessel operations that may begin catcher/processor operation under this action

It is possible that some vessels operate as catcher vessels rather than catcher/processors because the cost of full observer coverage for catcher/processor operations is prohibitive for them. This group of vessels divides into two categories: (1) vessels with LLPs endorsed for catcher/processor activity; (2) vessels

⁸⁸ These numbers are illustrative. The program had carried over unexpended funds in 2013 sufficient to pay for the 67 to 211 days that might have been impacted by this action. The actual impact would have depended on policy decisions that cannot be accounted for here.

⁸⁹ NMFS is actively investigating the potential for electronic monitoring of vessels to reduce the need for partial observer coverage on catcher vessels and catcher/processors eligible for partial observer coverage. While it might appear that electronic monitoring might reduce the costs for observers (and affect the implications of these calculations) the electronic monitoring program itself would currently be funded from assessment revenues, and could be expensive. There is considerable uncertainty about the timing and methods by which it would be implemented, and the fleet sectors that might be covered. Thus, the fiscal burden discussed here may not be alleviated by the introduction of electronic monitoring.

without such an LLP endorsement, but which might be used to fish sablefish “A” quota shares. The first category of catcher vessels is discussed in this section, the second is discussed in Section 3.7.5.

The vessels considered in this section have two characteristics: (1) they have LLPs endorsed for catcher/processor operation, and (2) they were only used as catcher vessels in the two complete years during which the restructured observer program was effective, 2013 and 2014.⁹⁰ If a vessel with the LLP endorsement had operated as a catcher/processor in those two years, it would have been included in the discussions in Section 3.7.2 or Section 3.7.3.

If a vessel that met these characteristics, had also operated as a catcher/processor in the years before the program (2009 through 2012 were evaluated in this analysis), then it might possibly have switched to catcher vessel operations in 2013 and 2014 because of the advent of the new observer coverage requirements.

An examination of the LLP files for 2013 and 2014 showed a total of 134 separate licenses endorsed for catcher/processor operation. Of these, 125 LLPs named vessels to which they were currently attached, 22 were attached to vessels that only operated as catcher vessels in 2013 and 2014. Only one of these had operated as a catcher/processor prior to 2013. This vessel had not operated as a catcher/processor in either 2011 or 2012. Because this vessel had not operated as a catcher/processor in the years immediately preceding the effective date of the restructured observer program, it is unlikely that its catcher vessel operation in 2013 or 2014 was a result of the full observer requirement included in the restructured program.⁹¹

The operators of jig gear vessels have stated that they would start processing in federal waters if partial coverage were available. A vessel is processing if it freezes fish on board.⁹² The jig gear vessels catch a very small amount of groundfish and, in the sectors where they have an allocation, do not catch anywhere close to their quota. For example, jig gear vessels received a quota of 101 metric tons of Pacific Cod in the BSAI for 2014 and harvested 2 metric tons.⁹³ The jig gear vessels do not operate under any PSC limits.⁹⁴ Although the availability of partial coverage is important to the owners of jig gear vessels, as shown by their written and oral testimony to the Council,⁹⁵ analysts believe that the increased processing that may occur under this action by jig gear catcher/processors would be insignificant for purposes of evaluating overall impacts of this action.

Thus, the data does not suggest that there is interest among these vessel owners and operators in operating as catcher/processors, or that they are operating as catcher vessels because of the introduction of the restructured observer program. Catcher/processor activity is not necessarily a more attractive business model for a fishing operation. However, future catcher/processor activity by one or more of these vessels, or by another vessel which purchases an LLP purchasing a catcher/processor endorsement from one of them, cannot be ruled out. If production levels were beneath whichever threshold may be adopted under the action alternative, one or more of these 22 vessels could qualify for partial observer coverage.

⁹⁰ Note that these criteria overlap with the selection criteria used to identify catcher/processors that might qualify for partial coverage (discussed in Section 3.7.3), since that section selected vessels that had operated as catcher/processors at any time from 2009 through 2014.

⁹¹ In addition, for the reasons discussed in footnote 90, this one vessel has already been considered in conjunction with the analysis of catcher/processors that may qualify for partial coverage in Section 3.7.3.

⁹² 50 CFR 679.2 (definition of processing)

⁹³ BSAI Annual Catch Report (2014) available at <https://alaskafisheries.noaa.gov/2014/2014.htm>

⁹⁴ 50 CFR 679.21.

⁹⁵ Written Statement of Ken Christiansen, attached to Agenda Item C 13 for Council Meeting (February 2014); Written Statement of Darius Kasprzak, President, Alaska Jig Association, attached to Agenda Item C 13 (February 2014); Written Statement of Adam Lalich, attached to Agenda Item C-9 for Council Meeting (December 2014). These statements are available on the Council website for Archives of Council Meetings: <http://www.npfmc.org/council-meeting-archive/>

3.7.5 Sablefish “A” quota share holders

Sablefish is an FMP groundfish species, however, sablefish are managed under the rules of the IFQ fisheries program.⁹⁶ Under these rules, different types of sablefish quota share are issued for fishing on different types of fishing vessels. “A” class quota share may be fished on catcher/processors as well as on catcher vessels. Quota share is held by individual persons, and is not vessel-specific. A vessel may be used to process “A” class quota share without holding an LLP endorsed for catcher/processor operation, although a vessel using “A” class quota share must carry an FFP endorsed for catcher/processor operation.⁹⁷

Under the quota share program, no vessel may be used to harvest more than one percent of the combined fixed gear TACs of sablefish in the Gulf of Alaska and the Bering Sea and Aleutian Islands management areas during any one fishing year. [50 CFR 679.42(h)(2)] This constraint puts a natural limit on the volume of sablefish that may be harvested by a single catcher/processor in a year. Based on TAC estimates in Table 10, this regulation implies catcher/processor harvest limits of 280,139 pounds in 2013, and of 236,796 pounds in 2014. These volumes are 41 percent and 35 percent of the low annual threshold of 677,000 pounds of groundfish (threshold option 5.A.).

Public testimony, presented to the Council, indicates that there are sablefish “A” quota share holders interested in using “A” shares to catch and process sablefish, but who are not doing so because of the high cost of full observer coverage. In December 2014, attorney Andrew Richards wrote to Council Chairman Dan Hull on behalf of Far West Fisheries LLC, owners of the 57 foot fishing vessel F/V Cerulean. Richards indicated that, although the F/V Cerulean was currently operating as a catcher vessel, it had been designed to catch and process sablefish, and would be operating in that mode if it weren’t for the high cost of the full observer coverage requirement. (Richards, 2014) Similarly, Oystein Lone, the operator and manager of the 98 foot fishing vessel F/V Pacific Sounder, wrote to the Council Chairman that the F/V Pacific Sounder had operated as a catcher/processor in the 2013 BSAI hook-and-line sablefish and turbot fisheries, but had not done so in 2014 because of the expense of the full observer coverage requirement. (Lone, 2014).

The operations of concern in this section are: (a) those using sablefish “A” shares to harvest sablefish from catcher vessels without LLPs endorsed for catcher/processor operation. These operations will be characterized by the use of sablefish “A” shares to deliver only unprocessed sablefish; (b) catcher/processors, insofar as they would have expanded deliveries of processed sablefish if they had been eligible for partial coverage; (c) sablefish “A” shares that are unfished by either catcher/processors or catcher vessels.

The impact of the options on this category of directly regulated entities is hard to evaluate for a number of reasons:

- Sablefish “A” quota share is held by persons and is not tied to vessels.
- A vessel using sablefish “A” quota share to process sablefish is not required to carry an LLP endorsed for catcher/processor activity. Thus, there is no clearly defined class of vessels that may be used for sablefish catcher/processor fishing (as there is for vessels that may be used to catch and process other groundfish species). While an FFP catcher/processor endorsement would be

⁹⁶ Compare sablefish to halibut: although halibut are also managed under an IFQ program, (1) halibut are not an FMP groundfish species; (2) halibut may not be processed at sea.

⁹⁷ An LLP license is necessary to conduct directed fishing for license limitation groundfish. 50 CFR 679.4(k)(1)(i). Sablefish managed under the IFQ Program is not a license limitation groundfish. 50 CFR 679.2.

required to for catching and processing sablefish, these are freely available and the presence of one on a vessel does not convey as much information as an LLP about the vessels capabilities.

- The NMFS Catch Accounting System does not provide information that makes it possible to associate the retained sablefish caught by a vessel with the type of quota share used to authorize the catch. “A” quota share may be used to catch fish that will be processed on board the catching vessel, but it may also be used to catch fish which are delivered in an unprocessed form.
- NMFS RAM records are designed to identify the total fishable sablefish “A” quota share for a quota share holder in a year, and the total unfished “A” quota share, but do not contain information on whether the quota share that was fished was used for catcher/processor or for catcher vessel fishing.
- Data on vessel characteristics that is available to NMFS does not contain the detail that would allow NMFS to determine whether or not a catcher vessel is capable of acting as a catcher/processor.

For these reasons, it is hard to identify a distinct class of vessels that might take advantage of an opportunity to operate as sablefish catcher/processors with if they became eligible for partial observer coverage.

It is possible to estimate the total proportions of sablefish “A” quota share that were used to catch and process sablefish, to catch and deliver sablefish unprocessed, and that went unharvested, in given years. The NMFS Alaska Regional Office’s Restricted Access Management (RAM) program records identify the poundage equivalent of the total “A” quota share available for fishing during a year⁹⁸, and the poundage equivalent of the “A” quota share that were not used in a year. NMFS Catch Accounting System (CAS) records on the pounds of sablefish actually caught by catcher/processors in a year can be used to estimate the poundage equivalent of “A” shares used by catcher/processors in a year, since catcher/processors can only use “A” shares. The poundage equivalent of “A” quota share used to catch and deliver unprocessed sablefish can be inferred as the difference between the poundage equivalent of total sablefish “A” quota share available for fishing in a year, and the sum of the poundage equivalents used for catcher/processor activity and the poundage equivalents that went unused.

These estimates are shown, by sablefish management area, in Table 10, for 2011 through 2014. Table 10 shows that the proportion of sablefish “A” poundage taken by catcher/processors varies a lot between management areas, and varies between years within individual management areas. While the proportions of sablefish “A” poundage harvested by catcher/processors and catcher vessels, and left unharvested, vary across years, in most areas these changes do not appear to be large or systematic.

However, there does appear to be a large change in the Aleutian Islands between 2013 and 2014. In 2014, the proportion of “A” shares harvested by catcher/processors drops by almost half, and the proportion left unharvested almost doubles. The proportion taken by catcher vessels increases somewhat, but is within the range observed from 2011 to 2013.

⁹⁸ The poundage equivalent available for fishing during a year takes account of quota share catch overages or underages from the preceding year.

Table 10 Overview of “A” share sablefish use in 2011 through 2014

“A” QS						
	AI	BS	CG	SE	WG	WY
“A” QS	17,952,283	7,470,227	17,557,104	6,133,979	13,671,401	4,373,738
Total QS	31,932,492	18,765,280	111,686,622	66,120,619	36,029,579	53,266,430
% QS that is “A”	56%	40%	16%	9%	38%	8%
2011						
Fishable QS (lbs)	1,631,354	1,087,509	1,312,743	608,289	1,099,072	315,846
C/P catch (lbs)	731,267	75,222	687,391	232,002	544,953	188,194
CV catch (lbs)	416,402	375,825	619,327	361,266	538,353	118,625
Unfished	483,685	636,462	6,025	15,021	15,766	9,027
% fished as C/P	45%	7%	52%	38%	50%	60%
% fished as CV	26%	35%	47%	59%	49%	38%
% unfished	30%	59%	0%	2%	1%	3%
2012						
Fishable QS (lbs)	1,653,922	878,195	1,602,981	654,336	1,200,163	362,745
C/P catch (lbs)	939,548	63,862	691,424	260,823	395,735	195,202
CV catch (lbs)	184,187	352,989	886,029	382,203	711,857	160,576
Unfished	530,187	461,344	25,528	11,310	92,571	6,967
% fished as C/P	57%	7%	43%	40%	33%	54%
% fished as CV	11%	40%	55%	58%	59%	44%
% unfished	32%	53%	2%	2%	8%	2%
2013						
Fishable QS (lbs)	1,680,423	606,347	1,556,773	663,399	1,208,412	326,182
C/P catch (lbs)	817,849	35,342	620,934	219,174	386,611	204,766
CV catch (lbs)	257,622	268,193	920,316	440,496	771,414	115,906
Unfished	604,952	302,812	15,523	3,729	50,387	5,510
% fished as C/P	49%	6%	40%	33%	32%	63%
% fished as CV	15%	44%	59%	66%	64%	36%
% unfished	36%	50%	1%	1%	4%	2%
2014						
Fishable QS (lbs)	1,439,792	510,377	1,311,305	554,887	1,022,879	275,170
C/P catch (lbs)	296,829	42,480	528,786	187,418	259,485	151,355
CV catch (lbs)	283,378	186,955	767,656	361,359	671,041	122,771
Unfished	859,585	280,942	14,863	6,110	92,353	1,044
% fished as C/P	21%	8%	40%	34%	25%	55%
% fished as CV	20%	37%	59%	65%	66%	45%
% unfished	60%	55%	1%	1%	9%	0%

Sources: Total QS, Fishable pounds, and unfished pounds from AKRO RAM Division; C/P catch from AKRO CAS2; CV catch estimated by AKRO staff on information in this table.

There are two important pieces of information about the impact of this action on the vessels fishing sablefish “A” shares in Table 10. The first is that, to a first approximation, the table does not suggest that the introduction of the full observer coverage requirement had an impact on aggregate use of the sablefish “A” quota share in the Gulf of Alaska management areas, or in the Bering Sea. One would expect that if fixed gear catcher/processors in these areas became eligible for partial observer coverage, there would not be large shifts of catcher vessels to catcher/processor operation, or large “take-ups” of unfished sablefish

“A” quota shares by catcher/processors. To the extent that existing catcher/processor operations would have lower operating costs, these have been addressed in Section 3.7.3.

The second is that, there may be some impact in the Aleutian Islands management area. The table does not provide evidence of significant changes in catcher vessel production there during this period. However, catcher/processor fishing for sablefish in this area requires more disaggregated analysis. There are two separate, but important, groups of catcher/processors fishing sablefish “A” quota share in the Aleutian Islands.

First, there is the freezer-longline fleet that primarily targets Pacific cod. These vessels are organized in a private fishing cooperative which runs its own individual quota program. In order to provide for the precision monitoring of Pacific cod catches required for effective enforcement of this program, these vessels are required to carry 100 percent observer coverage whenever Pacific cod is open for fishing in the Bering Sea and Aleutian Islands, of Gulf of Alaska fishery management areas. Observer coverage costs on these vessels would not have been affected by the start of the observer restructuring program in 2013. These catcher/processors were more active in the sablefish fisheries in 2009 and 2010 than in later years. Their participation gradually declined from 2014 through 2013.

Second, there is a group of freezer-longliners without LLPs endorsed to harvest Pacific cod in the Aleutian Islands. There were five of these vessels from 2009 through 2014, with a maximum of four participating in 2011 and 2013. From 2011, these vessels were the dominant fixed gear catcher/processor sablefish producers in the Aleutian Islands. In the years 2011 to 2012 they accounted for 83 percent of the production, and in the years 2013 to 2014 they accounted for 76 percent of the production.

The decline in production from 2013 to 2014 is entirely accounted for by this second class of freezer longliners.⁹⁹ The first class, those targeting Pacific cod, actually slightly increased their sablefish production from 2013 to 2014.

Each of the three vessels of the second class that participated as a catcher/processor in the Aleutian Islands sablefish fishery in 2012, decreased its production in 2013. One vessel in this class, that did not fish in 2012, did enter the sablefish fishery in 2013. Each of these four vessels decreased its production from 2013 to 2014; two of these four vessels were actually not present in 2014. Of the four vessels active in 2013, one was exempt from full coverage under pre-existing exemptions. This vessel decreased its catch in 2013 and was not present in 2014. Because this vessel already qualified for partial coverage, the observer restructuring full coverage requirement could not have accounted for its change in activity in 2013 and 2014. The aggregate reduction in 2013 production that might be attributed to the full coverage requirement is about 340,000 pounds, or about 154 metric tons.

Information discussed in this paragraph creates some doubt that the full observer coverage requirement was the key driver of reduced production by vessels of this class. One vessel only began catcher/processor operations in 2013, the first year of the program. Moreover, a vessel that was exempt from full coverage, nevertheless cut back its Aleutian Islands activity in 2013 and 2014. As noted earlier, this fishery is unusually vulnerable to killer whale depredation; moreover other changes in 2014, including the shift west in the fisheries center of gravity, and the harvest of large sablefish, makes it unclear exactly what is driving events here. On the other hand, the increase in observer coverage costs could plausibly have reduced the profitability of fishing in this area, and there is public testimony that this was the case in at least one instance. The following discussion treats the changes in 2012 through 2014 as

⁹⁹ A tabular presentation is not included here because the small numbers of vessels, and the large number of categories under consideration, precludes a systematic and detailed summary of the production numbers.

due to the cost of full observer coverage in order to establish a baseline for the likely upper bound of the impact.

The 340,000 pound estimate of the impact of the full coverage requirement is based on static measures of production in the period before observer restructuring took effect. However, in the two years before it took effect, production by the second class of vessels had increased by about 200,000 to 300,000 pounds a year. If this production had continued to increase, the impact of the action in 2013 and 2014 might have actually been greater by another 400,000 to 600,000 pounds.

In summary, there is little evidence in the data that the start of the observer restructuring program in 2013 had an impact on catcher/processor sablefish fishing in the Gulf of Alaska or the Bering Sea, or on catcher vessels targeting sablefish in the Aleutian Islands. Revised partial coverage eligibility requirements may have little impact on these vessels. There is more evidence that the start of the restructuring program reduced fixed gear sablefish catcher/processor activity in the Aleutian Islands. The program may have led to a reduction in this activity of from 340,000 pounds to about 900,000 pounds, or of between about 150 mt to about 400 mt. With a vessel limit of about 258,000 pounds (approximately the mean of the vessel limits in 2013 and 2014), this additional production could have been taken by as few as 2 to 4 additional vessels.¹⁰⁰

The analyst's best estimate of the impact of this action on the use of sablefish "A" shares is that production in the Aleutian Islands may increase by 150 to 400 metric tons, and that two to four vessels may participate in this fishery. This is based on expressions of interest by industry at the December Council meeting, and on the calculations described above. The reader who has followed this discussion will be aware of the speculative nature of these calculations.

3.7.6 Impacts on fishery-dependent data

Introduction

Fishery science and management rely on fisheries-independent data from biennial trawl surveys, and other sources, and on fishery-dependent data such as catch size and composition and the results of biological sampling. Fishery-dependent data may be self-reported or collected by independent observers.

Fishery-dependent data collected from independent observers derives its value from its effect on the value of fishery output, measured comprehensively so as to include the cost of ecosystem impacts (such as habitat modification, and seabird or marine mammal takes) that may result from fishing. A change in the fishery information available to scientists and managers, may lead to changes in the value of that output, and those changes would provide a measure of the value of the information. The change in the value of that output could occur because of changes in pre-season decisions governing fishing (including changes in annual harvest specifications), or because of changes in management during the season, if the ability to manage a fishery in real time is affected.

This change in net value of fishery output and ecosystem resources would be affected by (a) decisions about the substitution of information gathering inputs, and (b) policy decisions made by the Council and Secretary with respect to management of the relevant fisheries. As an example of (a), other information sources, for example daily processing reports, might be substituted to make up for information lost by reduced observer coverage. As an example of (b), fisheries managers might manage more conservatively with reduced data by, for example, managing a groundfish species in a lower specifications tier.

¹⁰⁰ Fractions rounded up since a partial vessel is actually an additional vessel.

While some research has been done to quantitatively value fisheries-dependent scientific observer information, measuring its cost in terms of forgone information from alternative sources, and its value in terms of constraints on fishing activity,¹⁰¹ similar research has not been conducted in the Gulf of Alaska or Bering Sea and Aleutian Islands fisheries. It is impractical with our current knowledge to make quantitative estimates of the impact of this action on the value of information. Therefore, this analysis will evaluate the qualitative, and quantitative physical, changes in information collection as they may affect the direction of fishery value.

Based on the discussion in earlier sections (especially Sections 3.7.2, 3.7.3, 3.7.4, and 3.7.5), the action alternative may affect retained groundfish catch information in three main ways: (1) a change in the percentage of the groundfish fishing days monitored by observers on vessels currently operating as catcher/processors; (2) an increase in the proportion of sablefish “A” shares harvested by catcher/processors, as the observer cost of catcher/processor activity is reduced; (3) possible fiscal impacts on partial observer coverage budgets that may reduce revenue available for coverage by vessels currently operating with partial coverage.

Table 11 summarizes estimates of the volume of groundfish harvested by the eight catcher/processors that operated between 2009 and 2014 and that would be eligible for partial coverage under the thresholds. Much of the information is confidential, particularly for the lower thresholds, because of the small numbers of catcher/processors that would qualify for partial coverage. The largest volume of production was associated with the high maximum weekly (4B) and high annual (5B) thresholds in 2012.

Table 11 Volumes of FMP groundfish production by active catcher/processors that would have newly qualified for partial observer coverage in each year from 2011 through 2014 under each of the ten potential thresholds.

Cell shows the volume of harvest by active fishing catcher/processors that would have qualified for partial coverage under the threshold for that row. Catch in metric tons.							
Alternative and Option		2011	2012	2013	2014	2015	2016
Low	Average daily (1A)	C	915	383	C	na	na
	Average weekly (2A)	C	915	383	C	na	na
	Maximum daily (3A)	C	915	383	0	na	na
	Maximum weekly (4A)	C	915	C	0	na	na
	Annual (5A)	C	915	C	C	na	na
High	Average daily (1B)	592	1,220	383	C	na	na
	Average weekly (2B)	592	1,220	383	C	na	na
	Maximum daily (3B)	C	1,220	383	C	na	na
	Maximum weekly (4B)	C	3,094	383	C	na	na
	Annual (5B)	2,721	3,093	4,637	C	na	na

Source: AKRO CAS2 data and AKRO calculations.

The eight catcher/processor vessels directly regulated by this action accounted for about 3 percent of non-trawl catcher/processor production during the six years from 2009 through 2014. These vessels accounted for about two-tenths of a percent of aggregate BSAI and GOA groundfish production under the high annual threshold in 2013, the year and option that was associated with the largest catch level. As discussed in that section, most of this production comes from the Pacific cod fishery, over half is taken with pots, less than half with hook-and-line gear, and a very small proportion is taken with jig gear.

It is possible that some catcher/processors, that would otherwise have operated at levels in excess of the thresholds, might change their operations to stay within the thresholds, and save money on observer

¹⁰¹ See Bisack and Magnusson (2014). The analysis in Bisack and Magnusson is discussed in Section 3.4 on methodology.

coverage. Table 12 summarizes information about vessels currently operating as catcher/processors with full coverage. The table reproduces information from elsewhere on the numbers of vessels under the upper thresholds, and their production. In addition, it provides information on the numbers of vessels and production within a “pseudo-threshold” equal to 125 percent of the upper threshold.

Table 12 Volume of production by catcher/processors under full coverage and number of these catcher/processors with production, under the higher thresholds, and within +25 percent of the upper threshold, 2011 through 2014.

Year	Higher threshold		Higher threshold plus 25 percent		Change in vessel count
	Metric tons	Vessel count	Metric tons	Vessel count	
Average daily					
2011	592	3	592	3	0
2012	1,220	5	3,094	6	+1
2013	383	3	383	3	0
2014	C	C	C	C	+1
Average weekly					
2011	592	3	592	3	0
2012	1,220	5	3,094	6	+1
2013	383	3	383	3	0
2014	C	C	C	C	+1
Maximum daily					
2011	C	C	1,127	3	+1
2012	1,220	5	3,094	6	+1
2013	383	3	383	3	0
2014	C	C	C	C	0
Maximum weekly					
2011	C	C	C	C	0
2012	3,094	6	3,094	6	0
2013	383	3	1,664	4	+1
2014	C	C	C	C	0
Annual					
2011	2,721	5	2,721	5	0
2012	3,094	6	7,216	8	+2
2013	4,637	5	7,632	6	+1
2014	C	C	C	C	0

Source: NMFS AKR CAS2

NMFS performed a similar review for trawler catcher/processors, but did not identify any additional vessel-years of eligibility with an increase of 25 percent in the upper threshold.

It is hard to predict the impact the action alternative may have on the harvest of sablefish “A” quota share. As discussed in Section 3.7.5, this impact would probably be concentrated in the Aleutian Islands sablefish fishery, and may be associated with increases in sablefish production on the order of 340,000 to 900,000 pounds (or 154 mt to 400 mt).

As shown in Table 9, the costs of partial observer coverage for catcher/processors newly eligible for partial coverage are likely to be greater than the revenues raised for the partial coverage program from the

new assessments on these vessels. The table indicates that the net fiscal impact on the partial coverage program could be to reduce revenues available for coverage on vessels already eligible for partial coverage on the order of \$69,000 to \$216,000.

At an estimated partial coverage cost of \$1,024 per observer day, this would have translated into a reduction in observer coverage of from 67 days to 211¹⁰² days in 2013. NMFS purchased 3,538 observer days in 2013, so if the change in revenues had affected observer days in 2013, this would have corresponded to a reduction of from 2.0 percent to 6.0 percent in the number of observer days that year.

In 2013, because of uncertainties associated with the first year of the program, NMFS was conservative in its purchase of observer days, in order not to exceed the available funding from Federal start-up funds and partial coverage assessment revenues (NMFS 2014b). In 2014, NMFS projected observer day purchases of 4,718 days. This may represent a more typical level of partial coverage observer day purchases. If this is the case, it may be more reasonable to project an impact on available observer days for pre-existing partial coverage vessels of 1.5 percent to 4.5 percent.

Given the significant uncertainties associated with the cost and revenue projections underlying Table 9, and NMFS's incomplete progress along the "learning curve" in the partial coverage program, these percentages can only be considered broadly indicative of a general level of impact. These percentages do not take into account the possibility of increased sablefish fishing in the Aleutian Islands. Similar calculations cannot be readily performed for this possible fishing impact.

The following sub-sections discuss possible impacts of these changes on data collected on retained groundfish catch, on discarded groundfish catch, on PSC, and on other ecosystem elements (including habitat, seabirds, and marine mammals).

This section is not an environmental analysis of this action, and is not meant to address the issues addressed in a National Environmental Policy Act (NEPA) analysis. Based on information to date, NMFS has concluded that this action, if it goes forward, would be subject to a Categorical Exclusion from further NEPA analysis because this action would be an amendment to a previously analyzed and approved action and this action has no effect on the human environment beyond what was analyzed in prior actions.¹⁰³ This RIR is an economic analysis of the tradeoffs involved in the decision to modify the rules governing eligibility for partial observer coverage of catcher/processors. While reduced observer coverage will reduce the costs of observer coverage, as discussed earlier, it may also create some costs with respect to changes in the quality of the data available for fishery management. The purpose of this discussion is to identify and describe these costs to the extent possible.

Impact on estimates of retained groundfish catch

Data on retained groundfish catch from the eight groundfish catcher/processors, which currently carry full observer coverage and which may be impacted by this action, is based on reports made by observers, and is reported as round weight. With a change to partial coverage, NMFS would no longer use the observer data for estimating retained catch, on either observed or unobserved trips because of the difficulties in knowing when observer data was available, and when to use industry reported data. Use of a single source eliminates the potential for duplication, or for missing data. Data on all trips would be collected from the eLandings at-sea daily production reports. Processed products by species from eLandings at-sea

¹⁰² Note that the 211 days is based on a 35 percent trip coverage rate. This is a coverage rate about 10 percent higher than has been used in an annual deployment plan to date.

¹⁰³ NMFS stated this as a preliminary conclusion on page 1 – 2 of its Small Catcher/Processor Discussion Paper (December 2014).

production reports would be converted to round weight by NMFS using published product recovery rates (PRRs).

Retained catch estimates based on data from eLandings at-sea production data are not as desirable as estimates based on observer monitoring, as they are self-reported industry data, and may be subject to manipulation. They are based on case counts, and not usually weighed. Moreover, data on the characteristics of the fish in the catch, such as length, weight, sex, and age is not available through eLandings at-sea production reports, and estimates would be based on fewer observer samples (those collected on trips selected under partial coverage). These data may be subject to unintentional and intentional reporting errors, transcription errors, scale, and other measurement errors. Since the variance and bias associated with industry reports of harvest and at-sea discard is not known or accounted for in the estimation process, industry reports of landed catch are assumed to be true, known values. (Cahalan et al., 2014)

Data on the characteristics of the fish that are harvested (the length, weight, sex, and age data mentioned above) will be obtained from the trips selected for coverage, and by extrapolations to similar trips by similar fishing operations. In the absence of full coverage, the observed catches will be a smaller proportion of the whole, and more dependence will be placed on extrapolation. Assuming fishermen did not change their behavior in response to the new incentive structures created by partial coverage, this should not lead to bias in the estimates of these characteristics, but should reduce the precision of the estimates. However, fishermen may change the nature of their trips depending on whether or not an observer will be present. There is a natural incentive to take shorter trips, or to take trips which are expected to have specific characteristics (perhaps to minimize the presence of PSC species). This behavior can introduce bias into retained catch estimates, but the direction of potential biases is difficult to predict in advance.

The impact of the action on catcher/processor harvests of sablefish were discussed in Section 3.7.5 and at the start of this section. Impacts are expected to be concentrated in the Aleutian Islands, where sablefish catches could increase by an amount on the order of 150 mt to 400 mt. Few impacts are expected in other sablefish management areas. The increase in catcher/processor production in the Aleutian Islands may occur because of a shift from catcher vessel use of sablefish “A” quota share to catcher/processor use of these shares, or because of increased harvest of unused sablefish “A” quota share.

The shift to partial coverage by existing catcher/processor operations would reduce the available information about the catches of these vessels. A shift from catcher vessel production to catcher/processor production would not entail a change in the level of observer coverage or in the available information as both categories would be under partial coverage. An increase in production because of the use of formerly unused sablefish “A” quota share would provide information on the stocks that had not been available before. There seems little likelihood that this change in observer coverage would change the tier used to manage the sablefish resource. One reason is that while the Aleutian Islands and Bering Sea have different catch limits, the underlying sablefish population model is a joint Aleutian Islands-Bering Sea model. In general, managers feel more comfortable in extrapolating from observed to unobserved operations in a quota share managed fishery because of similarities in fish sizes targeted by the operations – everyone is going after the big fish.

Section 3.7.3 provided estimates of the potential loss of partial coverage observer days because of the fiscal impacts of the proposed action. It appears that the assessment revenues raised from catcher/processors newly eligible for partial coverage may be less than the costs of supplying partial coverage observers to these vessels. This will reduce the revenues available for placing observers on vessels already eligible for partial coverage. The estimates, while subject to many caveats and a large margin of error, suggest that the action would reduce the funds available from 1 percent to 4 percent of

the observers on these vessels. This fiscal impact would adversely affect the available data on retained harvests. Estimates from observer coverage would not be biased by this change, but there would be a loss of precision.

Section 3.7.3 explained that most of the harvest by catcher/processors that would become eligible for partial coverage under this action alternative came from Pacific cod target fisheries. As discussed, the Aleutian Islands sablefish fishery could also be impacted. The impacts of the fiscal action are likely to be more generally spread out over other groundfish fisheries.

While production reports include information on the management area within which fish were caught, this spatial data does not have the fine scale resolution that would be available from observer reports. This deficiency could be offset to some extent if catcher/processors fishing with partial observer coverage be required to carry a transmitting VMS unit. This issue is discussed further in Section 3.7.11.

Impact on estimates of discarded groundfish

Under full coverage, estimates of discarded groundfish are made by the observer and are recorded as round weight. Estimates for unobserved hauls of gear are extrapolated from observed hauls.

On the three catcher/processors that are currently subject to partial observer coverage, groundfish discard estimates are based on self-reported data from the vessel operator. This is likely to change in the future to an approach that is consistent with the methods currently used on partially observed catcher vessels. Under the new approach average at-sea discard rates will be extrapolated to unobserved vessel activity from vessels that have observers fishing with the same gear, in the same area, during a six week period.

The significance of at-sea discard estimates varies with the type of vessel. Pot gear operations have relatively low incidental catch and discard rates. Hook-and-line fisheries tend to have high amounts of incidental catch of non-target groundfish species that are primarily discarded. Some non-target species by-catch has more management scrutiny due to low quotas and a relatively high risk of exceeding ABC (for example, sharks, skates, and rockfish). With high amounts of at-sea discard, observer estimates of discards are important for quota management. Jig operations are believed to have low discard rates, but there is very limited information on this sector. As discussed in Section 3.7.3 pot operations account for more than half of the groundfish catch for these vessels, while hook-and-line vessels account for less than half.

An expansion of the sablefish fishery in the Aleutian Islands will create a new source of groundfish discards in that area. Shortraker, black-spotted/rougheye, and other rockfish (which includes thornyhead rockfish) are incidentally harvested in sablefish longline fisheries as well as other fisheries. The catch of these species has approached or exceeded the ABC in past years. Although much of this harvest is taken by trawl fishing operations, an expansion of the sablefish fishery in the Aleutian Islands will contribute to these overages. In addition, this action, by reducing coverage on vessels already subject to partial coverage through the fiscal mechanism, will reduce the proportion of observed to unobserved groundfish trips, and will increase the extent to which at-sea discard estimates will have to be extrapolated from observed trips.

Impact on estimates of PSC, prohibited groundfish, and non-groundfish species discards

Prohibited species catch (PSC) includes catches of salmon, herring, halibut (other than halibut taken as IFQ or CDQ halibut), and crab. Fishermen are expected to operate so as to minimize catches of these species and, with the exception of salmon catch legally donated to a food donation program, if PSC are taken, they must be discarded. PSC discards of salmon and crab are measured in numbers of animals, and

PSC discards of halibut and herring are measured by their weight. Retention of groundfish species may also be prohibited when a species quota has been harvested, and additional catch of that species cannot be retained. A third category of catch, “non-PSC and non-groundfish catch” (hereafter, “other species”) may also be discarded. This category includes harvest of forage fish, invertebrates, and other non-groundfish species that are not retained. (Cahalan et al., 2014, pgs 25-27.

Estimates of PSC, prohibited groundfish, and other species discards are based entirely on data gathered by observers. The term “full coverage” means an observer is present on all trips taken by the vessel, but it does not mean that all hauls of gear on a trip are monitored and sampled by an observer. On both vessels with full, and with partial coverage, NMFS must extrapolate from observed to unobserved hauls. Extrapolations are also made from observed trips to unobserved trips on the same, or another, vessel. Extrapolations are made on the basis of similarities between hauls (on a given trip) and between trips. Between trip extrapolations depend on similarities in the vessel type and gear, the area fished, the time period fished, and the target species. Sampling methods are discussed in detail in the North Pacific Observer Program Observer Sampling Manuals (NMFS, 2013); extrapolation methods are discussed in Cahalan et al (2014).

PSC catch and discards can have important in-season management implications, and this can create incentives for fishermen to manipulate reports of PSC discards so as to minimize their estimated size. Halibut PSC is particularly important. Regulations (CFR 679.21) and annual specifications create gear, vessel category, target species, area, and seasonal allocations for halibut PSC. Once a fishery reaches its limit of halibut PSC, the fishery will be closed and no further fishing for the target species will be permitted. Fisheries are routinely closed because they have reached their halibut PSC limit.

Table 13 summarizes information on the shares of key fixed gear catcher/processor PSC species catches taken by the eight catcher/processors that are currently required to have full coverage, but that may become eligible for partial coverage with this action over the period 2010 through 2014.¹⁰⁴ The directly regulated vessels were accounting for relatively small proportions of the Blue King Crab, halibut, and Red King Crab fixed gear catcher/processor PSC. They accounted for significant proportions of the Bairdi and Opilio Tanner crab, and Golden King Crab PSC.

Table 13 Share of BSAI and GOA fixed gear PSC taken by catcher/processors currently required to have full coverage, but which may become eligible for partial coverage under this action, 2010-2014

	Blue king crab (# crab)	Bairdi tanner crab (# crab)	Chinook salmon (# salmon)	Golden king crab (# crab)	Halibut (mt)	Non-chinook salmon (# salmon)	Opilio Tanner Crab (# crab)	Red king crab (# crab)
PSC by directly regulated C/Ps	3,460	336,007	C	156,717	125	12	197,481	14,573
PSC by all fixed gear vessels	153,693	3,307,139	217	451,403	6,680	3,875	1,844,682	296,387
Percent by directly regulated C/Ps	2%	10%	C	35%	2%	0%	11%	5%

Note: shows totals for the six years 2010-2014 to protect confidential information. “C” indicates data from fewer than three vessels is available. No herring were caught by fixed gear vessels.
Source: CAS2

¹⁰⁴ Questions about the 2009 data are being resolved. These may be included in a later version of this RIR. As with other key tables, these data reflect PSC associated with shoreside deliveries of unprocessed groundfish product by these vessels.

The significance of at-sea discard estimates varies with the type of vessel. Pot gear operations have relatively low PSC catch and discard rates for salmon, herring, and halibut, but they have relatively large crab PSC catch and discard rates. However, there are no current crab PSC limits for this gear. Hook-and-line gear can have high PSC catch and discard rates. There are no current PSC limits for sablefish hook-and-line vessels, although it is possible that a PSC limit for halibut may be created in the future. Hook-and-line vessels fishing for groundfish (not fishing sablefish IFQs) are subject to halibut PSC limits. There is no information about PSC catch and discard rates for jig vessels. This gear is not subject to PSC limits.

In general, this action is likely to have a negligible impact on PSC information due to the small numbers of existing catcher/processors that may be directly regulated, their relatively small target species catches relative to overall fixed gear and overall all gear catches, the high proportion of pot production among the directly regulated vessels, and the generally relatively small shares of PSC they are estimated to be taking. The one exception may be for golden king crab. Table 13 only compares production by the directly regulated vessels with overall production by fixed gear catcher/processors. Production by fixed gear catcher vessels may also be used in extrapolations, so the percentages in Table 13 may overstate the potential adverse impact. In addition, while the golden king crab percentage in Table 13 is high the impact of the action on management will be limited because there is no PSC limit for crab.

Impact on information about other ecosystem resources

Observer information is used to identify the impacts of fishing activity on other parts of the ecosystem as well as on fisheries. Observers collect information on seabird, marine mammal, and benthic habitat interactions with vessels and gear. The only current substitute for information collected by an observer on a vessel is an estimate extrapolated from activity on a similar vessel operating under similar conditions. NMFS will also lose observer-provided information on the location of gear deployment, reducing the ratio of observed to unobserved activity involved in making these extrapolations. In general, this should be expected to reduce the precision with which bycatch estimates are made.

These considerations apply to estimates of seabird takes. Moreover, information on unique events of importance, such as takes of short-tailed albatross, is dependent on self-reporting. Longline gear contributes disproportionately to seabird takes, and longline operations, whether they are the existing catcher/processors discussed in Section 3.7.3 or longline gear connected with the potential expansion of the sablefish fishery in the Aleutian Islands, as discussed in Section 3.7.5, are an important part of the directly regulated fleet. However, pot gear was also an important element, and pot gear does not contribute significantly to seabird takes. Over the period 2007 through 2013, demersal longline gear accounted for 88 percent of seabird takes, and trawl gear accounted for another 10 percent. Pot gear did not contribute significantly to seabird takes. (AFSC, 2014) The potential increase in sablefish activity in the Aleutian Islands may increase the potential for seabird takes in that region.

Observer information provides an important source of information on marine mammal takes. Because takes are not common with fixed gears, this is unlikely to be an issue of concern. Under Section 118 of the Marine Mammal Protection Act (50 CFR 229.2), all commercial fisheries are placed into one of three categories, based on the frequency of incidental take (serious injuries and mortalities) relative to the maximum of potential biological removal (PBR) for each stock of marine mammal. The PBR is the maximum number of animals, not including natural mortalities, that may be removed from the stock while allowing that stock to reach or maintain its optimum sustainable population. In 2015, all of the MSA groundfish fisheries were listed as Category III fisheries (79 FR 77919). Category III is the minimal impact category. While owners of vessels and gear in Category I and II fisheries are required to obtain authorization to lawfully take marine mammals, operators in Category III fisheries are not. As

noted in the Programmatic Groundfish EIS, longline and pot fisheries very rarely catch marine mammals directly. (EIS, page 3.8-2).

The longline and pot gears directly regulated by the action alternative come in contact with, and can modify, bottom habitat (EIS, pages 3.6-14 to 2.6-15). Observer information is used to provide information on species from the ocean bottom appearing in retrieved gear as bycatch, and to provide information about the location of fishing. Much of the impact of fishing gear on bottom habitat is out of sight, and not reflected in an operation's bycatch. This must be investigated with alternative tools, such as underwater cameras and submersibles. The utility of observer information is also limited by the high level of aggregation used to classify species in the bycatch. Specific coral species, for example, are all subsumed in a "coral" category, even though there can be important life history differences between species. Information from observers about the locations where gear is set can be as useful as information about the species included in the bycatch. NMFS AKRO has developed methods of inferring fishing locations from VMS information and information from vessel logs. Use of this information as a substitute for observer information would be facilitated by a requirement that catcher/processors enjoying a partial observer coverage exemption be required to carry transmitting VMS units.

Summary

In summary, the net impact of these actions on the information available for fisheries management appears to be small. In part, this is a result of the small amount of fishing activity that will be impacted by this action. This should impact fishing for about 3 percent of fixed gear groundfish production, or about 0.2 percent of all groundfish production. Partly this reflects NMFS ability to substitute other inputs for the lost inputs. NMFS can substitute extrapolation from other operations for the collection of data from existing operations, and NMFS can substitute VMS based location information for information collected from observers. In part this reflects the possibility that increased sablefish fishing in the Aleutian Islands will generate new information on this stock, not previously available. Finally, this reflects the limited impacts that fixed gear has on certain types of ecosystem elements: pot gear and jig gear have little impact on seabirds, while fixed gear in general does not take marine mammals.

The ability to substitute one input for another becomes more difficult as substitution continues.¹⁰⁵ One cost of this action, not discussed earlier, is that this relief for small catcher/processors uses up some of the "low hanging fruit," or the relatively easy substitution opportunities. Future losses of observer coverage, to address other equity concerns, will come at a higher cost in terms of the additional inputs that are required to make up a deficit. The Council has implicitly addressed this issue by gathering information and priority recommendations from its Observer Advisory Committee, requesting a discussion paper on the range of proposed amendments to the Observer Restructuring Program, and by identifying its priorities for amendments at its February, 2014, meeting.¹⁰⁶ Since the current action was given the highest priority, the Council has implicitly indicated that this action is the most appropriate action on which to incur this cost.

3.7.7 Impacts on crew

Crew members are typically paid a share of the revenue earned on a fishing trip, after deducting certain variable costs. If observer expenses are one of the variable costs deducted from the proceeds, the crew

¹⁰⁵ Technically, direct observer coverage, extrapolation from other observers, inferences from VMS, and other "inputs" into the production of fishery-dependent information are imperfect substitutes. The marginal rate of technical substitution between them (or the rate at which inputs may be substituted while the output level remains constant) is decreasing as one input is increasingly substituted for another, keeping the information level constant. That is, as less and less observer coverage is used, greater and greater extrapolation, VMS, or use of other tools, would be necessary to maintain the same level of fishery-dependent information. This assumes that substitution is possible, and would take place; otherwise the information available would be reduced.

¹⁰⁶ The history of this action is described in Section 1.2.

members would share in these costs along with the vessel owner and operator, reducing the cost burden on the owner and operator. Consequently, if observer costs were deducted from gross revenues before the calculation of crew shares, the benefits to the operation of a reduction in the overall observer costs would be shared with the crew members. In the short run, these crew members could expect to receive somewhat higher compensation with partial observer coverage than with full observer coverage. This does not take account of potential benefits to the crew members if the vessel can be used to generate a higher revenue stream if the cost of fishing activity has been reduced by the substitution of a revenue assessment for an explicit daily observer charge. This discussion assumes that an assessment fee and a daily observer charge would both be treated in the same way in the share system.

In the longer run, if the market for crew is competitive, a reduction in the deduction before crew shares are calculated may be offset by a reduction in the percentage change in the share itself.¹⁰⁷ In other words, the compensation package may change so that crew members are receiving the same expected income after the change as they were before the change. However, institutional changes like these take time to take effect and in the interim crew members may benefit financially from shift to partial coverage.

There is little information available about crew share systems and the treatment of observer costs in the Federal groundfish fisheries off of Alaska. Some information is available for the years 1998 through 2011 for the crab fisheries off of Alaska from Economic Data Reports. These suggest that in the years since crab rationalization, from 35 percent to 50 percent of the crab vessels paid for observers, and that in these years significant percentages of the vessels paying for observers charged crew for some of the costs through the share system, and significant percentages did not. On balance, charging crew for part of the observer costs was somewhat more common. (Garber-Yonts, pers. comm.)¹⁰⁸

In addition to impacts on their shares, crew may also benefit from more convenient working conditions on trips during which observers were not present. As time passes, more attractive working conditions may also be offset by institutional changes in the share system.

Because of the great uncertainty about the impact on crew members, these impacts are not described separately for the different threshold options. In general, more liberal options are likely to create larger short term benefits for crew members (and would reduce the benefits that should be attributed to vessel owners and operators in the short run). However it is impossible to project the size of these benefits, or the length of time they would be enjoyed.

3.7.8 Impacts on observers and observer providers

If the vessels discussed in Section 3.7.3 shift from full coverage, the three firms currently serving the full coverage sector would lose some business. The cost of the observer coverage provided by these firms in 2013 was about \$187,000 (see Table 9). The total costs of all full observer coverage provided by these firms in 2013 was about \$13,643,000 (NMFS 2014b). Thus, the loss in revenues would be a small part (about 1.4 percent) of their overall business. Firms receiving the Federal contract to provide coverage under the partial coverage program would incur some additional business, estimated to be in the area of \$63,000 to \$168,000 for catcher/processors shifting from full to partial coverage (see Table 9). In general, observer employment opportunities would drop, although the difference in employment is difficult to determine quantitatively.

¹⁰⁷ The reason being, that if one vessel began to stand out, competition for crew berths on the vessel would increase, and the vessel operator would be able to take advantage of the competition to reduce the percentage shares paid. Obviously, given the limited information in the market place, and the psychological difficulties in reducing shares for existing crew outright, a process like this would work imperfectly and with a lag.

¹⁰⁸ Brian Garber-Yonts, Ph.D. Research Economist, NOAA Fisheries, Alaska Fisheries Science Center. Personal communication, February 11, 2015.

3.7.9 Safety

Safety may be impacted by this action in several ways: (1) a change in the number of crew on the vessel may change work habits in ways that affect safety, thus affecting the safety of production crew; (2) an increase in the number of persons on the vessel increases the number at risk if there is a threat to the vessel; (3) changes in vessel behavior by reducing observer costs may reduce the costs of longer trips and encourage vessels to operate further from assistance in case of emergency; (4) associated with (3), an increase in the number of vessels in remote spots increases opportunities for good Samaritan assistance for vessels that would operate in those areas even in the absence of the action; (5) changes in the time spent by observers on vessels will change the potential at-sea workplace harassment or assault hazard for observers.

Existing models and empirical understanding of how regulatory actions may affect safety do not allow a quantitative, or detailed qualitative analysis, of the issue.

Safety may be impacted if some vessels change operational patterns: for example, if more vessels find it economical to fish for sablefish in the Aleutian Islands. As noted earlier, this possibility has been mentioned in Council testimony. The net impact of this action on safety at sea can't be determined prior to the action from the limited information available. Two potential, possibly offsetting impacts appear possible. This action is likely to reduce the number of days observers are at sea. Any catcher/processor which shifts from full, to partial, coverage will carry observers on fewer days during the course of a year. On the other hand, as discussed in Section 3.7.5, some vessels may spend more time fishing for sablefish as catcher/processors in the Aleutian Islands because of this action. If the time spent fishing in the Aleutian Islands would otherwise have been spent fishing in waters less remote, or if the time spent fishing in the Aleutians is time that would otherwise not have been spent fishing, there will be increased activity in waters that are remote from assistance in case of trouble. All other things equal, this will reduce the safety of fishing activity for the vessel of concern. Conversely, additional vessel time in the Aleutian Islands will increase the potential for good Samaritan assistance to vessels already fishing in the Aleutians, increasing the safety of those operations.

3.7.10 Community Impacts

Community impacts from this action are likely to be relatively limited. They may occur if catcher vessels were to shift operations to catcher/processor activity. This may reduce onshore processing of sablefish; it may also become relatively more economical to deliver processed sablefish outside of Alaska, reducing associated economic activity from those deliveries in smaller, more remote, communities and shifting it to larger communities in Washington. However, any impact is likely to be small given the small levels of overall groundfish production by the directly regulated vessels.

3.7.11 Management and Enforcement Considerations

Effects on groundfish inseason management will be limited and any impact is hard to quantify. Data necessary to manage the groundfish fisheries will still be collected, however the source of the data used in the Catch Accounting System (CAS) will change, as catcher/processor production estimates will depend more on self-reported data, rather than observer data. The data source is one factor used by inseason managers to determine how reliable a reported value is. Self reported data is known to be less reliable or to vary more over time. This may lead to more conservative inseason management in fisheries with participation by partial coverage catcher processors.

For example, at-sea discard rates for partial coverage catcher/processors is self reported discard information. These fish are not weighed or calculated and estimates of volume are made visually. This is in contrast with other sectors, which use observer data to calculate at-sea discards. While the self-report approach is likely to change, more catcher/processors in the partial observer coverage category will result in greater uncertainty and variation of at-sea discard rates. Inseason managers are likely to account for this uncertainty with more conservative projections.

This action also creates incentives for new catcher/processor activity, particularly in the Aleutian Islands sablefish fishery, as discussed in 3.7.5. More effort in this fishery will likely result in increased incidental catch of species that have in past years exceeded the ABC. These species include Shortraker rockfish, Rougheye rockfish, and Thornyhead rockfish, part of the "Other Rockfish" species assemblage.

Inseason management of PSC limits will also be impacted by this action. A catcher processor in the full coverage category gets estimates of PSC specific to that vessel. A catcher processor in the partial coverage fleet will not have PSC estimates specific to that vessel on every trip, only those trips that were observed. Therefore on trips in which there is no observer, PSC must be calculated by extrapolation from similar vessels operating in a similar fashion. This is likely to result in estimates coming from other full coverage CPs and potentially catcher vessels.

Inseason management uses fine scale temporal data to project management actions. It is important to collect these data in order to estimate the intensity of the fishery. There is a correlation with high intensity fisheries and incidental harvest of PSC and other groundfish. As a result, high intensity fisheries can be challenging to manage. For that reason, inseason managers prefer that a small catcher/processor threshold be calculated with an average weekly measure of activity. The yearly threshold can include vessels that only fish in a couple of months out of the year, but at very high rates during that time. These vessels may present inseason management challenges.

Overall, the impact of the action on inseason management will be negligible because of the limited proportion of groundfish caught by the directly regulated vessels, the fact that many of these fisheries are not PSC limited, and by the fact that sablefish is managed under an individual quota program

The action alternative has a potential benefit for inseason management. Under the status quo, the three catcher/processors in partial coverage are not limited as to how much groundfish they can produce. To date, these catcher/processors have not processed an amount of groundfish that is an immediate cause for concern, as is evident by the fact that these catcher/processors generally would still qualify for partial coverage based on their actual production over six years (2009 to 2014). But in the future these vessels could significantly increase their production or branch out into different fisheries. The action alternative ensures that there is a standard in place to evaluate whether future production by these vessels means they should be placed in full coverage.

Observer data is used to identify the location of the vessel while it is transiting to and from fishing locations, and while it is actively fishing. Fishing-dependent location information, that is not self-reported, is used for in-season management, scientific, and enforcement purposes. In the absence of a requirement that the vessel carry a transmitting VMS unit, this information is lost on trips on which an observer is not present.

The estimated average cost to buy and install a VMS unit is about \$3,500. The initial purchase cost can be reimbursed up to \$3,100 by the Vessel Monitoring System Reimbursement Program, a program of the Pacific States Marine Fisheries Commission. (PSFMC) NOAA does have a current VMS reimbursement program that is jointly managed by NOAA and the Pacific States Marine Fisheries Commission, but that is subject to future appropriations. This program provides for reimbursement of a maximum for \$3,100 per unit and covers the cost of the VMS transmitter unit. To be eligible for reimbursement, vessel

owners/operators must purchase an approved VMS unit and have it installed on their vessel and activated. Upon completion of the installation and activation, the vessel owner/operator must contact the VMS Support Center to ensure the vessel is properly registered in the VMS system. Once this is completed, NOAA OLE will issue the vessel a number that the vessel operator then includes on their reimbursement application to the Pacific States Marine Fisheries Commission. This reimbursement does not cover costs associated with tax, labor, and installation. Annual transmission, maintenance and repair costs of the VMS unit are estimated to be less than \$1000 a year. (Council, 2012, page 14)

A review of the eight catcher/processors directly regulated by this program, shows that all except the purely jig vessels made VMS transmissions in 2014, and thus have operating units. Since NMFS is unable to predict the number and identities of the vessels that may begin to fish sablefish under this action, it is unable to estimate the number of units that might need to be purchases. However, as discussed in Section 3.7.5, it is likely that most additional sablefish fishing will take place in the Aleutian Islands. All federally permitted vessels fishing for groundfish in the Aleutian Islands sub-area have been required to carry a VMS since 2006 (71 FR 36694, June 28, 2006).

3.7.12 Total catcher/processor catch under partial coverage following action

A cost and benefit analysis focuses on what is changing from one alternative to another. However, the objectives of this action include a constraint on the action: the Council motion explained that the exemption should maintain a relatively limited exemption to the general requirement. This section evaluates that constraint objective with respect to the total volumes of catcher/processor production that might be subject to partial coverage if this action is implemented. These should remain small, following adoption of an action alternative.

Table 14 below is similar to Table 11, but includes production by the three catcher/processors that already qualify for partial coverage, as well as production by the eight catcher/processors that may be newly subject to partial coverage through this action.

Table 14 Volumes of FMP groundfish production by eleven active catcher/processors that would have qualified for partial observer coverage, in each year from 2011 through 2014 under each of the ten potential thresholds.

Cell shows the volume of harvest by active fishing catcher/processors that would have qualified for partial coverage under the threshold for that row. Catch in metric tons.							
Alternative and Option		2011	2012	2013	2014	2015	2016
Low	Average daily (1A)	641	1,368	694	C	na	Na
	Average weekly (2A)	378	1,368	694	C	na	Na
	Maximum daily (3A)	641	1368	553	C	na	Na
	Maximum weekly (4A)	641	1,368	556	C	na	Na
	Annual (5A)	416	1,178	556	C	na	Na
High	Average daily (1B)	1,079	1,673	694	C	na	Na
	Average weekly (2B)	1,079	1,673	694	C	na	Na
	Maximum daily (3B)	641	1,673	694	1,496	na	Na
	Maximum weekly (4B)	641	3,547	694	1,496	na	Na
	Annual (5B)	3,208	3,547	4,948	1,496	na	Na

Source: AKRO CAS2 data and AKRO calculations.

The catcher/processor production by the eleven vessels directly regulated by this action accounted for about 3 percent of non-trawl catcher/processor production during the six years from 2009 through 2014. If the fixed gear catcher/processor production estimate was increased by another 400 metric tons, a

hypothetical figure suggested in the discussion of sablefish “A” quota shares, the percentage of fixed gear catcher/processor production under partial coverage would not change.

The sum of the catcher/processor production by these eleven vessels plus a hypothetical 400 metric tons of sablefish catcher/processor production, accounted for about two-tenths of a percent of aggregate BSAI and GOA groundfish production during the same 2009 through 2014 period.

These estimates indicate that this total groundfish catch by catcher/processors, acting as catcher/processors under partial coverage, is a small proportion of total fixed gear catcher/processor production, and a small proportion of aggregate groundfish production.

3.8 Summary of the RIR analysis

Table 15 summarizes the impacts of this action, as discussed in this RIR. Alternative 1 is the status quo, the no action alternative, and the baseline for this analysis. Thus, impact measures are provided for Alternative 2, the action alternative, measured as a deviation from Alternative 1. Since Alternative 1 impacts are the inverse of Alternative 2 impacts, they are not described separately in the table. An Alternative 1 column is provided to emphasize the existence of the two alternatives.

Table 15 Summary of impacts of this action

Costs or benefits	Impact	Alternative 1	Alternative 2
Objectives of this action	Exemption for small C/Ps		All options provide relief from high full observer costs for a class of small catcher/processors.
	Exemption based on current C/P production		All options are based on ongoing production. This makes it possible for new vessels to obtain the exemption, and for vessels to be moved to full coverage if their production levels increase. However, basing exemption on previous year production is impracticable; basis year must be two years back.
	Relatively limited exemption		The exemption appears to be limited with respect to the production by the vessels potentially qualifying for partial coverage. Eight catcher/processors that processed between 2009 to 2014 may newly qualify for partial coverage. These eight vessels accounted for a small percent (about 2/10ths of a percent from 2009 through 2014) of groundfish production. An additional 400 tons of sablefish may be harvested by two to four vessels that may begin processing under these provisions.
	Appropriate data quality and cost balance		The options under consideration appear to have relatively modest net adverse impacts on data quality.
Benefits	Impact on C/Ps with current partial coverage eligibility	Baseline. Impacts are reverse of those identified for Alternative 2 (the action alternative)	Six C/Ps currently qualify for partial coverage under current regulations; only three of these have ever taken advantage of their partial coverage eligibility. The three C/Ps that have taken advantage of their partial coverage exemption would have been eligible for partial coverage in each year from 2011 to 2016 under options 1A, 4A, and 1B through 5B. From 2011 to 2013, one of these vessels would not have been eligible under options 2A, 3A, and 5A.
	Impact on C/Ps currently operating with full coverage		The number of catcher/processors qualifying in a year from 2011 to 2014 that actually fished in that year varies for each of the ten options under consideration, and is never as many as eight under any option in any year. From 5 to 7 vessels qualify in 2015 and 2016, but the number that will fish in those years cannot be identified at this time. NMFS examined the vessels that would have qualified and fished in 2013, and estimates that these operations would have saved about \$200,000 in observer costs. From a national perspective, costs would have been reduced as well, but by considerably less, since the cost of providing observer coverage to the catcher/processors newly eligible for partial coverage (described as the fiscal impact in the analysis) would have fallen on the vessels already eligible for partial coverage.
	Impact on CVs currently		The analysis did not identify many of these that were expected to begin to

	operating with partial coverage		operate as catcher/processors. In general, there would be a slight reduction in observer coverage requirements for these vessels, as the fiscal impact of the action reduced assessment revenues available for their coverage.
	Impact on vessels using sablefish "A" quota shares		The alternatives under consideration may improve the profitability of catcher/processor sablefish operations in the Aleutian Islands for some small vessels. Analysts best estimate is increased harvests on the order of 150 to 400 metric tons by two to four vessels.
Costs	Impact on estimates of retained catch		Some loss of information as fewer observer days of information are collected from directly regulated vessels, and as fiscal impacts reduce the number of days that observers may be deployed on vessels currently under partial coverage. Some additional information on sablefish stocks in the Aleutian Islands is possible, if fishing activity increases there. Impacts, and impacts on discarded groundfish, PSC, and other ecosystem elements, are mitigated by the small proportion of FMP groundfish catch that may be impacted by this action.
	Impact on estimates of discarded groundfish catch		On C/Ps with full coverage, discard estimates are made by observers; currently, partial coverage C/P discard estimates are based on vessel self-reports. However this is likely to change to extrapolations from similar operations. Once this happens, the net impact would be to reduce the precision of discard estimates.
	Impact on estimates of PSC		Primary impact on PSC estimates will be on estimates of crab catch by pot vessels, particularly Golden King Crab. This fishery is not subject to PSC limits, thus economic impact is likely to be small. These C/Ps account for small percentages of other fixed gear PSC.
	Impact on estimates of other ecosystem impacts		Reduced information on seabird takes from observers. Mitigated somewhat by the large proportion of catch from pot vessels, which are believed to have small seabird takes. Additional sablefish fishing in the Aleutian Islands may increase potential for actual seabird takes. Impact on information about marine mammal takes will be minimal, as fixed gear is responsible for few takes. Impact on information on benthic habitat will be minimal given the limited role of observer data in monitoring benthic habitat impacts.
Other types of impacts	Crew		Crew are paid on a share system, and will share, along with vessel owners and operators, in possible benefits from this action.
	Observers and observer providers		Observers and observer providers associated with the full observer coverage program will lose some business; the observers and observer provider associated with the partial coverage program will gain some business. Net impact would be fewer observer days needed overall.
	Safety		Net impact on safety at sea cannot be determined. Fewer observers on vessels means fewer souls at risk. More vessel activity in remote Aleutians can have two opposing impacts: (1) more souls in waters remote from assistance in case of trouble; (2) for operations already out in Aleutians, greater potential for good Samaritan assistance if more boats are out there.
	Communities		There may be some community impacts if some vessels begin to process fish at sea instead of delivering it to shore. This might be offset by increased viability and activity by qualifying catcher/processors if this occurs. Overall impact is likely to be small given small part of the fleet impacted.
	Management and enforcement		Limited impacts on in-season management. Loss of information may result in more conservative approach to in-season management in certain instances, but impact would be mitigated by small volume of production, and use of IFQ management for sablefish, and the fact that most impacted fisheries are not PSC limited. Loss of some spatial data from observers could be compensated for with strengthened VMS requirements for qualifying vessels. Weekly average catch measure may be best since it accounts for intensity of fishing activity.
Net impact			The net efficiency impact of the action is likely to be small. Minor reductions in observer costs must be set against minor changes in the value of the data on the fisheries and their impacts. On balance, given the uncertainty associated with both the cost and benefit measures, this action may create either net efficiency benefits or costs, but neither are likely to be large. The Council's objectives are primarily concerned with equitable treatment of small catcher/processors, and with respect to this, this action appears to reduce their burdens, while maintaining a relatively limited exception of the general requirement that all catcher/processors remain in partial coverage.

Table 16 summarizes information for the three catcher/processors that currently permanently qualify for partial coverage, and for the catcher/processors that may qualify under Alternative 2, on the number of fishing years they would qualify. The basis years underlying these calculations are the years 2009 through 2014; the fishing years are the years 2011 through 2016. Clearly, only limited fishing has taken place thus far in 2015, and no fishing during 2016. This table does not take account catcher vessels which may shift to catcher/processor operations if they could do so and qualify for partial coverage.

Table 16 Number of years active fixed gear catcher/processors would qualify for partial coverage under each threshold, 2011 through 2016 (six years).

Vessel ID	Lower thresholds					Upper thresholds				
	Avg daily	Avg weekly	Max daily	Max weekly	Annual	Avg daily	Avg weekly	Max daily	Max weekly	Annual
A	5	5	5	5	5	5	5	5	5	5
B	6	6	5	6	4	6	6	6	6	6
C	2	3	6	6	5	6	6	5	5	6
D	3	3	3	3	3	3	3	3	3	3
E	0	0	0	0	0	0	0	0	0	2
F	6	5	6	6	6	6	6	6	6	6
G	3	3	3	3	4	3	3	4	4	4
H	2	2	2	2	2	2	2	2	2	2
I	0	0	0	0	0	0	0	0	3	4
J	6	6	6	6	6	6	6	6	6	6
K	4	4	4	4	4	4	4	4	4	4

Source: NMFS AKRO CAS2 and AKRO calculations.

4 Initial Regulatory Flexibility Analysis

4.1 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 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, unless, based on public comment, it chooses to certify the action.

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.

4.2 IRFA Requirements

Until the North Pacific Fishery Management Council (Council) makes a final decision on a preferred alternative, a definitive assessment of the proposed management alternatives cannot be conducted. In order to allow the agency to make a certification decision, or to satisfy the requirements of an IRFA of the preferred alternative, this section addresses the requirements for an IRFA. Under 5 U.S.C., section 603(b) 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.

4.3 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 July 22, 2013, a business involved in *finfish harvesting* is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual gross receipts not in excess of \$20.5 million for all its affiliated operations worldwide. A business involved in *shellfish harvesting* is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual gross receipts not in excess of \$5.5 million for all its affiliated operations worldwide. A *seafood processor* is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 500 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business that *both harvests and processes* fish (i.e., a catcher/processor) is a small business if it meets the criteria for the applicable fish harvesting operation (i.e., finfish or shellfish). A wholesale business servicing the fishing industry is a small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established “principles of affiliation” to determine whether a business concern is “independently owned and operated.” In general, business concerns are affiliates of each other when one

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

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

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners, 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.

4.4 Reason for Considering the Proposed Action

In December 2014, the Council adopted the following statement of purpose and need for this action:

Under the Restructured Observer Program, all catcher/processors are in the full coverage category unless they meet the requirements for an allowance to be placed in partial coverage. The placement of catcher/processors in full coverage enables NMFS obtain independent estimates of catch, at sea discards, and prohibited species catch (PSC) for catcher/processor vessels. In recognition of the relatively high cost of full coverage for smaller catcher/processors and the limited amount of catch and bycatch by these vessels, the Council recommended two limited allowances for placing a catcher/processor in partial coverage. Both of these allowances were based on vessel activity between 2003 and 2009.

Since implementation of the Restructured Observer Program, owners and operators of some catcher/processors have requested that the Council and NMFS revise these allowances to include vessels that began processing after 2009. First, the allowance for placing a catcher/processor in partial coverage should, at a minimum, be based on a measurement of ongoing production that shows that the catcher/processor processes a small amount of groundfish relative to the rest of the catcher/processor fleet. Second, the current regulations do not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage.

This action would maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category, provide an appropriate balance between data quality and the cost of observer coverage; and establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and to enforce.

4.5 Objectives of Proposed Action and its Legal Basis

As explained by the Council in the last paragraph of its statement of purpose and need, the objectives of this action are to: (1) maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category; (2) provide an appropriate balance between data quality and the cost of observer coverage; and (3) establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and to enforce.

Under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (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 Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) groundfish fisheries are managed under their respective groundfish fishery management plans. The proposed action represents an amendment to Federal regulations adopted pursuant to these fishery management plans.

4.6 Number and Description of Directly Regulated Small Entities

This section will provide estimates of the number of firms directly regulated by this action that are considered small entities. This section will be completed for the public review draft of the RIR/IRFA once the Council selects a preliminary preferred alternative. Pending that decision, the RIR provides vessel counts and describes the characteristics of firms that would be eligible for partial observer coverage, and thus directly regulated by this action, for the different alternatives under consideration.

NMFS estimates that about small 15 entities may be directly regulated by this action. These include three catcher/processors that already qualify for partial coverage under the status quo; eight vessels currently acting as catcher/processors that may qualify for partial coverage in some years under the action alternative; an estimated four vessels that may begin to operate as catcher/processors in the Aleutian Islands sablefish fishery under the action alternative. Any account of directly regulated vessels must be an estimate, since this action may cause some vessels to begin to operate as catcher/processors. NMFS does not believe that this will be a large number.

4.7 Recordkeeping and Reporting Requirements

Vessel owners or operators desiring to take advantage of eligibility for partial coverage in a year will have to submit a simple form expressing that interest by a date in mid-summer, since a count of the number of catcher/processors qualifying for partial coverage will be one of the pieces of information needed for preparation of the annual observer deployment plan. This will be a simple form, depending on information that will be available to the owner or operator on the eLandings web site. The type of effort required to complete this form will be similar to that for completing other types of agency applications. Given the simplicity of the form, and the accessibility of the data needed to complete it, NMFS estimates that it will take no more than an hour to complete. For Paperwork Reduction Act estimation purposes, NMFS values this type of effort at \$37/hour. Thus the total public time require to complete 15 forms a year (this is likely to be a high estimate of the number of applicants), would be about \$600.

4.8 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. Some current Federal regulations would need modification to implement the proposed action. These regulatory changes are described in detail in Chapter 2.

4.9 Description of Significant Alternatives to the Proposed Action that Minimize Economic Impacts on Small Entities

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 economic impact of the proposed rule on small entities. The action alternative is meant to reduce relative burdens on directly regulated smaller catcher/processors, and in fact does so, in comparison with the status quo.

5 FMP AMENDMENT

Section 3.2.4.1 of the GOA FMP authorizes and describes the Observer Program as follows:

At the core of the North Pacific monitoring system is a comprehensive, industry-funded, on-board and onshore observer program, coupled with requirements for total weight measurement of most fish harvested. All vessels fishing for groundfish with a federal fishing permit in federal waters or in a State of Alaska parallel fishery, and all vessels fishing halibut and sablefish IFQ in federal or state waters, are included in the observer program and may be required to carry one or more observers for at least a portion of their fishing time.

Vessels and processors that have <100% observer coverage requirements are subject to an ex-vessel value based fee not to exceed 2%, as implemented and revised through regulations, and are required to carry an observer as determined by NMFS, according to an annual sampling and deployment plan. Vessels and processors that have ≥100% observer coverage requirements obtain observer coverage by contracting directly with observer providers, to meet coverage requirements in regulation.

*Generally, catcher vessels and shoreside processors, when not participating in a catch share program with a transferrable PSC limit, comprise the <100% coverage category. Catcher processors and motherships, and catcher vessels when participating in a catch share program with a transferrable PSC limit, generally comprise the ≥100% coverage category, **with potential exceptions for some <60' catcher processors, as detailed in regulation.** Used in conjunction with reporting and weighing requirements, the information collected by observers provides the foundation for inseason management and for tracking species-specific catch and bycatch amounts. [italics and emphasis added]¹⁰⁹*

If the Council takes final action to revise the basis for placing catcher/processors in partial coverage, the phrase “with potential exceptions for some <60’ catcher processor, as detailed in regulation” should be changed to “with some exceptions, as detailed in the regulations.”

Section 3.2.4.1 of the BSAI FMP has identical wording to Section 3.2.4.1 of the GOA.¹¹⁰ However, the Council in this action does not need to change Section 3.2.4.1 of the BSAI FMP because, as part of Amendment 109 to the BSAI FMP, the Council approved that change to Section 3.2.4.1 of the BSAI FMP, namely removing the phrase, “with potential exceptions for some <60’ catcher processor, as detailed in regulation,” and substituting “with some exceptions, as detailed in the regulations.”¹¹¹

¹⁰⁹ GOA FMP (Jan. 2014), <http://www.npfmc.org/wp-content/PDFdocuments/fmp/GOA/GOAfmfp.pdf>

¹¹⁰ BSAI FMP (April. 2014), <http://www.npfmc.org/wp-content/PDFdocuments/fmp/BSAI/BSAIfmp.pdf>

¹¹¹ Amendment 109 for the BSAI FMP is a package of amendments to create opportunity for a small vessel hook-and-line pood CDQ fishery to emerge before, during and after the halibut CDQ fishery. The Council approved in February 2015 as Agenda Item C1..

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Appendix A: Council Motion to initiate analysis for revising the allowances for placing small catcher/processors in the partial coverage category (December 2014)

Agenda C-9
December 2014

Initiate analysis for revising the allowances for placing small catcher/processors in the partial coverage category.

Purpose and Need Statement

Under the Restructured Observer Program, all catcher/processors are in the full coverage category unless they meet the requirements for an allowance to be placed in partial coverage. The placement of catcher/processors in full coverage enables NMFS obtain independent estimates of catch, at sea discards, and prohibited species catch (PSC) for catcher/processor vessels. In recognition of the relatively high cost of full coverage for smaller catcher/processors and the limited amount of catch and bycatch by these vessels, the Council recommended two limited allowances for placing a catcher/processor in partial coverage. Both of these allowances were based on vessel activity between 2003 and 2009.

Since implementation of the Restructured Observer Program, owners and operators of some catcher/processors have requested that the Council and NMFS revise these allowances to include vessels that began processing after 2009. First, the allowance for placing a catcher/processor in partial coverage should, as a minimum, be based on a measurement of ongoing production that shows that the catcher/processor processes a small amount of groundfish relative to the rest of the catcher/processor fleet. Second, the current regulations do not provide a way to move a catcher/processor placed in partial coverage into full coverage if production increases to a level deemed appropriate for full coverage.

This action would maintain a relatively limited exception to the general requirement that all catcher/processors are in the full coverage category; provide an appropriate balance between data quality and the cost of observer coverage; and establish a basis for placing catcher/processors into partial coverage that is not unduly difficult to apply and enforce.

Alternatives

Alternative 1, No Action; maintain existing exemptions.

Alternative 2, Revise the allowances for NMFS to place small catcher/processors into partial coverage. Under this alternative, the basic criterion for placing a catcher/processor in partial coverage is the vessel's production in the prior year or most recent year of production.

Option	Measure	Threshold based on 10 th percentile approach	Threshold based on kernel density distribution approach
		Pounds (metric tons)	
1.	Average daily production	11,000 (5.0)	15,500 (7.0)
2.	Average weekly production	42,000 (19.1)	79,000 (35.8)
3.	Maximum daily production	26,000 (11.8)	44,000 (20.0)
4.	Maximum weekly production	94,000 (42.6)	197,000 (89.4)
5.	Annual production	677,000 (307.1)	2,665,000 (1,208.8)
<p>Sources: Percentile based thresholds summarized from Table 4 in Appendix B of Discussion Paper (Nov. 28, 2014); kernel density based thresholds derived from Table 5 in Appendix B. Tonnage estimates based on rounded pound values reported in table.</p>			

Under this alternative, if a catcher/processor is required to have $\geq 100\%$ observer coverage because of the vessel's participation in a catch share program, the vessel would be ineligible for partial observer coverage under this action.

Notes to Analysts

The Analysis will evaluate whether the basic production criterion for placing a catcher/processor in partial coverage should be modified based on any of the following factors:

- Whether a catcher/processor is a hybrid vessel, that is, a catcher/processor operates as a catcher vessel for part of the year and a catcher/processor for part of the year;
- Whether the owner of a catcher/processor chooses partial coverage;
- Whether a catcher/processor uses particular gear;
- Whether a catcher/processor operates in a fishery with a PSC limit;
- Whether a catcher/processor is just starting or is resuming processing and therefore its production in the prior year was zero.

Appendix B: Current regulation w/ allowances for small c/ps

50 CFR 679.51(a)(2) Groundfish and halibut fishery full observer coverage category

(i) *Vessel classes in the full coverage category.* The following classes of vessels are in the full observer coverage category when harvesting halibut or when harvesting, receiving, or processing groundfish in a federally managed or parallel groundfish fishery, as defined at § 679.2;

- (A) Catcher/processors;
- (B) Motherships; and
- (C) Catcher vessels while:
 - (1) Directed fishing for pollock in the BS;
 - (2) Using trawl gear or hook-and-line gear while groundfish fishing (see § 679.2) or
 - (3) Participating in the Rockfish Program.

(ii) *Observer coverage requirements.* Unless subject to the partial observer coverage category per paragraphs (a)(1)(i) of this section, a vessel listed in paragraphs (a)(2)(i)(A) through (C) of this section must have at least one observer aboard the vessel at all times. Some fisheries require additional observer coverage in accordance with paragraph (a)(2)(vi) of this section.

(iii) *Observer workload.* The time required for an observer to complete sampling, data recording, and data communication duties per paragraph (a)(2) of this section may not exceed 12 consecutive hours in each 24-hour period.

(iv) *Catcher/processor classification.*

(A) For purposes of this subpart, a vessel is classified as a catcher/processor according to the operation designation on its FFP. A vessel designated as a catcher/processor at any time during the calendar year is classified as a catcher/processor for the remainder of the calendar year.

(B) An owner or operator of a catcher/processor that processes no more than one metric ton round weight of groundfish on any day, may be included in the partial observer coverage category in lieu of the full coverage category for the following calendar year.

(v) *One-time election of observer coverage category.* The owner of a vessel less than 60 ft. LOA with a history of catcher/processor and catcher vessel activity in a single year from January 1, 2003, through January 1, 2010; or any catcher/processor with an average daily groundfish production of less than 5,000 pounds round weight equivalent in the most recent full calendar year of operation from January 1, 2003, to January 1, 2010, may make a one-time election as to whether the vessel will be in the partial observer coverage category at paragraph (a)(1) of this section, or the full observer coverage category at paragraph (a)(2) of this section. The daily groundfish production average is based on the number of days the vessel operated each year from January 1, 2003, through January 1, 2010.

(A) *Notification of election.* The person named on the FFP for a vessel eligible for the one-time election must notify the Regional Administrator, NMFS, P.O. Box 21668, Juneau, AK 99802, of their election in writing, at least 30 days prior to embarking on his or her first fishing trip.

(B) *Default coverage category.* If an owner forgoes the opportunity for the one-time election, the vessel will be assigned to the partial or full observer coverage category per paragraphs (a)(1)(i) or (a)(2)(i) of this section.

(C) *Effective duration.* The one-time election is effective for:

(1) The duration that both the catcher/processor and catcher vessel designations are listed on the FFP for vessels less than 60 ft. LOA; or

(2) The duration the FFP is issued to the person named on the FFP at the time of the election for catcher/processors with an average daily production of less than 5,000 pounds round weight equivalent in the most recent full calendar year of operation from January 1, 2003, through January 1, 2010. [emphasis added]

Appendix C: Rationale for proposed thresholds

This appendix explains the basis for the recommendations in the discussion paper for the thresholds proposed for analysis in Alternative 2. The appendix describes two approaches used to identify production thresholds for each of the five production measures proposed: average daily production, average weekly production, maximum daily production, maximum weekly production, and annual production.

The first approach – described here as the percentile approach – proposes thresholds based on the 10th percentile of vessel year production during the years 2009 through 2014. The second approach – described here as the kernel density approach – is based on the shape of the distribution of all non-trawl vessel year production levels during that same period. The first approach provides a set of lower thresholds, while the second provides a set of higher thresholds.

Data used in this analysis

This analysis uses a data set with individual observations for each catcher/processor in each year from 2009 through November 8, 2014. Since each observation is a vessel year observation, a vessel that fished in each year from 2009 through 2014 would be associated with six observations; a vessel that only fished in one year, perhaps 2011, would be associated with one observation.

The analysis is based on estimates of the round weight equivalent of reported processed groundfish production. Groundfish harvested and delivered without processing (that is, delivered by the vessel acting as a catcher vessel) are not included in the data.¹¹²

Each vessel year observation includes data on the average daily production, average weekly production, maximum daily production, maximum weekly production, and annual production. Total annual production is an estimated round weight of processed fish, created by summing the volumes of all processed groundfish products reported to NMFS on daily production reports after applying standard product recovery rates. Average daily production is this annual round weight estimate for a catcher/processor, divided by the number of separate days on which production occurred, as determined from the daily product reports; average weekly production is this annual round weight estimate for a catcher/processor, divided by the number of separate weeks during which production occurred, as determined from the daily product reports. Maximum daily production is the round weight equivalent of the product production on the day during the year in which the catcher/processor processed the most product, and the maximum weekly production is the round weight equivalent of the production during the week during the year in which the catcher/processor processed the most product.

Weights are generally reported in pounds of the estimated round weight equivalent of processed production. Weights have been reported in pounds rather than metric tons, on the assumption that thresholds will be expressed in pounds.¹¹³ Average daily and weekly production are for the days and weeks actually fished. Processed production estimates are derived from weekly processors' reports.

Data on individual vessel year production is confidential, since it would provide information on an individual vessel, which may be identifiable from the data. NMFS practice is to not report information on vessel activity or production, for fewer than three vessels.

¹¹² This is consistent with the way existing thresholds under the status quo are calculated. The current action affects the vessels insofar as they operate as catcher/processors, therefore the thresholds are based on their activity as catcher/processors.

¹¹³ The weight-based measure in the Council's final motion on Amendments 86/76 was in pounds.

The data set begins in 2009 because that is the first year with daily production reports, permitting calculation of average daily production. Data for 2014 covers the period through November 8. This is the most recent data available at the time the analysis was prepared. The period through November 8 should cover almost all the production for the smaller IFQ catcher/processors that are an important concern in this analysis. The data set will be updated through the end of 2014 for the preparation of an initial draft analysis for Council review.

Methodology for analyzing data

Histograms are a common way to characterize distributions of a variable. In the current instance, a histogram can be used to show the numbers of vessel years falling within different production categories (such as 0 to 5,000 pounds, 5,001 to 10,000 pounds, etc.).¹¹⁴

Figure 2 data shows two histograms created using the same data set, but using five “bins” of data in one case, and 20 “bins” in the second. This example data was created especially for this exercise, and does not include any confidential fisheries data. To avoid confusion with actual fisheries data, the variable in this instance is simply described as “x”.¹¹⁵ The example histograms show the impact on the visual presentation of the data, and of the conclusions that might be derived, of different specifications (in this case, the number of separate bins for the data) for the histogram.

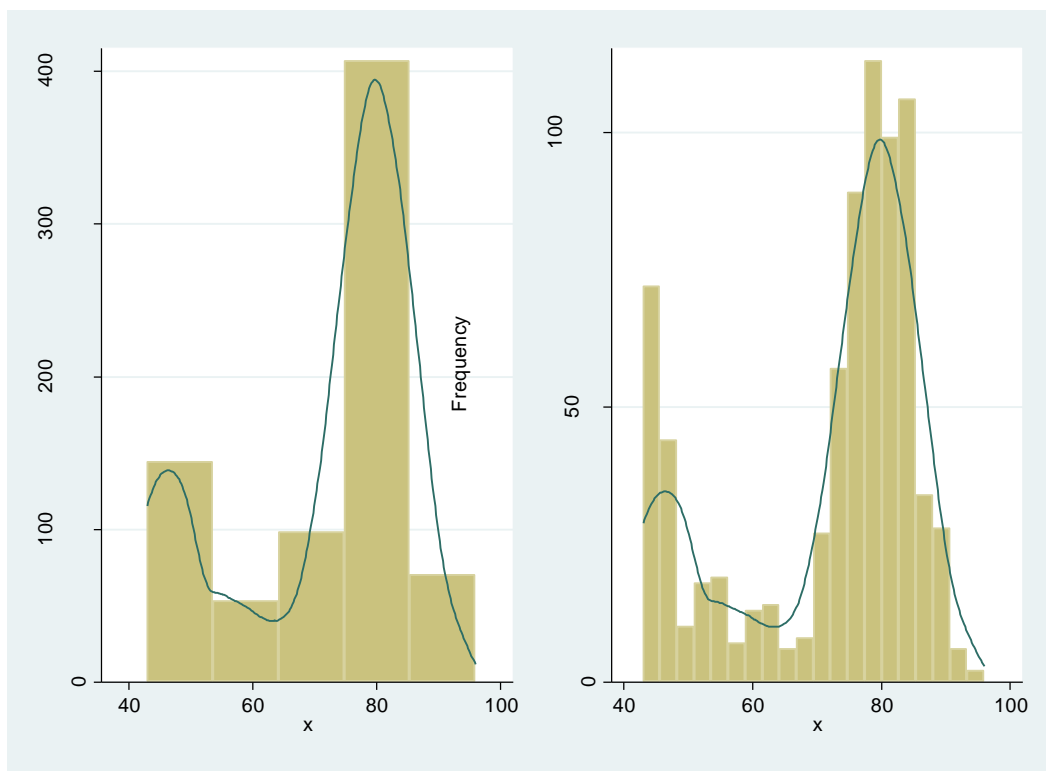


Figure 2 Sample histograms of observations on “x”; alternative pictures of the same data

¹¹⁴ A histogram differs from a bar chart in that a bar chart shows the numbers of entities that would fall into discrete categories (such as numbers of self-reporting Republicans, Democrats, and Independents). A histogram summarizes information about numbers of entities falling into different categories of a continuously varying quantitative variable, such as, in this case, annual production by a vessel. Annual production by a vessel can range from 0 to millions of pounds, and can vary continuously by fractions of a pound. The appropriate set of categories for summarizing the entities are not as obvious in the case of a histogram.

¹¹⁵ Dana Hanselman of the Auke Bay Lab explained the need for the following background discussion, and provided the data set.

Histograms have limitations. The results can change as the number and width of the bins into which the observations are grouped change; the patterns are not smooth; it is difficult to pick, from a histogram, the appropriate threshold to separate the observations that are part of the lower peak from the observations that are part of the upper peak; for many bin numbers, there will be too few observations to report some bins without risking disclosing confidential information about vessel activity. Keeping track of potentially confidential bins becomes problematic when many potential histograms are being considered for presentation purposes.

For these reasons, in addition to making use of histograms, we have chosen to describe the distributions using a smoothing tool called a “kernel density,” plot, instead of with histograms.¹¹⁶ Figure 2 shows density plots prepared for both of the example histograms. The density plots are superimposed on the corresponding histograms, and show how they smooth out the histogram patterns.

Density plots use a formula to summarize the data around each data point. Different formulas are referred to as “kernels.” The “kernel” used to generate the density plots in Figure 2 is called the “Epanechnikov” kernel. In the analysis that follows, we will make use of this kernel, and the “Gaussian” kernel, in order to take account of the potential sensitivity of the results to different formulas.¹¹⁷

As just noted, the formulas make use of data around, or in the vicinity of, each data point. For each data point, the formula calculates a weighted average of the data point and the points above and below it. The two formulas used in this analysis weight the central data points heaviest, and the data points furthest from the center, least. The range of data points that is included in the averaging is called the “bandwidth.”¹¹⁸ The shape taken by the density plot can vary depending on the bandwidth, thus this analysis calculates the plots using three bandwidths to take account of the potential sensitivity of the results to the bandwidths.

As is apparent from this discussion, density plots and histograms share certain limitations. The information conveyed by each can change as their underlying parameters (number of bins, kernel, bandwidth) change. The density plots have been used here primarily to protect confidential information, and to provide a means of identifying a threshold with minimal subjective interpretation.

The analysis generates two alternative thresholds for each of the five measures of production that may be used as alternatives in this analysis. One set of thresholds is based on estimates of the thresholds below which 10 percent of the vessel year observations fall. The reason for using this criterion is discussed immediately below. A second set of thresholds is based on a local minimum of selected density functions describing the distribution of values of the production measures. The discussion of this approach follows the discussion of the 10th percentile approach.

Vessels required to have full observer coverage because of participation in a catch share program will not be able to take advantage of a partial observer coverage option for small catcher/processors. The analysis in this appendix abstracts from this issue, and only considers eligibility on the basis of the round groundfish weight of production levels.

¹¹⁶ Histograms are actually a type of kernel density plot, as discussed in Stata “kdensity” documentation.

¹¹⁷ The Epanechnikov is the default chosen by Stata, the program used to prepare these plots. The Epanechnikov kernel has the minimum mean integrated squared error (MISE), a desirable feature in kernels (Salgado-Ugarte, et. al., 1993). The Gaussian is another commonly utilized kernel.

¹¹⁸ Technically, the bandwidth is actually the half-width of the window around each of the central points.

Approach 1: base thresholds on the 10th percentile of the distribution of vessel year production levels

Figure 3 provides histograms summarizing the distributions for each of the five production criteria that have been proposed as alternatives for this analysis. These histograms differ along two dimensions: (1) different bin counts have been used to conceal confidential information; (2) some of the distributions underlying the histograms have been truncated to prevent reporting bins with information that may be confidential.¹¹⁹

Each of these histograms indicates that there are small numbers of vessel years with small levels of fishery production. In general, these histograms have a first column with slightly more than 20 vessel years of observations. The annual production histogram has a first column with slightly less than 20, but the number in this column, combined with some observations from the next column, could be made to be slightly more than 20. The 52 unique non-trawl catcher/processors active in the period from 2009 through November 8, 2014 fished a total of 242 separate vessel years (treating 2014 as a year). With 242 separate vessel years of observations, this suggests that the 10th percentile (about 24 to 25 vessel years) of observations could be a good rule of thumb for identifying thresholds for each of the criteria.

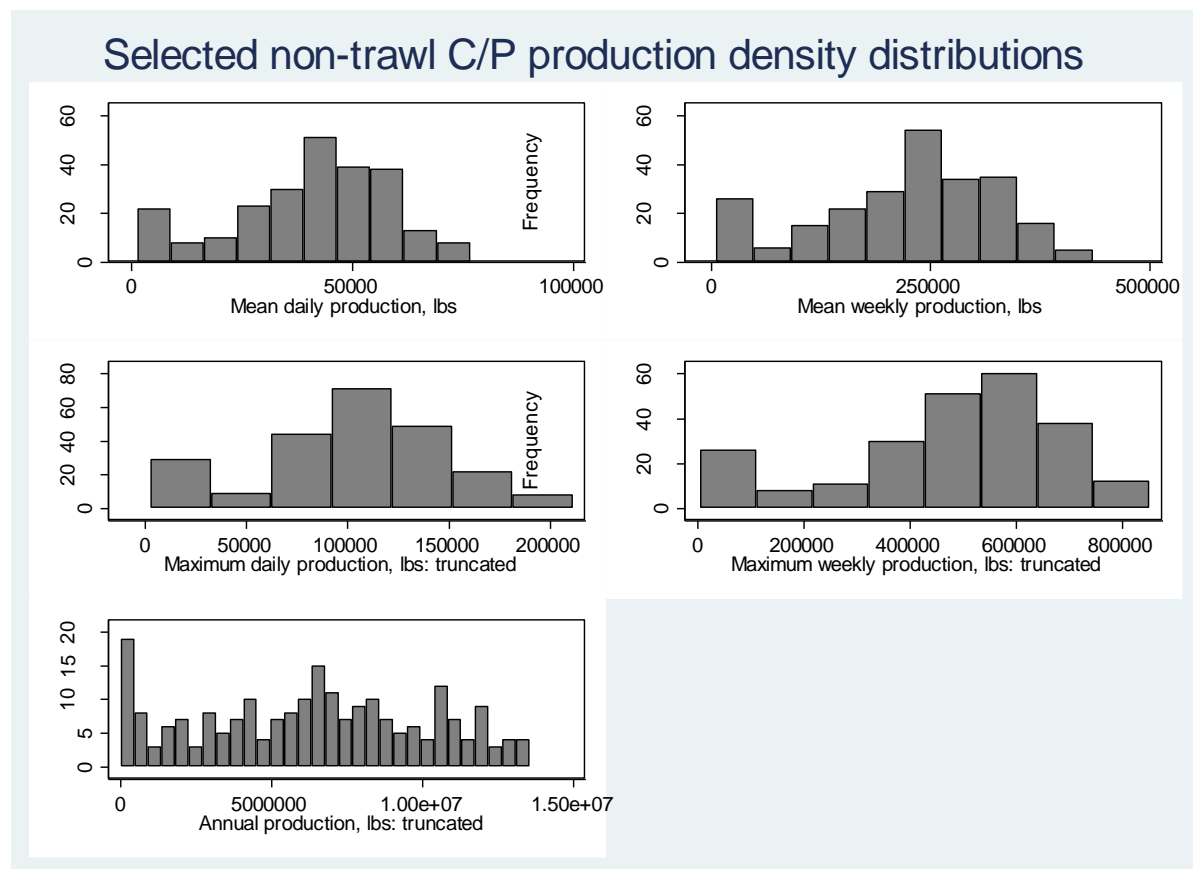


Figure 3 Non-trawl catcher/processor production histograms for each of the five criteria under consideration

Table 17 shows percentile levels, including the 10th percentile, for each of the five criteria that might be used to evaluate whether or not vessels should be eligible for partial observer coverage. These are the

¹¹⁹ Upper ranges of the maximum daily, maximum weekly, and annual distributions include bins with small numbers of observations. These do not affect the conclusions derived from the histograms, and have been excluded to protect data confidentiality.

round weight equivalents of: (1) average daily production in days with production; (2) average weekly production in weeks with production; (3) the maximum daily production for days with production; (4) the maximum weekly production for weeks with production; and (5) total production for a year with production.¹²⁰

For example, the table shows that 10 percent of the vessel year observations would fall below an average daily production of 10,637 pounds. Rounding this to the nearest thousand pounds gives a threshold of 11,000 pounds (or approximately 5 metric tons of production). A set of thresholds, calculated in this way, is shown in Table 18 below.

Table 17 Vessel year threshold percentiles (in pounds) for measures of production for 242 non-trawl catcher/processor-years, 2009 through November 8, 2014

Percentile	Average daily	Average weekly	Maximum daily	Maximum weekly	Annual
5%	3,388	15,486	10,926	37,375	351,749
10%	10,637	41,857	25,785	93,593	677,184
25%	31,172	162,119	81,692	391,274	3,803,534
50% (median)	43,553	243,678	105,664	529,164	6,844,916
75%	53,690	300,453	133,686	630,155	10,400,000*
90%	61,174	344,780	165,236	717,820	13,000,000*
95%	66,471	372,419	195,898	783,335	15,200,000*
*rounded to nearest 100,000 pounds Source: NMFS AKRO CAS data.					

Table 18 Summary of percentile-based thresholds

Potential criterion for partial coverage qualification	Proposed threshold
Average daily production	11,000 lbs. (5 mt)
Average weekly production	42,000 lbs. (19.1 mt)
Maximum daily production	26,000 lbs. (11.8 mt)
Maximum weekly production	94,000 lbs. (42.6 mt)
Annual production	677,000 lbs. (307.1 mt)
Source: Table 17.	
Note: metric tonnage is calculated from the proposed poundage thresholds in the table, which themselves have been rounded from underlying percentile estimates in Table 17.	

Approach 2: evaluate the shape of the distribution of vessel year production levels

Figure 4 shows kernel density plots for each of the five production measures under consideration in Alternative 2. These distributions have been overlaid with lines showing potential small non-trawl

¹²⁰ Recall that the round weight of groundfish delivered by these vessels without processing (that is, when they acted as catcher vessels) is not counted.

catcher/processor thresholds that might be used in the alternatives to identify vessels that may qualify for small catcher/processor partial observer coverage.¹²¹

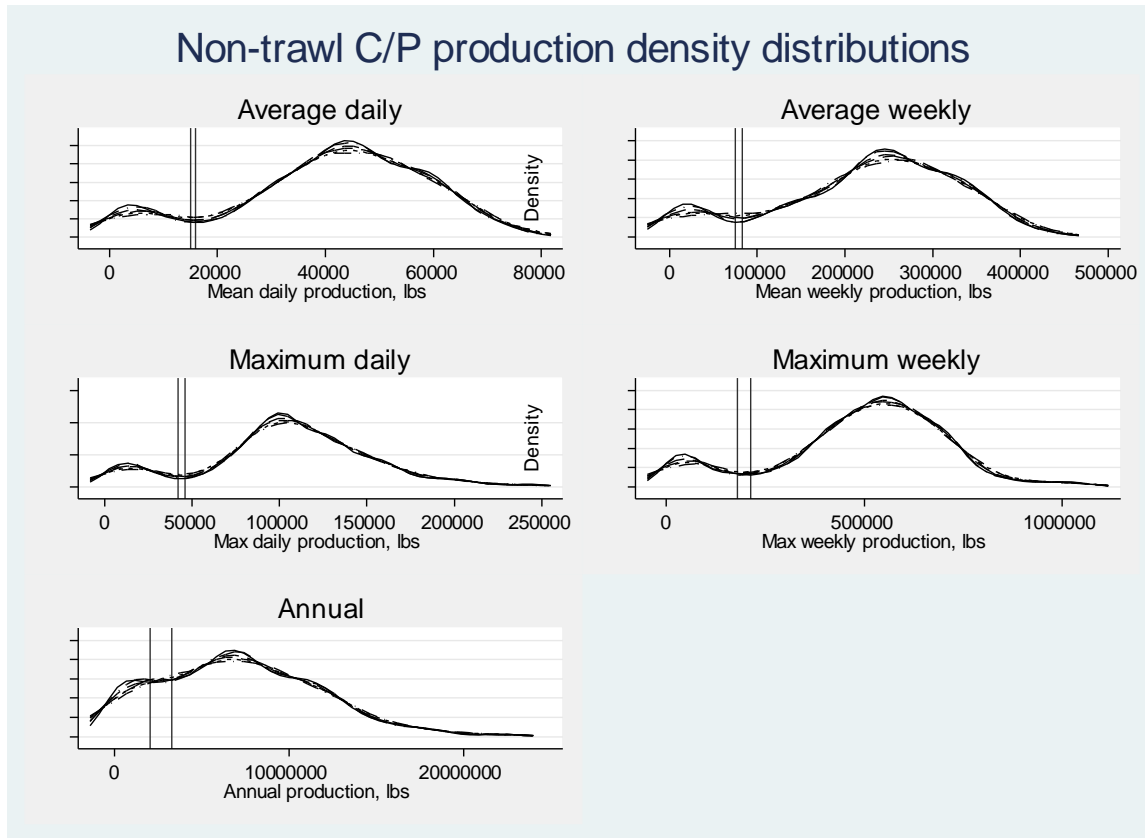


Figure 4 Density distributions of potential threshold variables for identification of small non-trawl C/Ps eligible for partial observer coverage; vertical lines indicate recommended range of thresholds. Note that values for maximum daily production in excess of 300,000 pounds a year are not shown in the figure. Source: AKRO analysis of CAS data.

Figure 4 has five panels, each of which shows the plot for each of the variables under consideration. Each plot includes six distributions overlaid. Three distributions are based on the Gaussian kernel, and three are based on the Epanechnikov kernel. Three separate bandwidths have been used for each kernel, giving a total of six distributions in each panel.¹²² Multiple kernels and bandwidths have been used for each panel, to provide some sensitivity analysis.

As shown in Figure 4, each of the kernel density distributions, except possibly the annual production distribution, is bimodal. A small concentration of vessel years occurs at low levels of production, and a larger concentration occurs at higher levels of production. There is an area between these two modes where there are relatively fewer vessel years.

Each panel in Figure 4 includes two vertical lines. These identify the upper and lower points of a range of values falling between the lower and upper humps of the bimodal distribution. The lines were chosen by

¹²¹ The labels on the vertical axes in the panels of Figure 4 have been suppressed as an additional protection for confidential data, and because they are not necessary to the point made by the panels.
¹²² The bandwidths were chosen in the following manner. The default Stata bandwidth was identified in each case. This is the width that would minimize the mean integrated squared error if the data were Gaussian, and a Gaussian kernel were used (Stata documentation for the “kdensity” command). Two alternative bandwidths were then identified, equal to 75 percent, and 125 percent of the Stata default.

first finding the minimum points for each of the six separate density plots generated by the six kernel-bandwidth combinations used to create each panel. The lines shown are the highest and lowest minimum values found using this procedure.¹²³ The other four density plot minimum points fall below these high and low values. Table 19 identifies an alternative set of potential thresholds found as midpoints of the lower and upper thresholds. These mid-point thresholds are used in the remaining non-trawl tables in this note.

Table 19 Summary of estimated kernel density based thresholds

Measure	Estimated threshold in pounds		
	Lower	Mid-point	Upper
Average daily	15,000	15,500	16,000
Average weekly	75,000	79,000	83,000
Maximum daily	42,000	44,000	46,000
Maximum weekly	180,000	197,000	214,000
Annual	2,040,000	2,665,000	3,289,000

¹²³ The lines actually show the high and low values, rounded to the nearest 1,000 pounds.