FINAL

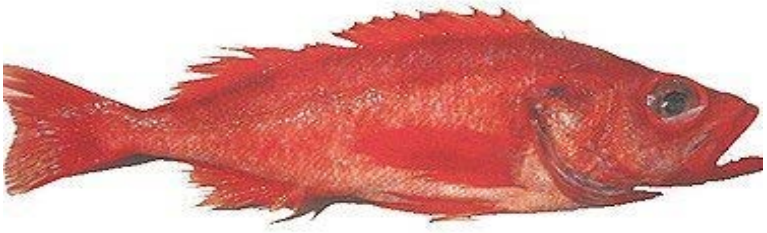
Environmental Assessment/Regulatory Impact Review
for Proposed Amendment 111
to the Fishery Management Plan for the Gulf of Alaska

Central Gulf of Alaska Rockfish Program Reauthorization

September 2020

Responsible Official: Dr. James Balsiger, Regional Administrator
Alaska Regional Office, National Marine Fisheries Service

For further information contact: Stephanie Warpinski, NMFS Sustainable Fisheries
P.O. Box 21668, Juneau, AK 99802
(907) 586-7228



Abstract: This Environmental Assessment/Regulatory Impact Review analyzes proposed management measures that would apply to the Central Gulf of Alaska (CGOA) Rockfish Program (RP) fisheries. The measures under consideration include reauthorizing the RP by either removing the sunset date or establishing a new sunset date within a range of 10 through 20 years. The action also includes other potential measures that would alter regulations associated with the reallocation of Pacific cod and rockfish, exempt crab program sideboard limits for vessels when fishing in the RP, establish regulations that require NMFS to provide annual cost recovery reports for the RP, and other regulatory changes.

List of Acronyms and Abbreviations

Acronym or Abbreviation	Meaning
ABC	acceptable biological catch
ADF&G	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AKFIN	Alaska Fisheries Information Network
BSAI	Bering Sea and Aleutian Islands
CAS	Catch Accounting System
CEQ	Council on Environmental Quality
CFID	Commercial Fishing Incident Database
CFR	Code of Federal Regulations
CGOA	Central Gulf of Alaska
CMCP	Catch Monitoring and Control Plan
COAR	Commercial Operators Annual Report
Council	North Pacific Fishery Management Council
CP	catcher/processor
CQ	Cooperative quota
CR	Crab rationalization
CV	catcher vessel
DPS	distinct population segment
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
FE	Fishing effects
FIS	Fisheries Impact Statement
FMA	Fisheries Monitoring and Analysis
FMP	fishery management plan
FONSI	Finding of No Significant Impact
FR	*Federal Register*
FRFA	Final Regulatory Flexibility Analysis
Ft	foot or feet
GOA	Gulf of Alaska
H&G	Head and Gut
ICA	Incidental catch allowance
IPHC	International Pacific Halibut Commission
IRFA	Initial Regulatory Flexibility Analysis
IPA	Incentive Plan Agreement
JAM	jeopardy or adverse modification
LAPP	Limited access privilege program
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
MMSA	Marine Mammal Stock Assessment
MRA	Maximum retainable amount
MSST	minimum stock size threshold
mt	Metric ton
NAICS	North American Industry Classification System
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fishery Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
NPPSD	North Pacific Pelagic Seabird Database
NRC	National Research Council
Observer Program	North Pacific Observer Program
OFL	Overfishing level
OMB	Office of Management and Budget
PA	Preferred Alternative
PBR	potential biological removal
PSC	prohibited species catch
POP	Pacific Ocean Perch
PPA	Preliminary preferred alternative
PRA	Paperwork Reduction Act
PSEIS	Programmatic Supplemental Environmental Impact Statement
QS	Quota shares
RFA	Regulatory Flexibility Act
RFFA	reasonably foreseeable future action
RIR	Regulatory Impact Review
RPA	reasonable and prudent alternative
RP	Rockfish Program
RPP	Rockfish Pilot Program
SAFE	Stock Assessment and Fishery Evaluation
SAR	stock assessment report
SBA	Small Business Act
Secretary	Secretary of Commerce
SIA	Social Impact Assessment
SIR	Supplemental Information report
SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
SRKW	Southern Resident killer whales
SSL	Steller sea lion
TAC	total allowable catch
U.S.	United States
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
YOY	Year-over-year
VMS	vessel monitoring system
WGOA	Western Gulf of Alaska
WYAK	West Yakutat District

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Executive Summary

This document analyzes proposed management measures that would apply to the Central Gulf of Alaska (CGOA) Rockfish Program (RP) fisheries. The measures under consideration include reauthorizing the RP by either removing the sunset date or establishing a new sunset date within a range of 10 through 20 years. The action also includes potential measures that would alter regulations to:

- Reallocate unharvested RP Pacific cod from onshore cooperatives to fixed gear open access fisheries after the RP fisheries close on November 15.
- Exempt crab program sideboard limits for vessels when fishing in the RP.
- Require annual NMFS cost recovery reports in regulations.
- Clarify regulations to specify that only shoreside processors receiving RP cooperative quota (CQ) must submit the Rockfish Ex-vessel Volume and Value Report.
- Modify the RP cooperative report, cooperative application, and cooperative check-in requirements.
- Exempt shoreside processors under the RP from the requirement to provide observer sampling stations.
- Allow NMFS to reallocate unused rockfish incidental catch allowances (ICAs) to the RP catcher vessel (CV) cooperatives.
- Clarify regulations regarding accounting for inseason use caps when catcher/processor (CP) quota share (QS) is transferred for use by the CV sector.
- Remove CP RP sideboard limits in the WGOA rockfish fisheries.
- Remove the 3-day stand-down for vessels transiting from the BSAI to the CGOA RP.

Purpose and Need

The Council adopted the following problem statement to originate this action in December 2018.

The Central Gulf of Alaska RP will sunset on December 31, 2021 and the Council must act if it intends to reauthorize the RP. The purpose of this action is to reauthorize the RP to retain the management, economic, safety, and conservation gains realized under the RP to the extent practicable, consistent with the Magnuson-Stevens Act.

For both the onshore and offshore sectors, the RP has improved safety at sea, controlled fleet capacity, enhanced NMFS' ability to conserve and manage species allocated under the RP, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species, and reduced halibut and Chinook salmon bycatch. In addition, the rockfish fishery dependent communities in the Central Gulf of Alaska and the onshore processing sector have benefited from a more stable workforce, more onshore deliveries of rockfish, improved rockfish quality, and increased diversity of rockfish products. Central Gulf of Alaska fishermen, and the onshore processing sector have benefited from reduced conflicts with salmon processing. The offshore sector has benefited from greater spatial and temporal flexibility in prosecuting the fishery, resulting in lower bycatch, a more rational distribution of effort, and more stable markets.

The Council must act to continue the management, economic, safety, and conservation gains realized under the RP. Otherwise, fisheries managed under the RP will revert to effort-control management under the License Limitation Program (LLP).

Alternatives

The Council selected a Preliminary Preferred Alternative (PPA) at its December 2019 meeting and a Preferred Alternative (PA) at its January/February 2020 meeting. The full suite of alternatives, elements, and options considered by the Council in January is presented with the PA shown in **bold font**. Element 7 is not part of the PA because the need for that action was subsumed within the revised Element 6. The suboption under Element 10 was added at the December meeting and selected as part of the PA in January. Because it was not included as part of the Council alternatives prior to the December meeting it was not selected as part of the PPA, but after analysis was selected as part of the PA. Likewise, Elements 13 and 14 were added for consideration at the December meeting and are included in the PA.

Alternative 1: No Action

Under the No Action alternative, the CGOA rockfish fisheries would revert to LLP management. Because the fishery would no longer be managed under a LAPP structure, the management regulations associated with a LAPP would also be removed.

Alternative 2: **Reauthorize the Rockfish Program (RP).**

Reauthorize the RP with the existing management framework unless modified under this alternative.

Element 1: Modify regulations at 679.80(a)(2) to specify the duration of the program.

Option 1: Remove sunset date.
Option 2: Replace with new sunset date (10-20 years).

Element 2: Reallocate unharvested RP Pacific cod from RP cooperatives after the RP fisheries close on November 15 consistent with regulations at § 679.20(a)(12)(ii).

Element 3: Exempt vessels from crab program sideboard limits when fishing in the RP.

Element 4: Require annual NMFS cost recovery reports in regulations.

Element 5: Clarify regulations at § 679.5(r)(10) to specify that only shoreside processors receiving RP CQ must submit the Rockfish Ex-Vessel Volume and Value Report.

Element 6: Remove regulations in § 679.5(r)(6)(iii)(B) requiring that an annual RP cooperative report be submitted to NMFS. The Council requests that the RP cooperatives continue to voluntarily provide annual reports to the Council.

Element 7: Revise § 679.5(r)(6)(iii)(D) to replace "any actions" with "any civil actions."

Element 8: Revise § 679.81 (i)(D)(3) to remove requirements for a Fishing Plan to be submitted with a cooperative application for CQ.

Element 9: Revise § 679.84(f)(1) to exempt shoreside processors under the RP from the requirement to provide an observer work station and observer communication described at § 679.28(g)(7)(vii) and (viii).

Element 10: Allow NMFS to reallocate unused rockfish ICAs to RP cooperatives

Suboption: With a preference to reallocate to CV cooperatives first.

Element 11: Clarify regulations regarding accounting for inseason use caps to specify that any transfer of unused rockfish ICAs or CP CQ to CV cooperatives does not apply to CV ownership, cooperative, harvester CQ, or shoreside processor CQ use caps.

Element 12: Modify cooperative check-in times from 48 to 24 hours.

Element 13: Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries in § 679.82(e)(4).

Element 14: Modify regulations at § 679.23(h)(1) by removing the 3-day stand down for CVs that fish for groundfish in the BSAI while pollock or Pacific cod is open to directed fishing in the BSAI from the GOA stand down if they check into the RP and fish in the CGOA RP.

Environmental Assessment

Relative to the No Action alternative (Alternative 1), Alternative 2, Element 1 is expected to have beneficial effects on target species, unallocated species, fishing safety, and essential fish habitat (EFH). No effects are expected on ecosystem component species, marine mammals, seabirds, or the ecosystem under either alternative. No effect is presumed for these components because fishing regulations (e.g., gear types), harvest limits or regulations protecting habitat and important breeding areas would not be changed by any of the alternatives. No effects are presumed for marine mammals because neither existing protection measures nor allowable harvest amounts for important prey species would be changed. Further, regulations would define the seasons in which trawl fishing is allowed, methods that may be used, areas in which trawling is allowed, and restrict the maximum amount of trawling to TAC levels. Finally, none of the alternatives would change TAC amounts or areas closed to trawling.

Table ES-1-1 Resources potentially affected by the proposed action and alternatives.

Potentially affected resource component							
Groundfish	**Prohibited Species**	**Ecosystem Component Species**	**Marine Mammals**	**Seabirds**	**Habitat**	**Ecosystem**	**Social and economic**
Y	Y	N	N	N	Y	N	Y

N = no impact anticipated by each alternative on the component.
Y = an impact is possible if each alternative is implemented.

Climate change is the only reasonably foreseeable future action (RFFA) identified as likely to have an impact on primary and secondary species allocated within the action area and timeframe. The RP primary species are northern rockfish, POP, and dusky rockfish. Secondary species allocated under the RP include three rockfish species, Pacific cod, and sablefish. Two indicators presented in the GOA 2017 Ecosystem Status Report concerned the status of GOA northern rockfish (NPFMC, 2018). No significant trends were observed across any rockfish species, suggesting that rockfish are not responding negatively to temperature fluctuations by adjusting depth or distribution to maintain constant temperature. Fish condition for northern rockfish was the lowest on record and second lowest on record for Pacific ocean perch (POP) in 2017. YOY rockfish abundance was low in 2017 compared to previous years with a

potentially northerly distribution shift based on the center of gravity estimates as well as some range expansion.

Under either the No Action alternative or Alternative 2, Chinook salmon bycatch will be difficult to consistently avoid. However, Alternative 2 is expected to continue the structures that have been developed to communicate areas and times of higher Chinook salmon catch rates. Communication and agreements to stop fishing when rates are too high, under Alternative 2, are expected to result in bycatch rates that are lower than when those bycatch avoidance measures are not in place. Under the No Action Alternative, the potential increase in the number of participants and the pressure to harvest a portion of the sector allocation before it is closed to directed fishing make it less likely those bycatch avoidance measures will be adhered to by the entire fleet.

There has been a substantial decline in the rate of halibut usage in the rockfish fishery since the program has been managed under a LAPP. Rates declined for both the CV and CP sectors, but the decline was greater in the CV sector. The declines are a result of using more pelagic trawl gear, having directed Pacific cod and sablefish trips within the RP, implementing measures to communicate where high bycatch rates are occurring, and requiring CVs to stop fishing in that location if the rates are too high. Therefore, it is anticipated that selecting the No Action alternative will result in greater halibut mortality in the CGOA rockfish target fishery than selecting any combination elements under Alternative 2.

If the RP continues under Alternative 2, fishing activity would likely continue to be distributed over a longer season and may disperse spatially, as a result of the removal of time constraints by the cooperative allocations. The relative low effort level of the rockfish fisheries along slope areas is likely to continue. Concentrations of bottom trawl effort in the CGOA rockfish fisheries would likely be reduced as trawl vessels continue to move towards pelagic and semi-pelagic[1] trawls to reduce halibut bycatch. The need for CVs to keep short trip lengths to maintain quality is likely to result in some continued concentration in areas proximate to Kodiak harbor. Overall, the rockfish fisheries are likely to continue to have minimal and temporary effects on the EFH. No long-term negative impacts to essential fish habitat are likely under the program alternatives.

Under the No Action alternative, the rockfish fisheries will revert to LLP management and fishing operations could concentrate both temporally and spatially. Despite a possible increase in the use of bottom gear under the No Action alternative and Alternative 2, the impact that impact would primarily occur in areas considered to have less sensitive habitat (rock, gravel, mud, and sand) for both Alternative 1 and Alternative 2.

Regulatory Impact Review

Alternative 1: No Action

The No Action alternative will likely result in fishing practices and patterns similar to those seen prior to the implementation of the Rockfish Pilot Program (RPP) in 2007. In that fishery, trawl vessels raced to catch the CGOA rockfish allocation when the trawl season opened in July. The fishery typically lasted about three weeks and vessels had to weigh the benefits of participating in the rockfish fishery versus other opportunities (e.g., tendering salmon). Under the No Action alternative increased effort could result in even shorter seasons than were realized prior to the RPP.

The number of participants in the harvesting sectors could increase under the No Action alternative. Under the No Action alternative any CV with an LLP license that is endorsed for the CGOA using trawl gear could participate in the fishery. At a maximum, the number of vessels in the fishery could

[1] Trawl doors are lifted off the seabed, eliminating seabed impact from the trawl doors. The net may still be in contact with the seabed but the impact will be much less relative to bottom trawls where the trawl doors contact the seafloor.

approximately triple. However, not all LLP license holders would be expected to enter the fishery, but the potential for increased participation in the rockfish fishery is substantial.

The Kodiak delivery requirement would be removed under the No Action alternative and it is possible that processors outside Kodiak could begin taking deliveries or floating processors could enter the fishery. Eliminating the requirement could negatively impact Kodiak but benefit other communities that are home to shore-based processors in the CGOA or communities that are home to floating processors.

Product quality and production efficiency would likely suffer under the No Action alternative. CPs would need to process rockfish rapidly to maintain quality and accommodate additional catch. Prior to the RPP, catcher processors in the rockfish fisheries produced mostly whole and headed and gutted (H&G) products (i.e., relatively low value-added products). These vessels would likely continue to process catch into the same product forms under either the No Action alternative or Alternative 2. However, the rush to process fish could diminish quality and dissipate a portion of the resource rents that would otherwise be available.

Production efficiency of CVs under the No Action alternative would also be limited by the short duration, race for fish that would likely reemerge. Maximizing catch amounts in each tow and filling holds to capacity can damage rockfish, owing to their being difficult to handle. The No Action alternative would also likely extend trip lengths, to increase catch per trip, which could further result in a decline in the quality of rockfish deliveries.

Returns to CVs under the no action alternative would likely be limited, both by the quality of their landings and the compressed time period within which those landings must be made. Most processors would likely process deliveries quickly, to keep pace with the landings. Quality would likely suffer, because of the rapid rate of harvest and processing. Technical efficiency would also be lost, as crews scale up for a short period of time to accommodate the rapid pace of landings during the compressed season the occurs at the same time as salmon fisheries.

Consumers are likely to be supplied with products from the rockfish fisheries similar to those supplied under the RP. Catcher processors are likely to produce relatively higher quality, but low "value-added," frozen H&G and whole fish. Production from CV catch is likely to suffer from not being able to take greater care handling the raw product. Shore-based processors produce some higher valued products (e.g. fillets), but the majority of their production would continue to be frozen H&G and frozen whole fish. The products produced and the value received at the first wholesale level are driven by the world-wide white fish market, although quality improvements and value increases can result from reducing processing time constraints that occur under the limited access fishery.

Crew participation and compensation would likely revert to receiving a specific percent of the vessel's adjusted revenues, as it was before implementation of the RPP. During that time, most crewmembers worked in several different fisheries, often on the same vessel that they worked on during the rockfish season, while some moved to other vessels for particular fisheries.

For shore-based processing crew, the No Action alternative would result in similar processing practices seen before implementation of the RPP. During that period, most of the processing took place in Kodiak and was undertaken by resident crews and supplemented by non-resident workers brought to the community to fill positions that could not be filled by residents. Crews were employed processing rockfish for a relatively short period of time. When rockfish was being processed, relatively large crews were necessary to maintain a flow of fish through the plants that were also using processing lines for salmon being delivered simultaneously.

Alternative 2

The primary difference between Alternative 2, Element 1 options is that sunset date removal provides a level of stability and predictability not found in simply extending the sunset date. Program reviews and the associated periodic opportunity to broadly consider modifications to the program would occur under either option, but the uncertainty of potential program termination is largely removed under the first option (and the necessity of cyclically recurring efforts to prevent that termination is largely avoided).

Under Alternative 2, the fishery would open in May and continue through mid-November with the majority of the harvest taking place in May and June. The overall duration of the fishery would increase relative to the approximately three-week fishery that occurred prior to the RPP.

The number of vessels that are expected to fish in a year under Alternative 2 is about 29 to 35 CVs and 4 CPs, based on the number that have participated under the RP. This is considerably fewer than could potentially participate under the No Action Alternative, since there are 97 CV LLP licenses with a CGOA trawl endorsement. The number of CPs could also increase if it allows the sector to harvest rockfish available to them. The difference in participation between the two alternatives cannot be projected with any certainty and will depend on other fishing or tendering opportunities in the CV sector and the ability of the CP sector to limit effort through Amendment 80 cooperative contracts.

Under the RP, safety improved in comparison to the previous limited entry fishery in the CGOA rockfish fishery. The fishery generally takes place in the late spring and summer when weather conditions are more favorable that in the winter and late fall. The harvest privileges granted under Alternative 2 allow vessel operators to better avoid fishing in dangerous weather conditions. Pressure to harvest a share of the sector allocation under a limited access fishery could result in vessel operators choosing to fish in weather conditions they would not under Alternative 2.

Selecting Element 2 under Alternative 2, would provide NMFS the authority to reallocate Pacific cod that is apportioned to the RP late in the year. This will benefit the longline and pot gear directed fisheries by increasing the amount of Pacific cod available to those sectors at the end of the year. In some years the trawl sector could benefit if Pacific cod has been placed on Prohibited Species Catch (PSC) status in the CGOA by reducing regulatory discards. Because the CV cooperatives would not use that portion of their Pacific cod allocation, they would not be negatively impacted by the reallocation.

Alternative 2, Element 10, would grant NMFS the authority to reallocate primary rockfish species TAC that was not used in in other directed fisheries (the ICA) to the RP cooperatives. Currently NMFS must set the ICA conservatively to ensure the TAC is not exceeded. If the other directed fisheries do not need the entire ICA, NMFS could roll it into the cooperatives to allow better achievement of Optimum Yield in the fishery. The suboption would direct NMFS to prioritize the reallocation to the CV sectors before the CP sectors. NMFS would retain the authority to reallocate to either sector, based on the harvesting capacity that is expected to be available and the sector's ability to harvest the reallocation. However, all else being equal, the CV sectors would be prioritized to receive the reallocation over the CP sectors.

Alternative 2, Element 13, would remove only the July CP RP sideboard limits in the WGOA. Annual Amendment 80 sideboard limits for WGOA rockfish species would remain in regulation. The effect of the action is to allow the CP firms to harvest their entire Amendment 80 sideboard limit in July without the need to bring into the GOA Amendment 80 vessels that are not subject to the RP sideboard limits. CP RP sideboard limits were primarily implemented to provide protections for Amendment 80 firms that did not have RP quota from those that did. Changes in the ownership structure of the sector, through consolidation, has resulted in all remaining Amendment 80 firms owning at least one RP vessel and one non-RP vessel. Because of those changes and the fact that all Amendment 80 firms are now in a single Amendment 80 cooperative the RP sideboards are no longer considered necessary by members of the sector. Other sectors have not had sustained participation in the WGOA rockfish fisheries and so their historic participation is not jeopardized by the action.

Alternative 2 allows harvesters and processors to fill slow production times in May and early June with rockfish deliveries and ease processing labor and capacity constraints when the rockfish fishery is conducted in parallel with the summer salmon fisheries. Moving the timing of the fishery will benefit both harvesters and processors.

Other elements considered under Alternative 2 could result in cost savings to the stakeholders in the fishery or NMFS. All the suggested changes could provide benefits to stakeholders in the fishery.

In summary, it is expected that Alternative 2 would result in greater net benefits to the Nation compared to Alternative 1. The increase in net benefits is a result of greater producer and consumer surplus relative to Alternative 1. The magnitude of these increases cannot be quantified given information that is currently available, but are described in qualitative terms throughout the Regulatory Impact Review.

Comparison of Alternatives for Decision-making

	Alternative 1	**Alternative 2**
	No action: Return CGOA rockfish fisheries to limited access under the LLP.	Status Quo: Extend the CGOA RP structure for a minimum of 10 years.
Differences in Alternatives		
Apportionments	Primary rockfish species would be managed at the sector level using ICAs and MRAs, and possibly a longline apportionment. Chinook salmon PSC limits would be established for the non-pollock trawl fisheries. The third period halibut PSC would not be reduced to account for catch in the RP.	No Change in initial allocations.
Harvester Participation	Increase in the CV sector and CPs sector as vessel operators compete for a share of the available TAC	Stable participation. The number of CVs and CPs allocated QS will remain the same, the number of vessels harvesting the allocation will remain at about 25 CVs and 4 CPs.
Processor Participation	The number of processors could increase with the removal of the Kodiak delivery requirement, as processors from other communities or floating processors enter the fishery	Stable Participation. Shore-based processors are associated with CV cooperatives. The number of cooperatives has remained about the same (decreased by 1), but one shore-based processing firm was purchased by another firm associated with different RP cooperative, and another firm ceased options in 2017 and its cooperative was disbanded. One CP firm's vessels were acquired by other RP participants and has resulted in only 1 CP cooperative currently operating.

Environmental Impacts		
	Alternative 1	**Alternative 2**
Halibut PSC	Increased halibut PSC rates in the rockfish fishery. Overall halibut usage could increase if rates increase and set-asides built into the RP could be eliminated.	Halibut PSC will likely be about the same as it is currently with variation attributed to changes in halibut and rockfish abundance.
Chinook Salmon PSC	Rates may increase as incentives within the cooperative regulated by civil contracts are removed. Rates will vary by year since Chinook salmon remain difficult to avoid.	Rates are expected to continue to vary despite agreements to avoid Chinook salmon.
Habitat	Pressure to harvest fish quickly could result more contact with the sea floor.	Increased use of pelagic gear is expected to continue and result in less impact on the sea floor.
Seasons	The CGOA rockfish fishery would be prosecuted in July.	The Season would run from May 1 through November 15, with most catch taken in May and early June.
Economic Impacts		
Entry Level Longline Fishery	Impacts would depend on how the Council will provide opportunity for this fleet. If the fishery is closed, it could have the greatest impact on the three or four Jig gear vessel operators that typically harvest the majority of the current set-aside.	Three jig gear vessels generally taken the vast majority of the fishery and the set-aside has been sufficient to keep the fishery open all year. Several other vessels taken very small amounts from the set-aside.
Fishery Value	It is expected to decline for both harvesters and processors due to potentially increased discards and lower quality.	Should remain the same based on what the stakeholders can control. Overall value will continue to be determined by world market conditions, exchange rates, tariffs, and TACs.
Lost Opportunity	Some CVs may lose the opportunity to tender in the salmon fishery, or they may harvest less rockfish due to the loss of harvest privileges. Processors may forgo the opportunity to have excess capacity and labor to produce different and higher quality products. They may also lose capacity that was available in July to process pink salmon.	None
Gained Opportunity	CVs and processors that are currently excluded from the fishery could enter the limited access fishery if they are qualified.	None
Net Benefits to the Nation	Expected to decrease.	Expected to stay the same.

Management and Enforcement		
	Alternative 1	**Alternative 2**
Safety	Minimal decline in safety	No Change
Observer Coverage	Partial coverage for CVs and shoreside processors (pay 1.25% until 2021 and then 1.65% fee), full coverage for CPs	No Change
Alt 2, Element 2: Roll-over Pacific cod from CV cooperatives limited access fisheries	n/a	Rolling over excess Pacific cod from cooperatives to limited access fisheries would potentially increase directed Pacific cod catches in the fixed gear fisheries and reduce regulatory discards in trawl fisheries with no negative impacts on RP cooperatives.
Alt 2, Element 3: Exempt CVs from CR sideboard limits	n/a	Would allow a vessel that can fish Pacific cod in the cooperative to also fish rockfish and sablefish if they have access to CQ
Alt 2, Element 4: Require NMFS to prepare an annual cost recovery report	n/a	NMFS already prepares the report on a voluntary basis. This would make the report mandatory.
Alt 2, Element 5: Define who must submit volume and value report	n/a	Clarify that only shore-based processors must submit the report. CPs do not have a market-based transaction to determine ex-vessel value.
Alt 2, Elements 6: Cooperative report requirements	n/a	Regulations would no longer require an annual RP cooperative report be submitted to NMFS. The Council could still request that the RP cooperatives voluntarily provide an annual report at its April meeting when other LAPP participants provide their annual reports to the Council.
Alt 2, Elements 7: Cooperative report requirements	n/a	This element is not necessary to define actions taken by the cooperatives in the cooperative report to NMFS if the Council selects Element 6, since the cooperative reports to NMFS would no longer be required.
Alt 2, Element 8: Remove the requirement to include the co-op fishing plan in the co-op application	n/a	The fishing plan is not fully developed when the application must be submitted and the information is included in the cooperative report at the end of the fishing year.
Alt 2, Element 9: Remove observer workstation requirement	n/a	Observer coverage is not required for shoreside processors under the RP making the observer sampling station unnecessary. This could reduce costs realized by processors.
Alt 2, Element 10: Allow primary rockfish species ICA roll over to CV cooperative	n/a	Provide NMFS the regulatory authority to roll over unused primary species to CV cooperatives if not used in other directed fisheries. This could benefit NMFS and the quota holders and not have negative impacts on other directed fisheries.
Alt 2, Element 11: Clarify use caps	n/a	Clarify whether only CV CQ is used to calculate the shoreside caps. This would exclude any CP quota used by CVs or shore-plants from counting against the limit.
Alt 2, Element 12: Change cooperative check-in notification from 48 hours to 24 hours	n/a	Use of the electronic reporting system allows vessels to quickly check-in to a cooperative. A 24 hour advance notice of check-in is sufficient to manage the fishery.

Management and Enforcement (continued)		
	Alternative 1	**Alternative 2**
Alt 2, Element 13: Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries in § 679.82(e)(4).	n/a	Removes RP program sideboard limits that apply to CPs fishing in the WGOA rockfish fisheries. Would generate operational efficiencies for CP firms in the WGOA. Would not disadvantage other harvesters in the WGOA relative to their historic participation.
Alt 2, Element 14: Remove the 3-day GOA stand down for CVs that fish for groundfish in the BSAI while pollock or Pacific cod is open to directed fishing in the BSAI if they check into the RP and fish in the CGOA RP	n/a	Removing the 3-day GOA stand down for vessels moving from the BSAI, when the directed pollock and Pacific cod fisheries are open and the vessel has used trawl gear in the BSAI, would not impact the limited access fisheries participants in the CGOA and WGOA. RP cooperatives could also prohibit their members from checking out of the RP if it has been less than 3-days since they offloaded their catch from the BSAI. This change will primarily impact vessel operators in the fall, since the RP opens in May and the early BSAI pollock and Pacific cod fisheries have already closed to directed fishing.

1 Introduction

This document analyzes proposed management measures that would apply to the Central Gulf of Alaska (CGOA) Rockfish Program (RP) fisheries. The measures under consideration include reauthorizing the RP by either removing the sunset date or establishing a new sunset date within a range of 10 through 20 years. The action also includes potential measures that would modify regulations to:

- Reallocate unharvested RP Pacific cod from onshore cooperatives to fixed gear open access fisheries after the RP fisheries close on November 15.
- Exempt crab program sideboard limits for vessels when fishing in the RP.
- Require annual NMFS cost recovery reports in regulations.
- Clarify regulations to specify that only shoreside processors receiving RP Cooperative Quota (CQ) must submit the Rockfish Ex-vessel Volume and Value Report.
- Modify the RP cooperative reports, cooperative application, and cooperative check-in requirements.
- Exempt shoreside processors under the RP from the requirement to provide observers specific materials.
- Allow NMFS to reallocate unused rockfish incidental catch allowances (ICAs) to the RP catcher vessel (CV) and catcher/processor (CP) cooperatives.
- Clarify regulations regarding accounting for inseason use caps when CP quota share (QS) is transferred for use by the CV sector.
- Remove CP RP sideboard limits in the WGOA rockfish fisheries.
- Remove the 3-day stand-down for CVs transiting from the BSAI to the CGOA RP.

In addition to the above proposed actions, the Council reviewed the performance of the entry-level longline fishery and step-up mechanism in this analysis to ensure that it was meeting its objectives. The Council also reviewed CGOA rockfish bycatch in other trawl fisheries to assess whether any trailing amendments may be necessary to address rockfish bycatch outside the RP.

This document is an Environmental Assessment/Regulatory Impact Review (EA/RIR) accompanied by a Social Impact Assessment (SIA) (see Appendix 1). An EA/RIR provides assessments of the environmental impacts of a proposed action and its reasonable alternatives (the EA), the benefits and costs of the alternatives, the distribution of impacts, and identification of the small entities that may be affected by the alternatives (the RIR). This EA/RIR addresses the statutory requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, Presidential Executive Order 12866, and some of the requirements of the Regulatory Flexibility Act. An EA/RIR 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.

1.1 Purpose and Need

The Council adopted the following problem statement to originate this action in December 2018 and has not modified the problem statement.

The Central Gulf of Alaska Rockfish Program (RP) will sunset on December 31, 2021 and the Council must act if it intends to reauthorize the RP. The purpose of this action is to reauthorize the RP to retain the management, economic, safety, and conservation gains realized under the RP to the extent practicable, consistent with the Magnuson-Stevens Act.

For both the onshore and offshore sectors, the RP has improved safety at sea, controlled fleet capacity, enhanced NMFS' ability to conserve and manage species allocated under the RP, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species, and reduced halibut and Chinook salmon bycatch. In addition, the rockfish fishery dependent communities in the Central Gulf of Alaska and the onshore processing sector have benefited from a more stable workforce, more onshore deliveries of rockfish, improved rockfish quality, and increased diversity of rockfish products. Central Gulf of Alaska fishermen, and the onshore processing sector have benefited from reduced conflicts with salmon processing. The offshore sector has benefited from greater spatial and temporal flexibility in prosecuting the fishery, resulting in lower bycatch, a more rational distribution of effort, and more stable markets.

The Council must act to continue the management, economic, safety, and conservation gains realized under the RP. Otherwise, fisheries managed under the RP will revert to effort-control management under the License Limitation Program (LLP).

1.2 History of the Rockfish Program

In 2003, the U.S. Congress directed the Secretary of Commerce to establish, in consultation with the North Pacific Fishery Management Council (Council), a Rockfish Pilot Program (RPP) for management of the Pacific ocean perch (POP), northern rockfish, and pelagic shelf rockfish[2] fisheries (the primary rockfish fisheries) in the CGOA. Following this directive, the Council adopted a share-based management program in 2005, under which the total allowable catch (TAC) of rockfish primary species is apportioned as exclusive shares to cooperatives, based on the catch history of the members of those cooperatives. Although originally subject to a sunset after 2 years, the 2007 reauthorization of the Magnuson-Stevens Act extended the term of the program to 5 years. Under that extension, the RPP was scheduled to sunset after the 2011 season. Without Council action, management of the rockfish fisheries would have reverted to the LLP. However, the Council proposed, the Secretary of Commerce approved, and NMFS implemented the CGOA RP which became effective for the 2012 fishing year and will sunset on December 31, 2021 without the Council taking positive action to continue the program. A more detailed history of the fishery is provided in this section.

1.2.1 Before RPP (1996 through 2006)

The Final EA/RIR developed for the RPP provides a detailed summary of the Gulf of Alaska rockfish fishery prior to implementation of the RPP (NPFMC, 2006). Information from that RIR and the RP review (NPFMC, 2017) are summarized to describe the condition of the fishery before the RPP was implemented.

Prior to implementation of the RPP the Gulf of Alaska rockfish fisheries opened on January 1st for non-trawl gear participants and the trawl gear fishery opened around July 1st. The trawl opening was generally timed to coincide with the availability of the third quarter halibut PSC allocation, accommodate the

[2] Pelagic shelf rockfish included dusky rockfish, dark rockfish, yellowtail rockfish, and widow rockfish. Yellowtail, dark, and widow rockfish make up a very small proportion of the biomass and starting in 2012 a separate TAC was set for dusky rockfish. After the change to the Pelagic shelf rockfish complex was implemented, dusky rockfish was then allocated as a primary species in the RP and replacing the pelagic shelf rockfish category.

sablefish longline survey that occurred later in the summer, and typically coincided with the openings of the Aleutian Islands POP and Bering Sea flathead sole fisheries to distribute effort among the fisheries.

Both the trawl and non-trawl fisheries were prosecuted from a TAC that was not further divided among sectors. The harvest from the trawl fishery was limited to the remaining available TAC after the non-trawl fleet had prosecuted the fishery from its January 1st opening until the rockfish fishery opened to trawl gear vessels. Limited effort in the longline fishery meant that most of the TAC was harvested by the trawl fleet.

Table 1-1 summarizes trawl openings and closings for all gear types in the CGOA directed rockfish fishery prior to implementation of the RPP, by species, from 1996 through 2006. This table was presented in the RPP RIR through 2003. The information is extended in this paper to include the four years immediately preceding implementation of the RPP. The closings show the general progression of participation in the rockfish fisheries. Most participants targeted POP first, until the TAC of that species was fully harvested. POP are a larger biomass and typically are easier to target than the other two species. The season for POP usually lasted between one and two weeks. Once the POP fishery was closed, vessel operators usually moved on to the northern rockfish or pelagic shelf rockfish directed fisheries although some vessels moved on to other fisheries either in the CGOA or in other regulatory areas. The directed fisheries for northern rockfish and pelagic shelf rockfish typically lasted less than one month, closing before the end of July.

Table 1-1 Season openings (trawl) and closures (all gear types) of the CGOA primary rockfish species (1996 – 2006)

			Closures			
Year	Opening for Species	Opening date	Pacific Ocean Perch	Northern Rockfish	Pelagic Shelf Rockfish	Reason
1996	all	1-Jul	11-Jul	20-Jul	none	TAC (POP, Nor)
1996 closure		-	15-Jul			PSC
1997	all (incl. PSR nearshore)	1-Jul	7-Jul	10-Jul	7-Jun	TAC
1997	PSR offshore	1-Jul			15-Jul	TAC
1997 closure	POP	-	19-Jul			PSC
1998	all	1-Jul	6-Jul	14-Jul	19-Jul	TAC
1998 reopen	POP	12-Jul	14-Jul			TAC
1998 closure	POP	-	27-Jul			PSC
1999	all	4-Jul	11-Jul	19-Jul		TAC (POP, Nor)
1999 reopen	POP, Nor	6-Aug	8-Aug	10-Aug		TAC (POP, Nor)
1999 closure		-	3-Sep	3-Sep	3-Sep	PSC
2000	all	4-Jul	15-Jul	26-Jul	26-Jul	TAC (POP, Nor) HAL(PSR)
2001	all	1-Jul	12-Jul	23-Jul	23-Jul	TAC (POP) HAL(Nor,PSR)
2001 reopen	Nor, POP	1-Oct	n/a	21-Oct	21-Oct	HAL
2002	all	30-Jun	8-Jul	21-Jul	21-Jul	TAC
2002 closure		-	5-Aug			HAL
2003	all	29-Jun	8-Jul	31-Jul	29-Jul	TAC
2004	all	4-Jul	12-Jul	25-Jul	25-Jul	TAC (POP) HAL(Nor,PSR)
2004 reopen	PSR, Nor	1-Oct		1-Oct	1-Oct	HAL
2005	all	5-Jul	14-Jul	24-Jul	24-Jul	TAC (POP) HAL(Nor,PSR)
2005 closure	Nor			30-Aug		TAC
2005 reopen	PSR	1-Sep			4-Sep	HAL
2005 reopen	PSR	8-Sep			10-Sep	HAL
2005 reopen	PSR	1-Oct			1-Oct	HAL
2006	all	1-Jul	6-Jul	21-Jul	21-Jul	TAC
2006 closure	POP, Nor		3-Aug	3-Aug		PSC
2006 reopen	PSR	2-Oct			8-Oct	HAL

Source: Fishery opening and closure announcements published by NMFS in the Federal Register
Abbreviations used in table: PSR=Pelagic Shelf Rockfish (dusky), POP=POP, Nor=Northern rockfish, HAL=halibut PSC limit, PSC=placed on prohibited species catch status, and TAC=total allowable catch was reached.

Fishery managers used a precautionary approach when closing fisheries to ensure that the TAC was not exceeded. When sufficient TAC was available after accounting for all catch, managers reopened the fisheries to allow participants to better achieve optimum yield from the fishery.

In earlier years, the fisheries typically closed because the rockfish TACs were harvested. In the later years, halibut PSC in the deep-water complex closed the fisheries. In 2000, halibut PSC closed the pelagic shelf rockfish fishery. In 2001 2004, and 2005 halibut PSC closed both the northern rockfish and pelagic shelf rockfish fisheries in July. The fisheries were reopened when the next seasonal halibut PSC limit was released. The fisheries often closed again near the end of October, after the deep-water halibut PSC limit was taken.

Until 1998, the Federally-managed rockfish fisheries in the CGOA included nearshore pelagic shelf rockfish (i.e., black and blue rockfish), which are prosecuted primarily in State waters. These species were targeted predominantly with non-trawl gear. In 1997 non-trawl effort in the nearshore pelagic shelf rockfish fishery closed that fishery on June 7th, prior to the trawl opening. In 1998, the State took over management of the nearshore pelagic shelf rockfish fisheries. Those fisheries are currently prosecuted exclusively in State waters.

1.2.2 Authority for the Rockfish Program

1.2.2.1 Section 802 of the Consolidated Appropriations Act of 2004

Congress granted NMFS specific statutory authority to manage the CGOA rockfish fisheries in Section 802 of the Consolidated Appropriations Act of 2004 (Public Law 108-199; Section 802). In Section 802, Congress required the Secretary of Commerce (Secretary) in consultation with the Council to establish the CGOA RPP. The RPP was developed by the Council and recommended to the Secretary to meet the requirements of Section 802, which states:

> *The Secretary of Commerce, in consultation with the North Pacific Fishery Management Council, shall establish a RPP that recognizes the historic participation of fishing vessels (1996 to 2002, best 5 of 7 years) and historic participation of fish processors (1996 to 2000, best 4 of 5 years) for POP, northern rockfish, and pelagic shelf rockfish harvested in Central Gulf of Alaska. Such a RPP shall (1) provide for a set-aside of up to 5 percent for the total allowable catch of such fisheries for CVs not eligible to participate in the RPP, which shall be delivered to shore-based fish processors not eligible to participate in the RPP; (2) establish catch limits for non-rockfish species and non-target rockfish species currently harvested with POP, northern rockfish, and pelagic shelf rockfish, which shall be based on historical harvesting of such bycatch species. The RPP will sunset when a Gulf of Alaska Groundfish comprehensive rationalization plan is authorized by the Council and implemented by the Secretary, or 2 years from date of implementation, whichever is earlier*

1.2.2.2 Amendment 68 to the GOA FMP – RPP (2007 through 2011)

The RPP was based on the guidelines described in the Consolidated Appropriations Act of 2004 to improve resource conservation and improve economic efficiency by establishing cooperatives that receive exclusive harvest privileges. Four goals of the program were to 1) reduce bycatch and discards; 2) encourage conservation-minded practices; 3) improve product quality and value; and 4) provide stability to the processing labor force.

The RPP allowed CPs to form their own cooperatives. CVs were allowed to form cooperatives in association with shoreside processors located in Kodiak. CV cooperative contracts defined the requirements for deliveries to the associated cooperative processor. It is assumed that these contracts required delivery by member CVs to the associated processor except under conditions agreed to by both parties. The cooperative agreements allowed shoreside processors and their associated CVs to better time deliveries of rockfish and directed salmon harvests during the summer months.

The RPP allocated harvest privileges to holders of LLP groundfish licenses with a history of legal CGOA rockfish landings during the period defined in Section 802 of the Consolidated Appropriations Act. Table 1 of the proposed rule (71 FR 33043) defines the specific dates for each year that define the qualifying landings. Once RPP Quota Shares (QS) were assigned to a specific LLP license they could not be divided or transferred separately from that LLP license. The LLP holder was allowed to assign the license and associated QS for use in a rockfish cooperative, limited access fishery, or opt–out fishery. After the LLP license holder assigned the LLP license to a cooperative and the cooperative application was submitted to NMFS, NMFS would allocate each cooperative an amount of cooperative quota (CQ) that was generated by the QS assigned to the cooperative.

Vessels were allocated a portion of the third season halibut PSC limit based on their aggregate use of halibut PSC during the qualifying years. The specific allocation method used by NMFS was described in the proposed rule for the RPP. In summary, the sector's halibut mortality was the sum of all vessels PSC during the directed fishery for any primary rockfish species during all qualifying season dates determined sector PSC amount. The total halibut mortality was determined summing the halibut mortality by all

vessels in the CGOA Regulatory Area from January 1, 1996 through December 31, 2002. Sector PSC amounts were divided by the total mortality to determine the portion of the halibut mortality assigned to each sector in the rockfish fishery. The amount of halibut PSC assigned to each cooperative was derived from the QS units assigned to that rockfish cooperative. To determine the CQ assigned to a cooperative, NMFS multiplied the halibut PSC amount allocated to that sector by the percentage of the aggregate primary rockfish species QS held by that cooperative in that sector. Chinook salmon PSC limits were not set for cooperatives as part of the RPP. Chinook salmon PSC limits had not been established for non-pollock fisheries in the GOA when the RPP was implemented.

RPP cooperatives were allowed to transfer all or part of their annual CQ allocation to other rockfish cooperatives. These transfers required that NMFS was notified of the transfer amount and who received the transfer so each cooperative's harvest limits could be determined. Transfers of CQ are only allowed for that calendar year, since QS may not be separated from the LLP license.

Post-delivery transfers were allowed between cooperatives so CQ holdings could be adjusted to account for harvest overages. At the end of the calendar year a cooperative could not have a negative balance of CQ for any species or it would be in violation of the regulations governing the program. All post-delivery transfers had to be completed by December 31 of the year fishing occurred. Vessels in a cooperative could not begin a new fishing trip for that cooperative unless the cooperative held unused CQ for all rockfish primary species and secondary species. This prevented cooperative members from speculatively fishing and assuming they could acquire CQ to cover that harvest prior to the end of the calendar year.

The RPP provided an opportunity for a person not in a rockfish cooperative, but who holds an LLP license with QS, to fish in their sector's limited access fishery. A separate limited access fishery was established for the CV and CP sector. The person assigning their LLP license to the limited access fishery was not granted a specific amount of fish to harvest, and competed with all eligible harvesters for TAC assigned to that limited access fishery. The TAC assigned to the limited access fishery was the total amount of fish assigned to all LLP licenses designated for the limited access fishery.

Section 802 specifically provided for ''a set-aside of up to 5 percent for the total allowable catch of such fisheries for CVs not eligible to participate in the RPP'' during the 1996 through 2002 eligibility time period. The RPP established the entry level fishery. Entry level fisheries were established for both trawl and longline harvests of CGOA rockfish. After deducting the ICA from the TAC, 5 percent of the primary rockfish species was set aside for the entry level fishery. Each gear type was allocated 2.5 percent of the available amount of the aggregate primary species. All of the Northern rockfish and pelagic shelf (dusky) rockfish in the entry level fishery was available for catch with longline gear. Trawl gear vessels were given access to the POP set-aside minus the amount needed for the longline fishery to have 2.5 percent of the primary species aggregate total. The longline sector set-aside was available for use on January 1 and the trawl set-aside May 1. Trawl participants were permitted to harvest any residual longline allocation after September 1. This was accomplished by allowing both sectors to fish off the combined remaining TACs beginning on September 1.

Vessels fishing the RPP entry level allocation in Federal waters needed to have a valid LLP license and must have registered for the entry level fishery. All vessels (both trawl and longline entry level vessels) that fished in the Federal fishery were prohibited from delivering their entry level species catch to a processor in a rockfish cooperative. Longline vessels that fished exclusively in parallel waters and did not have an LLP or a federal fisheries permit were not required to register for the program, and they were allowed to deliver their catch to any processor - including processors qualified for the main program.

The RPP required processors to meet eligibility requirements to receive any primary or secondary species harvested by a rockfish cooperative, or in a limited access fishery. Processors that do not meet these eligibility requirements could receive only primary rockfish harvested from the CGOA under the entry level fishery. A shoreside processor or stationary floating processor must have received at least 250

metric tons in round weight equivalent of legally landed primary rockfish species each calendar year in any four of the five calendar years from 1996 through 2000 during the directed fishing season to qualify. The eligibility criteria for processors gave them an exclusive privilege to receive and process primary rockfish species and secondary species allocated to LLP licenses assigned to their cooperative.

Processors were limited in their ability to process catch outside the communities in which they have traditionally processed primary rockfish species and associated secondary species. This limitation was imposed to help protect the community of Kodiak from adverse impacts of a catch share program that could increase flexibility of where catch was landed and processed.

CP LLP license holders were allowed to opt–out of the RPP, with certain limitations (e.g., sideboard limits). Any amount that would have been allocated to cooperatives by LLP license holders that would have opted-out is redistributed among CP sector participants in rockfish cooperatives and the limited access fishery. Eligible CPs fishing in the limited access fishery were required to apply for that fishery by a defined date, in part to ensure NMFS could allocate TAC. The allocation of rockfish primary species, and apportionment of a halibut PSC allowance to the limited access fishery, would be based on the rockfish histories of LLP licenses registered for participation in the fishery.

The RPP established sideboard limits restricting LLP license holders with qualifying catch history from increasing harvests in specific fisheries outside the CGOA rockfish fisheries. A more complete discussion of sideboard limits in both the RPP and RP was presented in Section 14 of the program review (NPFMC, 2017). Sideboard limits were included as part of the program because it was understood that the cooperative structure would provide economic advantages to harvesters. Harvesters could use these economic advantages to increase their participation in other fisheries, adversely affecting the participants in those fisheries. Sideboards limited the total amount of catch in other groundfish fisheries that could be taken by eligible harvesters to historic levels, including harvests made in the State of Alaska parallel groundfish fisheries. Parallel fisheries are authorized by the State in its waters concurrent with the Federal fishery. Parallel fishery catches are deducted from the Federal TAC. Sideboards limit harvest in specific rockfish fisheries and the amount of halibut bycatch that can be used when fishing in rockfish cooperatives. General sideboards apply to all vessels and LLP licenses with associated legal landings that generated Rockfish QS. Additionally, specific sideboards apply to RP CPs, CVs, and LLP licenses. Participants that fished in the limited access fishery and who accounted for less than 5 percent of the allocated CP history of POP, were not subject to sideboard or stand-down restrictions, beyond the aggregate sector sideboards. Limited access fishery participants who accounted for 5 percent or more of the sector's POP were required to stand down in the GOA, until 90 percent of the limited access POP was harvested.

The RPP also established monitoring and enforcement provisions to ensure that harvesters maintain catches within annual allocations and do not exceed sideboard limits. Provisions included, but were not limited to, increased observer coverage levels, new reporting requirements, and requirements to check in and out of cooperatives. These specific provisions are described in greater detail in Section 17 of the program review ((NPFMC, 2017), primarily in terms of how they are currently being applied under the RP.

The RPP limited access fishery was supported by the third season trawl deep-water halibut PSC limit. No PSC limit was set for Chinook salmon as part of the RPP or the limited access fishery, in part because there was no GOA Chinook salmon PSC limit established for non-pollock fisheries when the program was in place. PSC limits and PSC usage in the rockfish fisheries are described in greater detail in Section 3.5.1.4.

1.2.2.3 Amendment 88 – RP (2012 through present)

The RP is authorized for 10 years from January 1, 2012, until December 31, 2021 through the implementation of Amendment 88 to the GOA Fishery Management Plan (FMP) (76 FR 81247). If the Council does not take positive action recommending continuation of the RP, management of the CGOA rockfish fisheries will revert to the LLP license management structure.

1.2.2.3.1 Elements of the RP that are the same as the RPP

The Council designed the RP to meet the requirements for LAPPs in section 303A of the Magnuson-Stevens Fishery Management and Conservation Act (MSA). The RP includes some similar implementation, management, monitoring, and enforcement measures to those developed under the RPP. Measures that are similar to the RPP are that the RP (1) continues to assign QS and CQ to participants for primary and secondary species, (2) allows a participant holding an LLP license with rockfish QS to participate in forming a rockfish cooperative, (3) allows holders of CP LLP licenses to opt-out of rockfish cooperatives for a given year, (4) includes an entry level longline fishery, (5) establishes sideboard limits, and (6) includes additional monitoring and enforcement provisions beyond those required under management of the License Limitation Program.

1.2.2.3.2 Changes to the RP compared to the RPP

Changes were made from the RPP to improve the functionality of the RP. Key differences between the RPP and the existing RP are described below as well as presented in the final rule for GOA Amendment 88 (76 FR 81247).

Change the qualifying years for QS eligibility and allocation. For the RPP, eligibility to receive QS of primary and secondary species was based on targeted legal qualifying landings made during the years 1996 through 2002. A person's primary species allocation was based on best 5 of 7 years of landings during the eligibility period. The RP QS qualification was based on targeted legal landings during the years 2000 through 2006 or fishing in the entry level fishery during 2007, 2008, or 2009. The allocation of QS was based on the best 5 of 7 years from 2000 through 2006, or the number of years fished during the qualifying period for entry level fishery participants that did not qualify for QS based on history from 2000 through 2006.

The percentages of the primary species CGOA TACs that were assigned to cooperatives under the RPP and RP vary. The changes are due to the amount of the ICA, which has varied over the years the program has been in place, and the entry level fishery set-asides. The entry level set-aside for the trawl fishery was removed under the RP. The longline set-aside was decreased from 2.5 percent of the TAC under the RPP. The formulas used to calculate the amount of the TAC assigned to cooperatives under the two programs are presented below:

RPP Allocation = TAC – ICA – Trawl Entry Level Fishery – Longline Entry Level Fishery
RP Allocation = TAC – ICA – Longline Entry Level Fishery.

Assign primary and secondary species to rockfish cooperatives. Primary species QS is allocated to cooperatives based on the members' QS. NMFS does not issue separate QS to an LLP license for the rockfish secondary species or halibut PSC under the RP, nor did NMFS under the RPP. The amount of those species allocated to a cooperative is based on the amount of primary species QS. Under the RPP Pacific cod, sablefish, and thornyhead rockfish were allocated to cooperatives based on QS assigned to LLP license during the qualifying years. Shortraker/rougheye were allocated as a maximum retainable amount (MRA) that could not exceed 9.72 percent of the TAC. Pacific cod, trawl sablefish, and thornyhead rockfish are CV secondary species assigned to cooperatives under the RP based on the percentage of the TAC assigned to the RP and the percentage of the QS assigned to a person's LLP license. Shortraker and rougheye rockfish are managed under a maximum retainable amount (MRA).

Chinook salmon PSC limits are not assigned to cooperatives. Instead the limit is established for the entire sector.

The RPP and RPs managed CP Pacific cod using an MRA that is based on historic harvest rates. An MRA provided the fleet greater flexibility than a fixed allocation. CPs were also reported to have markets for rougheye and shortraker rockfish and as a sector retain a greater proportion of those species than CVs. As a result the CP sector was allocated a percentage of the TAC for those species. CPs were reported to have harvested 43.2 percent of the CGOA TAC of shortraker rockfish using 2000 through 2006 qualifying years. The RP slightly reduced the percentage of the TAC to 40 percent of the CGOA TAC to provide slightly more harvest opportunities for vessels in the CV sector and non-RP participants. Concern was expressed that without the slight reduction catches by RP CVs and non-RP fisheries could need to be constrained to prevent overharvest of the shortraker rockfish TAC. The MRA percentages recommended for the CV sector for shortraker and rougheye rockfish provide some flexibility for the harvesters in these sectors yet maintain harvests within historic levels.

The RPP allocation of 58.87 percent of CGOA TAC for rougheye rockfish was retained under the RP, which was greater than the 34.3 percent of the rougheye rockfish catch retained by eligible CP LLP licenses from 2000 through 2006. Retaining the limit prevented unnecessary constrains on the CP cooperatives while targeting primary species.

Modify halibut PSC limits to cooperatives and create a conservation set aside that will remain unallocated. The halibut PSC limits for the RP were modified to balance the need to provide adequate halibut PSC for use by rockfish cooperatives while recognizing LAPPs could reduce halibut PSC use. From 2000 through 2006, average halibut PSC mortality averaged 84.7 metric tons (mt) in the CP sector, and 134.1 mt in the CV sector. The RP created a 74.1 mt halibut PSC limit for the CP sector and a 117.3 mt halibut PSC limit for the CV sector. Those amounts represent a 12.5 percent reduction from the amount of halibut mortality associated with each sector during the 2000 through 2006 qualifying period, which was prior to the LAPP being implemented. The remaining 27.4 mt (16.8 mt from the CV sector and 10.6 mt from the CP sector) that would otherwise have been allocated is not available for use by any trawl or fixed gear fishery and remains ‘‘in the water’’ to contribute to the halibut biomass. Like under the RPP, halibut PSC limits are assigned to cooperatives based on the primary species QS attached to the LLP license.

Sideboard limits (in effect July 1 through July 31). CVs that were subject to American Fisheries Act (AFA) sideboard limits were exempted under the RPP. That same exemption carried over into the RP, but sideboard exemptions were applied to vessels that were voluntary excluded from the RP and vessels assigned an LLP license that was excluded from the RP. CVs that were subject to crab program sideboard limits did not receive that exemption when the RPP or RP were implemented. When the Council considers future actions associated with the RP it may want to consider removing crab sideboard limits associated with the RP, since vessels harvesting rockfish in the CGOA are constrained by the RP allocations.

Under the RPP CVs were prohibited from fishing in specific BSAI groundfish fisheries, rockfish in the West Yakutat and Western GOA areas, and deep and shallow-water complex halibut that was not set-aside for use in the RPP. The RP modified those sideboard limits to include just the primary rockfish species in the West Yakutat and Western GOA areas and just the non-rockfish deep-water complex species (arrowtooth flounder, deep water flatfish, and rex sole) that are harvested using the deep-water halibut PSC limit.

CPs were prohibited from fishing in the BSAI groundfish fisheries and the non-RPP groundfish fisheries in the GOA. Those vessels were also prohibited from fishing species that would use halibut PSC in the deep and shallow-water complexes outside the RPP PSC limit. The RP maintained the prohibition on fishing species that would use halibut PSC in the deep and shallow-water complexes outside the RPP PSC

limit. However, the groundfish fishing restrictions were limited to primary rockfish species in the West Yakutat and Western GOA areas for Amendment 80 CPs. Non-Amendment 80 CPs were prohibited from fishing for primary rockfish species in those areas.

Restrict the entry level fishery to longline gear only. The entry level fishery for trawl vessels was eliminated under the RP. Trawl vessels that took advantage of the entry level fishery during 2007, 2008, or 2009 were allocated QS.

The entry level fishery continues for harvesters that wish to fish for RP primary species using longline gear.[3] Any vessel that may legally fish with one of those gear types may fish in the entry level longline fishery. The start date for the entry level longline fishery is January 1 of each year. Participants are not be required to apply annually. The vessel operators were required to apply annually under the RPP.

The initial allocation to the entry level longline fishery was smaller than under the RPP. Under the RPP, longline harvests never exceeded one percent of the TAC for any of the target species during the qualifying years. The RPP amount was based on 2.5 percent of the primary species TACs. The RP allocates a fixed amount of each species annually. Until 2017, the annual longline limit was 5 mt of POP, 5 mt of northern rockfish, and 30 mt of dusky/pelagic shelf rockfish. If the entry level fishery vessels harvest greater than or equal to 90 percent of a species NMFS increases the next year's allocation by 5 mt for POP, 5 mt for northern rockfish, or 20 mt for dusky rockfish.

Allocations to the limited entry fishery are limited to 1 percent of the POP TAC, 2 percent of the northern rockfish TAC, or 5 percent of the dusky rockfish TAC. Because greater than or equal to 90 percent of dusky limit was harvested in 2016, the entry level fishery limit for that species was increased to 50 mt in 2017 and has remained at that level.

The final rule for the RP stated that unlike CVs fishing in cooperatives, participants in the entry level longline fishery may deliver their harvest to any shore-based processing facility in any community and are not restricted to delivery to a Kodiak processor. Requirements to deliver within the boundaries of Kodiak were thought to potentially discourage participants from attempting to develop the entry level longline fishery. Requiring entry level participants to comply with a landing requirement within the boundaries of Kodiak might present too great of an expense for the participants located around other CGOA port and expose those participants, which typically fish with smaller vessels, to unacceptable safety risks.

Cooperative formation requirements. The RP relaxed cooperative formation requirements to balance encouraging cooperative formation and providing flexibility for LLP license holders to form cooperatives with persons of their choice. To achieve these objectives the minimum number of LLP licenses with affixed rockfish QS required to form a cooperative was eliminated. However, only CQ could only be transferred to a cooperative with a minimum of two LLP licenses. There was no requirement that the LLP licenses are held by different persons. These changes were implemented to encourage cooperative formation by providing greater flexibility to transfer CQ to meet operational demands. The RP also modified the RPP so that LLP license holders with rockfish QS designated for the CV sector could form a cooperative only with the processor to whom a majority of their catch was delivered during 1996 through 2000. The Council modified this requirement because the specific requirement and authority provided in Section 802 expired with the RPP, and the Council determined their program goals could be achieved without that provision.

Kodiak delivery requirement. To address concerns raised by processors that the RP would provide harvesters an undue competitive advantage and that they could use that potential advantage to deliver outside of the traditional port of Kodiak, the RP included a requirement that all primary and rockfish

[3] Longline gear includes hook-and-line, jig, troll, and handline.

secondary species CQ in the CV sector be delivered to a shore-based processor within the City of Kodiak. In addition to protecting traditional processors, the requirement is intended to protect the fishing community of Kodiak. During the 2000 through 2006 period, all catch landed shoreside was delivered within Kodiak.

Harvesters in RP CV cooperatives are not required to deliver to a specific processor. The RPP permitted CVs to form a cooperative only with the processor to which the CV made a majority of their deliveries during 1996 through 2000. The RP modified the requirement to allow CVs to annually join the Kodiak based cooperative of their choice, regardless of where they had delivered rockfish in the past. This provision was modified because the specific requirement and authority provided by Congress to create that linkage in Section 802 expired with the RPP and NOAA GC has determined that the Magnuson-Stevens Act does not provide that authority.

During the development of the RP, the Council reviewed and considered a range of other options to address concerns raised by shore-based processors. Management measures considered included the linkage between shore-based processors and CV cooperatives required under the RPP, allocations of harvest shares to processors, annual cooperative/processor linkages (which may be changed, without penalty or forfeiture), and caps on the amount of landings that may be processed by any single processor. Ultimately, the Council chose to recommend a landing requirement within the City of Kodiak and processing caps to preserve flexibility for harvesters to deliver to multiple markets. The Council's recommendation sought to maintain the traditional shore-based processing activity within Kodiak and limit the consolidation of processing effort among rockfish processors that was thought to potentially have detrimental impacts on harvesters and processors traditionally active in the fishery.

During development of the RP, the Council determined that harvester/processor linkages and allocation of harvesting quota to processors was not necessary or appropriate to meet the overall goals it established for the RP. Harvesters and processors were thought to be able to coordinate/cooperate as they did under the RPP. Maintaining those relationships would continue to reduce processing capacity conflicts with the salmon fishery that is active during summer months and provide a stable processing workforce by ensuring rockfish deliveries during May and June when other GOA fisheries are less active.

During development of the RP, it was assumed the program's structure would benefit processors since each cooperative is required to associate with a processor on an annual basis. That limited duration association would make it possible to define delivery arrangements. While those arrangements may limit where CVs may deliver during the year they would only continue the next year if they are advantageous to the various cooperative members. Depending on the agreements reached by cooperative members, processors could develop markets and products to maintain annual associations.

Historical relationships between harvesters and processors are expected to influence the formation of cooperative/processor associations. Since the RP deliveries are a relatively small component of the annual GOA deliveries for many CVs, it will be important for those vessel operators to maintain a strong working relationship with their processor for other species (i.e., pollock, Pacific cod, and flatfish). These relationships are likely to be tested, if a processor fails to offer a competitive price.

Processors were thought to have an incentive to vertically integrate, if needed to secure a stable supply of landings in the rockfish fisheries. Vertical integration will be limited by excessive share caps.

Implement a cost recovery program, except for the entry level longline fishery. The RP is established under the provisions of Section 303A of the MSA. Section 303A requires that NMFS collect fees for LAPPs to recover the actual costs directly related to the management, data collection and analysis, and enforcement activities. NMFS uses a portion of the cost recovery fees collected under the RP to hire personnel to monitor rockfish landings. The rockfish catch monitoring and control plan (CMCP) specialist will monitor program deliveries to ensure compliance with the CMCP by any processor

receiving CQ landings, assist processors with rockfish species identification to ensure accurate catch sorting and quota accounting, and report the findings to NMFS. Section 304(d)(2) of the Magnuson-Stevens Act also limits the cost recovery fee so that it may not exceed 3 percent of the ex-vessel value of the fish harvested using CQ issued under the RP. NMFS assess fees on the ex-vessel value of rockfish primary species and rockfish secondary species CQ harvested by rockfish cooperatives in the CGOA when rockfish primary species caught by that vessel are deducted from the Federal TAC. The cost recovery fees will not apply to the entry level longline fishery and opt-out vessels because those participants do not receive rockfish CQ.

NMFS determines the fee percentage that applies to landings made in the previous year by dividing the total RP management, data collection and analysis, and enforcement costs (direct program costs) during the previous year by the total standard ex-vessel value of the rockfish primary species and RP secondary species for all CQ landings made during the previous year (fishery value). NMFS captures the direct program costs through an established accounting system that allows staff to track labor, travel, contracts, rent, and procurement. Using the fee percentage formula described above, the estimated percentage of program costs to value for the 2016 calendar year is 2.54 percent of the standard ex-vessel value. The fee percentage for 2016 is a decrease from the 2015 and 2014 fee percentage of 3.0 percent (81 FR 10591, March 1, 2016). The 2013 fee of 2.5 percent was about the same as the 2016 fee percentage. The fee percentage was the lowest (1.4 percent in 2012). Program costs for 2016 were lower than in 2015, in part because of reduced costs associated with observer coverage as a result of efficiencies achieved in the deployment of observers in the RP.

Establish a CMCP specialist. A shoreside processor receiving groundfish RP rockfish must be a facility operating under an approved CMCP. The CMCP describes how landings can be monitored effectively by one individual, how scales will be tested and used, and ensures that adequate equipment/facilities are made available for individuals authorized by NMFS. NMFS uses a portion of the cost recovery fees to fund the CMCP specialist positions.

The CMCP specialist monitors rockfish landings to provide impartial verification of a processor's adherence to its CMCP. The duties of the rockfish CMCP specialist do not overlap with those of the fishery observer. The rockfish CMCP specialist monitors program deliveries and has not been trained as an observer or requested to complete any observer duties such as verifying non-rockfish fish tickets, assisting vessel observers, or collecting biological or scientific data. The duties of the rockfish CMCP specialist are to monitor rockfish deliveries to ensure compliance with the CMCP of any processor receiving program landings, to assist processors with rockfish species identification to ensure accurate catch sorting and quota accounting, and to report the findings to NMFS. A shoreside processor is required to include a description in the CMCP of how the CMCP specialist would be notified of rockfish CQ deliveries. The CMCP specialist establishes a monitoring schedule so all or most deliveries are monitored. In the event of conflicting deliveries, the CMCP specialist determines which program deliveries will be monitored.

1.2.2.4 Frank LoBiondo Coast Guard Authorization Act of 2018 (Public Law Number: 115-282)

On December 4, 2018 Public Law No: 115-282 was enacted. Section 835 of Public Law Number: 115-282 contains a wavier that would allow one Amendment 80 vessel to be replaced by a new vessel that would not have otherwise qualified under the Jones Act. As a result, the Secretary is required to issue a certificate of documentation with coastwise and fishery endorsements to the certificated vessel. While Public Law Number: 115-282 allows the new vessel to participate in the U.S. fisheries, Section 836 of the law placed specific temporary limitations on the use of that vessel.

One of the limitations is a sideboard on the amount of GOA groundfish a vessel may harvest or process as a mothership. The language in Section 836(a) and Section 836(b) states that:

(A) the percentage of the harvest available in any Gulf of Alaska groundfish fisheries (other than fisheries subject to a limited access privilege program created by the North Pacific Fishery Management Council) that is equivalent to the total harvest by the vessels described in paragraph (2) in those fisheries in the calendar years that a vessel described in paragraph (2) had harvest from 2012 through 2017 relative to the total allowable catch available to such vessels in the calendar years 2012 through 2017; or

(B) the percentage of processing of deliveries from other vessels in any Bering Sea, Aleutian Islands, and Gulf of Alaska groundfish fisheries (including fisheries subject to a limited access privilege program created by the North Pacific Fishery Management Council, or community development quotas as described in section 305(i) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855(i))) that is equivalent to the total processing of such deliveries by the vessels described in paragraph (2) in those fisheries in the calendar years 2012 through 2017 relative to the total allowable catch available in the calendar years 2012 through 2017.

The limitations described in paragraph (1) shall apply, in the aggregate, to—

> *(A) the vessel AMERICA'S FINEST (United States official number 1276760);*
>
> *(B) the vessel US INTREPID (United States official number 604439);*
>
> *(C) the vessel AMERICAN NO. 1 (United States official number 610654);*
>
> *(D) any replacement of a vessel described in subparagraph (A), (B), or (C); and*
>
> *(E) any vessel assigned license number LLG3217 under the license limitation program under part 679 of title 50, Code of Federal Regulations.*

Section 836(b) EXPIRATION.—The limitations described in subsection (a) shall apply to a groundfish species in Bering Sea, Aleutian Islands, and Gulf of Alaska only until the earlier of—

(1) the end of the 6-year period beginning on the date of enactment of this Act; or

(2) the date on which the Secretary of Commerce issues a final rule, based on recommendations developed by the North Pacific Fishery Management Council consistent with the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 180114 et seq.), that limits processing deliveries of that groundfish species from other vessels in any Bering Sea, Aleutian Islands, and Gulf of Alaska groundfish fisheries that are not subject to conservation and management measures under section 206 of the American Fisheries Act (16 U.S.C. 1851 note).

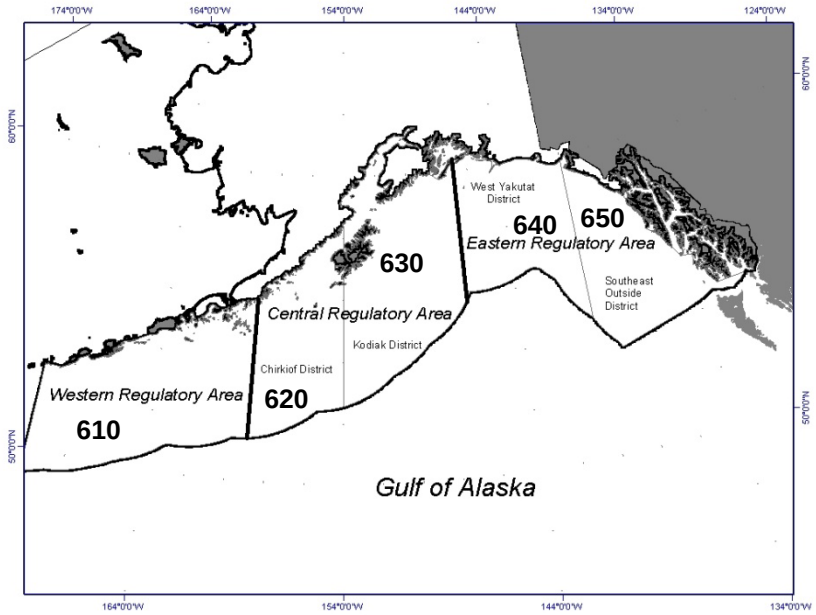
For the purpose of this analysis, there are important issues worth noting. First, the law does not apply to LAPP fisheries so any CQ used in the CP sector would not be impacted. Sideboard limits in the West Yakutat District and Western GOA imposed by the law that are more restrictive than the CP RP sideboard limits, could be the greater constraint on the limited firm. Second, the law was enacted on December 4, 2018. The limitations on the amount of GOA groundfish species the firm may harvest and process as a result of the regulations will expire prior to the start of the 2025 fishing year. Because the Alternative 2 options would extend the RP beyond 2024, the sideboards placed on these vessels under the law during 2022 through 2024 fishing years could be lifted starting in 2025. Third, it has been determined the sideboard amounts established for the listed vessels are considered confidential. The percentage will not be made public. Therefore, the information presented in this document does not provide information on the harvest and processing of GOA groundfish species by the vessels limited by these regulations.

1.3 Description of Management Area

The Fishery Management Unit for the GOA includes all waters in the exclusive economic zone along the southeastern, southcentral and southwestern coasts of Alaska from Dixon Entrance to Unimak Pass. The

GOA Fishery Management Unit is subdivided for management purposes into three regions, Western Gulf of Alaska (WGOA), CGOA and Eastern GOA. For purposes of this analysis, the CGOA subregion is the focus of the RP. This region includes the regulatory areas of 620 and 630 (Figure 1-1). However, the proposed action also limits RP participant's activity in rockfish fisheries included under the sideboard limits the West Yakutat District (area 640) and the WGOA regulatory area (area 610).

Figure 1-1 Regulatory and reporting areas in the GOA.



1.4 Proposed Action

The Council adopted a problem statement, list of alternatives and options, and requested specific information at its December 2018 meeting after reviewing a RP reauthorization discussion paper.[4] The Council reviewed the initial review draft of this paper and requested specific changes at its December 2019 meeting. Those actions established the basis and structure for the EA/RIR/SIA that was presented at the January 2020 meeting.

1.5 Description of Alternatives

NEPA requires that an EA analyze a reasonable range of alternatives consistent with the purpose and need for the proposed action. The alternatives in this chapter were designed to accomplish the stated purpose and need for the action. The action alternative, elements, and options were designed to retain the resource, management, and economic benefits created as a result of implementing the RP.

1.6 Alternatives

1.6.1 Alternative 1, No Action

Under the No Action alternative, the CGOA rockfish fisheries would revert to LLP management. Because the fishery would no longer be managed under a LAPP structure, the management regulations associated

[4] http://meetings.npfmc.org/CommentReview/DownloadFile?p=31687b79-e42b-4276-97bb-36e6aaa4435f.pdf&fileName=D5%20Central%20GOA%20Rockfish%20Reauthorization.pdf

with LAPPs would also be removed. For example, the observer coverage requirements for CVs and shoreside processing plants would be determined by NMFS in the Annual Deployment Plan.[5] Rockfish landings would be subject to the observe fee percentage and not the pay-as-you-go model where the fleet has 100 percent coverage and pays a daily rate for coverage. The additional observer requirements specified at 50 CFR 679.51(a)(2)(vi) for CPs participating in the Rockfish Program would be removed and these CPs would remain in the full coverage category under the Observer Program as implemented in 2013. The fleet would no longer be subject to the cost recovery fee and NMFS would not be required to calculate or collect the fees and would not prepare an annual cost recovery fee report for that fishery. RP regulations defined in 50 CFR Subpart G would be eliminated or modified. Any modifications for management under the LLP would need to be included as options under the No Action alternative at final action.

Selection of the No Action alternative would also require regulations to address season dates for the CGOA rockfish trawl fishery, redistribution of Chinook salmon PSC that was assigned to the RP (50 CFR 679.21(h)), halibut PSC limits that were assigned to the RP from the third quarter PSC apportionment, and halibut PSC limit reductions that were implemented as a result the RP. The No Action alternative would need to be further developed to specify management details in absence of the RP if recommended by the Council.

1.6.2 Alternative 2, Reauthorize RP (Preferred Alternative)

Under Alternative 2, the RP would be reauthorized within the existing management framework. Each element of Alternative 2, as proposed by the Council, is presented. Immediately following the Council's element for analysis is a brief discussion of the proposed action. The discussion is not part of the Council's motion. It was provided by the analysts.

Element 1: Modify regulations at 679.80(a)(2) to specify the duration of the program.
Option 1: Remove sunset date (Preferred Alternative)
Option 2: Replace with new sunset date (10-20 years)

Description: The current RP was established with a sunset date of ten years after the program was implemented. The first option would remove the sunset date. Under Section 303A of the MSA, a LAPP permit is a permit issued for a period of not more than 10 years that will be renewed before the end of that period, unless it has been revoked, limited, or modified. Removing the sunset date would allow NMFS to renew the permits without the Council initiating a formal analysis to reauthorize the program. Option 2 would keep the sunset provision of the program in place at the current 10-year cycle or extend the cycle up to 20 years. At the end of the period the Council and NMFS would be required to reauthorize the program, as is being done under this regulatory package.

*Staff note: Since there are no options to alter the current quota allocations to LLP licenses or the sideboard limits assigned to those LLP licenses it is **not** necessary for LLP license holders to reapply for quota. The same number of QS units by species would be assigned to each LLP license under the reauthorized program as was assigned under the current Rockfish Program. Cooperatives would still need to annually apply for CQ based on the LLP licenses assigned the cooperative. This approach will streamline the reauthorization process and keep the current allocations intact.*

Element 2: Allow NMFS to reallocate unharvested RP Pacific cod from RP cooperatives after the RP fisheries close on November 15 consistent with regulations at § 679.20 (a)(12)(ii). (Preferred Alternative)

[5] https://www.fisheries.noaa.gov/resource/document/2019-annual-deployment-plan-observers-groundfish-and-halibut-fisheries-alaska

Description: NMFS does not currently have the authority to move unused Pacific cod from the rockfish cooperatives to the limited access fisheries, as NMFS does with other sectors that fish Pacific cod (see §679.20(a)(12)(ii)(B)). A regulatory change could give NMFS the authority to reallocate any remaining Pacific cod after the RP fisheries closes for the season or once all members have checked out. This action could potentially benefit the directed fixed gear fisheries without negatively impacting the cooperative members. It could also reduce regulatory discards of Pacific cod in the trawl sectors during years when Pacific cod is placed on PSC status and flatfish fisheries are still open to directed fishing.

Similar to the process for other Pacific cod sectors, NMFS would take into account the capacity of the sector and ability to harvest the remaining Pacific cod TAC. For instance, Pacific cod may still go unfished if a particular sector is approaching its halibut PSC limit and it does not have the opportunity to take advantage of an increased Pacific cod allocation.

> Element 3: Exempt vessels from crab program sideboard limits when fishing in the RP. (Preferred Alternative)

Description: Both the AFA and BSAI Crab Rationalization Programs were implemented with a suite of sideboard limits for vessels/LLP licenses that earned harvesting privileges through these programs. Given the economic advantages that these participants had been afforded through their participation in these programs, potentially freeing up capacity, sideboard limits were created to limit the ability for these vessels to expand into other fisheries. Both of these program (AFA and the Crab Program) included sideboards in the CGOA rockfish fisheries, which were not managed as a LAPP at the time these programs were implemented. Since that time, it was determined that maintaining AFA sideboards in the CGOA rockfish fisheries was unnecessary since CGOA rockfish fisheries are managed under a LAPP. With the development of the CGOA RP, the AFA nonexempt vessels were given exemption from AFA sideboards for the harvest of CQ within the RP. Crab sideboards in the rockfish fisheries have not been removed, which limits non-exempt vessels from participation in this fishery even if they have access to RP CQ.

> Element 4: Require annual NMFS cost recovery reports in regulations. (Preferred Alternative)

Description: Regulations require NMFS to produce a cost recovery report for of all other LAPPs, except the CGOA RP. For example, §679.33(g) "Annual report. Each year, NMFS will publish a report describing the CDQ Cost Recovery Fee Program for groundfish and halibut." Although not required in regulations, NMFS does produce this report for the RP, similar to other catch share programs.

> Element 5: Clarify regulations at § 679.5(r)(10) to specify that only shoreside processors receiving RP CQ must submit the Rockfish Ex-vessel Volume and Value Report. (Preferred Alternative)

Description: Current regulations require a "rockfish processor" to submit annually to NMFS a Rockfish Ex-vessel Volume and Value Report. The use of rockfish processor instead of "rockfish shoreside processor" has created confusion for NMFS staff and CP participants because a rockfish processor could include RP CPs.

> Element 6: Remove regulations in § 679.5(r)(6)(iii)(B) requiring that an annual RP cooperative report be submitted to NMFS. The Council requests that the RP cooperatives continue to voluntarily provide annual reports to the Council. (Preferred Alternative)

Description: Current regulations require RP cooperatives to submit an annual report to NMFS. NMFS does not need that information to manage the fishery. Additionally, some of the information reported is confidential and NMFS cannot release the information so it cannot be used by other stakeholders to understand whether the program is meeting its goals and objectives.

Element 7: Revise § 679.5(r)(6)(iii)(D) - to replace “any actions” with “any civil actions.”

Description: Current regulations specify that a RP cooperative annual report must include a description of any actions taken by the cooperative in response to any members that exceeded their catch as allowed under the rockfish cooperative agreement. “Any actions” is very broad and could include intra or inter-co-op transfers, which is unnecessary. The proposed rule implementing the RP used “any civil actions” in § 679.5 to describe the reporting requirement and this term should have replaced “any actions” in § 679.5 when the RP was implemented. If the Council selects Element 6 as part of its preferred alternative then selecting Element 7 is not necessary.

Element 8: Revise § 679.81(i)(D)(3) to remove requirements for a Fishing Plan to be submitted with a cooperative application for CQ. (Preferred Alternative)

Description: Current regulations require a RP cooperative Fishing Plan to be included in the cooperative application for CQ. The cooperatives have to complete the application in February, far in advance of when they make fishing plans for the season. The timing of the requirement does not match up with when the information is available. This information has been included in the cooperative annual reports required at § 679.5(r)(6).

Element 9: Revise § 679.84(f)(1) to exempt shoreside processors under the RP from the requirement to provide an observer work station and observer communication described at § 679.28(g)(7)(vii) and (viii). (Preferred Alternative)

Description: Current regulations require RP processors to maintain an observer station at the plant. This requirement is no longer necessary since plant observers are not required for the RP. Instead, the RP employs a Catch Monitoring Control Plan specialist, which negated the need for a plant observer. The current regulations negatively impact shoreside processors because it is costly for processors to maintain an observer workstation and platform scale.

Element 10: Allow NMFS to reallocate unused Rockfish ICA to RP cooperatives. (Preferred Alternative)

Suboption: With a preference to reallocate to CV cooperatives first. (Preferred Alternative)

Description: This element would provide NMFS the flexibility to reallocate unused ICA for POP, northern rockfish, and dusky rockfish to the RP cooperatives. This is routinely done for the ICAs developed for Bering Sea AFA Pollock and Amendment 80 allocated species except Pacific cod. Currently, ICAs are set in the harvest specifications at the beginning of the season. Incidental catch is estimated at the beginning of each year and NMFS sets the ICA conservatively to avoid exceeding the TAC. The suboption would direct NMFS to prioritize the reallocation to CV sectors, if they have the capacity and ability to harvest the reallocation.

Element 11: Element 11: Clarify regulations regarding accounting for inseason use caps to specify that any transfer of unused rockfish ICAs or CP CQ to CV cooperatives does not apply to CV ownership, cooperative, harvester CQ, or shoreside processor CQ use caps. (Preferred Alternative)

Description: Regulatory text from 50 CFR 679.82(a)(2)(i) states that the CV use cap is 4.0 percent of the aggregate rockfish QS initially assigned to the CV sector and resulting CQ unless that eligible rockfish harvester qualifies for an exemption to this use cap. Regulations at 50 CFR 679.82(a)(3) define the CQ use cap for rockfish cooperatives in the CV sector. That section states that a rockfish cooperative may not hold or use an amount of rockfish QS that is greater than the amount derived from 30.0 percent of the

aggregate rockfish QS initially assigned to the CV sector unless the cooperative was grandfathered into the program at a greater amount. Regulations at 50 CFR 679.82(a)(5) define the rockfish processor use caps. Those caps are also based on CV CQ and are established for rockfish CQ, Pacific cod CQ, and sablefish CQ.

Because the ownership and use cap language explicitly applies to CQ issued to the CV sector, ownership, harvest, and processing caps may exclude fish transferred from the CP sector to a CV cooperative in the cap calculation. If a vessel/cooperative is close to the harvesting/processing cap but acquires CQ from the CP cooperative, it could allow the entity to exceed the CV limit. Clarifying the intent of this provision would assist NMFS in managing the program as intended.

Element 12. Modify Cooperative Check-In Notice Times from 48 to 24 hours (Preferred Alternative)

Description: Rockfish cooperatives are required to check-in at least 48 hours prior to the time the CV begins a fishing trip to fish under a CQ permit. Industry mentioned in a 2015 PRA comment that a 24 hour check-in is sufficient. The two day wait time is sometimes inconvenient for CVs that are members of a cooperative. Associated regulations are found at 50 CFR 679.5(r)(8).

Element 13: Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries in § 679.82(e)(4). (Preferred Alternative)

Description: CPs that participate in the RP are subject to both RP sideboard limits, that apply only during July and Amendment 80 sideboard limits that apply all year. Removing the RP sideboard limits on the three primary rockfish species[6] harvested in the WGOA would result in the CPs being limited in the amount of two of the three species they could harvest during July when the fishery is opened to directed fishing. Harvesting the entire Amendment 80 sideboard limit[7] for POP and northern rockfish would require the vessels fish after July in the WGOA fishery.

Element 14: Modify regulations at § 679.23(h)(1) by removing the 3-day stand down for CVs that fish for groundfish in the BSAI while pollock or Pacific cod is open to directed fishing in the BSAI from the GOA stand down if they check into the RP and fish in the CGOA RP. (Preferred Alternative)

Description: Removing the 3-day stand down would allow vessels moving from the BSAI into the CGOA RP cooperative fisheries to benefit from potential reductions in down-time without creating adverse impacts on other RP cooperative members or the GOA limited access fisheries. A previous action removed a similar stand down for vessels moving into the Community Development Quota (CDQ) fisheries in the BSAI. The removal of that stand down was approved because allowing vessels to fish under a LAPP without being subject to the stand down was determined not to harm the CDQ participants, since the amount of fish any vessel may harvest is established through private contracts with the CDQ groups.

1.7 Background on Modifications to Requirements for Annual RP Cooperative Reports (Elements 6 & 7)

This section provides information relative to NMFS's recommendation that the Council approve Element 6 in this document to remove the requirements for the annual RP cooperative reports to be submitted to

[6] RP sideboard limits for POP, dusky (PSR), and northern rockfish are set at 50.6 percent, 72.3 percent, and 74.3 percent, respectively.
[7] The Amendment 80 sideboard limit for POP, dusky (PSR), and northern rockfish are 99.4 percent, 76.4 percent, and 100 percent, respectively.

NMFS. The recommended changes were made at the December, 2019 Council meeting and are reflected in the current suite of alternatives and elements.

Regulations at 50 CFR 679.5(r)(6) require each RP cooperative to submit an annual rockfish cooperative report to NMFS by December 15 of each year. The report must include at a minimum:

- The cooperative's CQ, sideboard limit (if applicable), and any rockfish sideboard fishery harvests made by the rockfish cooperative vessels on a vessel-by-vessel basis;
- The cooperative's actual retained and discarded catch of CQ, and sideboard limit (if applicable) by statistical area[8] and vessel-by-vessel basis;
- A description of the method used by the cooperative to monitor fisheries in which cooperative vessels participated; and
- A description of any actions[9] taken by the cooperative in response to any members that exceeded their catch as allowed under the rockfish cooperative agreement.

The information submitted to NMFS about harvests, retained catch, and discarded catch by vessel or cooperative is confidential under Section 402(b)(1) of the MSA. The other required information is not confidential. Information about each cooperative's CQ allocations, halibut PSC allocation, and sideboard limits is published on NMFS's website. The inclusion of confidential information means that NMFS cannot post the annual reports on its website or provide the annual reports to the Council or the public.

At the request of the Council, the RP cooperatives also submit written cooperative reports to the Council prior to the April Council meeting each year, and provide a verbal overview of the annual report at the April Council meeting. Federal regulations do not require the RP cooperatives to submit an annual report to the Council. The Council also has specified some additional information it requests the RP cooperatives voluntarily provide in their annual reports to the Council. These additional requirements are described in the action memo prepared by Council staff for the Cooperative Reports agenda item. The most recent action memo was prepared for the April 2019 Council meeting (NPFMC, 2019). It states that the Council has previously requested that the RP cooperatives provide the Council with inter-temporal harvest information and information about Chinook salmon bycatch. The Council also requested that the RP cooperatives use terminology for program components (e.g., limitations on seasonal reallocations of halibut PSC) that is consistent with the terms used in the fishery management plans and regulations governing the program.

The cooperative annual reporting requirements and Council's requests for voluntary information are information collections subject to the requirements of the Paperwork Reduction Act (PRA). These requirements are approved by the Office of Management and Budget (OMB) under information collection number 0648-0678. For any new information collection or modification to an existing collection, NMFS must submit an analysis to OMB, solicit public comment on the proposed information collection, and request approval from OMB prior to collecting the information. The analysis prepared for OMB ("PRA analysis") explains why the information is needed, the estimated costs to respondents of providing the information, and other required information. OMB's approval for an information collection generally expires in three years. Therefore, every three years, NMFS must obtain OMB approval to continue an information collection.

[8] Alternative 2, Element 6 in the initial review draft addressed catch area reporting requirements (change "statistical area" to CGOA wide).
[9] Alternative 2, Element 7 in the initial review draft addressed the requirement report any actions taken by the cooperative against a member (change "any actions" to "any civil actions").

OMB's approval for the annual cooperative reporting requirements and Council's requests for voluntary information expires on December 31, 2019. In preparing the PRA analysis for renewal of this information collection, NMFS explained how the Council uses information provided in the annual cooperative reports. However, NMFS also recognized that NMFS does not need the information in the annual rockfish cooperative reports to manage the RP fisheries. NMFS already has access to information about allocations, harvests, and retained and discarded catch by vessel and cooperative. NMFS also does not need information about the methods the cooperatives use to monitor their fisheries or the actions the cooperatives take to address overages to fulfill any specific fishery management responsibilities. Although this information may be informative for the Council and the public, NMFS cannot release the annual RP cooperative reports to the Council or the public because they contain confidential information. Therefore, the requirement that the annual cooperative report be submitted to NMFS may be unnecessary.

NMFS could not approve regulations that require the cooperatives to release to the public information that, if submitted to NMFS, would be considered confidential. Such an action would not be consistent with the MSA. NMFS also recommends against the Council requesting that the cooperatives voluntarily provide confidential information as NMFS likely could not support submitting such a request to OMB for approval. The cooperatives may continue to voluntarily provide the Council with information about harvests, bycatch, prohibited species catch by vessel or cooperative, but NMFS cannot require this, nor does it recommend that the Council specifically request that the cooperatives voluntarily provide this information.

NMFS recommendation approved by the Council in December and included as part of the PPA combined Elements 6 and 7 from the December initial review document into a single Element 6 that addresses the RP cooperative annual report requirements. Revised Element 6 modifies the annual rockfish cooperative report requirements by removing the regulations requiring that an annual RP cooperative report be submitted to NMFS. The Council may still request that the RP cooperatives voluntarily provide an annual report to the Council. This would likely take place at its April meeting when other LAPP provide an annual report to the Council in the previous year's activities.

By selecting the revised Element 6 it removes the requirement that the RP cooperatives submit confidential information to NMFS that NMFS does not need to manage the RP fisheries and cannot release to the public. Requiring the annual cooperative report that is provided to NMFS is an unnecessary duplication of effort. NMFS is required to address efforts to reduce duplication in the PRA analysis. The Council may consider it beneficial for the cooperatives to voluntarily provide information that already is available on NMFS's website to summarize and synthesize this information in the context of a larger report about the operations and activities of the cooperative, and to provide the information in a format more readily accessible by the Council and public.

Regarding the deadline for the annual rockfish cooperative report, the Council could consider current deadlines for annual reports required to be submitted to the Council prior to its April meeting. The Bering Sea pollock Incentive Plan Agreement (IPA) annual reports are required to be submitted to the Council by March 15. The AFA cooperative annual reports are required to be submitted to the Council by April 1. When this April 1 deadline was selected, it was thought to provide sufficient time for the annual reports to be available to the Council prior to the start of the April Council meeting. However, this has not necessarily proven correct when Council meetings start prior to April 1. Therefore, a March 15 deadline was selected for the IPA annual reports.

1.8 Council Request for Additional Information

The Council's motion included three specific requests for information but did not define specific alternatives for analysis. Those requests are listed below and the information requested is included in the RIR.

- Include a review of the performance of the entry-level longline fishery and the step-up mechanism that increases the sector's apportionment.

Context: During the development of the CGOA RP review analysts noticed that the entry level longline fishery had not been harvesting up to 90 percent of their allocations, until 2016 when it did for dusky rockfish. When the catch for this fishery exceeds 90 percent of the allocation for that rockfish primary species then the allocation of that rockfish primary species in the following year increases in a stair-step fashion by a prescribed amount (up until a certain percent of the TAC is reached). Given the harvest rate in 2016 by this portion of the fleet, the 2017 allocation for dusky rockfish in this fishery increased by 20 mt. Given the substantial rate of increased harvest of dusky rockfish by this sector, analysts wonder whether the increase was a one-off or whether this increasing harvest rate will continue. If the drastic rate change continues to increase, the overall percentage cap for this fishery may constrain the fishery in future years. If the harvest level in 2016 was an anomaly, the increase in the allocation could strand dusky rockfish in the entry level longline allocation, as there is no mechanism for the catch limit to ever decrease. This has not been an issue and no step-up have occurred since 2016 (See Section 3.5.1.2.2 and Section 3.5.2.3).

- Describe harvesting patterns of vessels in the RP.

Context: Data from the NMFS CAS will be reviewed, analyzed, and reported in this RIR. The information will be presented in a way that describes the harvesting patterns of participants in the RP. See section 3.5.1.5 for more information.

- CGOA Rockfish Bycatch

Context and Discussion: The Council heard public testimony at its October 2019 meeting that CGOA rockfish were becoming more difficult to avoid in other directed fisheries. Based on that testimony staff was asked to provide information on the extent of the rockfish discards and to consider potential solutions to address the regulatory discards of rockfish.

To prevent harvesters from harvesting more primary rockfish than is necessary MRAs are established in regulation. An MRA applies at all times when not in the RP for the duration of a fishing trip (see 50 CFR 679.20(e)(3)). Vessel operators may retain incidental catch species while directed fishing for groundfish species up to the MRA percentage of the basis species retained catch. Table 10 to 50 CFR 679 shows the MRA for various rockfish in other directed fisheries. A rockfish MRA of 5 percent is established for most non-rockfish fisheries except flathead sole, rex sole, deep-water flatfish, and sablefish.

On an annual basis, prior to allocation of CQ to the RP, NMFS will set aside an ICA for POP, northern rockfish, and pelagic shelf rockfish to meet the incidental catch needs of fisheries not included in the cooperative program. The ICA is established conservatively to ensure the TAC for primary and secondary rockfish species is not exceeded. Setting the ICA too high could unnecessarily reduce the amount of the primary species allocated to cooperatives under the RP. This could be mitigated if the Council selects Element 10 under Alternative 2 of this package. Setting the MRA too low could result in increased regulatory discards of the primary rockfish species that are unavoidable in other directed fisheries.

Table 1-2 reports the metric tons of CGOA rockfish discards by trawl vessels in the RP and limited access fisheries during the RP years. Data are annual summaries of the estimated discards. Over 98 percent of all rockfish discards for the period considered are reported in the non-RP fisheries. The greatest reported

discards occurred in 2017 and most of those discards were attributed to the arrowtooth flounder fishery, which as a basis species has a 5 percent aggregate rockfish MRA.

Table 1-2 Rockfish discards in CGOA trawl CV fisheries, 2012 through 2019

Management Program	Species	Year								
		2012	2013	2014	2015	2016	2017	2018	2019	Total
Non RP	GOA Dusky Rockfish	15	12	22	6	83	44	31	6	217
	Northern Rockfish	74	44	55	7	145	17	46	13	401
	Pacific Ocean Perch	46	86	903	137	1,185	2,003	538	435	5,332
OA Total		135	141	980	149	1,413	2,064	615	453	5,950
RP Total	GOA Dusky Rockfish	0	5	0	0	1	0	0	1	8
	Northern Rockfish	0	0	0		0	0	0	0	1
	Pacific Ocean Perch	7	9	20	7	15	5	6	11	79
RP Total		7	14	21	7	17	5	6	12	89
Total		142	155	1,000	156	1,430	2,069	622	465	6,039

Source: AKFIN Summary of CAS data

Trawl vessels discarding rockfish in the CGOA include both RP vessels and non-RP vessels. Modifications to the RP could potentially implemented that would allow RP CQ holders to use their CQ to retain primary rockfish species above the MRA. Allowing rockfish CQ to be used to cover incidental catch in other fisheries could be complex and require several program changes. For example, if a vessel is checked-out of the RP their incidental catch of primary and secondary species is not deducted from their cooperative's allocation. The Council would need to consider and develop alternatives that would define how ICA is deducted from CQ holders whether they are checked into a cooperative or not. Persons that are CQ holders could benefit from being allowed to retain rockfish above the MRA by using their CQ.

Another option would be to consider reviewing and potentially modifying the MRAs, especially for basis species where it is set at 5 percent. To accomplish this would likely require a trailing amendment to this package. Modifications of MRAs are typically complicated, especially to understand the ramifications to all fisheries and potential fleet response to the change. Increasing the MRA could result in an increase in the ICAs for the primary species. That would result in less CQ being allocated to the cooperatives, at least at the beginning of the year. If the catch of primary rockfish species does increase outside of cooperatives, it would have distributional impacts on the various participants in the fishery. For example, if a person caught and sold more primary rockfish - accounted for under the ICA, it would change the amount that persons would take into the cooperative as a result of the qualifying catch history.

In summary, addressing increased bycatch of primary rockfish species outside the cooperative structure may be best accomplished outside this amendment package. The RP reauthorization must be completed prior to the 2022 fishing year. Depending on the number of amendments made under this package, very little time would be available for staff to make substantial changes to the program without jeopardizing reauthorizing the program for the 2022 fishing year.

1.9 Comparison of Alternatives

1.9.1 Summary table of alternatives and findings

Table 1-3 Summary of alternative and major findings

	Alternative 1	**Alternative 2**
	No action: Return CGOA rockfish fisheries to limited access under the LLP.	Status Quo: Extend the CGOA RP structure for a minimum of 10 years.
Differences in Alternatives		
Apportionments	Primary rockfish species would be managed at the sector level using ICAs and MRAs, and possibly a longline apportionment. Chinook salmon PSC limits would be established for the non-pollock trawl fisheries. The third period halibut PSC would not be reduced to account for catch in the RP.	No Change in initial allocations.
Harvester Participation	Increase in the CV sector and CPs sector as vessel operators compete for a share of the available TAC	Stable participation. The number of CVs and CPs allocated QS will remain the same, the number of vessels harvesting the allocation will remain at about 25 CVs and 4 CPs.
Processor Participation	The number of processors could increase with the removal of the Kodiak delivery requirement, as processors from other communities or floating processors enter the fishery	Stable Participation. Shore-based processors are associated with CV cooperatives. The number of cooperatives has remained about the same (decreased by 1), but one shore-based processing firm was purchased by another firm associated with different RP cooperative and another firm ceased options in 2017 and its cooperative was disbanded. One CP firm's vessels were acquired by other RP participants and has resulted in only 1 CP cooperative currently operating.

Environmental Impacts		
	Alternative 1	**Alternative 2**
Halibut PSC	Increased halibut PSC rates in the rockfish fishery. Overall halibut usage could increase if rates increase and set-asides built into the RP could be eliminated.	Halibut PSC will likely be about the same as it is currently with variation attributed to changes in halibut and rockfish abundance.
Chinook Salmon PSC	Rates may increase as incentives within the cooperative regulated by civil contracts are removed. Rates will vary by year since Chinook salmon remain difficult to avoid.	Rates are expected to continue to vary despite agreements to avoid Chinook salmon.
Habitat	Pressure to harvest fish quickly could result more contact with the sea floor.	Increased use of pelagic gear is expected to continue and result in less impact on the sea floor.
Seasons	The CGOA rockfish fishery would be prosecuted in July.	The Season would run from May 1 through November 15, with most catch taken in May and early June.
Economic Impacts		
Entry Level Longline Fishery	Impacts would depend on how the Council will provide opportunity for this fleet. If the fishery is closed, it could have the greatest impact on the three or four Jig gear vessel operators that typically harvest the majority of the current set-aside.	Three jig gear vessels generally taken the vast majority of the fishery and the set-aside has been sufficient to keep the fishery open all year. Several other vessels taken very small amounts from the set-aside.
Fishery Value	All else being equal, it is expected to decline for both harvesters and processors due to potentially increased discards and lower quality.	Should remain the same based on what the stakeholders can control. Overall value will continue to be determined by world market conditions, exchange rates, tariffs, and TACs.
Lost Opportunity	Some CVs may lose the opportunity to tender in the salmon fishery, or they may harvest less rockfish due to the loss of harvest privileges. Processors may forgo the opportunity to have excess capacity and labor to produce different and higher quality products. They may also lose capacity that was available in July to process pink salmon.	None
Gained Opportunity	CVs and processors that are currently excluded from the fishery could enter the limited access fishery if they are qualified.	None
Net Benefits to the Nation	Expected to decrease, all else being equal.	Expected to stay the same, all else being equal

Management and Enforcement		
	Alternative 1	**Alternative 2**
Safety	Minimal decline in safety	No Change
Observer Coverage	Partial coverage for CVs and shoreside processors (pay 1.25% until 2021 and then 1.65% fee), full coverage for CPs	No Change
Alt 2, Element 2: Roll-over Pacific cod from CV cooperatives to limited access fisheries	n/a	Rolling over excess Pacific cod from cooperatives to limited access fisheries would potentially increase directed Pacific cod catches in the fixed gear fisheries and reduce regulatory discards in trawl fisheries with no negative impacts on RP cooperatives.
Alt 2, Element 3: Exempt CVs from CR sideboard limits	n/a	Would allow a vessel that can fish Pacific cod in the cooperative to also fish rockfish and sablefish if they have access to CQ
Alt 2, Element 4: Require NMFS to prepare an annual cost recovery report	n/a	NMFS already prepares the report on a voluntary basis. This would make the report mandatory.
Alt 2, Element 5: Define who must submit volume and value report	n/a	Clarify that only shore-based processors must submit the report. CPs do not have a market-based transaction to determine ex-vessel value.
Alt 2, Elements 6: Cooperative report requirements	n/a	Regulations would no longer require an annual RP cooperative report be submitted to NMFS. The Council could still request that the RP cooperatives voluntarily provide an annual report at its April meeting when other LAPP participants provide their annual reports to the Council.
Alt 2, Elements 7: Cooperative report requirements	n/a	This element is not necessary to define actions taken by the cooperatives in the cooperative report to NMFS if the Council selects Element 6, since the cooperative reports to NMFS would no longer be required.
Alt 2, Element 8: Remove the requirement to include the co-op fishing plan in the co-op application	n/a	The fishing plan is not fully developed when the application must be submitted and the information is included in the cooperative report at the end of the fishing year.
Alt 2, Element 9: Remove observer workstation requirement	n/a	Observer coverage is not required for shoreside processors under the RFP making the observer sampling station unnecessary. This could reduce costs realized by processors.
Alt 2, Element 10: Allow primary rockfish species ICA roll over to CV cooperative	n/a	Provide NMFS the regulatory authority to roll over unused primary species to CV cooperatives if not used in other directed fisheries. This could benefit NMFS and the quota holders and not have negative impacts on other directed fisheries.
Alt 2, Element 11: Clarify use caps	n/a	Clarify whether only CV CQ is used to calculate the shoreside caps. This would exclude any CP quota used by CVs or shore-plants from counting against the limit.
Alt 2, Element 12:Change cooperative check-in notification from 48 hours to 24 hours	n/a	Use of the electronic reporting system allows vessels to quickly check-in to a cooperative. A 24 hour advance notice of check-in is sufficient to manage the fishery.

Management and Enforcement (continued)		
	Alternative 1	**Alternative 2**
Alt 2, Element 13: Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries in § 679.82(e)(4).	n/a	Removes RP program sideboard limits that apply to CPs fishing in the WGOA rockfish fisheries. Would generate operational efficiencies for CP firms in the WGOA. Would not disadvantage other harvesters in the WGOA relative to their historic participation.
Alt 2, Element 14: Remove the 3-day stand down for CVs that fish for groundfish in the BSAI while pollock or Pacific cod is open to directed fishing in the BSAI from the GOA stand down if they check into the RP and fish in the CGOA RP	n/a	Removing the 3-day stand for vessels moving from the BSAI, when the directed pollock and Pacific cod fisheries are open and the vessel has used trawl gear in the BSAI, would not impact the limited access fisheries participants in the CGOA and WGOA. RP cooperatives could also prohibit their members from checking out of the RP if it has been less than 3-days since they left the BSAI. This change will primarily impact vessel operators in the fall, since the RP opens in May and the early BSAI pollock and Pacific cod fisheries have already closed to directed fishing.

1.9.2 Rationale for the Council's Preferred Alternative

The Council received public testimony, input from its Scientific and Statistical Committee and Advisory Panel, staff reports, and analysis. Information presented to the Council indicated the RP is working as intended and is considered a successful program by all stakeholders. No testimony was provided that indicated the program was not meeting the goals and objectives selected by the Council. Because the program is functioning as intended and the Council has the authority to modify the RP at any time in the future if problems are identified, the Council selected its PA to extend the program and remove the sunset date. The Council noted that no other LAPPs under its authority include a sunset date; the Council also noted that there is considerable time and expense associated with reauthorizing the RP when it is scheduled to sunset. These costs are in addition to the required program reviews established in Section 303A of the MSA, one such review was conducted only two years prior to the analysis to reauthorize the RP. After considering all of these factors, including that the mandatory program reviews were thorough and provide information needed to understand whether any modifications to the RP are necessary, the Council determined that reauthorizing the program without a sunset date best met its goals and objectives for management of the CGOA rockfish fishery.

The Council also noted that several minor regulatory changes are included in the PPA under Alternative 2 to allow the program to function more effectively and efficiently. These elements are discussed briefly.

- Element 2 provides NMFS with the authority to reallocate unused RP Pacific cod to sectors that have fisheries open to directed fishing and sufficient capacity to utilize the reallocation. This will help the fishery better achieve OY and reduce regulatory discards. NMFS would be provided the flexibility to reallocate unused Pacific cod from the RP to other fisheries consistent with current regulations at § 679.20(a)(12)(ii) that govern how Pacific cod TAC is reallocated among the sectors in the GOA. These regulations specify that the Regional Administrator will consider reallocations to the CV sectors first, then to the combined CV and CP pot sector, and then to all other CP sectors. Pacific cod that has been available for reallocation in other sectors over the past five years has been primarily reallocated to the combined CV/CP pot sector. This is expected to continue under the Preferred Alternative. In addition, directed trawl fisheries close on November 1, so it is unlikely that reallocations of Pacific cod from the Rockfish Program cooperatives would occur in time to be used by the directed trawl CV Pacific cod fisheries. However, as pointed out in the analysis, if the trawl CV sector did not have a sufficient Pacific cod apportionment to cover their bycatch needs in other directed fisheries such as flatfish, reallocations could benefit the sector by reducing the requirement for regulatory discards if Pacific cod were on PSC status late in the year. Given the current regulatory structure for non-RP limited access fisheries in the GOA and the uncertainties about the Pacific cod stocks in the GOA, the benefits in regulatory consistency and flexibility to avoid possible regulatory discards, if needed, outweigh the need to specify that these reallocations go only to fixed gear, given that fixed gear sectors are likely receive most or all of the reallocation in most years.

- Element 3 will provide additional flexibility to one LLP license holder that is currently subject to crab sideboard limits that prohibit the LLP license holder from fishing in any directed fisheries other than pollock and Pacific cod. Removing the crab sideboard would allow the holder of that LLP license to harvest RP primary species if they have access to CQ through an inshore cooperative.

- Element 4 provides stakeholders with assurance that NMFS will produce an annual cost recovery fee report. The report is currently produced on a voluntary basis. Selection of this element does not increase costs to NMFS since they are currently producing the report.

- Element 5 clarifies regulations regarding who is required to submit reports to help determine the standardized ex-vessel prices that are used to collect cost recovery fees. The clarification ensures that only processors that receive RP CQ are required to submit the report. Processors that do not receive RP CQ are not required to submit the reports, saving those processors time and expense when no value is derived from submitting the report. This is consistent with National Standard 7.

- Element 6 eliminates the requirement that RP cooperatives submit an annual report to NMFS. The report was not used by NMFS to manage the fishery and contained confidential data that could not be released to the public. The Council determined that requiring the submission of data that NMFS already has is not necessary. Eliminating the requirement saves time and cost preparing reports that are not used. Reports could still be requested by the Council to aid in the monitoring of the program. These reports could be presented to the Council at its April meeting when other LAPP program present their reports. This is consistent with National Standard 7.

- Elements 8 and 9 were selected to remove regulatory requirements that are outdated or did not function as intended when implemented. Removing these regulations will reduce costs and will not have a negative impact on NMFS or the quality of information used to manage the fishery. This is consistent with National Standard 7.

- Element 10 would reallocate unused rockfish from the RP to the limited access fisheries. This could benefit limited access fishery participants without having a negative impact on the RP participants. This Element provides flexibility for NMFS to reallocate unused incidental catch allowance for the primary rockfish species back to the RP cooperatives to promote achievement of optimum yield consistent with National Standard 1. The PA establishes a priority for ICA reallocations to the CV sector that will benefit the community of Kodiak in accordance with National Standard 8.

- Element 11 would clarify what quota is used when calculating CV ownership and use caps. Specifically, whether CP quota transferred to the CV sector should be included. Clarifying the calculation of caps will benefit NMFS staff. It will also benefit any CV sector participants that could exceed the caps if CP quota were included in the calculation. Eliminating CP quota from the caps appears to be consistent with the original intent of the regulation and should not negatively impact consolidation limits imposed on the CV sector. In addition, excluding CP quota used by catcher vessels from the use caps is not expected to negatively impact consolidation limits for the catcher vessel sector. This Element may provide additional benefits to the CV cooperatives and those benefits would also flow to the City of Kodiak and the resident workforce, in accordance with National Standard 8.

- Element 12 would modify the RP cooperative check-in times from 48 to 24 hours. This change was requested by industry to provide greater flexibility for the fleet. Vessel operators can move more quickly into the cooperative and potentially reduce the amount of time vessels are idle waiting to begin fishing rockfish. The Council determined that NMFS does not need the additional day to complete the process of checking vessels into cooperatives and the reduced down-time could benefit industry. Vessels may still need to wait for an available observer in order to start fishing, but if an observer is available then the wait time will be reduced.

- Element 13 would remove RP sideboards for WGOA CP sector. The RP sideboard limits apply during the month of July and were originally implemented to protect Amendment 80 CPs that did not benefit from the RP from those Amendment 80 CPs that did qualify. This action does not modify the Amendment 80 sideboard limits that are applied on an annual basis. The CPs that would no longer be subject to RP sideboard limits under this element would still be subject to the Amendment 80 sideboard limits. RP sideboards ensure that vessels subject to the sideboards may

only harvest about 50 percent of the POP TAC and about 75 percent of northern rockfish and dusky rockfish TACs in July. Table 3-27 shows that the current RP allows catcher processors to take 100 percent of the POP TAC and effectively 100 percent of the Northern Rockfish TAC on an annual basis under the status quo. The CPs can take 72 percent of the dusky TAC under the status quo. Based on past levels of harvest, removing the RP sideboard limits is expected not to have an impact on the trawl CV sector in the WGOA rockfish fisheries. After the Council considered this information it felt it is appropriate to remove the RP sideboards because they are no longer serving the intended purpose of protecting members of the Amendment 80 sector, due to consolidation in the sector, and it will not negatively impact the CV sector relative to the status quo. The action will increase efficiency in the harvest of WGOA groundfish consistent with National Standard 1, because CPs will not need to fish additional vessels in the GOA during July.

- Element 14 would eliminate the 3-day stand down when vessels move from the BSAI into the RP, but would not eliminate the 3-day stand down for vessels moving from the BSAI into other limited access fisheries in the CGOA or WGOA. This change will primarily impact vessel operators in the fall, since the Rockfish Program opens in May and the early BSAI pollock and Pacific cod fisheries have already closed to directed fishing. Removing the 3-day stand down only for vessels that move in to the RP would allow vessels moving from the BSAI into the CGOA RP cooperative fisheries to benefit from potential reductions in down-time without creating adverse impacts on other RP cooperative members or the GOA limited access fisheries. Vessels that are not checked into the RP would still need to comply with the stand down. As noted in public comment, vessels must be checked in and out of the RP by the cooperative managers and the managers would be able to monitor the activities of the cooperative vessels to ensure that they do not abuse this provision by checking into the program and immediately checking out.

1.10 Alternatives Considered but not Analyzed Further

NMFS requested that the Council consider two changes at the October 2019 meeting that were not included in this package.

1. Closing the RP Pacific cod fishery on November 1 instead of November 15 to be consistent with other GOA Pacific cod seasons.
2. Changing the notice of landings requirements under the RP.

Both of these issues are discussed in detail in Section 3.5.10.

2 Environmental Assessment

There are four required components for an environmental assessment. The purpose of this section is to analyze the environmental impacts of the Central Gulf of Alaska RP reauthorization. The need for the proposal is described in Chapter 1.1, and the alternatives in Chapter 1.6. A list of agencies and persons consulted is included in Section 5.

This chapter evaluates the direct, indirect, and cumulative impacts of the alternatives, options, and elements on the various resource components. The social and economic impacts of this action are described in detail in the SIA (Appendix 1 and Section 3.5.6) and in the RIR of this analysis (Chapter 3).

Recent and relevant information, necessary to understand the affected environment for each resource component, is summarized in the relevant section. For each resource component, the analysis identifies the potential impacts of each alternative, and uses criteria to evaluate the significance of these impacts. If significant impacts are likely to occur, preparation of an EIS is required. Although an EA should evaluate economic and socioeconomic impacts that are interrelated with natural and physical environmental effects, economic and social impacts by themselves are not sufficient to require the preparation of an EIS (see 40 CFR 1508.14).

An environmental assessment must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality (CEQ) regulations for implementing NEPA define cumulative effects as:

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

The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed if evaluating each action individually. Concurrently, the CEQ guidelines recognize that it is most practical to focus cumulative effects analysis on only those effects that are truly meaningful.

2.1 Methods

This analysis was prepared using data from the NMFS catch accounting system as described in Section 3.4. Data were sourced using NMFS Alaska Region Catch Accounting System (CAS) and Alaska Department of Fish and Game (ADFG)/Commercial Fisheries Entry Commission (CFEC) Fish Tickets in Comprehensive_FT. Alaska Fisheries Information Network (AKFIN) compiles the Comprehensive datasets. CAS was used to show total catch and total retained amounts. For biological and physical ecosystem components (target species stocks, non-target species, marine mammals, seabirds, and EFH), impacts of the alternatives were evaluated in a largely qualitative manner although data are presented to support conclusions.

The analyses presented in the sections below focus primarily on target stocks (Section 2.2), Chinook salmon and Pacific halibut (Section 2.3), and EFH (Section 2.4). Additional information on methods specific to the EA is described in this section.

Tissue samples were taken from Chinook salmon delivered to shore-based processing plants that were partners in RP cooperatives from 2013 through 2018. The goal was to sample all Chinook salmon taken as bycatch in the RP. A tissue sample from all Chinook taken in the shoreside component of the RP as well as snouts from any tagged Chinook salmon were sent to the NMFS Auke Bay Lab for study in 2017

and 2018. These samples were used to determine stock or origin of the Chinook salmon PSC. Otoliths from all Chinook salmon were sent to ADFG Mark, Tag, and Age Laboratory to determine the proportion that were from wild stocks versus hatchery fish. This information is summarized in Section 2.3.

The Fishing Effects (FE) model is a cumulative effects model that incorporates habitat impacts and recovery at a monthly time step utilizing Vessel Monitoring System (VMS) data. VMS data is available for most GOA vessels starting in 2003. For the purposes of this analysis, three periods are considered 2003-2006 Limited Access Fishery; 2007-2011 RPP; and post-2012 under the RP. The FE model focuses on reduction in trawl gear contact with the sea floor. This information is summarized in Section 2.4.

2.1.1 Documents Incorporated by Reference in this Analysis

This EA relies heavily on the information and evaluation contained in previous environmental analyses, and these documents are incorporated by reference. The documents listed below contain information about the fishery management areas, fisheries, marine resources, ecosystem, social, and economic elements of the groundfish fisheries. They also include comprehensive analysis of the effects of the fisheries on the human environment and are referenced in the analysis of impacts throughout this chapter.

Alaska Groundfish Harvest Specifications Final Environmental Impact Statement (NMFS 2007).

This EIS provides decision makers and the public an evaluation of the environmental, social, and economic effects of alternative harvest strategies for the federally managed groundfish fisheries in the GOA and the Bering Sea and Aleutian Islands management areas and is referenced here for an understanding of the groundfish fishery. The EIS examines alternative harvest strategies that comply with Federal regulations, the FMP for Groundfish of the GOA, the FMP for Groundfish of the BSAI Management Area, and the MSA. These strategies are applied using the best available scientific information to derive the TAC estimates for the groundfish fisheries. The EIS evaluates the effects of different alternatives on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. This document is available from https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-harvest-specifications-environmental-impact-statement-eis.

Stock Assessment and Fishery Evaluation (SAFE) Report for the Groundfish Resources of the GOA (NPFMC, 2018).

Annual SAFE reports review recent research and provide estimates of the biomass of each species and other biological parameters. The SAFE report includes the acceptable biological catch (ABC) specifications used by NMFS in the annual harvest specifications. The SAFE report also summarizes available information on the ecosystems and the economic condition of the groundfish fisheries off Alaska. This document is available from https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments

Final Programmatic Supplemental Environmental Impact Statement (PSEIS) on the Alaska Groundfish Fisheries (NMFS 2004).

The PSEIS evaluates the Alaska groundfish fisheries management program as a whole and includes analysis of alternative management strategies for the GOA and BSAI groundfish fisheries. The EIS is a comprehensive evaluation of the status of the environmental components and the effects of these components on target species, non-specified species, forage species, prohibited species, marine mammals, seabirds, essential fish habitat, ecosystem relationships, and economic aspects of the groundfish fisheries. A Supplemental Information Report (SIR) (NPFMC and NMFS 2015) was prepared in 2015 which

considers new information and affirms that new information does not indicate that there is now a significant impact from the groundfish fisheries where the 2004 PSEIS concluded that the impact was insignificant. The PSEIS document is available from https://www.fisheries.noaa.gov/resource/document/alaska-groundfish-fisheries-programmatic-supplemental-environmental-impact, and the SIR from https://repository.library.noaa.gov/view/noaa/19481/Share.

CGOA RP EA/RIR (NPFMC 2011)

Amendment 88 to the GOA FMP was developed to implement the RP in 2012. Information in that paper satisfied the regulatory requirements to implement the RP after the RPP expired. Many of the findings in that EA remain consistent with the impacts that would be realized under this action and are included by reference. https://www.fisheries.noaa.gov/resource/document/secretarial-review-regulatory-impact-review-final-environmental-assessment.

CGOA RP Review (NPFMC 2017)

A review of the CGOA RP (RP) is required under the Magnuson-Stevens Act and NOAA Fisheries requires an Allocation Review. This paper fulfills those review requirements, focusing on the goals and objectives of the program defined by the North Pacific Fishery Management Council, Magnuson-Stevens Act limited access privilege program requirements, and NOAA Fisheries guidance for program reviews. This review includes quantitative measures of the effectiveness of the program meeting the goals and objectives when data allows. A qualitative discussion of the impacts is provided when sufficient data are unavailable. This document is available from https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Rockfish/RockfishProgramReview1017.pdf.

2.1.2 Resource Components Addressed in the Analysis

Table 2-1 shows the components of the human environment and whether the proposed action and its alternatives have the potential to impact that resource component and thus require further analysis. Extensive environmental analysis on all resource components is not needed in this document because the proposed action is not anticipated to have environmental impacts on all resource components.

The effects of the alternatives on the resource components beyond the existing status quo would be caused by selecting the No Action alternative and returning the fishery to the race for fish under LLP management. The No Action alternative is anticipated to result in higher levels of groundfish bycatch and PSC mortality. Rockfish seasons in the CGOA are expected to shorten and take place in July instead of primarily May and June with greater daily effort when the season is open. Increased trawl gear contact with the sea floor could increase impacts to benthic habitat as vessel operators compete to harvest a portion of the available TAC. The changes in the fishery are also expected to have negative social and economic impacts on fishery participants as described in summary in Section 3.5.6 and in detail in the SIA (Appendix 1). Selecting Alternative 2 (maintaining the RP) will continue the current management structure under the LAPP and will not negatively impact the resource components relative to the current conditions. **Under Alternative 2, minimal or beneficial effects are expected on target species, unallocated species, and EFH. No effects are expected on ecosystem component species, marine mammals, seabirds, or the ecosystem.** No effect is presumed for these components because fishing regulations (e.g., primarily a summer fishing season and gear types), harvest limits or regulations protecting habitat and important breeding areas as described in previous NEPA documents (North Pacific Fishery Management Council, 2011) would not be changed by any of the alternatives. No effects are presumed for marine mammals because neither existing protection measures nor allowable harvest amounts for important prey species would be changed. Moreover, under the existing RP, regulations would define the seasons in which trawl fishing is allowed, methods that may be used, areas in which trawling is allowed, and restrict the maximum amount of trawling to TAC levels. None of the alternatives

would change TAC amounts or areas closed to trawling. As a result, detailed analysis is included only for groundfish, prohibited species, habitat, and social and economic components, the only resource components which the proposed action may impact. A brief discussion of the other components for which no effects are expected are described in this section with information indicating why they are not considered to be a potentially affected resource component.

Table 2-1 Resources potentially affected by the proposed action and alternatives.

Potentially affected resource component							
Groundfish	**Prohibited Species**	**Ecosystem Component Species**	**Marine Mammals**	**Seabirds**	**Habitat**	**Ecosystem**	**Social and economic**
Y	Y	N	N	N	Y	N	Y

N = no impact anticipated by each alternative on the component.
Y = an impact is possible if each alternative is implemented.

2.1.3 Cumulative Effects Analysis

This EA analyzes the cumulative effects of each alternative and the effects of past, present, and reasonable foreseeable future action (RFFA). Based on projected impacts of the alternatives, the resources with potentially meaningful cumulative effects are primary and secondary RP species, PSC species, habitat, and social and economic resource components. The cumulative effects on the other resources have been analyzed in numerous documents and the impacts of this proposed action and alternatives on those resources is minimal, therefore there is no need to conduct an additional cumulative impacts analysis.

Each section below provides a review of the relevant past, present, and RFFA that may result in cumulative effects on the resource components analyzed in this document. A complete review of the past, present, and RFFAs are described in the prior NEPA documents incorporated by reference and the SIR NMFS prepares to annually review of the latest information since the completion of the Alaska Groundfish Harvest Specifications EIS. SIRs have been developed since 2007 and are available on the NMFS Alaska Region website. Each SIR describes changes to the groundfish fisheries and harvest specifications process, new information about environmental components that may be impacted by the groundfish fisheries, and new circumstances, including present and RFFAs. NMFS reviews the RFFAs described in the Harvest Specifications EIS each year to determine whether they occurred and, if they did occur, whether they would change the analysis in the Harvest Specifications EIS of the impacts of the harvest strategy on the human environment. In addition, NMFS considered whether other actions not anticipated in the Harvest Specifications EIS occurred that have a bearing on the harvest strategy or its impacts. The SIRs provide the latest review of new information regarding Alaska groundfish fisheries management and the marine environment since the development of the Harvest Specifications EIS and provide cumulative effects information applicable to the alternatives analyzed in this EA.

Actions are understood to be human actions (e.g., a designation of northern right whale critical habitat in the Pacific Ocean), as distinguished from natural events (e.g., an ecological regime shift). CEQ regulations require consideration of actions, whether taken by a government or by private persons, which are reasonably foreseeable. This requirement is interpreted to indicate actions that are more than merely possible or speculative. In addition to these actions, the cumulative effects analysis includes the effects of climate change.

Actions are considered reasonably foreseeable if some concrete step has been taken toward implementation, such as a Council recommendation or NMFS's publication of a proposed rule. Actions only "under consideration" have not generally been included, because they may change substantially or may not be adopted, and so cannot be reasonably described, predicted, or foreseen. Identification of

actions likely to impact a resource component within this action's area and time frame will allow the public and Council to make a reasoned choice among alternatives.

2.2 Target Species

One of the goals of the RPP was to enhance resource conservation in the CGOA rockfish fisheries. The RP was intended to continue the cooperative management structure that provides the fleet with tools to minimize bycatch to the extent practicable, reduce discards and improve utilization of groundfish species. This section provides an overview of the status of the RP primary and secondary species stocks before and after implementation of the program to provide a basis for evaluating the impacts of continuing the program or not under the alternatives. Much of the information presented for primary and secondary RP species is taken from the most recent GOA SAFE document (NPFMC, 2018) in addition to the documents referenced in Section 2.1.1.

The RP primary species are northern rockfish, POP, and dusky rockfish. The RP secondary species are Pacific cod, rougheye rockfish, shortraker rockfish, sablefish, and thornyhead rockfish. The RP primary species stocks are assessed biennially as three distinct species in Federal waters. The RP secondary species stocks are assessed either biennially or annually and GOA-wide biomass estimates are available each year. The RP primary and secondary species are not overfished and are not approaching overfished levels.

An ABC and TAC is specified for each species, which is apportioned to the GOA management areas (Western, Central, and Eastern) based on the distribution of survey biomass. Pertinent information on the biology, ecological relationships and fishery information on each species is summarized in this section.

TAC for each species allocated under the CGOA RP are reported in this section for 2003 through 2019. Catch data are reported for 2003 through 2018. These years represent the longest times series of complete fishing years when consistent catch data are available. Primary RP species TACs are set equal to the ABC. Over Fishing Levels (OFL) are set GOA-wide for Northern rockfish and dusky rockfish. OFLs for POP are set for the Southeast Outside area and the combined Western, Central, and West Yakutat areas. Because there is no OFL set for the CGOA it is not reported and the ABCs are not reported since they are equal to the TAC.

2.2.1 Status of Primary RP Species

The primary rockfish species in the program are POP, northern rockfish, and dusky rockfish and they are assessed biennially as three distinct species. These are the three rockfish species that had traditionally been open to directed fishing in the CGOA.

Adult rockfish range in size from about 12 centimeters (cm) to about 104 cm, but most species are between 38 cm and 51 cm. Reproduction is generally through internal fertilization and live birth. Adult rockfish species have different habitats. Demersal shelf rockfish live in near-shore shallower waters on rocky bottom, pelagic shelf rockfish are often found near the bottom and up in the water column, and other species live in deeper waters. Rockfish are long-lived, slow-growing fish with most species having maximum ages over fifty years old. Shortraker and rougheye rockfish are some of the oldest of the rockfish.

GOA species that are not included as primary or secondary species are not managed under the RP. These species include flatfish, pollock, Atka mackerel, rockfish species not included in the RP, and sculpins.

The RP sector allocation of the primary species is equal to the CGOA TAC minus the ICA established for bycatch needs in other target fisheries, and the allocation to the longline entry level fishery. The figures

presented later in this section (and are repeated in the RIR) report the CGOA TACs and RP catch of the three primary species.

Table 2-2 provides a summary of the three primary species apportionments for 2019. The fishing season is from May 1 through November 15. Under the RP most of the catch occurs in May and June when harvesters and processors have fewer opportunities. Under the No Action Alternative the fishery is expected to occur in July, with the fisheries being closed after three weeks, or sooner, because either the available TAC is taken or a PSC limit is reached.

Table 2-2 Primary RP Species Apportionments, 2019

Rockfish primary species	CGOA annual ABC/TAC	ICA	TAC minus ICA	Allocation to the entry level longline [1] fishery	Allocation to the rockfish cooperatives
POP	19,646	3,000	16,646	5	16,641
Northern rockfish	3,338	300	3,038	5	3,033
Dusky rockfish	2,764	250	2,514	50	2,464
Total	**25,748**	**3,550**	**22,198**	**60**	**22,138**

[1] Longline gear includes hook-and-line, jig, troll, and handline gear (50 CFR 679.2).

Pacific Ocean Perch[10]

POP (*Sebastes alutus*) is a demersal rockfish species with a wide geographic distribution from California to the North Pacific and the Bering Sea to the Kuril Islands (Hanselman et al. 2003). They are a long-lived, slow-growing rockfish species, with maximum age estimated to be in excess of 90 years.

CGOA POP TACs ranged between 6,000 mt and 10,000 mt until 2010 and increased to 20,112 mt in 2018 before declining slightly to 19,656 mt in 2019 (Figure 2-1). Spawning biomass was projected to decrease slightly (~2 percent) in 2019 but the stock remains well above B40%[11]. The stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition.

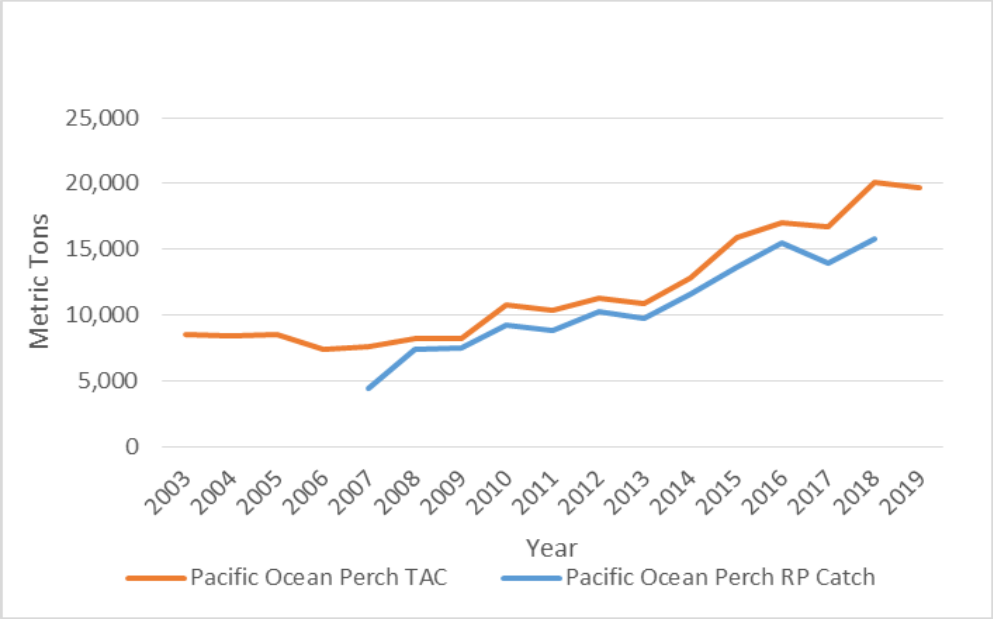
POP abundance is influenced by periodically abundant year classes. Availability of abundant zooplanktonic prey for POP larvae or post-larvae may be an important determining factor in year class strength. However, there is no information on food habits of larval or post-larval rockfish thus it is difficult to draw a relationship between food availability and year class strength. Some juvenile rockfish in inshore habitat have been found to prey on shrimp, amphipods, other crustaceans, mollusks and some fish.

POP are preyed upon by a variety of other fish at all life stages and to some extent marine mammals as well during late juvenile and adult stages. Documented predators include Pacific halibut and sablefish and it is likely that Pacific cod and arrowtooth flounder also prey upon POP (NMFS 2004b). Pelagic juveniles are consumed by salmon and benthic juveniles are consumed by lingcod and other demersal fish (NMFS 1997). The relative population impact of predators is unknown, although it is presumed predation would

[10] Much of this information is incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments
[11] 40% of the unfished stock size.

have a larger impact at the larval, post-larval and juvenile life stages. Information on these life stages and their related predators however is unknown.

Figure 2-1 CGOA POP TAC and RP catch



Source: NMFS annual Specifications and AKFIN summary of CAS data

Northern Rockfish[12]

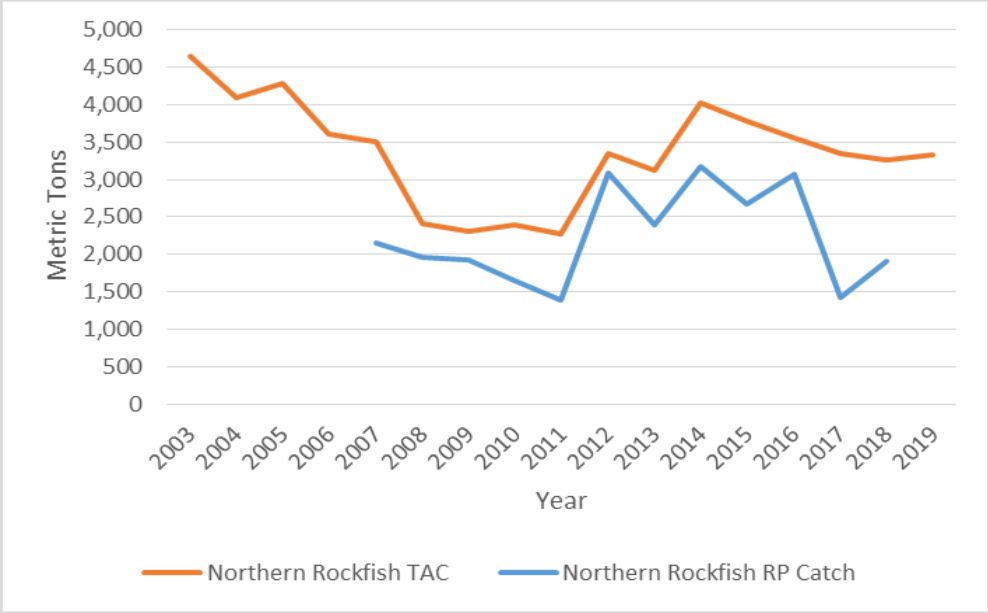
Northern rockfish, Sebastes polyspinis, are a semidemersal long-lived rockfish species. Their distribution ranges from northern British Columbia across the Pacific Rim to eastern Kamchatka and the northern Kurile Islands to the eastern Bering Sea (Allen and Smith 1988). They are most abundant throughout their northerly range in Alaskan waters from the western end of the Aleutian Islands to Portlock Bay in the CGOA. There is little known about the life history of northern rockfish.

While there is limited information on the habitat preference of juvenile northern rockfish, trawl surveys and commercial fishery data have indicated that adult northern rockfish prefer relatively shallow banks on the outer continental shelf at depths between 75 meters and 150 meters. These data also indicate that within this habitat adult northern rockfish have patchy, localized distributions. This may be a result of the prey availability of euphausiids. This distribution of prey may help to explain the observed patchy distribution of northern rockfish.

Northern rockfish CGOA TACs ranged from a low of 2,281 mt in 2011 to a high of 4,640 in 2003 (Figure 2-2). The 2019 TAC is set at 3,338 mt, or about 30 mt below the 2003 through 2019 average. The 2019 spawning biomass estimate (36,365 mt) is above B40 percent (30,480 mt) and projected to decrease to 34,046 mt in 2020. Total biomass (2+) for 2019 is 87,409 mt and is projected to decrease to 84,326 mt in 2020. Northern rockfish stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition.

[12] Much of this information is incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments

Figure 2-2 CGOA Northern rockfish TAC, total trawl gear catch, and RP catch



Source: NMFS annual Specifications and AKFIN summary of CAS data

Dusky Rockfish[13]

Dusky rockfish (Sebastes ciliatus) yellowtail rockfish (S. flavidus), and widow rockfish (S. entomelas) make up the pelagic shelf rockfish species. Of these three, dusky rockfish is the most important species Gulf-wide in the assemblage while the other two species are minor parts of the assemblage in Alaskan waters. Dusky rockfish has the northernmost distribution of all rockfish species in the Pacific Ocean. While the species range extends from British Columbia north to the Bering Sea and west to Hokkaido Island, Japan, the species appears to be abundant only in the GOA.

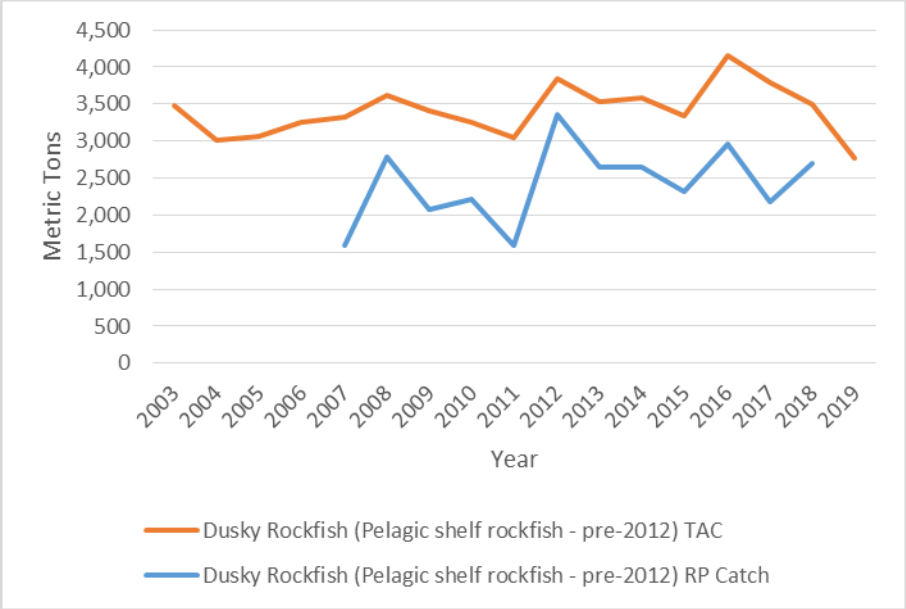
There are two distinct species of dusky rockfish in the GOA, a lighter-colored species (light dusky), found in more offshore waters and a darker-colored species found in shallow waters closer inshore (Clausen et al. 2003). The majority of available data on dusky rockfish from trawl surveys and the commercial fishery are on light dusky rockfish.

The stock condition of dusky rockfish is influenced by periodically abundant year classes. As with the other rockfish species, the availability of zooplankton prey may play an important role in year class strength, however there is insufficient information available on food habits to determine this.

Dusky rockfish TACs remained fairly steady over the years considered (Figure 2-3). TACs ranged from 2,760 mt in 2019 to 4,147 mt in 2016. The 2019 TAC was 646 mt below the 2003 through 2019 average. The dusky rockfish TAC is about the same size as the northern Rockfish TAC, but only about 15 percent of the POP TAC. The stock is not being subjected to overfishing, is not currently overfished, nor is it approaching an overfished condition.

[13] Much of this information is incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments

Figure 2-3 CGOA dusky rockfish TAC, total trawl gear catch, and RP catch



Source: NMFS annual Specifications and AKFIN summary of CAS data

2.2.2 Status of Secondary RP Species

Secondary species allocated under the RP include three rockfish species, Pacific cod, and sablefish. These species may be taken as a directed fishery in the RP, if sufficient CQ is available, or taken as incidental catch when directed fishing for the primary RP species.

Shortraker rockfish, rougheye rockfish, and blackspotted rockfish[14]

As with most other rockfish, shortraker rockfish (*Sebastes borealis*) and rougheye rockfish (*Sebastes aleutianus*) are slow growing and long-lived. They inhabit waters of the outer continental shelf and continental slope. Shortraker rockfish are consistently most abundant in the Yakutat area. Rougheye rockfish are typically most abundant in the Southeastern area. Estimates of maximum age of shortraker rockfish is 120 years, while estimates of maximum age of rougheye rockfish range from 90 years to 140 years. As with other slope rockfish, shortraker rockfish and rougheye rockfish appear to be influenced by periodic abundant year classes.

When the RPP was implemented in 2007, the Council elected to use more precise and limiting management to avoid possible overharvest of shortraker rockfish and rougheye rockfish. CP cooperatives are limited by constraining allocations with no discards permitted. CPs in the limited access fishery and all CVs are limited by a 2 percent maximum retainable amount (MRA), applicable to shortraker rockfish and rougheye rockfish in the aggregate. The more species specific and reduced MRA is intended to limit any potential incentive to "top off" on these two species.

The last full assessment for GOA shortraker rockfish was in 2015. Applying the random effects model to trawl survey data from 1984–2017 results in a 2018 biomass of 38,361 mt for shortraker rockfish, a 33 percent decrease from the previous year's biomass (57,175 mt). Shortraker rockfish are Tier 5 species for

[14] Much of this information is incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments

specifications where F_{ABC}[15] = 0.75M = 0.0225, and F_{OFL}[16] = 0.03; applying this definition to the biomass results in an ABC of 863 mt and an OFL 1,151 mt for 2018. Available data are insufficient to determine stock status relative to overfished criteria. This stock was not being subjected to overfishing in 2018.

Rougheye and blackspotted rockfish are assessed on a biennial stock assessment schedule to coincide with the availability of new survey data. For GOA rougheye and blackspotted rockfish in alternate (even) years, a partial assessment is provided to recommend harvest levels for the next two years. New data added to the projection model included updated catch through Oct 6, 2018. Spawning biomass and stock status trends indicate that female spawning biomass (14,995 mt) is above B_{40} percent (8,998 mt) and projected to remain stable. The rougheye/blackspotted complex qualifies as a Tier 3a stock. This stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition.

Thornyheads[17]

Thornyhead rockfish are long-lived, slow-growing high value rockfish species in Alaskan waters. The shortspine thornyhead rockfish, *Sebastolobus alaskanus*, are abundant in the GOA and are of commercial importance as a high value rockfish species. Longspine thornyhead rockfish, *S. altivelis*, as well as another thornyhead rockfish species common off Japan, *S. macrochir*, are infrequently encountered in the GOA, thus annual assessments focus upon the shortspine thornyhead rockfish. Shortspine thornyhead rockfish are a demersal species found in deep waters from 92 meters (m) to 1,460 m with a geographic distribution extending from the Bering Sea and GOA to Baja California. The ABC and TAC for thornyhead rockfish are apportioned by each of the three GOA areas while the OFL is managed Gulf-wide.

Estimates of spawning biomass are unavailable for thornyheads. The most recent 2017 trawl survey estimate was 10 percent lower than the 2015 estimate, whereas the 2017 longline survey was 38 percent higher than the 2016 estimate, and then decreased by 18 percent in 2018. The thornyhead complex is a Tier 5 stock, and biomass is estimated by applying the random effects method to the trawl and longline survey biomass time series by region and depth in order to compensate for missing data (i.e., thornyheads are found down to 1000 m, but deep survey strata are not sampled in each trawl survey). The biomass estimates from the random effects model show a slightly increasing trend from about 2010-2017 and a projected stable trend after 2017. Tier determination/Plan Team discussion and resulting ABCs and OFLs Gulf-wide catch of thornyheads in 2017 was 52 percent of the ABC. The thornyhead complex is not being subjected to overfishing. Information is insufficient to determine stock status relative to overfished criteria as estimates of spawning biomass are unavailable.

Pacific cod[18]

Pacific cod (*Gadus macrocephalus*), also known as grey cod, are moderately fast-growing and short-lived fish. Pacific cod is a transoceanic species, occurring at depths from shoreline to 500 m. A primary ecosystem phenomenon affecting Pacific cod seems to the periodic occurrence of "regime shifts." Major trends in predators and prey can be expected to affect Pacific cod dynamics. Small Pacific cod feed mostly on invertebrates, while large Pacific cod are mainly piscivorous. Predators for Pacific cod include halibut, salmon shark, northern fur seals, Steller sea lions, harbor porpoises, various whale species, and tufted puffin. Potentially, fisheries for Pacific cod can have effects on other species in the ecosystem through a variety of means. Pacific cod is important winter prey for Steller sea lions.

[15] The fishing mortality rate used to compute ABC.
[16] The fishing mortality rate used to compute OFL.
[17] Much of this information is incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments
[18] Much of this information is incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments

The 2017 trawl survey biomass estimate was the lowest in the time series, which began in 1984, and was 58 percent lower than the 2015 estimate. The longline survey relative population number (RPN) for 2018 dropped 40 percent from 2017 to 2018 and was 73 percent lower than the 2015 RPN estimate. The B40 percent estimate was 68,896 mt, with projected 2019 spawning biomass of 34,701 mt. The 2012 year-class remains the strongest in the recent period, followed closely by the 2013 year-class. Recruitment since 2013 is below the 1977-2015 average. Spawning biomass was projected to decline through 2020. The 2018 spawning biomass is estimated to be at 20.4 percent of B_{100} percent. The F_{35} percent and F_{40} percent values are 0.76 and 0.62, respectively. The maximum permissible ABC is 19,665 mt but the stock assessment authors recommended that it be reduced so that the projected biomass is above 20 percent of B_{100} percent in 2019 (if the stock is below B_{20} percent, directed fishing is prohibited due to Steller sea lion regulations). The recommended ABC is 17,000 mt for 2019 which is a 6 percent decrease from the 2018 ABC of 18,000 mt. The stock is not being subjected to overfishing and is neither overfished nor approaching an overfished condition.

Sablefish[19]

Sablefish (Anoploma fimbria) are distributed from northern Mexico to the GOA, westward to the Aleutian Islands and into the Bering Sea. Adult sablefish are found along the continental slope, gullies and deep fjords generally at depths greater than 200 m. Sablefish are assessed as a single population in federal waters off Alaska because northern sablefish are highly migratory for at least part of their life. Sablefish are managed by discrete regions to distribute exploitation throughout their wide geographical range. There are four management areas in the GOA (Western, Central, West Yakutat, and East Yakutat/Southeast Outside) and two management areas in the BSAI.

Spawning is pelagic at depths of 300 m to 500 m near the edges of the continental slope. During surveys of the outer continental shelf, most young-of-the-year sablefish are caught in the central and eastern GOA. Near the end of the first summer, pelagic juveniles less than 20 cm drift inshore and spend the winter and following summer in inshore waters, reaching 30 cm to 40 cm by the end of their second summer. After their second summer, they begin moving offshore, typically reaching their adult habitat, the upper continental slope at 4 to 5 years.

Projected 2019 spawning biomass is 33 percent of unfished spawning biomass. The longline survey abundance index increased 9 percent from 2017 to 2018 following a 14 percent increase between 2016 and 2017. However, the lowest point of the time series occurred in 2015. Spawning biomass is projected to increase rapidly from 2019 to 2022, and then stabilize. The stock assessment authors recommended the 2019 ABC be equal to the 2018 recommendation, which equates to a 45 percent reduction from maximum permissible ABC. While there are clearly positive signs of incoming recruitment, concerns regarding stock status remain. The 2018 spawning biomass was estimated to be lower than the 2017 estimate. Uncertainty of the magnitude of the 2014 year class estimate was high (the 2018 estimate was 30 percent lower than the value from the 2017 assessment), and the retrospective pattern has increased in the last two years (with a positive pattern). The 2014 year class was estimated to comprise 10 percent of the 2019 spawning biomass, despite being less than 20 percent mature. Also, uncertainty about the environmental conditions and how they may affect the 2014 year class was highlighted. Model projections indicate that this stock is not subjected to overfishing, not overfished, nor approaching an overfished condition

2.2.3 Effects of the Alternatives on Target Species

The effects of the CGOA rockfish fishery on the rockfish stock is assessed annually in the GOA SAFE report (NPFMC, 2018) and was also evaluated in the Alaska Groundfish Fisheries Harvest Specifications EIS (NMFS, 2007). Table 2-3 describes the criteria used to determine whether the impacts on target fish

[19] Much of this information incorporated from the SAFE: https://www.fisheries.noaa.gov/alaska/population-assessments/2018-north-pacific-groundfish-stock-assessments#gulf-of-alaska-stock-assessments

stocks are likely to be significant. The primary and secondary rockfish stocks, CGOA sablefish stocks, and CGOA Pacific cod stocks are neither overfished nor subject to overfishing. It is estimated that the GOA stocks of those species are sustainable under all of the alternatives considered and the impact is insignificant as defined in Table 2-3.

Table 2-3 Criteria used to determine significance of effects on target groundfish stocks.

Effect	Criteria			
	Significantly Negative	**Insignificant**	**Significantly Positive**	**Unknown**
Fishing mortality	Changes in fishing mortality are expected to jeopardize the ability of the stock to sustain itself at or above its MSST (minimum stock size threshold)	Changes in fishing mortality are expected to maintain the stock's ability to sustain itself above MSST	Changes in fishing mortality are expected to enhance the stock's ability to sustain itself at or above its MSST	Magnitude and/or direction of effects are unknown
Stock Biomass: potential for increasing and reducing stock size	Reasonably expected to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis.	Reasonably expected not to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis.	Action allows the stock to return to its unfished biomass.	Magnitude and/or direction of effects are unknown
Spatial or temporal distribution	Reasonably expected to adversely affect the distribution of harvested stocks either spatially or temporally such that it jeopardizes the ability of the stock to sustain itself.	Unlikely to affect the distribution of harvested stocks either spatially or temporally such that it has an effect on the ability of the stock to sustain itself.	Reasonably expected to positively affect the harvested stocks through spatial or temporal increases in abundance such that it enhances the ability of the stock to sustain itself.	Magnitude and/or direction of effects are unknown

The alternatives considered are reasonably expected not to jeopardize the capacity of the stock to yield sustainable biomass on a continuing basis. Whether the fishery is managed under a LAPP or the LLP, NMFS will continue to conservatively manage the fishery to help ensure that the ABC is not exceeded for any of the target species. The ABC is established for the purpose of ensuring that the stock is able to sustain itself at or above its MSST.

Spatial and temporal distribution of the harvest is expected to change under the No Action alternative. RP target species harvests would shift from being primarily harvested in May and June to being harvested in July. Selection of Alternative 2, to retain the RP structure, will maintain the fishery so that the target rockfish species are harvested during May through mid-November, with most of the harvest occurring in May and June before the start of the pink salmon fishery. However, all the alternatives are unlikely to affect the distribution of harvested stocks either spatially or temporally such that they have an effect on the ability of the stock to sustain itself.

Cumulative Effects on Target Species

The Council is considering an extension of an existing program that retains the objectives of conservation, management, safety, and economic gains created by the current RP. Other government actions and private actions may increase pressure on the sustainability of target and prohibited fish stocks either through extraction or changes in the habitat, but it not clear that these would result in significant cumulative effects. Considering the direct and indirect impacts of the proposed action when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the RFFAs listed above, the cumulative impacts of the proposed action are determined to be insignificant. The effects of the RP on the target species stocks is assessed annually in the GOA SAFE report and was also evaluated in the Alaska Groundfish Fisheries Harvest Specifications EIS (NMFS 2007a).

Climate change is the only RFFA identified as likely to have an impact on primary and secondary species allocated within the action area and timeframe. Two indicators presented in the GOA 2017 Ecosystem Status Report concerned the status of GOA northern rockfish ((NPFMC, 2018). The GOA SAFE noted that GOA bottom trawl survey data for several species of adult rockfish was used to compare the CPUE along environmental gradients of depth, bottom temperature and position. No significant trends were observed across any rockfish species, suggesting that rockfish are not responding to temperature fluctuations by adjusting depth or distribution to maintain constant temperature. YOY rockfish abundance was low in 2017 compared to previous years with a potentially northerly distribution shift based on the center of gravity estimates as well as some range expansion.

2.3 Unallocated Species and PSC Species

In prosecuting the targeted rockfish fisheries in the CGOA, participating CPs and CVs in the fisheries also catch prohibited species. Retention of prohibited species is not allowed in the GOA groundfish fisheries, including the trawl rockfish fishery. The Magnuson-Stevens Act prohibition on retention of prohibited species harvests was intended to eliminate any incentive that groundfish fishermen might otherwise have to target these species: Pacific halibut (*Hippoglossus stenolepis*), Pacific salmon (*Oncorhynchus spp.*), steelhead trout (*Oncorhynchus mykiss*), Pacific herring (*Clupea pallasi*), red king crab (*Paralithodes camtschaticus*), blue king crab (*P. platypus*), golden or brown king crab (*Lithodes aequispinus*), bairdi Tanner crab (*Chionoecetes bairdi*) and opilio Tanner crab (*C. opilio*). More information on PSC by CVs and CPs can be found in Section 3.5.1.4.

2.3.1 Status of Unallocated Species

All non-allocated species harvested in the CGOA rockfish fisheries will be managed by MRA, the same as under current management. These non-allocated species include arrowtooth flounder, deep-water flatfish, shallow-water flatfish, flathead sole, rex sole, pollock, other species, Atka mackerel, and other rockfish.

The information from the most recent GOA Groundfish SAFE document is included by reference (NPFMC, 2018). None of the unallocated species taken in the rockfish fishery are overfished or subject to overfishing. Table 2-4 provides a summary of the 25 species that were reported to have been harvested at the highest levels in the CGOA rockfish target fishery from 2003 through 2018. The primary (blue shaded) and secondary (grey shaded) RP species are included in the table. The unallocated species with the highest levels of reported catch are arrowtooth flounder, pollock, Atka mackerel, various rockfish species, and various flatfish species. Other species were also taken in the CGOA rockfish fishery, but at very low levels and catch tended to vary by year.

Table 2-4Summary of groundfish catch in CGOA rockfish target fishery, 2003 through 2018

Species	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Average
perch, Pacific ocean	6,547	7,068	7,105	6,566	7,060	7,398	7,470	9,900	9,390	10,056	9,614	11,385	13,446	15,078	13,638	15,761	9,843
rockfish, northern	4,321	3,346	3,267	3,324	2,865	1,960	1,914	1,772	1,429	3,079	2,362	2,859	2,644	3,070	1,401	1,855	2,592
rockfish, dusky	1,961	1,919	1,550	1,423	2,233	2,764	2,064	2,337	1,883	3,199	2,614	2,533	2,279	2,877	2,071	2,622	2,271
flounder, arrowtooth	296	298	185	52	56	109	53	217	87	622	487	1,016	1,222	1,070	1,261	472	469
cod, Pacific (gray)	1,409	1,306	756	332	140	213	324	374	347	234	291	351	481	281	182	296	457
sablefish (blackcod)	715	731	708	483	339	280	238	285	281	348	321	337	227	260	312	309	386
pollock, walleye	45	81	144	111	38	93	398	796	552	385	538	728	752	115	521	319	351
greenling, atka mackerel	127	15	337	98	86	306	253	304	264	260	523	213	505	415	92	481	267
rockfish, thornyhead	386	182	195	166	72	67	47	64	72	60	93	137	158	267	255	221	153
rockfish, harlequin	12	44	199	41	36	67	76	54	78	154	64	244	213	421	340	369	151
rockfish, rougheye	90	34	48	32	25	22	24	92	239	192	265	332	198	311	207	245	147
rockfish, shortraker	410	97	135	117	67	56	43	28	77	173	190	150	130	121	86	127	126
rockfish, sharpchin	110	74	1	30	51	9	39	29	11	42	12	39	27	116	99	142	52
sole, rex	65	30	29	17	26	24	31	40	31	38	42	64	84	123	79	96	51
rockfish, redstripe	15	3	1	6	16	10	7	38	26	17	13	44	15	88	35	132	29
rockfish, yelloweye	10	19	11	10	14	26	24	25	23	49	30	39	52	42	24	28	27
sole, flathead	49	17	57	13	8	8	18	17	6	9	14	14	33	25	71	23	24
sole, rock	43	70	24	9	5	13	11	12	12	25	4	15	10	8	4	6	17
sole, dover	35	31	11	8	26	7	16	14	8	26	15	16	15	24	8	15	17
rockfish, redbanded	10	8	8	4	8	5	12	6	15	5	7	20	12	25	16	25	12
rockfish, silvergray	6	2			1	1	2	3	13	17	5	20	25	38	38	15	13
rockfish, widow	6	49		1	1	0	3	10	7	9	4	14	8	7	9	12	9
skate, longnose		4	7	3	1	4	3	2	6	7	7	8	10	22	28	15	9
skate, big		6	5	3	0	4	2	4	5	7	1	0	3	1	3	2	3
skate, other	22	2	3	0	2	1	2	1	0	2	1	1	0	0	1	5	3
sculpin, general	4	2	1	0	1	1	2	3	1	8	2	3	2	5	2	3	3
shark, spiny dogfish	1	0	1	0	1	1	1	1	0	0	4	1	1	1	10	11	2
rockfish, darkblotched				23		0						4	0	0		0	5
rockfish, other	19		0	4		1											6
Kamchatka flounder										1		0	1	0		21	5
Total	16,714	15,440	14,788	12,877	13,177	13,449	13,076	16,428	14,866	19,025	17,527	20,587	22,554	24,812	20,791	23,629	17,484

Source: AKFIN Summary of CAS data
Note: Blue shaded cells are primary species, grey shaded cells are secondary species, and unshaded cells are not allocated under the RP.

2.3.2 Status of PSC Species

The information presented in this section focuses on halibut PSC and Chinook salmon PSC from the CGOA trawl fisheries by vessels that participate in the RP. However, Table 2-5 is presented to show all the PSC species taken in the CGOA trawl rockfish fishery from 2003 through 2018. Bycatch of those species tended to be very low in both the CP and CV sectors with minimal amounts of crab and herring estimated as having been caught. Other salmon (primarily chum salmon) varied by year with a maximum of 1,899 fish taken by the CP sector in 2013 and a low of 0 fish in 2007. Chinook salmon bycatch was 1,506 fish in 2007, the most of any year considered. This highlights that salmon bycatch in the rockfish fishery varies by year and Chinook salmon and other salmon do not always trend in the same direction.

Table 2-5 Summary of all PSC species taken in the CGOA rockfish trawl fishery from 2003 through 2018

Sector	Year	Groundfish (mt)	Halibut (mt)	Chinook salmon (count)	Other salmon (count)	Red king crab (count)	Bairdi (count)	Golden king Crab (count)	Other tanner crab (count)	Herring (kgs)
CP	2003	5,641	65.0	0.0	29.3	56.9	13.0	1.6		0.0
	2004	5,808	45.7	71.5	131.6	222.0	10.0	218.6		0.0
	2005	6,362	57.8	352.0	0.0	0.0	12.0	0.0		0.0
	2006	5,457	32.5	0.0	195.0	0.0	11.0	0.0		0.0
	2007	4,516	25.8	1,506.0	0.0	0.0	10.0	98.0		0.0
	2008	5,531	30.4	280.0	117.0	0.0	10.0	93.0		0.0
	2009	4,996	19.1	299.0	107.0	0.0	18.0	0.0		0.0
	2010	7,086	34.1	251.0	125.0	0.0	14.0	38.0		0.0
	2011	6,689	19.1	381.7	104.0	0.0	13.0	0.0		0.0
	2012	8,489	24.1	439.0	104.0	0.0	16.0	74.0		0.0
	2013	7,994	33.7	1,059.0	1,899.0	0.0	19.0	90.0		0.0
	2014	9,535	33.7	146.3	260.0	0.0	17.0	0.0		0.0
	2015	11,004	56.5	104.0	208.0	0.0	19.0	19.0		0.0
	2016	10,711	47.3	235.0	0.0	0.0	22.0	0.0		0.0
	2017	10,586	54.1	133.0	49.0	0.0	23.0	9.0		0.0
	2018	10,739	27.0	1.0	138.0	0.0	17.0	0.0		0.0
CP Average		7,571	38	329	217	17	15	40	0	0
CV	2003	11,074	140.8	503.8	2,025.5	0.0	28.0	0.0		0.0
	2004	9,644	197.2	734.5	252.0	0.0	26.0	48.3		0.0
	2005	8,432	129.7	96.1	3,236.9	0.0	27.0	0.0		0.0
	2006	7,423	72.2	253.5	1,058.0	0.0	33.0	0.0	0.0	0.0
	2007	8,661	19.7	498.8	277.7	0.0	89.0	0.0		0.0
	2008	7,919	11.5	1,628.3	130.6	0.0	73.0	1.0		0.0
	2009	8,080	11.3	860.2	309.7	0.0	59.0	34.7		0.0
	2010	9,358	15.8	996.9	190.9	0.0	72.0	0.0		0.0
	2011	8,180	24.9	370.8	71.5	0.0	67.0	0.0	0.0	0.0
	2012	10,545	11.6	673.6	114.0	0.0	82.0	8.6		0.0
	2013	9,536	16.3	1,262.8	93.1	0.0	79.0	11.7		0.0
	2014	11,056	18.8	503.6	0.0	0.0	74.0	33.8		0.0
	2015	11,554	22.8	1,810.9	63.1	0.0	73.0	0.0		0.0
	2016	14,110	25.5	148.3	216.5	0.0	75.0	19.7	0.0	0.0
	2017	10,219	29.3	386.8	50.9	0.0	78.0	24.9		0.0
	2018	12,901	27.3	274.6	141.4	0.0	87.0	31.4	0.0	0.0
CV Average		9,918	48	688	514	0	64	13	0	0

Source: AKFIN summary of PSC data

Chinook Salmon[20]

In the GOA, the primary species of concern for salmon bycatch is Chinook salmon (*Oncorhynchus tshawytscha*), which is caught almost exclusively in trawl gear. The Chinook salmon is the largest of all Pacific salmon species, with weights of individual fish commonly exceeding 30 pounds. North Pacific Chinook salmon are the subject of commercial, subsistence, personal use, and sport/recreational (used interchangeably) fisheries. Chinook salmon are the least abundant of the five salmon species found on both sides of the Pacific Ocean and the least numerous in the Alaska commercial harvest. In North America, Chinook salmon range from the Monterey Bay area of California to the Chukchi Sea area of Alaska. On the Asian coast, Chinook salmon occur from the Anadyr River area of Siberia southward to Hokkaido, Japan. In Alaska, they are abundant from the southeastern panhandle to the Yukon River.

During summer, Chinook salmon concentrate around the Aleutian Islands and in the Western GOA. Chinook salmon typically have relatively small spawning populations and the largest river systems tend to have the largest populations. Major populations of Chinook salmon return to the Yukon, Kuskokwim,

[20]Overview information on Chinook salmon can be found at:
http://www.adfg.alaska.gov/index.cfm?adfg=CommercialByFisherySalmon.main#chinook

Nushagak, Susitna, Kenai, Copper, Alsek, Taku, and Stikine rivers with important runs also occurring in many smaller streams.

The majority of the Alaska commercial catch is made in Southeast Alaska, Bristol Bay, and the Arctic-Yukon-Kuskokwim area. The majority of catch is made with troll gear and gillnets. Approximately 90 percent of the subsistence harvest is taken in the Yukon and Kuskokwim rivers. The Chinook salmon is one of the most highly prized sport fish in Alaska and is extensively fished by anglers in the Southeast and Cook Inlet areas. Unlike other Pacific salmon species, Chinook salmon rear in inshore marine waters and are, therefore, available to commercial and sport fishers all year round.

Throughout the West Coast, nine[21] species of Chinook salmon are protected under the Endangered Species Act. Eight of those Chinook salmon species are listed as threatened and one as endangered. The West Coast Region of NMFS works with its partners to protect, conserve, and recover Chinook by addressing the threats these animals face and by restoring the habitat on which they depend.

A summary of the Chinook salmon bycatch in the CGOA by vessels in the RP is presented in Table 2-6. The information shows that the majority of Chinook salmon bycatch occurs in the pollock fishery when pelagic trawl gear is used. Flatfish fisheries using non-pelagic gear typically taken the next greatest number of Chinook, followed by Pacific cod or rockfish directed fisheries depending on the year.

Rockfish target fisheries accounted for between 2 percent and 19 percent of the Chinook salmon taken in the CGOA groundfish fisheries. The variability highlights the difficulty fishermen have in avoiding Chinook salmon bycatch in the Rockfish Fishery in particular and in all trawl fisheries in general.

Table 2-6 Chinook salmon PSC taken by RP vessels in the CGOA by target fishery, 2003 through 2018.

Gear	Target	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-pelagic trawl	Rockfish	502	806	385	254	1,711	1,163	957	1,140	693	613	2,168	612	1,028	383	147	262
	Flatfish	3,427	740	497	952	1,801	2,676	2,857	5,444	3,568	1,482	6,188	1,668	2,168	549	539	1,348
	Pacific cod	2,521	720	37	518	423	306	98	423	998	508	354	152	99	10	353	29
	Pollock	343	180	1,296	370	50	30	275	1,888	425	283	644	23	161	1,527	35	227
Pelagic trawl	Rockfish	2	0	63	0	294	746	202	108	59	499	154	38	887	0	372	14
	Pollock	2,768	8,967	17,489	9,726	30,744	6,985	1,732	9,760	7,927	7,808	8,409	6,205	7,313	10,350	11,612	7,822
Total		9,562	11,413	19,766	11,820	35,023	11,906	6,122	18,763	13,670	11,194	17,917	8,697	11,657	12,820	13,059	9,700
Bycatch as % of rockfish		5.3%	7.1%	2.3%	2.1%	5.7%	16.0%	18.9%	6.7%	5.5%	9.9%	13.0%	7.5%	16.4%	3.0%	4.0%	2.8%

Source: AKFIN summary of PSC data

Table 2-7 reports the average monthly bycatch of Chinook salmon by target fishery. The timing of Chinook salmon bycatch follows a predictable pattern in most years, corresponding primarily with seasonal openings of the pollock fishery. Chinook salmon are caught as bycatch in the rockfish fisheries throughout the time that the fisheries are open. Bycatch in April is largely attributable to the arrowtooth flounder or rex sole fishery. Since the implementation of the RPP, more efficient use of halibut PSC has allowed the shallow-water flatfish fishery to remain open longer into the fall, which has also resulted in some increase in Chinook salmon bycatch during these months.

[21]https://archive.fisheries.noaa.gov/wcr/protected_species/salmon_steelhead/salmon_and_steelhead_listings/chinook/chinook_salmon.html

Table 2-7 Average Chinook salmon PSC taken by RP vessels by month and CGOA trawl fishery prior to the RPP, the RPP years, and the RP years.

Target fishery	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Arrowtooth Flounder	2003-2006	21	76	1	205	173			3	25	5		
	2007-2011		5	40	1,391	182			10	30	247	69	14
	2012-2018	6	1	14	462	364	7	2	77	16	166	16	9
Atka Mackerel	2007-2011							17					
	2012-2018					0				0	0		
Deep Water Flatfish - GOA	2003-2006												
	2007-2011												
	2012-2018												
Flathead Sole	2003-2006			117	3	1	0				0		
	2007-2011		0			1							5
	2012-2018							112	36	0			
Other Species	2003-2006												
	2007-2011												
	2012-2018		0			0							
Pacific Cod	2003-2006	191	433	4	1	0			56	238	27	1	
	2007-2011	69	37	1			9		3	174	156		
	2012-2018	8	43	76	30					44	8	11	
Pollock - bottom	2003-2006	177	1,130	806		10			252	1,171	2,489	26	
	2007-2011	35	195	1,347						161	1,033	34	
	2012-2018	21	37	21	12	4	0		6	345	443	42	
Pollock - midwater	2003-2006	3	1,898	1,263	2				141	181	735	1	
	2007-2011		780	5,687						723	1,922	47	
	2012-2018	319	2,444	1,043	93	6			87	1,030	2,873	89	
Rex Sole - GOA	2003-2006			69	317	233							
	2007-2011		20	27	525			2	19	0		10	2
	2012-2018	0	8	65	372	67	0					11	
Rockfish	2003-2006					0		503					
	2007-2011					541	443	382	4	40	1	4	
	2012-2018				10	339	98	152	105	90	18	213	
Sablefish	2003-2006												
	2007-2011												
	2012-2018				0				0	0	0	4	
Shallow Water Flatfish - GOA	2003-2006		83	27	14	5	9	0		18			
	2007-2011				9	60	0	9	29	62	460	25	17
	2012-2018	1	0	0			1	6	76	9	72	14	1

Source: AKFIN summary of PSC data

PSC of Chinook salmon in the RP by region of origin is presented later in this section. That information is presented to show regions where Chinook salmon bycatch may have the greatest impact.

Halibut

The range of Pacific halibut that the IPHC manages covers the continental shelf from northern California to the Aleutian Islands and throughout the Bering Sea. Pacific halibut are also found along the western north Pacific continental shelf of Russia and Japan. The depth range for halibut is up to 250 fathoms (457 m) for most of the year and up to 500 fathoms (914 m) during the winter spawning months. During the winter (November through March), the eggs are released, move up in the water column, and are caught by ocean currents.

Halibut also move seasonally between shallow waters and deep waters. Mature fish move to deeper offshore areas in the fall to spawn and return to nearshore feeding areas in early summer. It is not yet clear if fish return to the same areas to spawn or feed, year after year.

The IPHC assesses the coastwide biomass of halibut, including fish that are accessible in the IPHC setline survey and to the directed halibut fisheries (generally fish over 26 inches; O26). The IPHC estimates the distribution of the coastwide stock based on survey catch rate among IPHC management areas using information from its annual setline survey. The results of the 2017 assessment indicate that the stock declined continuously from the late 1990s to around 2010 (IPHC 2018a).

In general, recruitment has decreased substantially since the highs of the 1980s. The best available scientific information suggests that over the foreseeable future (2018–2021) the halibut resource is

projected to decline. The 2018 stock assessment provides additional detail on the potential trends in the halibut stock, uncertainties in the assessment, and additional factors that may impact the overall stock status and harvestable surplus of abundance of halibut (IPHC 2018c).

During the periods of high removal, the majority of the mortality on the halibut stock has been due to commercial catch. In 2017, the two top sources of removals in Area 4 are where commercial harvests (including discard mortality in the commercial fishery, i.e., "wastage") comprised 65 percent of the removals, and commercial groundfish fishery bycatch (referred to as prohibited species catch, or PSC, in fisheries.

Since 2014, there is no information to suggest that halibut is subject to "overfishing," as that term is commonly applied to stocks managed under the Magnuson-Stevens Act. The Halibut Act does not define "overfishing" or require that an overfishing limit be defined. However, the halibut stock is currently managed in a manner that is not likely to result in a chronic long-term decline in the halibut resource coastwide due to fishing mortality from all sources of removals.

The bycatch of halibut in the CGOA trawl fishery by RP vessels is reported in Table 2-8. The rockfish fishery generally accounts for between 2 percent and 16 percent of the halibut bycatch of these vessels in the GOA. Flatfish and Pacific cod target fisheries generally have more halibut bycatch. The decline in the Pacific cod TAC in recent years has played a role in the halibut bycatch in the CGOA rockfish fishery surpassing the CGOA Pacific cod fishery. Halibut mortality declined after implementation of the RPP and has remained relatively low.

Table 2-8 Halibut mortality attributed to RP vessels by CGOA trawl target fishery, 2003 through 2018.

Gear	Target fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Non-pelagic trawl	Rockfish	205	243	186	101	43	39	29	48	40	34	49	51	76	72	79	45
	Flatfish	801	527	946	1,169	1,030	947	1,189	959	952	938	562	866	605	630	889	794
	Pacific cod	308	721	548	258	384	459	228	217	379	302	182	114	428	320	74	2
	Pollock	5	11	0	51	76	60	35	14	99	47	132	81	93	120	63	175
	Other	11	8	0	0	4	5	3	4	4	3	9	1	2	7	3	31
Pelagic trawl	Rockfish	0	0	2	3	2	3	1	2	4	2	1	1	3	0	4	9
	Flatfish	3	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Pollock	1	1	2	17	4	3	2	14	8	3	17	0	9	11	9	26
Total		1,344	1,512	1,692	1,602	1,552	1,515	1,488	1,257	1,487	1,329	952	1,115	1,217	1,160	1,121	1,082
Bycatch as % of rockfish target		15.3%	16.1%	11.1%	6.5%	2.9%	2.8%	2.0%	4.0%	3.0%	2.7%	5.3%	4.7%	6.5%	6.3%	7.4%	5.0%

Source: AKFIN summary of PSC data

The drastic reduction in halibut mortality (particularly in the CV sector) likely arises from several factors. First, vessels have exclusive allocations, allowing them to move from areas of high halibut catch without risking loss of catch of the rockfish primary species. Second, exclusive allocations also increase the incentive for participants to communicate with each other concerning catch rates, improving information concerning areas of high halibut incidental catch in the fleet, and preventing repeated high halibut mortality among vessels exploring fishing grounds. Third, several vessels have begun employing new pelagic gear that limits bottom contact and halibut incidental catch. In the catcher processor sector, two of the four active vessels used pelagic gear in the first year of the program, in comparison to no pelagic trawl gear prior to implementation of the program. Catch data by gear type cannot be revealed for the catch processor sector because of confidentiality protections. Participants in the program report that a primary motivation for these changes in gear types is constraining halibut allocations, which could jeopardize cooperative catches in the event that halibut bycatch exceeds allocations (NPFMC, 2011).

Table 2-9 shows the average halibut PSC by RP vessels by month and target fishery. The information is reported by years prior to the RPP, RPP years, and RP years.

Table 2-9 Average halibut mortality (mt) taken by RP vessels by month and CGOA trawl fishery prior to the RPP, the RPP years, and the RP years.

Target fishery	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Arrowtooth Flounder	2003-2006	3	20	34	153	11		33	15	30	60		
	2007-2011	0	35	19	172	20		4	26	46	69	20	2
	2012-2018	3	12	49	205	71	51	20	49	33	54	54	3
Atka Mackerel	2007-2011							0					
	2012-2018					0				0	0		
Deep Water Flatfish - GOA	2003-2006		8	4	5	1				0	0		
	2007-2011			0	0	0	0						
	2012-2018		0			0							
Flathead Sole	2003-2006		0	7	7	1	1	0	0	0	0		
	2007-2011	0	0	1	11	1	1	2	0		2	0	1
	2012-2018			0	0	0		15	0				
Other Species	2003-2006			0	1	2		0					
	2007-2011	0	0		0	0	0	0			0		
	2012-2018		0		0	0							
Pacific Cod	2003-2006	95	47	0	1	0		1	1	304	14		
	2007-2011	73	65	11		4	2	1	1	119	58	0	
	2012-2018	16	19	44	17	17	4	0	0	66	19	1	
pollock	2003-2006	2	2	0	0	0	0		1	4	12	0	
	2007-2011	7	4	3				0	0	3	45	1	
	2012-2018	7	6	2	1	1	0		2	49	41	4	
Rex Sole - GOA	2003-2006			9	37	9			0	0	0	0	
	2007-2011	0	3	1	47			4	3	0		1	
	2012-2018	2	1	3	20	11	1	0	0			1	
Rockfish	2003-2006							182	2		2		
	2007-2011					6	7	23	1	1	2	2	
	2012-2018				0	7	6	23	14	3	3	5	
Sablefish	2003-2006							0					
	2007-2011				0	0	0	1	1	1	0	0	
	2012-2018				0	2	1	0	0	0	0	4	
Shallow Water Flatfish - GOA	2003-2006	2	8	13	73	58	61	29	83	27	60		
	2007-2011	3	13	6	34	82	44	61	84	27	116	43	12
	2012-2018	0	0	1	6	10	3	27	10	18	12	6	2

Source: AKFIN summary of PSC data

2.3.3 Effects of the Alternatives on Unallocated and PSC Species

There would be an adverse impact on halibut and Chinook salmon under either alternative, as both are taken as incidental catch in the CGOA rockfish fishery. The overall levels of Chinook salmon bycatch in the GOA groundfish trawl fisheries vary considerably from year to year.[22] There are also concerns about the precision of bycatch estimations due to the fact that a high proportion of vessels in the GOA are unobserved or only partially observed. However, the RP has high observer coverage, which has reduced uncertainty in the estimates of Chinook salmon bycatch in the rockfish fisheries. The respective contribution of the rockfish fisheries to total CGOA Chinook salmon bycatch has increased since 2007, but remains small compared to bycatch in the pollock fishery. Consequently, bycatch of Chinook salmon under the continuation of the program is not expected to reach a significant threshold that is likely to affect the sustainability of the species.

Prior to implementation of the RP, if the halibut mortality limit was reached prior to catch of the rockfish TAC, the rockfish fisheries were closed for the season and reopened when the next apportionment came available in September. Since implementation of the RP, cooperatives receive exclusive allocations of halibut PSC from the third quarter deep-water apportionment that constrain their fishing activity. Participants in the limited access fishery (who elected not to join a cooperative) are subject to the same limitation as participants in the rockfish fisheries prior to the RPP. In other words, if the third season

[22] https://www.fisheries.noaa.gov/action/amendment-88-fmp-groundfish-gulf-alaska-management-area

halibut PSC apportionment is fully used prior to harvest of the applicable limited access rockfish TAC, that fishery will be closed until the next season's apportionment comes available in September.

The incentive for halibut mortality reductions is increased by the rollover of saved halibut mortality to other fisheries late in the year, allowing the trawl sector as a whole (including vessels that did not qualify for the RPP) to benefit from these halibut mortality reductions. (NPFMC, 2011)

Cumulative Effects on Non-Target Species

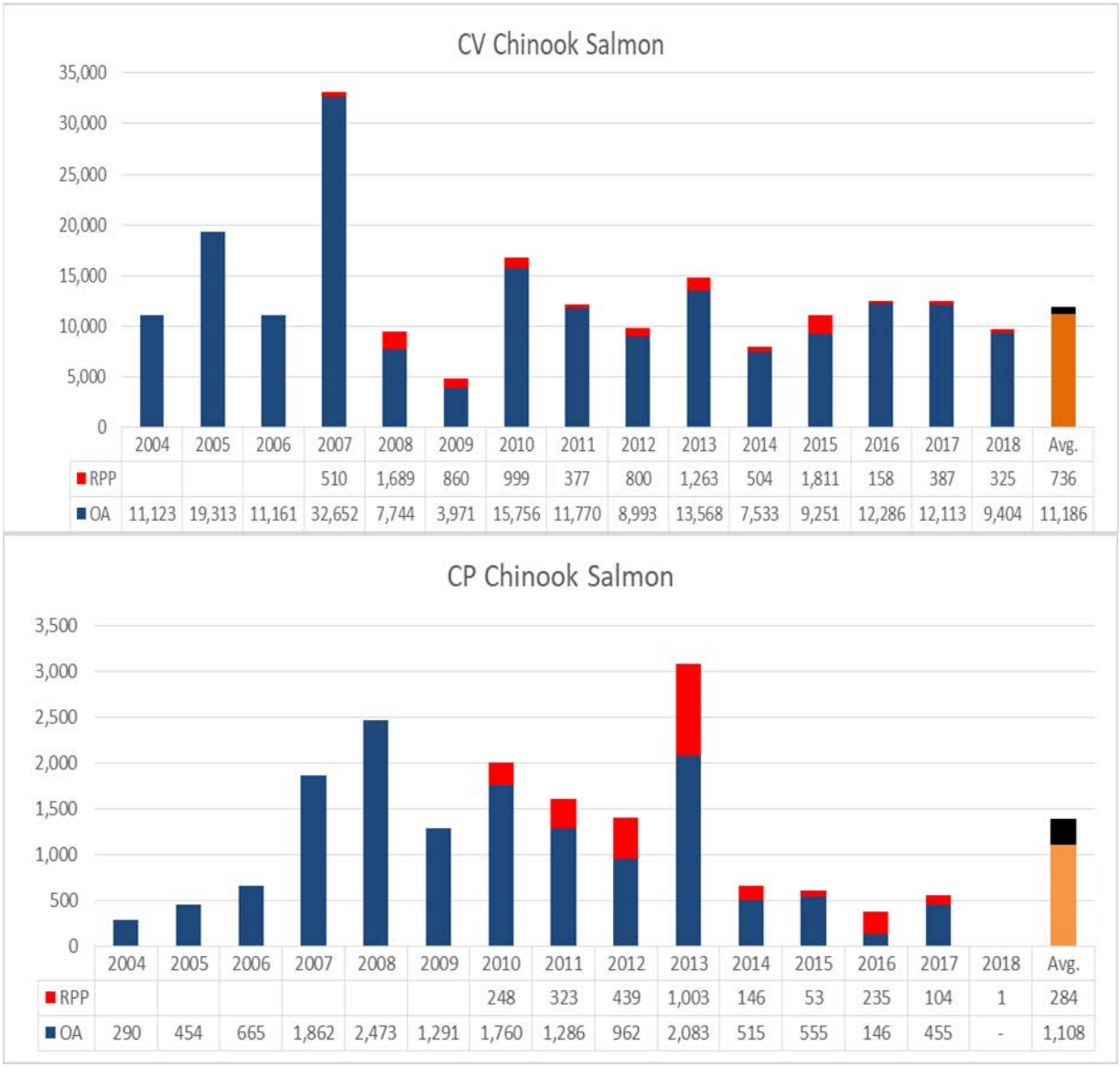
The following RFFAs are identified as likely to have an impact on Chinook salmon and halibut within the action area and timeframe:

- RP trawl CVs are limited to 1,200 Chinook salmon each year while checked into the RP. If the RP trawl CVs reach the Chinook salmon limit, directed fishing by all CVs in the RP will be prohibited for the remainder of the year.
- Trawl CP vessels fishing in the Gulf of Alaska are subject to a limit of 3,600 Chinook salmon in the Western and Central Gulf of Alaska, or, 4,080 Chinook salmon if the previous year's catch of Chinook salmon did not exceed 3,120 fish. If the RP trawl CPs reach the Chinook salmon limit, directed fishing by all CPs will be prohibited for the remainder of the year.
- Halibut PSC in the RP is limited to 117.3 mt for the CV sector and 74.1 mt for the CP sector. The limit is reached directed fishing in the RP by the sector will be prohibited.

The extent to which any salmon stock is impacted by the bycatch of the GOA trawl fisheries is dependent on many factors including 1) the overall size of the bycatch, 2) the age of the salmon caught in the bycatch, 3) the age of the returning salmon, and 4) the total escapement of the affected stocks taking into account lag time for maturity and returning to the river. As such, a higher contribution of a particular stock one year does not necessarily imply greater impact than a smaller estimate the next (Guthrie III, et al., 2018).

Under either the No Action alternative or Alternative 2 (extending the RP) it is expected that Chinook salmon bycatch will be difficult to consistently avoid. However, Alternative 2 is expected to continue the structures that have been developed to communicate areas and times of higher Chinook salmon catch rates. Communication and agreements to stop fishing when rates are too high, under Alternative 2, are expected to result in bycatch rates that are lower than when those bycatch reductions are not in place. Under the No Action Alternative the potential increase in the number of participants and the pressure to harvest a portion of the sector allocation before it is closed to directed fishing make it less likely the entire fleet will adhere to bycatch avoidance measures. In 2015, Amendment 97 established annual Chinook salmon PSC limits for all groundfish trawl fisheries except for pollock in the Western and Central Gulf of Alaska (GOA). It also established incentives for reducing Chinook salmon PSC for the trawl CP and Non-RP CV sectors, and established seasonal Chinook salmon PSC limits for the trawl CP sector. Information on PSC limits and Chinook salmon catch in the CGOA rockfish fishery is provided in Section 3.5.1.4. Figure 2-4 shows information from that section indicates that Chinook salmon bycatch is difficult to avoid all years even under a LAPP. The estimated Chinook salmon bycatch at higher levels in some years may also be partially a result of the sampling procedure used to estimate Chinook salmon takes. These issues are described in greater detail in Section 3.5.1.4.

Figure 2-4 CGOA Chinook salmon PSC in the RP and open access fisheries, 2004 through 2018



Source: AKFIN summary of CAS data

The figures above also indicate that on average about 7 percent of the CV CGOA Chinook salmon PSC is taken in the RP. CPs take about 42 percent of their CGOA Chinook salmon PSC. The percentages differ, in part, because of the other CGOA fishing opportunities available to the two sectors in the open access fisheries.

The RP includes a project to collect genetic samples from all landed Chinook salmon. This project is described in the shore-based cooperatives annual RP reports (Alaska Groundfish Data Bank, Inc, 2018). A summary of the information presented in those reports is included in this section. The Rockfish Genetics project that started 2013. The goal was to allow agency scientists to utilize the collected samples to determine stock of origin for all Chinook salmon taken in the CGOA RP fisheries. Samples were also collected in 2018 and 2019 but the results were not available at the time this report was written. Results from the 2013 through 2017 rockfish fisheries show that approximately 95 percent of the Chinook salmon caught the in the CGOA RP fishery are from the US West Coast, British Columbia (Canada), and SE

Alaska (Table 2-10); the majority of the remaining Chinook salmon came from the Northwest GOA and the Copper River system. Benefits derived from reducing Chinook salmon bycatch in the RP primarily accrue to those locations, but to a lesser extent are realized throughout Alaska and as far away as Russia.

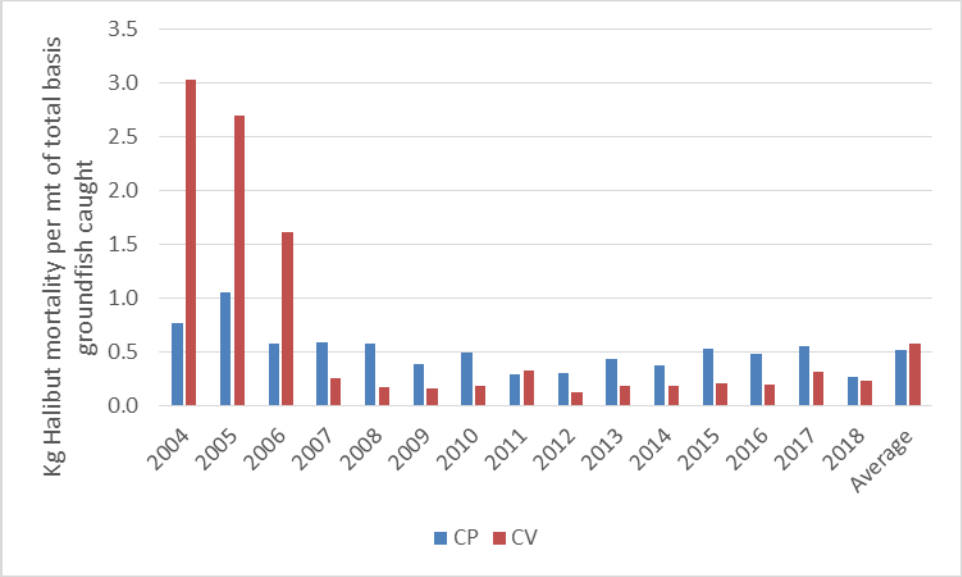
Table 2-10. Stock of Origin results, 2013-2016 CGOA CV Rockfish fishery

Area	2013 Rockfish	2014 Rockfish	2015 Rockfish	2016 Rockfish	2017 Rockfish
No. Samples Processed	**2,070**	**398**	**635**	**493**	**280**
Russia	0.0%	0.1%	0.0%	0.0%	0.0%
Coast W AK	0.0%	0.3%	0.1%	0.5%	0.1%
Mid Yukon	0.0%	0.0%	0.0%	0.0%	0.0%
Up Yukon	0.0%	0.0%	0.0%	0.0%	0.0%
N AK Pen	0.0%	0.0%	0.0%	0.0%	0.0%
NW GOA	2.2%	3.2%	2.7%	3.7%	2.7%
Copper	0.3%	0.1%	0.8%	0.3%	2.4%
NE GOA	0.0%	0.1%	0.0%	0.3%	0.0%
Coast SE AK	6.4%	7.1%	4.8%	6.9%	10.9%
BC	31.3%	17.4%	18.9%	26.8%	28.1%
West Coast US	59.9%	71.7%	72.8%	61.5%	55.6%
SE, BC,WC combined	97.6%	96.2%	96.5%	95.1%	94.7%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: AGDB 2018 Rockfish Cooperative Reports

Figure 2-5 shows the ratio of halibut mortality in the CGOA rockfish target fishery per metric ton of groundfish catch. Since the RPP was implemented in 2007, there has been a substantial decline in the rate of halibut usage in the rockfish fishery. Rates declined for both the CV and CP sectors, but the decline was greater in the CV sector. The declines are, in part, a result of using more pelagic trawl gear and implementing measures to communicate where high bycatch rates are occurring and requiring CVs to stop fishing in that location if the rates are too high. Therefore, it is anticipated that selecting the No Action alternative will result in greater halibut mortality in the CGOA rockfish target fishery than selecting any combination elements under Alternative 2.

Figure 2-5 Kilograms of halibut mortality in the CGOA rockfish fishery per metric ton of total groundfish catch by CVs and CPs in rockfish target fisheries, 2004 through 2018



Considering the direct and indirect impacts of the proposed action when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the reasonably foreseeable future actions listed above, the cumulative impacts of the proposed action are determined to be not significant.

2.4 Essential Fish Habitat

2.4.1 Status

Fishing operations may change the abundance or availability of certain habitat features used by managed fish species to spawn, breed, feed, and grow to maturity. These changes may reduce or alter the abundance, distribution, or productivity of species. The effects of fishing on habitat depend on the intensity of fishing, the distribution of fishing with different gears across habitats, and the sensitivity and recovery rates of specific habitat features.

In 2005, NMFS and the Council completed the EIS for EFH Identification and Conservation in Alaska (NMFS 2005b). The EFH EIS evaluates the long-term effects of fishing on benthic habitat features, as well as the likely consequences of those habitat changes for each managed stock, based on the best available scientific information. The EFH EIS also describes the importance of benthic habitat to different groundfish species and the past and present effects of different types of fishing gear on EFH. Based on the best available scientific information, the EIS analysis concludes that despite persistent disturbance to certain habitats, the effects on EFH are minimal because the analysis finds no indication that continued fishing activities at the current rate and intensity would alter the capacity of EFH to support healthy populations of managed species over the long term. The EIS concludes that no Council managed fishing activities have more than minimal and temporary adverse effects on EFH for any FMP species, which is the regulatory standard requiring action to minimize adverse effects under the Magnuson-Stevens Act (50 CFR 600.815(a)(2)(ii)). Additionally, the analysis indicates that all fishing activities combined have minimal, but not necessarily temporary, effects on EFH.

The Council and NMFS have updated available habitat information, and their understanding of the impacts of fishing on habitat, in periodic 5-year reviews of the EFH components in the Council fishery management plans (NPFMC and NMFS 2010) and (NPFMC and NMFS 2016). These 5-year reviews have not indicated findings different from those in the 2005 EFH EIS with respect to fishing effects on habitat, although new and more recent information has led to the refinement of EFH for a subset of Council-managed species. Maps and descriptions of EFH for groundfish species are available in the applicable fishery management plan.

A goal of the RPP and RP was to reduce trawl gear impacts on the sea floor and the organisms that live there. This section was prepared by NMFS Habitat Division staff to describe those impacts. For the 2017 Essential Fish Habitat 5-year Review, a Fishing Effects (FE) model was developed by the NMFS Alaska Region Office – HCD and partners at Alaska Pacific University to estimate the effects of commercial fishing activities on marine habitats. The FE model is a cumulative effects model that incorporates habitat impacts and recovery at a monthly time step utilizing Vessel Monitoring System (VMS) data. VMS data is available for most GOA vessels starting in 2003. For the purposes of this analysis, we considered 2003-2006 Limited Access Fishery; 2007-2011 Rockfish Pilot Program; and post-2012 the Rockfish Program.

While it is possible to calculate the amount of habitat impact in terms of habitat reduction for both pelagic and non-pelagic trawl tows identified as Rockfish target, some initial data analysis Figure 2-6 reveals there is very little difference in the cumulative duration of hauls, average tons of catch or total tons of catch for both catcher vessels and catcher/processer vessels over the time series from 2003-2018.

Figure 2-6 Average trawl minutes fished, tons of catch, and average tons of catch by catcher/catcher-processor vessels, 2003-2018.

Source: Catch-in-Areas Database, AKRO

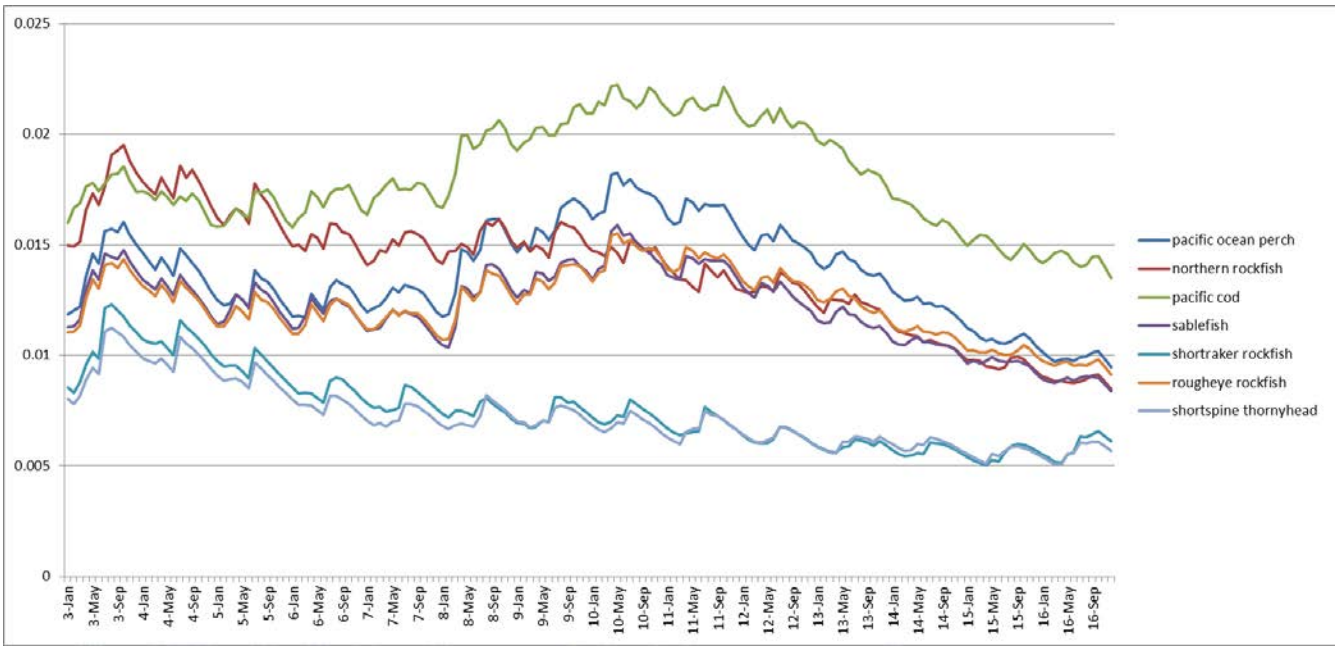
In discussions with trawl industry participants, it appears likely that it may be difficult to analyze target tows associated with the rockfish fishery due to differences in the way the fishery was prosecuted before

and after the RPP. Fishing events previous to the RPP consisted of multi-species combo trips which may have been topped off with sablefish and operated under MRAs. Target assignment for fishing events is based on the predominant species, so 51 percent Pacific cod/49 percent POP would be called a Pacific cod trip. Under the Rockfish Program, participants have the freedom to target species individually.

As stated in the June 2008 Central Gulf Rockfish Pilot Program document, "A trend toward greater use of pelagic gear that started in the period leading up to implementation of the program has continued .... This transition from non-pelagic, bottom gear to pelagic gear suggests a further reduction in any habitat effects by the rockfish fishery."[23] To enhance this discussion, there are two relevant gear configurations that have led to less bottom contact since 2003. First, a move towards semi-pelagic bottom trawl gear (doors off bottom) since about 2008 decreased the bottom contact from the heaviest portion of the gear. In 2014, mandatory sweep modifications for flatfish trawls were implemented that raise the majority of the trawl off the bottom have been used in other fisheries as well, as sweeps are difficult to replace for specific other target trips.

The FE model as run in 2017 assumed no bottom contact for GOA slope rockfish pelagic trawl. However, trends in decreasing habitat reduction are likely to continue given fishing practices. Figure 2-7 illustrates that over time, the percentage habitat reduction for each target species' Essential Fish Habitat area of concentration has declined (since 2003). While the FE model has not been re-run for individual species since 2017, the total number of fishing events for both CV and CP has remained relatively constant.

Figure 2-7 Core EFH habitat reduction by GOA RPP trawl target species, 2003 - 2016



Source: Fishing Effects Model

2.4.2 Effects of the Alternatives on EFH

If the RP continues under Alternative 2, fishing activity would likely continue to be distributed over a longer season and may disperse spatially, as a result of the removal of time constraints by the cooperative allocations. The relative low effort level of the rockfish fisheries along slope areas is likely to continue. Concentrations of bottom trawl effort in the CGOA rockfish fisheries would likely be reduced as trawl

[23] NPFMC. Gulf of Alaska Rockfish Pilot Program Review. 2008.

vessels continue to move towards pelagic and semi-pelagic trawls to reduce halibut bycatch. The need for CVs to keep short trip lengths to maintain quality is likely to result in some continued concentration in areas proximate to Kodiak harbor. Overall, the rockfish fisheries are likely to continue to have minimal and temporary effects on the essential fish habitat. No long-term negative impacts to essential fish habitat are likely under the program alternatives.

Under the No Action alternative, the rockfish fisheries will revert to LLP management and fishing practices could concentrate both temporally and spatially. Despite a possible increase in the use of bottom gear, effort levels under the No Action alternative would be low and would occur in areas considered to have less sensitive habitat (rock, gravel, mud, and sand). As a result, the No Action alternative would have a minimal and temporary effect on benthic habitat and essential fish habitat.

Considering the direct and indirect impacts of the proposed action when added to the impacts of past and present actions previously analyzed in other documents that are incorporated by reference and the impacts of the reasonably foreseeable future actions listed above, the cumulative impacts of the proposed action are determined to be not significant.

2.5 Social and Economic Impacts

The socio-economic impacts of this action are described in detail in the Regulatory Impact Review (RIR) of this analysis (Chapter 3) and the Social Impact Assessment (Appendix 1).

3 Regulatory Impact Review

This RIR examines the benefits and costs of a proposed regulatory amendment to harvesters, processors, crew, cooperatives, and fishing communities associated with the CGOA RP. CGOA RP harvesters, processors, cooperatives are directly regulated by this action.

- Harvesters are directly regulated through the various LAPP provisions that assign and limit CQ use.
- Processors are directly regulated through CQ processing limits.
- Cooperatives are directly regulated through harvest limits, formation requirements, and reporting requirements.

Fishing communities are directly affected by the RP in a number of different ways, including through community protection measures built into the RP and previously found to be functioning as intended, as described in detail in the SIA (Appendix 1) and summarized in RIR Section 3.5.6. Kodiak has historically been home to processors that have processed almost all of the CGOA rockfish landings and under the RP a Kodiak landings requirement has helped to provide predictability and stability in vessel and processing crew employment, income, and working conditions as well as in private sector economic and public sector tax revenue opportunities.

The preparation of an RIR is required under Presidential Executive Order (E.O.) 12866 (58 FR 51735, October 4, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following Statement from the 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 nevertheless 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, the environment, public health or safety, or State, 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 E.O. 12866.

3.1 Statutory Authority

Under the Magnuson-Stevens Act (16 U.S.C. 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 Council has the responsibility for preparing 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.

The CGOA rockfish fishery in the EEZ off Alaska is managed under the GOA FMP. The proposed action under consideration would amend this FMP and Federal regulations at 50 CFR 679. Actions taken to amend FMPs or implement regulations governing these fisheries must meet the requirements of applicable Federal laws, regulations, and Executive Orders.

3.2 Purpose and Need for Action

The Council adopted the following problem statement to originate this action in December 2018.

The Central Gulf of Alaska Rockfish Program (RP) will sunset on December 31, 2021 and the Council must act if it intends to reauthorize the RP. The purpose of this action is to reauthorize the RP to retain the management, economic, safety, and conservation gains realized under the RP to the extent practicable, consistent with the Magnuson-Stevens Act.

For both the onshore and offshore sectors, the RP has improved safety at sea, controlled fleet capacity, enhanced NMFS' ability to conserve and manage species allocated under the RP, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species, and reduced halibut and Chinook salmon bycatch. In addition, the rockfish fishery dependent communities in the Central Gulf of Alaska and the onshore processing sector have benefited from a more stable workforce, more onshore deliveries of rockfish, improved rockfish quality, and increased diversity of rockfish products. Central Gulf of Alaska fishermen, and the onshore processing sector have benefited from reduced conflicts with salmon processing. The offshore sector has benefited from greater spatial and temporal flexibility in prosecuting the fishery, resulting in lower bycatch, a more rational distribution of effort, and more stable markets.

The Council must act to continue the management, economic, safety, and conservation gains realized under the RP. Otherwise, fisheries managed under the RP will revert to effort-control management under the License Limitation Program (LLP).

3.3 Alternatives

The Council selected a Preliminary Preferred Alternative (PPA) at its December 2019 meeting and a Preferred Alternative (PA) at its January/February 2020 meeting. The full suite of alternatives, elements, and options considered by the Council in January is presented with the PA shown in **bold font**. Element 7 is not part of the PA because the need for that action was subsumed within the revised Element 6. The suboption under Element 10 was added at the December meeting and selected as part of the PA in January. Because it was not included as part of the Council alternatives prior to the December meeting it was not selected as part of the PPA, but after analysis was selected as part of the PA. Likewise, Elements 13 and 14 were added for consideration at the December meeting and are included in the PA.

Alternative 1: No Action

Under the No Action alternative, the CGOA rockfish fisheries would revert to LLP management. Because the fishery would no longer be managed under a LAPP structure, the management regulations associated with a LAPP would also be removed.

Alternative 2: **Reauthorize the Rockfish Program (RP).**

Reauthorize the RP with the existing management framework unless modified under this alternative.

Element 1: Modify regulations at 679.80(a)(2) to specify the duration of the program.

Option 1: Remove sunset date.
Option 2: Replace with new sunset date (10-20 years).

Element 2: Reallocate unharvested RP Pacific cod from RP cooperatives after the RP fisheries close on November 15 consistent with regulations at § 679.20(a)(12)(ii).

Element 3: Exempt vessels from crab program sideboard limits when fishing in the RP.

Element 4: Require annual NMFS cost recovery reports in regulations.

Element 5: Clarify regulations at § 679.5(r)(10) to specify that only shoreside processors receiving RP CQ must submit the Rockfish Ex-Vessel Volume and Value Report.

Element 6: Remove regulations in § 679.5(r)(6)(iii)(B) requiring that an annual RP cooperative report be submitted to NMFS. The Council requests that the RP cooperatives continue to voluntarily provide annual reports to the Council.

Element 7: Revise § 679.5(r)(6)(iii)(D) to replace "any actions" with "any civil actions".

Element 8: Revise § 679.81 (i)(D)(3) to remove requirements for a Fishing Plan to be submitted with a cooperative application for CQ.

Element 9: Revise § 679.84(f)(1) to exempt shoreside processors under the RP from the requirement to provide an observer work station and observer communication described at § 679.28(g)(7)(vii) and (viii).

Element 10: Allow NMFS to reallocate unused rockfish ICAs to RP cooperatives

Suboption: With a preference to reallocate to CV cooperatives first.

Element 11: Clarify regulations regarding accounting for inseason use caps to specify that any transfer of unused rockfish ICAs or CP CQ to CV cooperatives does not apply to CV ownership, cooperative, harvester CQ, or shoreside processor CQ use caps.

Element 12: Modify cooperative check-in times from 48 to 24 hours.

Element 13: Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries in § 679.82(e)(4).

Element 14: Modify regulations at § 679.23(h)(1) by removing the 3-day stand down for CVs that fish for groundfish in the BSAI while pollock or Pacific cod is open to directed fishing in the BSAI from the GOA stand down if they check into the RP and fish in the CGOA RP.

3.4 Methods Used for the Impact Analysis

The costs and benefits of this action with respect to these attributes are described in the sections that follow, comparing the No Action alternative 1 with the action alternatives.[24] The analyst then provides a qualitative assessment of the net benefit to the Nation of each alternative, with "no action" as a baseline.

This analysis was prepared using data from the NMFS catch accounting system (CAS), which is the best available data to estimate total catch and PSC 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). 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. This analysis relies solely on total catch and PSC estimates during years more recent than 2003. For the most part, this analysis relies on fishery data beginning in 2003 to include information prior to the RPP being implemented, when the RPP was in place, and when the RP was in place.

Fishery data are provided through the Alaska Fisheries Information Network (AKFIN). AKFIN has access to the catch accounting system data, CFEC Fish Ticket data, and Commercial Operators Annual Report (COAR) data from which it can supply catch and discard records, as well as estimates of gross ex-vessel and first wholesale revenues.

Fishing vessel safety data are provided by the National Institute for Occupational Safety and Health (NIOSH) who manages the Commercial Fishing Incident Database (CFID). CFID is a national surveillance system that contains information on work-related fatalities and vessel disasters in the U.S. fishing industry. For Alaska, CFID contains fatality data from 2000 through 2017 and vessel disaster data from 2000 through 2016.

3.5 Description of Fisheries

3.5.1 Harvest

Information on catch in the CGOA fisheries is presented in this section. All catch data are derived from the CAS that has been summarized by AKFIN staff and provided to the analysts. Overview tables for the CGOA are presented first and more detailed information at the species and fishery level are provided later in the section. The data includes all reported catch. Some at-sea discards may be excluded if it was not reported in the CAS. All value information is presented in millions of 2012 real dollars adjusted using the annual average Consumer Price Index.

The first three tables in this section are intended to provide an overview of the participation, catch, and value of the CGOA trawl fisheries. Table 3-1 shows the information for all trawl gear catch in the CGOA groundfish fisheries. The number of vessels participating in the fishery and have been relatively stable over the period. CPs ranged from five to nine vessels with either five or six vessels participating in each of the four most recent years. An equal number of LLP licenses were used on the CPs as the number of vessels participating, except in 2003 when one more license was used than vessels participating. Catch varied from over 31,000 mt in 2014 to a less than 7,000 mt in 2004. In 2018 the reported catch was just over 14,000 mt. CVs ranged from 32 to 37 vessels, with from 34 to 37 participating since 2012.

[24] 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, to include 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."

Generally, two or three more LLP licenses were used in the fishery than CVs fishing. Catch varied from over 54,000 mt in 2003 to over 145,000 mt in 2015. In 2018 the reported catch was over 132,000 mt.

The number of processing plants taking deliveries from the CV sector ranged from a maximum of 13 in 2011 to a low of seven in 2017. A total of 27 different plants reported taking landings from trawl CVs since 2003, indicating that the number of participants each year is relatively stable but there is entry and exit in terms of the plants that are active over the same period.

Table 3-1 Reported catch (mt) and real value (millions of 2012 $) of all species harvested by trawl gear in the CGOA groundfish fisheries, 2003 through 2018

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
									CP								
Vessels	9	9	9	6	5	8	9	8	6	8	8	7	5	6	5	5	10
Licenses	10	9	9	6	5	8	9	8	6	8	8	7	5	6	5	5	11
Processing Plants	9	9	9	6	5	8	9	8	6	8	8	8	5	6	5	5	11
Reported Catch (mt)	14,357	6,869	10,189	10,263	8,029	10,545	9,438	11,224	15,797	16,765	15,560	31,676	20,428	14,930	22,209	14,171	232,449
Ex-vessel Value	$5.78	$3.43	$4.96	$4.81	$3.07	$3.96	$4.06	$6.00	$8.63	$8.82	$6.78	$9.83	$7.67	$6.29	$9.66	$6.82	$100.57
First Wholesale Value	$16.19	$8.78	$14.56	$15.31	$8.49	$11.43	$11.13	$14.49	$24.57	$23.28	$17.49	$33.34	$22.02	$18.25	$30.92	$16.92	$287.16
									CV								
Vessels	33	33	33	33	33	33	32	33	34	37	36	35	35	37	34	36	45
Licenses	35	36	36	36	36	36	34	35	36	37	38	37	37	37	37	39	42
Processing Plants	11	8	8	11	12	10	9	11	13	11	12	11	10	10	7	8	27
Reported Catch (mt)	54,030	59,109	68,345	71,522	67,844	73,561	61,340	84,790	90,628	93,632	106,193	143,250	145,624	132,487	142,790	132,592	1,527,738
Ex-vessel Value	$20.19	$20.46	$25.19	$27.77	$29.08	$37.75	$23.28	$34.57	$39.52	$43.51	$42.14	$47.95	$42.62	$33.20	$33.76	$35.62	$536.61
First Wholesale Value	$48.06	$50.47	$74.72	$73.12	$72.82	$86.98	$61.72	$86.52	$100.81	$99.48	$114.46	$121.78	$109.54	$102.51	$99.01	$101.35	$1,403.34
									Total								
Vessels	42	42	42	38	38	41	41	41	40	44	43	41	40	41	39	41	51
Licenses	45	45	45	41	41	44	43	43	42	44	45	43	42	43	42	44	51
Processing Plants	20	17	17	17	17	18	18	19	19	18	19	17	15	14	12	13	34
Reported Catch (mt)	68,387	65,977	78,534	81,785	75,873	84,106	70,777	96,014	106,425	110,397	121,753	174,926	166,052	147,417	164,999	146,763	1,760,187
Ex-vessel Value	$25.98	$23.89	$30.15	$32.58	$32.16	$41.71	$27.34	$40.57	$48.15	$52.33	$48.92	$57.78	$50.29	$39.49	$43.42	$42.44	$637.19
First Wholesale Value	$64.25	$59.25	$89.28	$88.44	$81.30	$98.41	$72.85	$101.01	$125.38	$122.76	$131.95	$155.12	$131.56	$120.76	$129.92	$118.26	$1,690.50

Source: AKFIN summary of CAS data

Table 3-2 is limited to information reported for trawl gear harvests when catch is assigned to the rockfish target fishery. This is information is presented to allow the reader to better understand the rockfish fishery prior to implementation of the RPP. In the CP sector there is a very small decrease in the number of vessels and LLP licenses that participate. Since 2007 there is usually a difference of one vessel. Because CPs are limited in their participation in most other CGOA target fisheries either by sideboard limits based on their participation in other LAPPs or inshore/offshore regulations (Pacific cod), the proportion of catch and value they derive from the rockfish fishery, relative to all fisheries, is lower than the CV sector. The CV sector had from 23 to 29 vessels active in the fishery each year. A total of 41 CVs targeted rockfish with trawl gear over the period. Typically, two or three more LLP licenses were used in the fishery than there were CVs. The real ex-vessel value of the fishery ranged from about $2.5 million in 2009 to about $7.0 million in 2012. The ex-vessel value was about 31 percent of the first wholesale value on average, but ranged from about 22 percent to 40 percent, depending on the year considered.

The number of processing plants taking rockfish target deliveries from the CV sector ranged from five to nine. A total of 15 plants took rockfish target deliveries during the 2003 through 2018 period. The number of active plants has decline by one in each of the four most recent years.

Table 3-2 Reported catch (mt) and real value (millions of 2012 $) of all species harvested by trawl gear in the CGOA rockfish target fishery, 2003 through 2018

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
										CP							
Vessels	5	6	6	4	4	6	8	7	5	5	6	5	4	6	4	4	9
Licenses	5	6	6	4	4	6	8	7	5	5	6	5	4	6	4	4	9
Processing Plants	5	6	6	4	4	6	8	7	5	5	6	5	4	6	4	4	9
Reported Catch (mt)	5,641	5,808	6,362	5,457	4,516	5,531	4,996	7,086	6,689	8,489	7,994	9,535	11,004	10,711	10,586	10,739	121,142
Ex-vessel Value	$3.24	$3.08	$4.07	$3.65	$2.39	$2.82	$2.32	$4.32	$5.89	$5.97	$4.35	$5.11	$5.13	$5.04	$5.75	$5.80	$68.94
First Wholesale Value	$7.09	$7.00	$9.49	$8.89	$5.65	$6.56	$5.51	$10.06	$14.30	$13.55	$9.94	$12.30	$13.24	$12.91	$14.19	$13.65	$164.33
										CV							
Vessels	27	26	23	23	27	27	26	27	25	28	29	28	28	26	24	26	41
Licenses	29	28	25	25	29	29	28	29	27	30	31	30	30	28	27	28	40
Processing Plants	6	6	6	7	8	6	6	8	9	8	7	7	8	7	6	5	15
Reported Catch (mt)	11,074	9,644	8,432	7,423	8,661	7,919	8,080	9,358	8,180	10,545	9,536	11,056	11,554	14,110	10,219	12,901	158,695
Ex-vessel Value	$4.28	$3.60	$3.56	$4.28	$4.14	$3.71	$2.50	$3.57	$4.16	$7.04	$4.76	$5.22	$4.90	$6.21	$4.91	$5.46	$72.33
First Wholesale Value	$11.17	$10.32	$14.44	$13.69	$10.90	$10.37	$11.01	$13.66	$16.35	$20.11	$14.02	$14.77	$15.06	$20.29	$16.13	$19.55	$231.83
										Total							
Vessels	32	32	29	27	31	33	34	34	30	33	35	33	32	32	28	30	50
Licenses	34	34	31	29	33	35	36	36	32	35	37	35	34	34	31	32	49
Processing Plants	11	12	12	11	12	12	14	15	14	13	13	12	12	13	10	9	24
Reported Catch (mt)	16,715	15,452	14,793	12,880	13,177	13,450	13,077	16,445	14,869	19,034	17,530	20,591	22,557	24,821	20,806	23,640	279,836
Ex-vessel Value	$7.52	$6.68	$7.63	$7.93	$6.53	$6.53	$4.82	$7.90	$10.05	$13.01	$9.11	$10.34	$10.03	$11.25	$10.66	$11.26	$141.26
First Wholesale Value	$18.26	$17.33	$23.92	$22.58	$16.55	$16.93	$16.52	$23.72	$30.65	$33.66	$23.96	$27.06	$28.29	$33.20	$30.32	$33.21	$396.16

Source: AKFIN summary of CAS data

Participation in the RP and RPP is provided in Table 3-3. This table only goes back to the 2007 fishery, because that is the first year the RPP was in place. The number of participants, catch, and value are similar to the values presented in the previous table. However, there is some variation. The variation occurs because the previous table includes only rockfish target fishery catch and Table 3-3 includes all catch assigned to the RP or the RPP. RP regulations allow the targeting of secondary species QS. This means that a vessel could report target catch in the sablefish or Pacific cod fishery using CQ and be included in Table 3-3, but that catch would have been excluded from Table 3-2. As a result, the numbers are similar but slightly greater in some cases in Table 3-3.

Table 3-3 Reported catch (mt) and real value (millions of 2012 $) of all species harvested by trawl gear in the CGOA Rockfish and RPP fisheries, 2007 through 2018

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
							CP						
Vessels		7	8	4	4	5	5	5	4	5	4	4	9
Licenses		7	8	4	4	5	5	5	4	5	4	4	9
Processing Plants		7	8	4	4	5	5	5	4	5	4	4	9
Reported Catch (mt)		4,851	4,226	6,105	5,836	9,191	7,967	10,415	10,903	10,908	10,854	10,891	92,146
Ex-vessel Value		$2.07	$1.75	$3.82	$5.13	$6.33	$4.41	$5.65	$5.30	$5.19	$5.89	$5.94	$51.49
First Wholesale Value		$5.10	$4.31	$8.78	$12.45	$14.46	$10.03	$13.53	$13.39	$13.06	$14.42	$13.91	$123.43
							CV						
Vessels	27	27	26	27	25	28	29	28	28	27	25	26	40
Licenses	29	29	28	29	27	30	31	30	30	29	28	28	39
Processing Plants	8	6	6	8	8	7	7	7	7	7	6	5	12
Reported Catch (mt)	9,261	8,797	8,697	10,108	8,871	11,997	10,483	12,625	12,616	14,413	10,379	13,188	131,435
Ex-vessel Value	$5.52	$5.58	$3.93	$5.18	$6.29	$9.22	$6.24	$6.86	$6.47	$7.16	$5.82	$6.25	$74.52
First Wholesale Value	$13.16	$13.38	$13.49	$16.19	$19.41	$23.40	$16.51	$17.82	$17.74	$21.89	$17.48	$21.23	$211.70
							Total						
Vessels	27	34	34	31	29	33	34	33	32	32	29	30	49
Licenses	29	36	36	33	31	35	36	35	34	34	32	32	48
Processing Plants	8	13	14	12	12	12	12	12	11	12	10	9	21
Reported Catch (mt)	9,261	13,648	12,923	16,213	14,707	21,188	18,450	23,040	23,519	25,321	21,232	24,079	223,581
Ex-vessel Value	$5.52	$7.66	$5.68	$8.99	$11.43	$15.55	$10.65	$12.51	$11.77	$12.35	$11.71	$12.19	$126.01
First Wholesale Value	$13.16	$18.49	$17.80	$24.97	$31.87	$37.85	$26.53	$31.35	$31.12	$34.95	$31.90	$35.14	$335.14

Source: AKFIN summary of CAS data

3.5.1.1 Prices

Real ex-vessel and first wholesale prices, in real 2012 dollars, for 2003 through 2018 are presented in this section. Average real prices are provided for the years the CGOA rockfish fishery was open access, fished under the RPP, and fished under the RP. Data are grouped in this fashion to provide information on changes in price as it relates to the different management structures, since increased product quality and an associated increase in value is one of the benefits that is often associated with LAPP programs.

Table 3-4 shows the real ex-vessel prices for the three primary rockfish species, Pacific cod, sablefish, arrowtooth flounder, and mid-water pollock. Prices at the first wholesale level and the ex-vessel level are determined by world whitefish markets. However, product quality can influence the prices received. All three primary rockfish species' ex-vessel value increased over the periods considered. The pollock and Pacific cod ex-vessel values declined in real dollars when the open access average is compared to the RP year's average. Sablefish real ex-vessel prices increased relative to the limited access period and were similar on average under the RPP and RP structures. Sablefish real ex-vessel prices declined in 2018 to the point they were the same as the limited access period. This could in part be due to the increased catches of smaller, lower valued sablefish. Arrowtooth flounder, followed a trend closer to that of the rockfish species. The reasons for the relative changes are likely complex and diverse. However, the increase in rockfish prices may be due, in part, to the LAPP structure that the Pacific cod and pollock fisheries did not have. Arrowtooth prices increased even though they operated under an open access fishery, the arrowtooth market has been relatively strong compared to the open access period because of increased demand from secondary processors and innovations to improve product quality.

Table 3-4 Annual average real ex-vessel prices (2012 $) for CGOA rockfish, Pacific cod, sablefish, arrowtooth flounder, and mid-water pollock

Year	POP	Dusky	Northern	Pacific cod	Sablefish	Arrowtooth	Pollock
2003	$0.09	$0.08	$0.08	$0.35	$1.85	$0.04	$0.11
2004	$0.11	$0.10	$0.09	$0.29	$1.58	$0.04	$0.12
2005	$0.16	$0.14	$0.14	$0.31	$1.60	$0.04	$0.16
2006	$0.21	$0.20	$0.20	$0.39	$1.93	$0.05	$0.15
2003-2006 Average	$0.14	$0.13	$0.13	$0.34	$1.74	$0.04	$0.14
2007	$0.18	$0.18	$0.17	$0.51	$1.84	$0.06	$0.12
2008	$0.17	$0.18	$0.17	$0.55	$2.07	$0.06	$0.18
2009	$0.12	$0.15	$0.10	$0.28	$2.18	$0.05	$0.18
2010	$0.17	$0.15	$0.14	$0.25	$2.92	$0.04	$0.18
2011	$0.23	$0.23	$0.20	$0.32	$4.14	$0.05	$0.17
2007-2011 Average	$0.17	$0.18	$0.16	$0.38	$2.63	$0.05	$0.17
2012	$0.27	$0.26	$0.25	$0.32	$3.22	$0.06	$0.18
2013	$0.20	$0.19	$0.17	$0.23	$2.31	$0.04	$0.17
2014	$0.19	$0.19	$0.17	$0.28	$2.70	$0.05	$0.13
2015	$0.18	$0.18	$0.16	$0.25	$2.39	$0.06	$0.11
2016	$0.18	$0.17	$0.15	$0.28	$2.71	$0.07	$0.08
2017	$0.19	$0.20	$0.16	$0.33	$3.19	$0.09	$0.08
2018	$0.19	$0.19	$0.16	$0.36	$1.74	$0.09	$0.10
2012-2018 Average	$0.20	$0.20	$0.17	$0.29	$2.61	$0.07	$0.12

Source: AKFIN summary of CAS and COAR data.

Table 3-5 provides a comparison of the ex-vessel and first wholesale prices[25] for the three primary rockfish species. This table was generated to show that first wholesale prices increased under the RPP but

[25] First wholesale prices are calculated as the total revenue derived from the sale of the fish divided by the round weight of the fish used to generate the products. The prices do not reflect the first wholesale price individual product

does not show substantial change from the RPP to the RP. However, since the ex-vessel prices increased more over the period, the ratio of ex-vessel to first wholesale price increased. This indicates that processors are paying a larger percentage of their rockfish income to purchase the raw fish from the harvester. Relative price changes could indicate a shift in market power between the sectors as a result of the LAPP structure. Additional research would be required to more clearly understand the market influences that are driving the relative changes in price.

Table 3-5 Comparison of ex-vessel and first wholesale prices of primary rockfish species

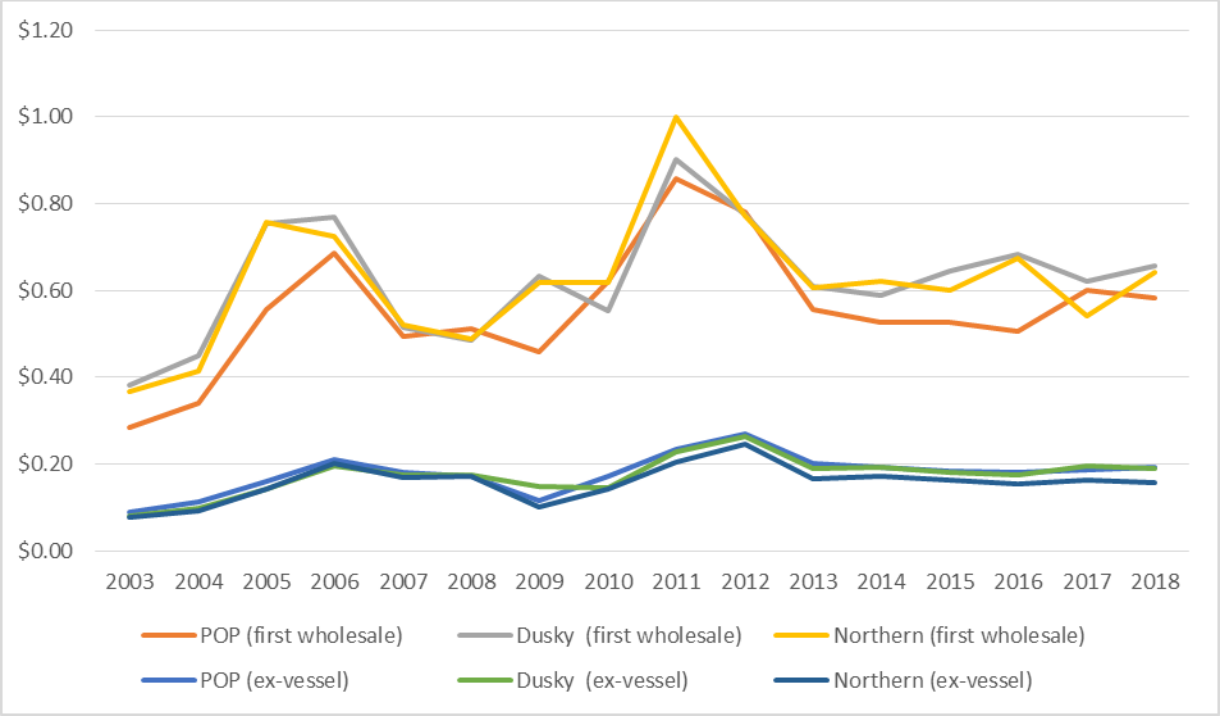
	Ex-vessel			First Wholesale			Ratio ex-vessel to first wholesale		
Years	POP	Dusky	Northern	POP	Dusky	Northern	POP	Dusky	Northern
2003	$0.09	$0.08	$0.08	$0.28	$0.38	$0.37	0.32	0.21	0.21
2004	$0.11	$0.10	$0.09	$0.34	$0.45	$0.41	0.33	0.22	0.22
2005	$0.16	$0.14	$0.14	$0.56	$0.76	$0.76	0.29	0.19	0.19
2006	$0.21	$0.20	$0.20	$0.69	$0.77	$0.72	0.31	0.25	0.28
2003-2006 Average	$0.14	$0.13	$0.13	$0.47	$0.59	$0.57	0.31	0.22	0.23
2007	$0.18	$0.18	$0.17	$0.49	$0.52	$0.52	0.37	0.34	0.33
2008	$0.17	$0.18	$0.17	$0.51	$0.48	$0.49	0.33	0.36	0.35
2009	$0.12	$0.15	$0.10	$0.46	$0.63	$0.62	0.25	0.24	0.16
2010	$0.17	$0.15	$0.14	$0.62	$0.55	$0.62	0.28	0.26	0.23
2011	$0.23	$0.23	$0.20	$0.86	$0.90	$1.00	0.27	0.25	0.20
2007-2011 Average	$0.17	$0.18	$0.16	$0.59	$0.62	$0.65	0.30	0.28	0.24
2012	$0.27	$0.26	$0.25	$0.78	$0.78	$0.77	0.34	0.34	0.32
2013	$0.20	$0.19	$0.17	$0.56	$0.61	$0.61	0.36	0.31	0.28
2014	$0.19	$0.19	$0.17	$0.53	$0.59	$0.62	0.37	0.33	0.28
2015	$0.18	$0.18	$0.16	$0.53	$0.64	$0.60	0.35	0.28	0.27
2016	$0.18	$0.17	$0.15	$0.51	$0.68	$0.67	0.36	0.25	0.23
2017	$0.19	$0.20	$0.16	$0.60	$0.62	$0.54	0.31	0.31	0.30
2018	$0.19	$0.19	$0.16	$0.58	$0.66	$0.64	0.33	0.29	0.25
2012-2018 Average	$0.20	$0.20	$0.17	$0.58	$0.65	$0.64	0.35	0.30	0.27

Source: AKFIN summary of CAS and COAR data.

Figure 3-1 is a graphical representation of the annual data shown in Table 3-5. The averages presented in the table are omitted.

sold in the market. Prices were calculate using this method so that ex-vessel and first wholesale prices are more directly comparable.

Figure 3-1 Comparison of ex-vessel and first wholesale prices of primary rockfish species



Source: AKFIN summary of CAS and COAR data.

3.5.1.2 Primary Species

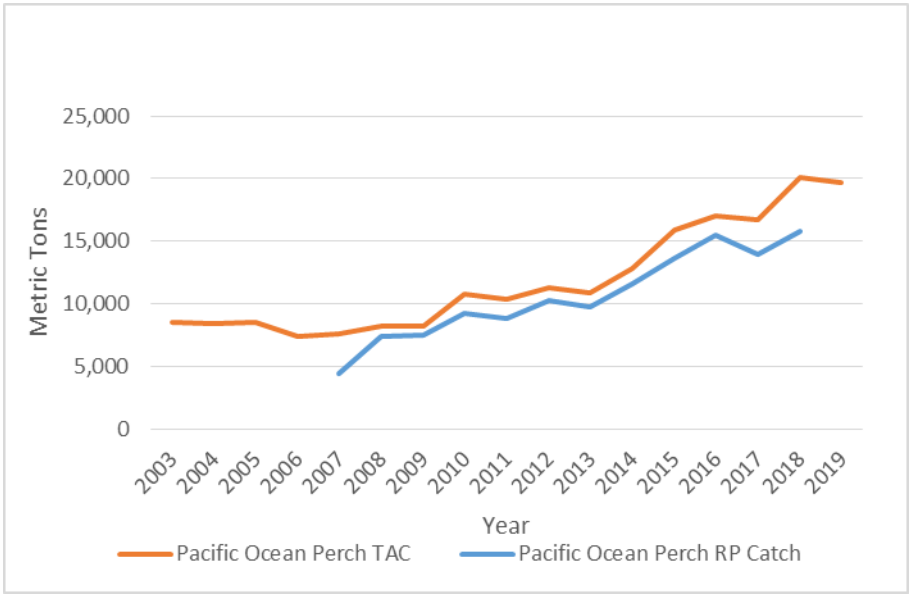
TAC for species allocated under the CGOA RP are reported in this section for 2003 through 2019. Catch data are reported for 2003 through 2018. These years represent the longest times series of complete fishing years when consistent catch data are available. Primary RP species TACs are set equal to the ABC. OFLs are set GOA-wide for northern rockfish and dusky rockfish. OFLs for POP are set for the Southeast Outside and the combined Western, Central, and West Yakutat areas. Because there is no OFL set for the CGOA it is not reported and the ABCs are not reported since they are equal to the TAC.

3.5.1.2.1 RP Trawl Primary Species

CGOA TACs are established for the three primary RP species POP, northern rockfish, and dusky rockfish. The RP sector allocation of these species is equal to the CGOA TAC minus the ICA established for bycatch needs in other target fisheries and the allocation to the longline entry level fishery. The following tables report the CGOA TACs, RP catch, and total catch of the three primary species.

CGOA POP TACs ranged between 6,000 mt and 10,000 mt until 2010 and increased to 20,112 mt in 2018 before declining slightly to 19,656 mt in 2019 (Figure 3-2). POP TAC increases began in 2006 (the year prior to the start of the RPP) and continued each year through 2016. The 2017 TAC decreased slightly but increased again in 2018. Over the time period considered POP TACs ranged from 6,600 mt to 20,112 mt and the 2019 TAC was about 8,000 mt above the 2003 through 2019 average of 11,906 mt.

Figure 3-2: CGOA POP TAC and RP catch

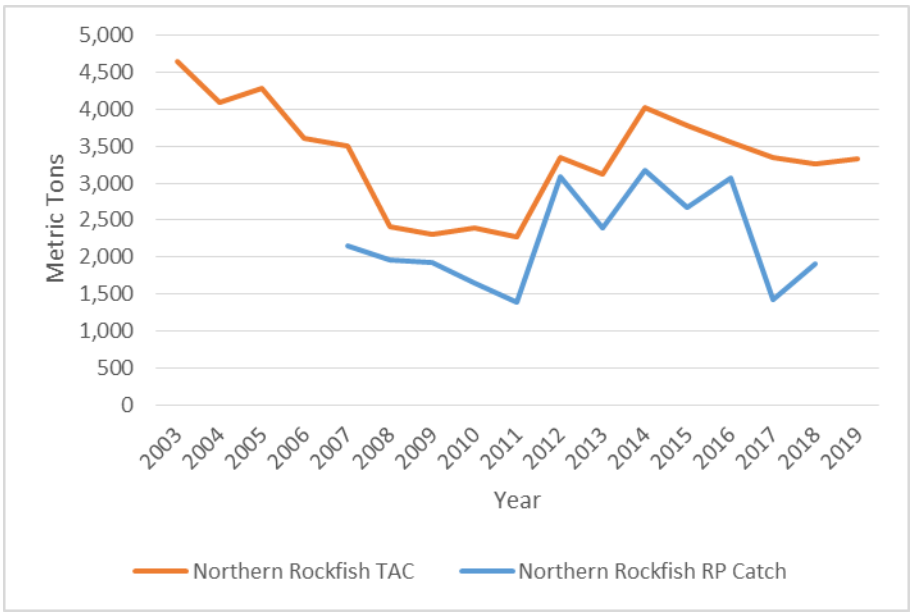


Source: NMFS annual Specifications and AKFIN summary of CAS data

The trawl gear catch of CGOA POP in the RP has increased along with the increasing TAC with almost all of the trawl catch being taken in the RP fishery. RP cooperatives were able to harvest almost all of their annual allocations without exceeding their sector allocation.

The northern rockfish CGOA TACs ranged from a low of 2,281 mt in 2011 to a high of 4,640 mt in 2003 (Figure 3-3). The 2019 TAC is set at 3,338 mt, or about 30 mt below the 2003 through 2019 average.

Figure 3-3 CGOA Northern rockfish TAC, total trawl gear catch, and RP catch



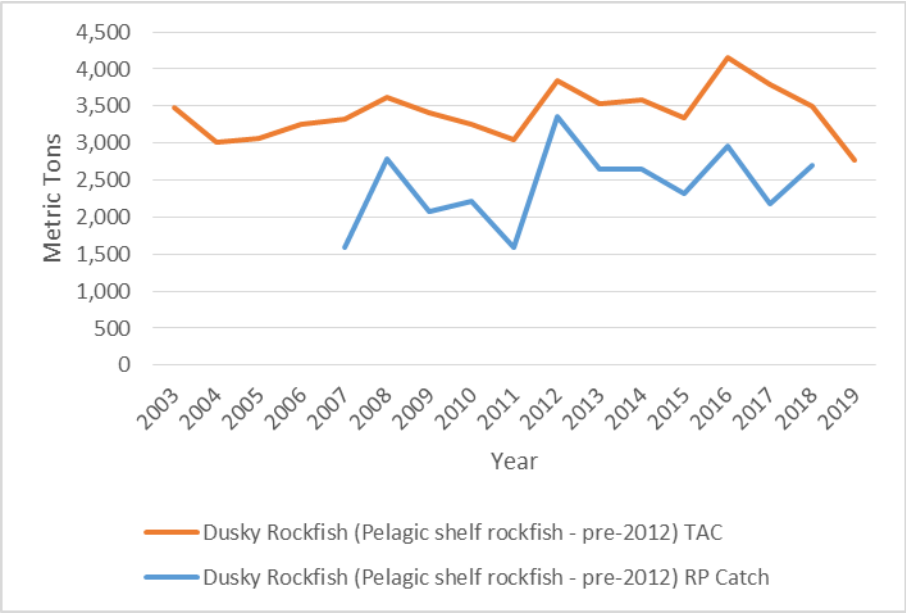
Source: NMFS annual Specifications and AKFIN summary of CAS data

Like POP, almost all of the CGOA northern rockfish trawl catch is taken in the RP fishery. Current levels of catch are close to those taken during the RPP but are less than taken under the RP from 2012 through 2016.

The RP program cooperatives harvested a smaller percentage of their allocation in 2017 than other years. That year less than 50 percent of the TAC was taken. The percentage taken in 2018 increased to over 60 percent, but is still less than had been taken in previous years. The reason the percentage declined is likely due to factors impacting both available harvesting and processing capacity. Harvesting vessels try to harvest the rockfish species after the early pollock and Pacific cod seasons end but before the June 10th opening for pollock in the BSAI, the West Coast whiting fishery, and tendering for pink salmon starts. On the processing side, the large pink salmon fishery took much of the summer capacity of the processing plants in Kodiak. With so much capacity directed towards salmon deliveries, some vessels were limited in their ability to make rockfish deliveries.

Dusky rockfish TACs remained fairly steady over the years considered (Figure 3-4). TACs ranged from 2,760 mt in 2019 to 4,147 mt in 2016. The 2019 TAC was 646 mt below the 2003 through 2019 average. The dusky rockfish TAC is about the same size as the northern Rockfish TAC, but only about 15 percent of the POP TAC.

Figure 3-4 CGOA dusky rockfish TAC, total trawl gear catch, and RP catch



Source: NMFS annual specifications and AKFIN summary of CAS data

Like the CGOA POP and northern rockfish fisheries almost all of the CGOA dusky rockfish catch is taken in the RP. Trawl gear accounts for a vast majority of the primary rockfish species catch.

3.5.1.2.2 RP Longline Entry Level Primary Species

The RP includes a small entry level longline gear allocation that may be harvested by vessels using hook-and-line, troll, hand line, or jig gear. Pot gear is not included as a legal gear in this fishery. Entry level longline fishery vessels are not eligible to join cooperatives and are not allocated exclusive harvest privileges.

Catches in the longline entry level fishery are primarily dusky rockfish catches using jig gear. Targeted longline catch of northern rockfish and POP are very small or did not occur during 2012 through 2018. Too few vessels are active in those fisheries to report the data, under confidentiality regulations.

The longline catches of dusky rockfish are taken by a few vessels that take the vast majority of the catch and several vessels reporting small amounts. For example, during 2016 when the dusky rockfish limit was increased 67 vessels reported catch, but the top four producing vessels accounted for about 90 percent of

the catch. The remaining vessels accounted for about 3 mt of catch or about 100 lbs per vessel on average. The four top producing vessels vary by year, but the top 2 producing vessels are consistently the same since 2013.

Table 3-6 shows the catch of CGOA dusky rockfish taken by longline gear in the open access fisheries. Catch varies greatly by year with the most catch being taken in 2016. That year the 30 mt set-aside was exceeded and increased to 50 mt the following year (see discussion in Section 3.5.1.5). Both the catch and number of vessels are relatively small other years. More vessels are active in other directed fisheries that take rockfish as incidental catch, primarily Pacific cod, but actual amounts of rockfish catch are small.

Table 3-6 Longline gear catch of dusky rockfish in the CG open access fisheries

		2012	2013	2014	2015	2016	2017	2018	2019	Average
Rockfish Targets	mt	c	8.4	c	c	33.9	8.2	4.3	5.4	8.6
	Vessels	2	4	1	2	6	7	5	3	3.8
All Other Targets	mt	c	0.9	c	c	3.2	3.2	1.1	1.3	1.9
	Vessels	14	55	59	67	65	53	15	27	44.4
Total	mt	0.5	9.3	2.2	11.1	37.1	11.4	5.5	6.6	10.5
	Vessels	16	58	59	68	67	59	20	30	47.1

Source: AKFIN Summary of NMFS CAS data
Note: "Conf." means that 3 or fewer vessels reported landings.

3.5.1.3 Secondary Groundfish Species

Secondary species allocated under the RP include three rockfish species, Pacific cod, and sablefish (50 CFR 679.81(c)). The three secondary rockfish species are thornyhead rockfish, shortraker rockfish, and rougheye rockfish. Under Alternative 2 the secondary species TACs are divided between the cooperative quota and the non-RP fisheries. A portion of the Pacific cod TAC is allocated to the CV cooperatives and the remainder is available to non-RP participants. A portion of the shortraker and rougheye TACs are allocated to CP cooperatives with the remainder available to the non-RP fisheries. Portions of the sablefish and thornyhead rockfish TACs are allocated to the CV and CP cooperatives, with the remainder being allocated to the non-RP fishery. Vessels that are members of the cooperatives may utilize the available non-RP portion of the TACs after their cooperative checks out of the RP by notifying NMFS.

A summary of the secondary species allocations to CV and CP sectors is presented in Table 3-7. Both the allocation methods under the No Action alternative and Alternative 2 are included. The No Action alternative would remove all of the allocations of secondary species to the RP sectors. Persons with a valid LLP to use trawl gear in the CGOA would compete to harvest those species when (if) they are open to directed fishing or could use them as incidental catch if the fishery is closed to directed fishing. None of the elements that extend the RP would modify the current allocations.

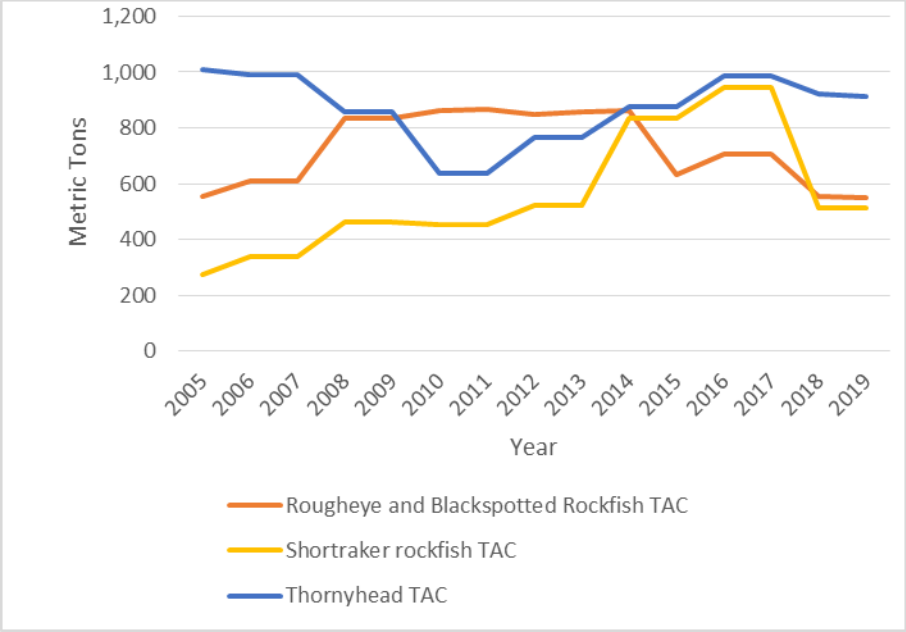
Table 3-7 Allocations of secondary species under the Alternatives

Sector/Species	Alternative 1 (No Action)	Alternative 2 (RP)
CV/Pacific cod	The 3.81 percent of TAC that has been assigned to the RP would not be removed from the A season (60 percent) or B season (40 percent) cod fishery and would be available to qualified LLP holders as directed or incidental catch.	3.81 percent of CGOA TAC
CV/rougheye/ blackspotted rockfish	The 2 percent MRA applied to the RP would be removed from regulations. MRAs for rougheye that apply to other fisheries would be retained.	MRA: shortraker/rougheye may not exceed 2.0 percent of trip.
CV/trawl sablefish	6.70 percent of the CGOA sablefish TAC allocated to the RP would be available for incidental catch in CV trawl target fisheries. Trawl CVs in the CG would not be allowed to directed fish for sablefish as they did under the RP.	6.70 percent of CGOA TAC
CV/shortraker rockfish	The 2 percent MRA applied to the RP would be removed from regulations. MRAs for shortraker that apply to other fisheries would be retained.	MRA: shortraker/rougheye may not exceed 2.0 percent of trip.
CV/thornyhead rockfish	7.84 percent of the CGOA thornyhead TAC allocated to the RP would be available for incidental catch in trawl CV target fisheries. Trawl CVs in the CGOA not anticipated to be allowed to directed fish for thornyhead, rougheye, or shortraker because the TAC is expected to be too small for a directed fishery now and into the foreseeable future.	7.84 percent of CGOA TAC
CP/Pacific cod	The CP sector would be able to use the 2 percent trawl CP Pacific cod allocation for incidental catch or, if the TAC is large enough in the future, directed fishing. The CP sector has traditionally been closed	MRA 4.0 percent of trip

	to directed Pacific cod fishing for the entire year.	
CP/rougheye rockfish	The TAC percentage that has been assigned under the RP to the CP sector would no longer be deducted from the CGOA sablefish trawl allocation or the CGOA rockfish species allocations. These species (other than sablefish in the IFQ fishery) are anticipated to be placed on bycatch status at the beginning of the year for all gear types, given fisheries current and expected future conditions.	58.87 percent of CGOA TAC
CP/trawl sablefish		3.51 percent of CGOA TAC
CP/shortraker rockfish		40.0 percent of CGOA TAC
CP/thornyhead rockfish		26.5 percent of CGOA TAC

The secondary rockfish species CGOA TACs are presented for 2005 through 2019 (Figure 3-5). Prior to 2005 the shortraker rockfish and rougheye rockfish TACs were combined so the combined TAC is not reported. Secondary rockfish species TACs varied over the period considered. Thornyhead rockfish TAC ranged from high of 1,010 mt and a low of 637 mt. The 2019 TAC (911 mt) was closer to the period high than the low, but declined slightly in 2018 and 2019. The shortraker and rougheye TACs never exceeded 1,000 mt and in 2018 and 2019 was slightly more 500 mt. The TACs for those two species was close to the same in 2018 and 2019, which was a decline of approximately 40 percent from recent highs.

Figure 3-5 Secondary rockfish species CGOA TACs, 2005 through 2019.



Source: NMFS annual specifications

3.5.1.4 PSC

The information presented in this section focuses on halibut PSC and Chinook salmon PSC from the CGOA trawl fisheries. Data from the 2003 fishing year is excluded because AKFIN staff advised the

authors that the data available includes duplicate information and recommended that the PSC data for that year not be used until that issue can be resolved with the agencies providing the data.

Data to compare PSC rates in the RP and outside the RP on an area, gear, and fishery basis are limited. The three primary rockfish species are only taken in directed fisheries in the RP trawl fishery in the CGOA. The secondary CGOA rockfish species are only taken as incidental catch in other directed fisheries. Sablefish can be taken in a directed sablefish fishery using trawl gear in the RP, but not outside the RP. Finally, CGOA Pacific cod has traditionally been harvested as a directed trawl fishery in the RP and in the limited access fishery. The current TAC of Pacific cod in the CGOA does not allow for a directed fishery. This is the only fishery that PSC rates in the RP and outside the RP on an area, gear, and fishery basis can be compared. The rates are provided in Table 3-8. Also note that the CP sector has had very limited participation in the Pacific cod fishery as a result of inshore/offshore regulations, so the information in the table is only for the CV sector.

Table 3-8 Halibut mortality and Chinook salmon bycatch in the CGOA Pacific cod CV trawl fisheries, 2003 through 2018

Bycatch by CGOA Pacific cod trawl fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Halibut Mortality Rate Open Access (kg halibut/mt groundfish)	15.4	13.3	17.0	13.4	13.9	8.4	7.0	1.7	4.0	3.3	2.0	1.2	3.5	4.1	1.4	0.7
Halibut Mortality Rate RPP & RP (kg halibut/mt groundfish)	n/a	n/a	n/a	n/a	0.9	1.9	1.8	1.4	3.5	4.1	0.9	1.4	1.8	1.0	0.8	2.3
Chinook Salmon Rate Open Access(# of Chinook/mt groundfish)	0.129	0.013	0.001	0.028	0.015	0.005	0.003	0.003	0.011	0.005	0.004	0.002	0.001	0.000	0.007	0.003
Chinook Salmon Rate RPP & RP (# of Chinook/mt groundfish)	n/a	n/a	n/a	n/a	0.001	0.010	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.008	0.001	0.127

Source: AKFIN summary of CAS data

The halibut mortality rates have decreased in both fisheries and since 2012 have been 0.004 mt of halibut per metric ton of groundfish or less. The rates in both the open access and RP are similar with the RP rate being lower or the same in five of the seven years. Chinook salmon bycatch rates in the two fisheries are more variable and there is no discernable trend in the open access fishery relative to the RP fisheries. The variability of the Chinook salmon bycatch rates in the RP are discussed in greater detail later in this section.

3.5.1.4.1 Catcher Vessels

Starting in 2015, the RP trawl CVs are limited to 1,200 Chinook salmon each year while checked into the RP (Amendment 97 to the GOA FMP). If the RP trawl CVs reach the Chinook salmon limit, directed fishing by all CVs in the RP will be prohibited for the remainder of the year. On October 1, if it is determined that more than 150 Chinook salmon from the RP CV limit will not be caught, the available Chinook salmon limit minus 150 fish can be reallocated for use by CVs in other GOA fisheries.

In general, Chinook salmon PSC tends to be quite difficult to consistently avoid. Improvements in gear and communication on the fishing grounds have provided some benefits. However, there are still instances where a vessel is reported to encounter relatively high PSC rates when other vessels in the area had not previously realized high rates. Members of the fleet often describe these events as “lighting strikes” since they tend to be difficult to predict and, therefore, avoid.

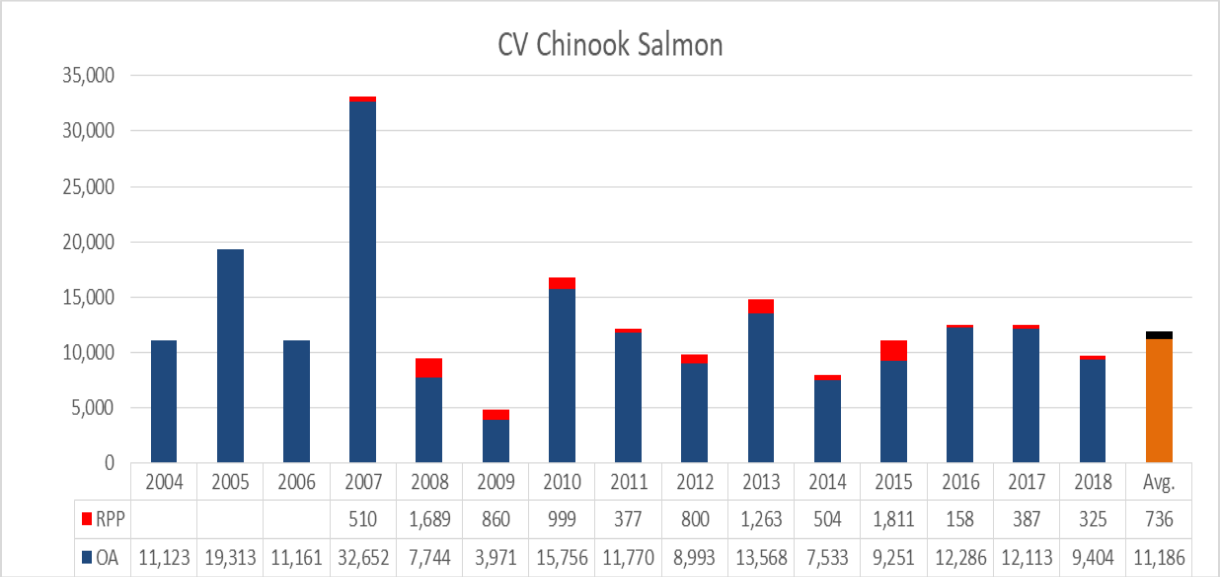
In an attempt to reduce Chinook salmon PSC, all shoreside cooperatives agreed to the Salmon Bycatch Avoidance Plan adopted in 2014. The plan included four parts:

1. a “slow start” to fishing to test the fishing grounds;
2. individual vessel Chinook salmon bycatch standards for the months of May, June, July, and August;
3. Chinook salmon hotspot reporting requirements; and
4. full retention of all bycaught Chinook salmon which is a regulatory requirement starting on January 1, 2015 (Alaska Groundfish Data Bank, Inc, 2018)

Since the Chinook salmon PSC limit was implemented for the RP, the CV sector has been well under their 1,200 fish limit, except for 2015. During 2015, CVs exceeded their limit of 1,200 fish, but were well under their limit until November. In May and June, an estimated 684 and 91 Chinook salmon were taken,

respectively. The remaining 1,034 Chinook salmon were taken during the last week of fishing in November. High PSC rates reported for the last week fishing occurred in November were attributed to the fleet, in part, based on the basket samples taken from one vessel. All other years the limit was in place the fleet harvested 32 percent of the sector's PSC limit or less.

Figure 3-6 Chinook salmon caught in the CGOA open access and RP fisheries, 2004 through 2018

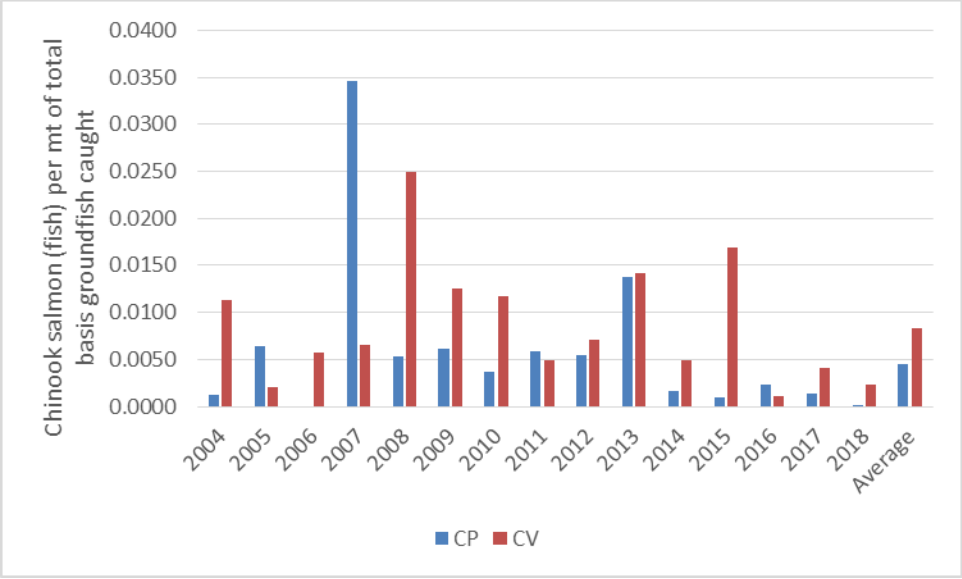


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Avg.
RPP				510	1,689	860	999	377	800	1,263	504	1,811	158	387	325	736
OA	11,123	19,313	11,161	32,652	7,744	3,971	15,756	11,770	8,993	13,568	7,533	9,251	12,286	12,113	9,404	11,186

Source: AKFIN summary of CAS data

Figure 3-7 shows the estimated annual Chinook salmon PSC rates in the CGOA trawl rockfish target fisheries. Rates are shown as the ratio of Chinook salmon per metric ton of total groundfish caught in the rockfish target fisheries. CV rates were highest in 2008 and 2015, but low in 2014, 2016, 2017 and 2018. The variability of the Chinook salmon PSC rates highlights the difficulties associated with avoiding Chinook salmon, even when gear is modified to allow some salmon to escape and the fleet communicates bycatch hot spots in close to real time.

Figure 3-7 Chinook salmon per metric ton of groundfish species in the CGOA rockfish target fishery, 2004 through 2018



Source: AKFIN summary of CAS data

CP data is also provided in the figure to allow a direct comparison of the impacts on the two sectors. A more detailed discussion of the CP sector is provided later in this section. For CPs, years when the CP GOA Chinook salmon limit was in place are among the lowest rates reported and less than half of the 2004 through 2018 average. Rates in 2007 were over twice those reported for any other year. While 2007 was the first year of the RPP, most CP sector members did not take part in GOA cooperatives until 2010.

50 CFR 679.21(d) establishes annual halibut PSC limit apportionments to trawl gear and hook-and-line gear. In December 2018, the Council recommended trawl gear halibut PSC limits of 1,706 mt for 2019. Over the 2004 through 2016 time period, the overall GOA trawl PSC limit decreased from 2,000 mt to the current limit of 1,706 mt. The reduction in the overall GOA trawl PSC limit is a result of reductions implemented as part of the RP and Amendment 95 to the GOA FMP. Amendment 95 to the GOA FMP reduced the trawl halibut PSC (and hook and line) PSC limit. The trawl limit was reduced from 2,000 mt in 2004 to 1,973 mt under RP and then stair stepped down to the current 1,706 mt under Amendment 95 to the GOA FMP. The overall trawl limits for the GOA includes the 191.4 mt that is deducted and set aside for exclusive use by the RP participants.

Table 28d to 50 CFR part 679 specifies the amount of the trawl halibut PSC limit that is assigned to the CV and CP sectors that are participating in the RP. This includes 117.3 mt of halibut PSC limit to the CV sector and 74.1 mt of halibut PSC limit to the CP sector. These amounts are allocated from the trawl deep-water species fishery's halibut PSC third seasonal apportionment. After the combined CV and CP halibut PSC limit allocation of 191.4 mt to the RP, 150 mt remains for the trawl deep-water species fishery's halibut PSC third seasonal apportionment.

Section 679.21(d)(4)(iii)(B) limits the amount of the halibut PSC limit allocated to RP participants that could be reapportioned to the general GOA trawl fisheries during the current fishing year to no more than 55 percent of the unused annual halibut PSC limit apportioned to RP participants. The remainder of the unused RP halibut PSC limit is unavailable for use by any person for the remainder of the fishing year (50 CFR 679.21(d)(4)(iii)(C)).

Each year NMFS assigns a portion of the CV halibut PSC to shore-based RP cooperatives. The amount assigned to each cooperative is based on the primary species CQ associated with the cooperative member's LLP licenses. Halibut PSC assigned to each cooperative is shown in Table 3-9.

Table 3-9 Initial allocations of halibut PSC limits (mt) to cooperatives, 2007 through 2019

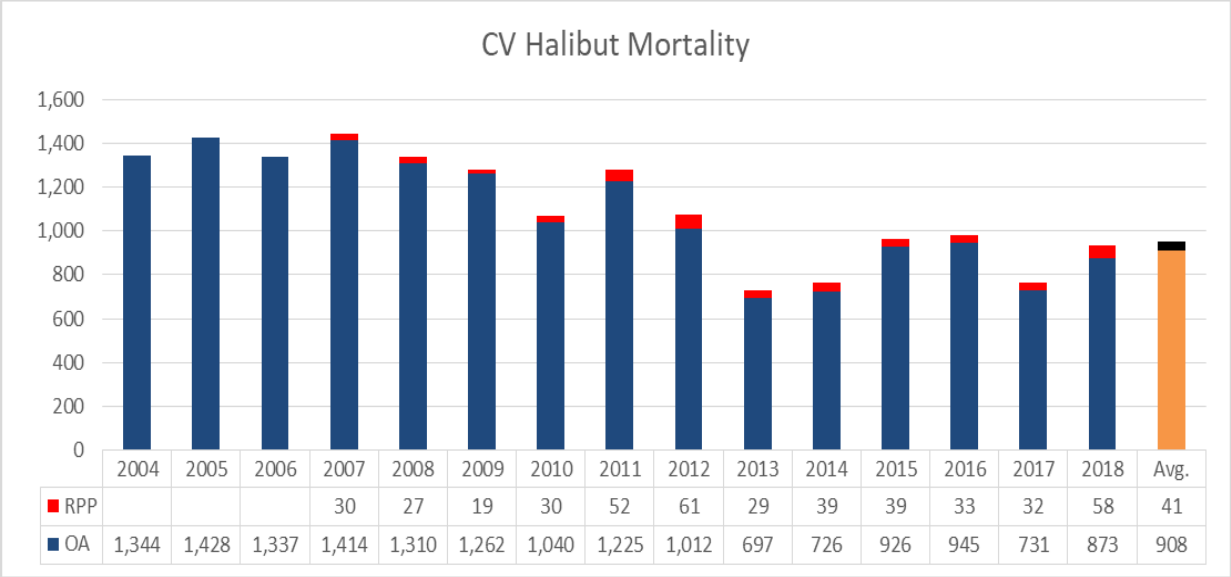
	2012	2013	2014	2015	2016	2017	2018	2019
GLOBAL ROCKFISH COOPERATIVE	2.5	2.3	5.2	5.2	5.2	5.2		
I.S.A. ROCKFISH COOPERATIVE	15.3	15.3	15.3	13.0	18.0	18.0	20.9	20.9
NORTH PACIFIC ROCKFISH COOPERATIVE	18.5	18.7	21.5	21.5	21.5	21.5	23.8	23.8
OBSI ROCKFISH COOPERATIVE	29.3	26.0	23.2	23.2	18.2	18.2	18.2	18.2
PACIFIC ROCKFISH COOP	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
STAR OF KODIAK ROCKFISH COOPERATIVE	33.0	33.1	33.1	33.1	33.1	33.1	33.1	33.1
WESTERN ALASKA FISHERIES ROCKFISH COOP	13.5	16.8	13.9	16.2	16.2	16.2	16.2	16.2
Total	117.3	117.3	117.3	117.3	117.3	117.3	117.3	117.3

Source: Annual cooperative allocations reported on the NMFS AKR website.
e.g. https://www.fisheries.noaa.gov/alaska/sustainable-fisheries/alaska-fisheries-management-reports.

The fishing plan established by shore-based cooperatives also included a system to discourage high halibut bycatch rates. An incentive for these internal bycatch controls is to ensure that the sector's PSC limit is not reached, because it would result in the closure of all RP fisheries. The bycatch controls in include standards that are set and enforced by the cooperative members. Halibut bycatch standards adopted by shore-based cooperatives include the inter-cooperative red light, yellow light, green light system. The light system is based on the percentage of halibut PSC per ton of groundfish used in RP

target fisheries. The ratio of halibut to groundfish indicates whether the vessel may continue fishing, fish with caution, or stop fishing to avoid high halibut bycatch (Alaska Groundfish Data Bank, Inc, 2018). As shown in Figure 3-8 the CV fleet had never taken more than 52 percent of its 117.3 mt halibut PSC limit since the RP was implemented in 2012 and most years less than 33 percent of the limit was taken.

Figure 3-8 Halibut PSC mortality in the open access and RP CV sectors, 2004 through 2018

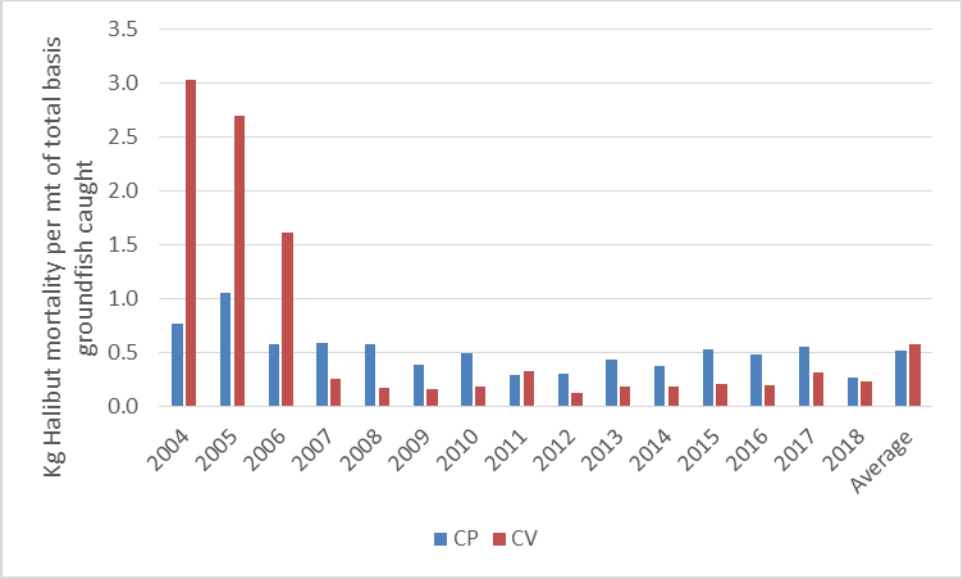


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Avg.
RPP				30	27	19	30	52	61	29	39	39	33	32	58	41
OA	1,344	1,428	1,337	1,414	1,310	1,262	1,040	1,225	1,012	697	726	926	945	731	873	908

Source: AKFIN summary of CAS data

Figure 3-9 shows the ratio of halibut mortality to groundfish catch in the CGOA rockfish target fisheries from 2004 through 2018. The ratio is in kilograms of halibut mortality per metric ton of groundfish catch in the rockfish target fisheries. The CV ratio is three to six times greater in the years before the RPP was implemented. After the RPP was implemented the rate was consistently less than 0.5 kg/mt. The decrease is primarily due to the bycatch avoidance practices that were implemented by the CV fleet.

Figure 3-9 Kilograms of halibut mortality in the CGOA rockfish fishery per metric ton of total groundfish catch by CVs and CPs in rockfish target fisheries, 2004 through 2018



Source: AKFIN summary of CAS data

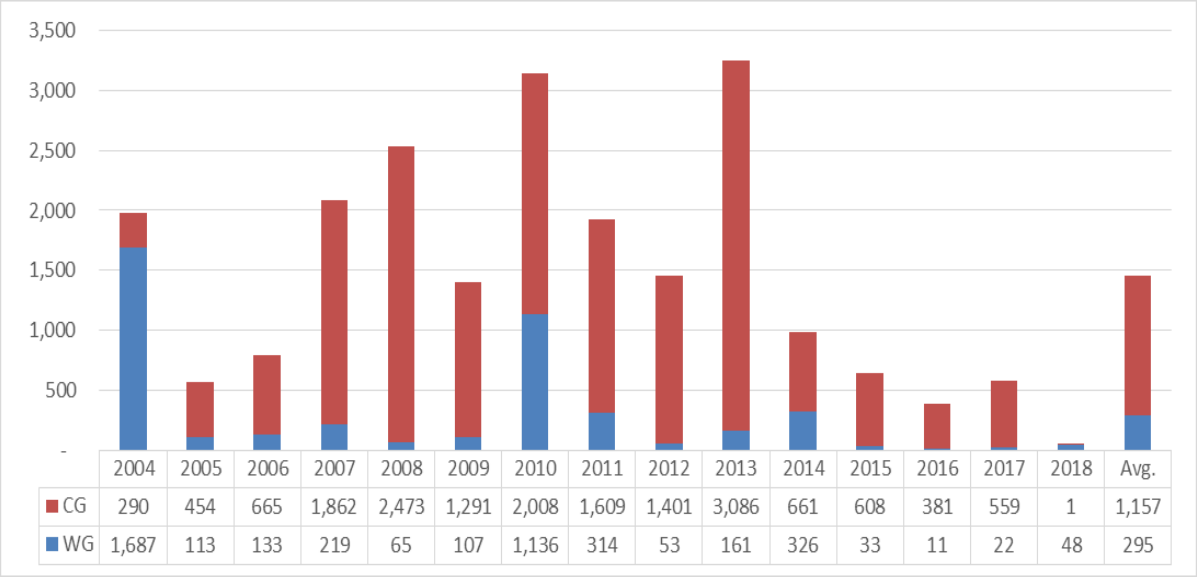
The CP halibut PSC is discussed later in this section, but is included in the above figure for direct comparison of the two rates and to show that both sectors improved their rates. The CP ratios were decreased under the RP by about half. While the CP sector's ratios decreased, the change is less than realized by the CV sector.

3.5.1.4.2 Catcher/Processors

Trawl CP vessels fishing in the Gulf of Alaska are subject to a limit of 3,600 Chinook salmon in the Western and Central Gulf of Alaska, or, 4,080 Chinook salmon if the previous year's catch of Chinook salmon did not exceed 3,120 fish. This limit applies to vessels fishing inside and outside of the RP. Directed fishing by trawl CPs will be closed in the GOA when that limit is projected to be reached. The trawl CP sector has a seasonal limit before June 1 of either 2,376 or 2,693 Chinook salmon, depending on whether they were allocated additional Chinook salmon as a result of being under their defined limit the previous year.

Figure 3-10 shows the Chinook salmon PSC usage in the WGOA and CGOA by CPs. Since 2014 (the five most recent years of data) the Chinook salmon PSC in both the WGOA and CGOA has been below the long-term average (except for the CG in 2014). Because their catch has been below the 3,120 fish threshold, the limit is currently 4,080 fish.

Figure 3-10 Reported Chinook salmon PSC by CPs in the Western and CGOA, 2004 through 2018



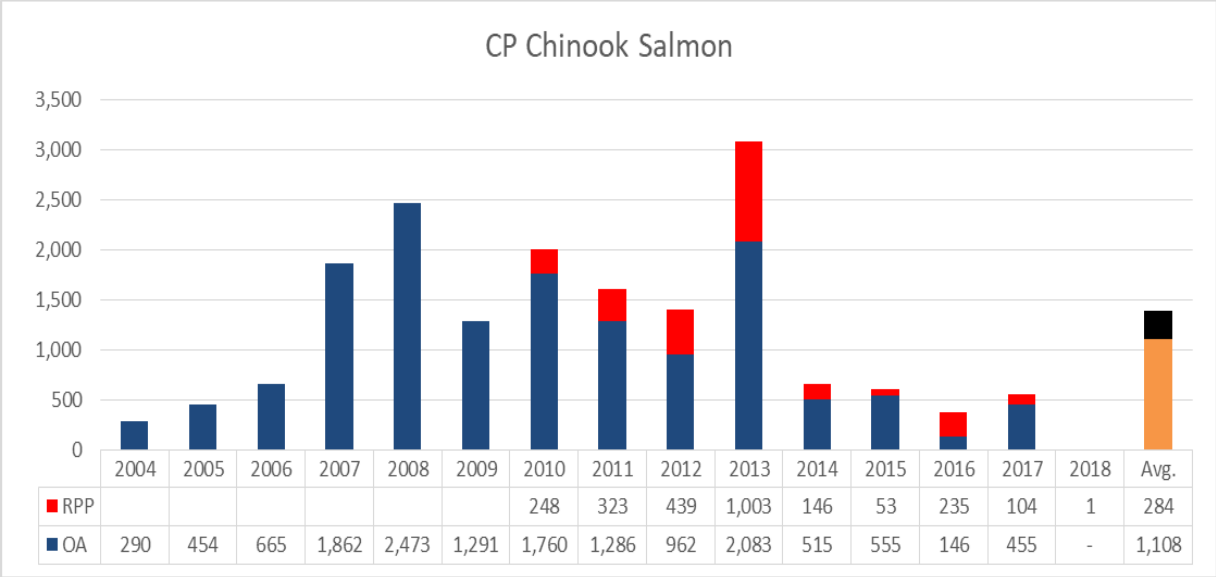
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Avg.
CG	290	454	665	1,862	2,473	1,291	2,008	1,609	1,401	3,086	661	608	381	559	1	1,157
WG	1,687	113	133	219	65	107	1,136	314	53	161	326	33	11	22	48	295

Source: AKFIN summary of CAS data

CPs began assigning the majority of their RPP allocation of primary species to cooperatives starting in 2010. Prior to 2010 most of the catch is attributed to the open access fishery, since the CP LLP licenses were assigned to that fishery and not cooperatives by their owners.

Figure 3-11 shows the reported Chinook salmon PSC in the CGOA by CPs in both the RP and open access fisheries. Chinook salmon PSC used by the trawl CP sector in the CGOA has shown considerable variability with relatively large numbers of Chinook salmon from 2007 through 2013 (from 1,401 fish to 3,086 fish). Chinook salmon bycatch before the RPP was implemented ranged from 290 fish to 665 fish. After 2013 the range was from 1 fish to 661 fish. The CGOA bycatch of Chinook salmon during the RP years was considerably less than the long-term average of 1,157 Chinook salmon.

Figure 3-11 CP Chinook salmon PSC in the CGOA trawl RP and open access fisheries, 2004 through 2018



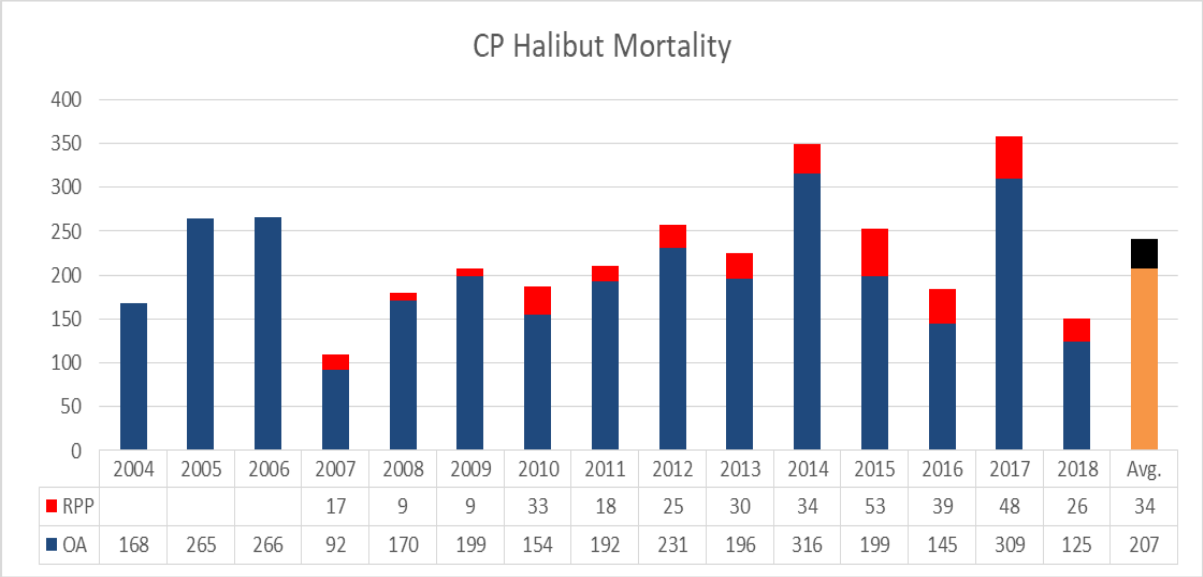
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Avg.
RPP							248	323	439	1,003	146	53	235	104	1	284
OA	290	454	665	1,862	2,473	1,291	1,760	1,286	962	2,083	515	555	146	455	-	1,108

Source: AKFIN summary of CAS data

Data reported in Figure 3-11 shows that in the CGOA, trawl CPs have had below average Chinook salmon PSC usage in the past five years. Chinook salmon PSC usage in 2013 was greater than any other year considered. During 2013, Chinook salmon PSC was relatively large in both the RP and the open access fisheries. CVs also experienced higher than average Chinook salmon PSC that year. However, because the CVs and CPs have different fishing patterns and locations the two sectors may realize different interactions with Chinook when targeting groundfish.

Halibut PSC mortality in the CGOA CP trawl fisheries is shown in Figure 3-12. The increase in halibut mortality associated with the RPP after 2009 was, in part, a result of more CPs being assigned to cooperatives as opposed to opting out of the program and fishing in the open access fishery. Under the RP, CPs are assigned 74.1 mt of halibut PSC for use in RP cooperatives. CPs have never taken their RP halibut PSC limit: the closest they came was in 2015. That year they still had 21 mt of halibut mortality remaining after the cooperative members finished fishing for the year.

Figure 3-12 CP halibut PSC mortality in the CGOA trawl RP and open access fisheries, 2004 through 2018



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Avg.
RPP				17	9	9	33	18	25	30	34	53	39	48	26	34
OA	168	265	266	92	170	199	154	192	231	196	316	199	145	309	125	207

Source: AKFIN summary of CAS data

3.5.1.5 Seasonal Rounds of Fishing

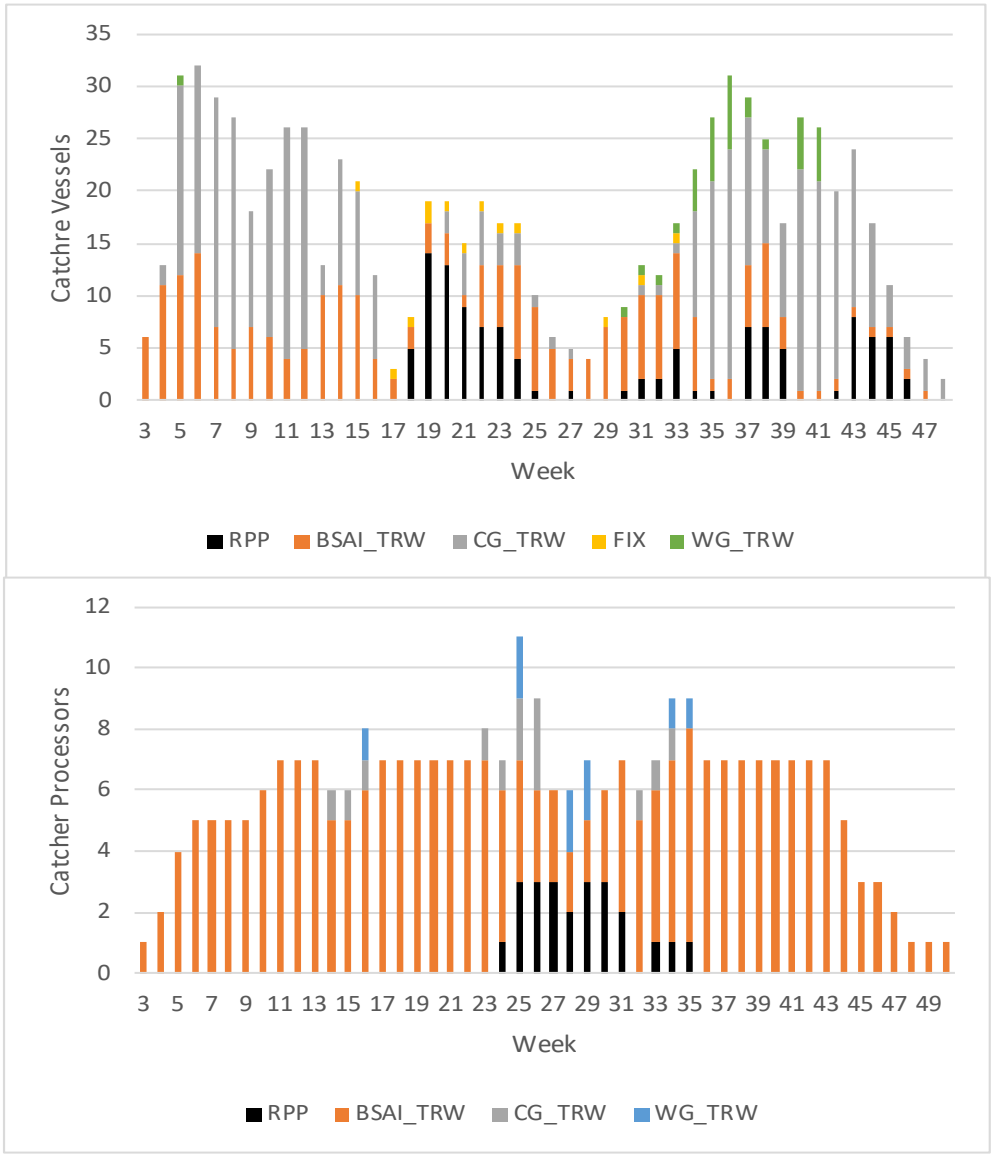
The Council specifically requested that this analysis include information on the seasonal fishing rounds of vessels that are allocated RP CQ. Vessels that participated in more than one fishery in a week are counted for each fishery during the week. As a result, the total number of CVs or catcher processors can be greater than the actual number of vessels that fished that week. For example, if a vessel fished in the BSAI trawl and GOA trawl fishery during the same week that vessel would get counted twice in the bar chart.

Catcher vessels begin fishing in the BSAI trawl fishery or the CGOA trawl fishery on January 20. Very little fishing activity is reported from mid-April to May 1. The RP opens May 1 and the vessels tend to focus on the CGOA rockfish fisheries or other GOA target fisheries through early June. Vessels begin moving back into the BSAI in early June[26] to be there for the start of the BSAI trawl fisheries on June 10. A small number of vessels participated in fixed gear fisheries in April through early August. After the BSAI trawl fisheries slow, vessels fish either the CGOA rockfish and other trawl fisheries or the WGOA. Limited effort continues in the BSAI and picks up again when the fall fisheries open. After those fisheries slow at the end of September, most vessels fish the remainder of the year in the CGOA trawl fisheries, with very limited participation in the BSAI trawl fisheries.

Catcher processors fish in the BSAI trawl fisheries exclusively until April. In early April, one vessel fished in the CGOA or WGOA for three weeks. The vessels then exclusively fished in the BSAI trawl fishery until as many as three vessels moved to the CGOA for the rockfish fishery. The reported vessels then fished either CGOA, WGOA, or the BSAI until the end of August when all the effort returned to the BSAI.

[26] Some vessels also tender salmon starting about June, but that information is not reported in the figure.

Figure 3-13 Number of RP vessels participating by fishery and week, 2018



Source: AKFIN summary of CAS data
Note: "TRW" is trawl gear

3.5.2 Description of Fisheries Management

The RP is managed under a LAPP structure as defined in Magnuson-Stevens Act Section 303A. The CGOA rockfish LAPP was first implemented as the RPP (from 2007 through 2011) and then as the RP from 2012 through 2021. Catch share history in the RP is linked to the LLP license and can be transferred with the sale of the license.

3.5.2.1 Allocation of Catch History

The RP quota qualification was based on targeted legal landings during the years 2000 through 2006 or fishing in the RPP's entry level fishery during 2007, 2008, or 2009. The allocation of QS was based on the best 5 of 7 years from 2000 through 2006, or the number of years fished during the qualifying period for entry level fishery participants that did not qualify for QS based on history from 2000 through 2006.

Participants using trawl gear n the RPP's entry level trawl fishery were issued harvesting privileges by dividing 2.5 percent of the TAC among those vessels.

3.5.2.2 Cooperative Formation

In order to encourage cooperative formation, the RP relaxed cooperative formation requirements that were established under the RPP. The minimum number of LLP licenses with affixed rockfish QS required to form a cooperative was eliminated. However, CQ could only be transferred to a cooperative with a minimum of two LLP licenses. There was no requirement that the LLP licenses are held by different persons. These changes were implemented to encourage cooperative formation by providing greater flexibility to transfer CQ to meet operational demands.

3.5.2.3 Division of CGOA Primary Species TAC

Primary species TACs are divided into four parts for the management of the CGOA fishery. The four parts are the CV cooperative quota, CP cooperative quota, longline entry level fishery, and an ICA for use as bycatch in other directed fisheries. The 2019 ICA for POP, northern rockfish, and dusky rockfish was 3,000 mt, 300 mt, and 250 mt, respectively (Table 3-10). An ICA is set to cover the catch of the primary species in other target fisheries.

Table 3-10 CGOA RP primary species apportionments, 2019

Primary rockfish species	CGOA annual TAC	Incidental catch allowance	TAC minus ICA	Allocation to the entry level longline[1] fishery	Allocation to the rockfish cooperatives[2]
Pacific ocean perch	19,646	3,000	1,646	5	16,641
Northern rockfish	3,338	300	3,038	5	3,033
Dusky rockfish	2,764	250	2,514	50	2,464
Total	25,748	3,550	22,198	60	22,138

1 Longline gear includes hook-and-line, jig, troll, and handline gear (50 CFR 679.2).
2 Rockfish cooperatives include vessels in CV and CP cooperatives (50 CFR 679.81).

Table 3-11 reports the amount and percentage of the primary species ICA that was used in 2017 and 2018. The ICA amounts set for 2019 are reported, but the fishery was still in progress when the data were generated and complete catch data were not available for 2019. The information shows that under 60 percent of the northern rockfish ICA was taken in both 2017 and 2018. The ICA has remained at 300 mt the entire time period considered. Dusky rockfish ICA was exceeded by 12 percent in 2017 and was about half of the ICA in 2018. The ICA has remained at 250 mt over the entire period. The POP ICA was exceeded by over 100 percent in 2017, which caused NMFS to increase the POP ICA by 2,000 mt. The 2018 ICA was only 58 percent of the 4,000 mt amount established. As a result, the 2019 ICA was reduced by 1,000 mt to 3,000 mt.

Table 3-11 Primary species ICA usage, 2017 and 2018

Species	2017	2018	2019
Dusky Rockfish			
ICA (mt)	250	250	250
ICA caught (mt)	281	128	n/a
% ICA caught	112%	51%	
Northern Rockfish			
ICA (mt)	300	300	300

ICA caught (mt)	169	142	n/a
% ICA caught	56%	58%	
POP			
ICA (mt)	2,000	4,000	3,000
ICA caught (mt)	4,472	2,325	n/a
% ICA caught	224%	58%	

Note: n/a means the data were not yet available when the table was developed.
Source: AKFIN summary of CAS data.

The RP includes a longline entry level fishery (hook-and-line, troll, handline or jig gear). The entry level longline fishery continues to exist under the RP; however, the amount of primary species available to this sub-sector was reduced in the transition from the RPP, because this amount had not been fully utilized. The program built in a stair-step increase for this sub-sector's allocation if greater than or equal to 90 percent of the allocation is harvested (Table 3-12).

Table 3-12 Entry Level Longline Fishery Allocation

Rockfish Primary Species	2019 Allocation	Incremental Increase per Season if ≥ 90% of Allocation is	Up to Maximum % of TAC
POP	5 metric tons	5 metric tons	1%
Northern rockfish	5 metric tons	5 metric tons	2%
Pelagic shelf rockfish	50 metric tons	20 metric tons	5%

Source: 2019 harvest specifications

Under the RP halibut PSC limits are assigned to cooperatives based on the proportion of primary species QS attached to the LLP license. Halibut PSC limits for the RP were reduced from historical usage levels to balance the need to provide adequate halibut PSC for use by rockfish cooperatives while recognizing LAPPs could reduce halibut PSC use. The RP created a 74.1 mt halibut PSC limit for the CP sector and a 117.3 mt halibut PSC limit for the CV sector. Those amounts represent a 12.5 percent reduction from the amount of halibut mortality associated with each sector during the 2000 through 2006 qualifying period. The remaining 27.4 mt (16.8 mt from the CV sector and 10.6 mt from the CP sector) that would otherwise have been allocated is not available for use by any trawl or fixed gear fishery and remains ''in the water'' to contribute to the halibut biomass.

3.5.2.4 City of Kodiak Delivery Requirement

A Kodiak delivery requirement is included in the RP to address concerns raised by processors that the RP would provide harvesters an undue competitive advantage and that they could use that potential advantage to deliver outside of the traditional port of Kodiak. As a result, the RP includes a requirement that all primary and secondary RP species CQ harvested by the CV sector must be delivered to a shore-based processor within the City of Kodiak. In addition to protecting traditional processors, the requirement is intended to protect the fishing community of Kodiak. While the RPP also included a requirement that LLP license holders with quota fishing in the CV sector may only form a cooperative with other CVs and the processor to whom they historically delivered their catch from 1996 through 2000, this requirement was eliminated because the Council determined their program goals could be achieved without that provision.

3.5.2.5 Ownership and Use Caps

The following ownership and use caps have been established for the RP.

- A person may not hold or use more than:

  4% of the QS assigned to the catcher vessel sector.

  40% of the QS assigned to the catcher/processor sector.

- CV cooperative may not hold or use more CQ than 30% QS assigned to the catcher vessel sector.
- A vessel may not be used to harvest more than:

  8% CQ issued to the catcher vessel sector.

  60% CQ issued to the catcher/processor sector.

- Processors may not receive or process more than 30% CQ issued to the catcher vessel sector (rockfish primary species, Pacific cod, and sablefish).

A person may be grandfathered in above the caps based on their catch/processing during the qualifying period.

3.5.2.6 Sideboard Limits for the RP

The RP includes a series of CV and CP sideboard restrictions to limit spillover impacts on other fisheries in the GOA. Sideboard limits were established for certain West Yakutat District and the Western GOA fisheries. RP sideboards apply to federally permitted vessels fishing in federal waters and waters adjacent to the CGOA when the harvest of rockfish primary species by that vessel is deducted from the federal TAC. Sideboards limit both the LLP license with rockfish QS assigned to it, and the vessel used to make legal landings of rockfish QS. RP sideboards are in effect from July 1 through July 31. Sideboard measures are in effect only during the month of July when the rockfish fisheries were traditionally open and vessel operators had to choose between fishing in the CGOA rockfish fisheries and other fisheries that were open to directed fishing.

CVs had small West Yakutat District sideboard limits for POP and pelagic shelf rockfish under the RPP. The sideboard limit was modified to a ban on fishing those species in the West Yakutat District during July. The CGOA RP also prohibited CVs from directed fishing in any target fishery in the deep-water complex in the month of July (except for CGOA Rockfish). This limitation prohibits CVs from directed fishing in the Arrowtooth flounder, deep water flatfish, and rex sole fisheries from July 1 through July 31. These restrictions were implemented to limit the ability of CVs in these fisheries because they had not historically harvested these species in July. As a result of this sideboard CGOA RP CVs in the GOA are limited to fishing RP fisheries or species in the shallow-water complex during the month of July.

CP processor sideboard limits were designed to minimize potential adverse competition on non-RP participants and potential conflicts among rockfish CP cooperatives in the Western GOA and West Yakutat District rockfish fisheries, as well as GOA flatfish harvesters. Sideboard limits were not set for other rockfish species because those species were not traditionally open to directed fishing during July, so additional management measures were determined not to be needed. Because the Amendment 80 sideboard limits are set for all GOA species harvested by those vessels, the need for additional sideboard limits beyond the primary rockfish species and halibut PSC was mitigated. Therefore, sideboard limits are imposed for only dusky rockfish, POP, and northern rockfish.

The RP also established a sideboard limit on the amount of halibut PSC that could be used in July. The halibut PSC sideboard limits are based on historical halibut PSC usage during July. Halibut PSC

sideboards were established for shallow-water species and the deep-water complex. The percentage assigned as a sideboard limit was based on the annual average halibut PSC used by vessels with LLP licenses subject to the sideboard limit during July from 2000 through 2006 relative to the total available.

3.5.2.6.1 Crab Program Sideboard Protections for the GOA

Regulations at 50 CFR 680.22 restrict the owners of vessels with a history of participation in the Bering Sea snow crab fishery from using the increased flexibility provided by the CR Program to expand their level of participation in GOA groundfish fisheries. Vessels and LLP licenses subject to sideboard restrictions are based on a vessel's fishing history and apply both to the fishing vessel itself and to any LLP license generated by that vessel's fishing history. Pacific cod sideboard limits were established based on their history in the GOA groundfish fisheries and the BSAI snow crab fishery. Rockfish sideboard ratios are calculated by dividing the aggregate landed catch by vessels subject to sideboard directed fishing closures by the total landed catch of that species by all groundfish vessels between 1996 and 2000.

Crab Rationalization sideboards apply to non-AFA vessels fishing in the GOA[27]. Non-AFA vessels may be subject to prohibitions on fishing in the GOA except for pollock and Pacific cod. As a result, a non-AFA trawl CV can be prohibited from fishing primary and secondary rockfish species in a RP cooperative but could be allowed to fish Pacific cod[28], if they had access to CQ. This is a result of being exempt from the Pacific cod sideboard limits but still subject to all other GOA species sideboard limits (other than pollock). This action would impact one LLP license and vessel that has been sideboarded under the Crab Rationalization program in the GOA for all species except Pacific cod and pollock by allowing that vessel to land Pacific cod or pollock as incidental catch in the CGOA RP.

Table 3-13 LLP license by GOA crab sideboard limit

Vessel Mode/Sideboard	non-AFA	AFA	Total
C/P	**19**	**2**	**21**
None	19	2	21
CV	**67**	**30**	**97**
Crab Rationalization GOA Sideboarded - except Pcod and PLCK	1		1
None	66	30	96
Total	86	32	118

Source: NMFS 2018 groundfish LLP license file
Note: Pcod is Pacific cod and PLCK is Pollock in the LLP license database used to report the information.

3.5.2.7 Summary of RP Structure

A summary of the RP structure is provided in Table 3-14. This table allows for a comparison of the program objectives and elements within the management structure of each program. While all LAPPs must comply with Magnuson-Stevens Act LAPP requirements and additional laws, depending on the characteristics of the historical fishery and participation, as well as the problems that the LAPP structure was seeking to address, the Council has often had a different vision for the LAPPs it has recommended to the Secretary of Commerce.

[27] 83 FR 40733
[28] They are still subject to the full retention of rockfish requirement so any rockfish bycatch in the Pacific cod fishery would prohibit them from fishing Pacific cod.

Table 3-14 Summary of CGOA RP structure

Element	Regulation
Type of allocation	Cooperatives with entry level longline fishery
Year implemented	2012
Fishing Areas	CGOA
Program development	LAPP developed by the Council under MSA
Harvester initial allocation	LLP holders (based on catch histories of the LLP license)
Processor component	Kodiak landing requirement
Gear type	Bottom and semi-pelagic trawl
Groundfish area/species allocations	3 primary and 5 secondary groundfish allocations
PSC	Halibut CV: 117.3 mt Halibut CP: 74.1 mt CV Chinook salmon 1,200 fish CP Chinook limit: GOA limit applies to both the RP and open access fisheries
Incidental catch allowance	Established for primary species use in other fisheries
Sideboard limits	July 1 through 31: Established for West Yakutat and WGOA
Number of vessels in season prior to program implementation	25 CVs 6 CPs
Number of vessels in 2018 season	26 CVs 4 CPs
Observer Coverage	200% CPs 100% CVs
Cap on individual QS holdings / use	4% CVs 40% CPs
Vessel use caps	60% for CPs 8% for CVs
Cooperative use cap	30% for CVs
Processing cap	30%
Share classes	Operation type (CV/CP)
Eligibility to acquire shares	US resident or legal US entity
Community provisions	Kodiak delivery requirement for CVs
Elements to improve small vessel entry opportunities	Longline entry level fishery
Subject to Cost Recovery	Yes

3.5.2.8 Pacific Cod Roll-overs

The information in this section was derived from the October 2019 stranded Pacific cod discussion paper[29]. The Council is considering providing NMFS the authority to roll-over unused Pacific cod from the CV cooperatives to the fixed gear sector after November 15 (Alternative 2, Element 2).

In the RP, trawl CVs receive 3.81 percent of the annual CGOA TAC (see Table 28c to 50 CFR part 679), which is deducted from the trawl CV B season allowance (see Table 12 of the Final 2019 and 2020 final harvest specifications for groundfish of the GOA). The trawl CV cooperatives do have the ability to transfer Pacific cod between other trawl CV cooperatives. However, only a few Pacific cod transfers have been done since 2011 between the six trawl CV cooperatives. The cooperative's 2011 to 2018 average annual amount transferred between cooperatives is 21 mt. From 2011 to 2018, the average amount of Pacific cod in the trawl CV RP cooperatives that is unused is 692 mt. If 2018 is not included (because of the large decrease in Pacific cod biomass that was identified in 2017), that 7-year average is 770 mt. The amount remaining ranges from a low in 2011 of 141 mt to a high in 2015 and 2017 of 1,213 mt and 1,210 mt, respectively. The 2011 to 2018 average remaining percent of Pacific cod in the trawl RP CV cooperative allocations is 55 percent (also 55 percent if 2018 is excluded) and ranges from a low of 10 percent in 2014 to a high of 96 percent in 2017.

3.5.3 Harvesting Vessels

The CGOA RP CQ is harvested by trawl vessels. Longline entry level fishery are not issued CQ. Trawl RP vessels are classified as either CVs or CPs based on their mode of operation. CVs may harvest CP CQ if acquired from the CP cooperative(s). CPs may not harvest CV CQ.

Table 3-15 reports the number of trawl vessels that harvested RP CQ during the RP years. Vessels are reported by mode of operation as well as the length listed in the Federal Fisheries Permit data. Data are reported for a partial year, through July, in 2019. Length classes were divided into three categories that have been utilized historically in the Alaska groundfish fisheries for LLP categories and observer coverage levels.

Table 3-15 Vessels that harvested CQ from the RP by mode and length.

Mode/Length	2012	2013	2014	2015	2016	2017	2018	2019	Total	
									2012 - 2019	2012-2018
CP	5	5	5	4	5	4	4	2	7	6
60-124	1	1	1	1	1	1	1		1	1
125+	4	4	4	3	4	3	3	2	6	5
CV	28	29	28	28	27	25	26	25	36	34
<60	2	3	2	2	2	2	2	2	3	3
60-124	26	26	26	26	25	23	24	23	33	31
Total	33	34	33	32	32	29	30	27	43	40

CPs and CVs have too few vessels in the smaller length category to provide information on catch. Only one CP less than 125 ft LOA was reported to have made landings. The remaining six CPs that participated during the period were all 125 ft LOA or longer. One CP in this length class entered the fishery for the first time in 2019. The longest vessel was 230 ft LOA.

[29] https://meetings.npfmc.org/CommentReview/DownloadFile?p=7575a2e1-d8b3-4324-ae8e-037ddf7b1dd5.pdf&fileName=D3%20Unused%20Pacific%20Cod%20Discussion%20Paper.pdf

A total of 36 CVs reported landings. The number of CVs reporting landings in any one complete year ranged from 25 (2017) to 29 (2013). Two CVs fished almost every year in the smallest length class. In 2013 three CVs reported landings and only three CVs reported landings over the entire time period. Participation by these vessels was very stable. CVs in the 60 through 124 ft LOA class ranged from 23 to 26 depending on the year. Again, the CVs is this class were fairly stable, in terms of participation. With 33 CVs reporting landings during the period. Two of those vessels reported landings for the first time in the RP fishery in 2019.

In general, the data indicates that participation by harvesting vessels in the RP has been relatively stable. The stable nature of the fishery also indicates that about the same number of crew positions are available on an annual basis in both the CV and CP RP fisheries. Additional information on the harvesting crew in terms of number of crew and wages is presented in the fishing communities discussion (Section 3.5.6).

Information on the number of LLP licenses that are issued and could potentially be used to harvest CGOA rockfish is provided to show that increased capacity could flow into the fishery under the No Action alternative.[30] Table 3-16 shows the number of LLP licenses that were included in the 2018 LLP license database with a CGOA trawl endorsement. Information is further broken out by whether the LLP license was derived from an AFA or non-AFA vessel. It should be noted that CP designated LLP license can be used on CVs and some of the LLP licenses reported as CPs in the table traditionally have been used on CV.

Table 3-16 LLP licenses with a CGOA trawl endorsement

LLP Type	Non-AFA	AFA	Total
C/P	19	2	21
CV	67	30	97
Total	86	32	118

Source: NMFS 2018 LLP license database

The fishing communities section of this paper also provides information on the location of the vessel owner. The reader is referred to that section of the paper for that information.

3.5.4 Cooperatives

CP Cooperatives are formed by members of the Amendment 80 CP sector that hold RP CP QS. From 2012 through 2017 two cooperatives formed annually (Table 3-17). In 2018 only one cooperative was formed, the Gulf of Alaska Rockfish Best Use Cooperative (Best Use Cooperative). The Fishing Company of Alaska (FCA) cooperative did not form because the firm that owned most of the vessels in the cooperative sold its assets to other Amendment 80 CP firms. After the sale of the vessels and associated LLP licenses that were assigned QS was finalized, all of the firms joined the Best Use Cooperative. The number of vessels and LLP licenses assigned to the CP cooperatives each year of the RP are listed in Table 3-17.

[30] This analysis does not have the data available to say a vessel would be profitable under either alternative in the last 15-20 years, however the fleet as a whole would be worse off under the no action alternative. There was no public testimony in support of doing away with the RP at any public meeting where the issue was addressed.

Table 3-17 Number of LLP licenses and vessels assigned to CP cooperatives under the RP.

CP	2012	2013	2014	2015	2016	2017	2018	2019	Total
FCA COOPERATIVE									
Vessels	3	3	3	3	3	4			5
LLP Licenses	3	3	3	3	3	4			4
GULF OF ALASKA ROCKFISH BEST USE COOPERATIVE									
Vessels	7	7	7	7	7	6	10	10	13
LLP Licenses	8	8	8	8	8	7	11	11	11
CP Vessels	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**14**
CP LLP Licenses	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**	**11**

Source: AFKIN summary of cooperative data submitted to NMFS.

The 14 CPs that were a member of the CP cooperatives during any year are listed in Table 3-18. Only ten vessels were members of a cooperative during any single year. This table is provided to show the vessels as they entered and exited to fishery and the years they were members of the two cooperatives.

Table 3-18 CPs by RP cooperative

Co-op/Vessel	2012	2013	2014	2015	2016	2017	2018	2019	Years
GULF OF ALASKA ROCKFISH BEST USE COOPERATIVE									
ALASKA SPIRIT							■	■	2
ALASKA VICTORY							■	■	2
ALLIANCE	■	■	■	■					4
AMERICAN NO I	■	■	■	■	■	■	■		7
AMERICA'S FINEST								■	1
ARAHO							■	■	2
CAPE FLATTERY					■	■	■	■	4
LEGACY	■	■	■	■	■	■	■	■	8
OCEAN ALASKA	■	■	■	■					4
SEAFISHER	■	■	■	■	■		■	■	7
SEAFREEZE AMERICA					■	■	■	■	4
UNIMAK	■	■	■	■	■	■	■	■	8
US INTREPID	■	■	■	■	■	■	■	■	8
FCA COOPERATIVE									
ALASKA SPIRIT	■	■	■	■	■	■			6
ALASKA VICTORY	■	■	■	■	■	■			6
ALASKA WARRIOR	■	■	■	■	■				5
ARAHO						■			1
SEAFISHER						■			1

Source: AFKIN summary of cooperative data submitted to NMFS.
Note: Boxes that are shaded black indicate the vessel was active in the RP that year.

Table 3-19 shows the number of CVs and CV LLP licenses that were assigned to the RP cooperatives each year during the RP. A total of 7 cooperatives were formed and participated in the fishery from 2012 through 2017. After 2017 the Global Rockfish Cooperative was disbanded and the vessels and LLP licenses that were part of that cooperative joined other CV RP cooperatives. Not all of the vessels that are members of the cooperative fish the CQ assigned to the cooperative. The annual cooperative reports[31] provide a detailed description of the catch by vessel. Information in this paper does not provide that level of detail to prevent inadvertently breaking confidentially rules. The reader is referred to the annual cooperative reports for that level of information.

[31] https://www.npfmc.org/cooperative-reporting/

Table 3-19 Number of LLP licenses and vessels assigned to CV cooperatives under the RP

CV	2012	2013	2014	2015	2016	2017	2018	2019	Total
GLOBAL ROCKFISH COOPERATIVE									
Vessels	3	2	3	3	3	3			3
LLP Licenses	3	2	3	3	3	3			3
I.S.A. ROCKFISH COOPERATIVE									
Vessels	6	6	6	5	6	6	8	7	9
LLP Licenses	6	6	6	5	6	6	7	7	8
NORTH PACIFIC ROCKFISH COOPERATIVE									
Vessels	9	10	11	11	11	11	12	12	13
LLP Licenses	10	11	12	12	12	12	13	13	13
OBSI ROCKFISH COOPERATIVE									
Vessels	8	7	6	6	5	5	5	5	8
LLP Licenses	9	8	7	7	6	6	6	6	9
PACIFIC ROCKFISH COOP									
Vessels	2	2	2	2	2	2	2	2	3
LLP Licenses	2	2	2	2	2	2	2	2	2
STAR OF KODIAK ROCKFISH COOPERATIVE									
Vessels	10	10	10	10	10	10	12	12	13
LLP Licenses	11	11	11	11	11	11	12	12	12
WESTERN ALASKA FISHERIES ROCKFISH COOP									
Vessels	5	6	5	6	6	6	6	6	8
LLP Licenses	5	6	5	6	6	6	6	6	7
CV Vessels	**43**	**43**	**43**	**43**	**43**	**43**	**45**	**44**	**49**
CV LLP Licenses	**46**	**46**	**46**	**46**	**46**	**46**	**46**	**46**	**46**

Source: AFKIN summary of cooperative data submitted to NMFS

Table 3-20 shows each RP CV by the years they were assigned to a RP CV cooperative. The information in this table allows the reader to track movement of CVs into and out of cooperatives on an annual basis. The limited number of vessels that enter or exit the fishery on an annual basis do so, primarily, because of changes in the cooperatives that are active, business decisions[32] by the owners, or for efficiency reasons within the cooperative. For example, the Global Rockfish Cooperative was disbanded in 2018. Those LLP licenses and vessels moved to other existing cooperatives, causing the number of active vessels to increase slightly in those cooperatives. In other cases, vessels changed cooperatives, based on individual business decisions that are not reported to NMFS or in the annual cooperative reports. The table also shows the number of years the vessel was a member of the cooperative. Recall that a vessel may only be a member of one cooperative per year. Allowing vessels to join multiple cooperatives would create management issues associated with assigning catch to the correct cooperative.

[32] Business decisions could include the sale of the vessel or the LLP license. These sales are reported to NMFS but the underlying decisions that the used to determine why the sale was in their best interest are not. Also, the cooperative as a whole may have determined that another more efficient vessel could be used to harvest the available allocation and replace a vessel that had been used in the past.

Table 3-20 CVs by RP Cooperative, 2012 through 2019

Co-op/Vessel	2012	2013	2014	2015	2016	2017	2018	2019	Years
GLOBAL ROCKFISH COOPERATIVE									
LESLIE LEE	■	■	■	■	■	■			6
PACIFIC STORM	■	■	■	■	■	■			6
VANGUARD			■	■	■	■			4
WINONA J	■								1
I.S.A. ROCKFISH COOPERATIVE									
CHELLISSA	■	■	■	■	■	■	■	■	8
ELIZABETH F	■	■	■						3
EVIE GRACE							■	■	2
GREEN HOPE	■	■	■	■	■	■	■	■	8
LAURA					■	■	■		3
MAR DEL NORTE	■	■	■	■	■	■	■	■	8
MAR PACIFICO	■	■	■	■	■	■	■	■	8
OCEAN HOPE 3	■	■	■	■	■	■	■	■	8
VANGUARD							■	■	2
NORTH PACIFIC ROCKFISH COOPERATIVE									
ALASKA BEAUTY	■	■	■	■	■	■	■	■	8
ALASKAN	■	■	■	■	■	■	■	■	8
ANTHEM			■	■	■	■	■	■	6
CAPT'N ART	■	■	■	■	■	■	■		7
CARAVELLE	■	■	■	■	■	■	■	■	8
DAWN	■	■	■	■	■	■	■	■	8
DUSK	■	■	■						3
ENTERPRISE	■	■	■	■	■	■	■	■	8
LESLIE LEE						■	■	■	2
NICHOLE				■	■	■	■	■	5
PACIFIC WIND		■	■	■	■	■	■	■	7
SEA MAC	■	■	■	■	■	■	■	■	8
TOPAZ	■	■	■	■	■	■	■	■	8
OBSI ROCKFISH COOPERATIVE									
ANTHEM		■							1
BAY ISLANDER	■	■	■	■	■	■	■	■	8
DEFIANT	■								1
LAURA	■	■	■	■					4
MARATHON	■	■	■	■	■	■	■	■	8
NEW LIFE	■	■	■	■	■	■	■	■	8
PACIFIC STAR	■	■	■	■	■	■	■	■	8
PROGRESS	■								1
TAASINGE	■	■	■	■	■	■	■	■	8
PACIFIC ROCKFISH COOP									
COHO	■	■	■	■					4
PACIFIC FUTURE					■	■	■	■	4
STELLA	■	■	■	■	■	■	■	■	8
STAR OF KODIAK ROCKFISH COOPERATIVE									
ARCTIC RAM	■	■	■	■	■	■	■	■	8
ARCTIC WIND							■	■	2
CAPE KIWANDA	■	■	■	■	■	■	■	■	8
EXCALIBUR II	■	■	■	■	■	■	■	■	8
LAURA								■	1
MARCY J	■	■	■	■	■	■	■	■	8
MICHELLE RENEE	■	■	■	■	■	■	■	■	8
OCEAN STORM	■	■	■	■	■	■	■	■	8
PACIFIC RAM	■	■	■	■	■	■	■	■	8
PACIFIC STORM							■	■	2
PEGGY JO	■	■	■	■	■	■			6
ROSELLA	■	■	■	■	■	■	■	■	8
TRAVELER	■	■	■	■	■	■	■	■	8
WESTERN ALASKA FISHERIES ROCKFISH COOP									
COLLIER BROTHERS	■	■	■	■	■	■	■	■	8
ELIZABETH F				■	■	■	■	■	5
GOLD RUSH	■	■	■	■	■	■	■	■	8
HALF MOON BAY								■	1
HICKORY WIND	■	■	■	■	■	■	■	■	8
PROGRESS		■	■	■	■	■	■		6
VANGUARD	■	■							2
WALTER N	■	■	■	■	■	■	■	■	8

Source: AKFIN summary of NMFS cooperative data

3.5.5 Shore-based Processors

The RP includes a City of Kodiak landing requirement for trawl vessels delivering cooperative quota. Kodiak based processors that participate in the fishery are associated with the individual cooperatives that form and are listed in the cooperative section. In general, the processing sector has been relatively stable since 2012. Seven shore-based cooperatives were associated with a unique processor during the first six years of the RP (2012 through 2017). In 2018 and 2019, the number decreased by one when the Global Seafoods rockfish cooperative left the fishery and Global Seafoods ceased processing operations altogether.

As with the harvesting sector, processing activity in the fishery is not provided at the individual processor level. Delivery and value information are aggregated over all Kodiak processing plants that take deliveries on an annual basis. This is necessary to avoid releasing confidential information. Summary information is presented in Section 3.5.1, Section 3.5.6, and Appendix 1. Information on the rockfish products produced by Kodiak plants is presented in Section 3.5.7.

One of the primary reasons, from the processors' perspective, for implementing the RP was to allow the fishery to be prosecuted before the start of the pink salmon fishery. Prior to the RPP being implemented in 2007, the rockfish fishery and the pink salmon fishery overlapped during early and mid-July. That overlap caused processing capacity and labor issues. After the RPP was implemented rockfish processing was primarily moved to May and early June, a time of year when excess capacity and labor could be used more efficiently. Monthly information on labor is presented in Appendix 1 and indicates that the RP has achieved the goal of reducing pressure on labor during the peak of the pink salmon fishery.

A primary concern that processors have expressed regarding LAPPs is the change in market power between harvesters and processors. This issue is difficult to provide complete information for since the analysts are not part of the negotiations for price and delivery terms. However, information provided in Section 3.5.1.1 compares the real ex-vessel and the real first wholesale prices for the three primary rockfish species during 2003 through 2018. That information does indicate that the ratio of ex-vessel to first whole prices has increased under the RP relative to the open access fishery. That change does indicate that harvesters are able to command a greater portion of the first wholesale price that processors receive. Whether this is completely due to the changes in management or other market forces cannot be stated with certainty.

3.5.6 Fishing Communities

This section summarizes the findings of the CGOA Rockfish Program Reauthorization Social Impact Assessment (SIA), which is available in full as Appendix 1 to this EA/RIR. More detail on each of the topics included in this summary may be found in the SIA.

3.5.6.1 Background

The SIA builds upon several previous analyses of changes in the CGOA rockfish fishery that have occurred since the inception of the Rockfish Pilot Program, given that Alternative 1 is assumed to be a reversion to the type of management of the fishery that was in place before the implementation of either the Rockfish Pilot Program or the Rockfish Program. Community impacts of the Rockfish Pilot Program were documented in two previous NPFMC reports. These are the *Gulf of Alaska Rockfish Pilot Program Review* (NPFMC 2008) and the *Regulatory Impact Review, Final Environmental Assessment, and Initial Regulatory Flexibility Analysis for proposed Amendment 88 to the Gulf of Alaska Fishery Management Plan, Central Gulf of Alaska Rockfish Program* (NPFMC 2011). The main findings of those documents relative to community or social impacts are summarized in this section.

The *Gulf of Alaska Rockfish Pilot Program Review* (NPFMC 2008), completed after the first year of fishery management under the Rockfish Pilot Program, included what can be described as five main community impact related findings.

(1) Transfers of quota from catcher processor cooperative allocations to catcher vessel cooperatives benefitted catcher vessel cooperatives affiliated with Kodiak shore-based processors as well as the processors themselves. Catcher processor cooperatives were not permitted to receive quota transfers from catcher vessels cooperatives and this 'one-way door' was intended to protect interests of shore plants and communities, in the event that catcher processor production efficiencies exceed those of the shore-based sector. Under these rules, approximately half of the primary rockfish allocation to catcher processor cooperatives was transferred to catcher vessel cooperatives. In addition, approximately one-half of the catcher processor sablefish allocation was transferred to catcher vessel cooperatives.

(2) Little information was available regarding impacts to captains and crew, but no major adverse program effects were obvious. Impacts to catcher vessel crew payments were assumed to be beneficial, but data to quantify these impacts were not available.

(3) Some Kodiak shore-based processors benefited from their history in the fishery, others benefitted from their participation in the entry level fishery, and the community benefitted from virtually all CGOA rockfish shore-based processing remaining in Kodiak. Historically, Kodiak was the base for operations in the shore-based sector of the CGOA rockfish fisheries and almost all processing in the fisheries took place in Kodiak leading up to implementation of the program. Since the program established a cooperative system with strong cooperative associations with historic processors and a limited access fishery that required deliveries to processors meeting historic processing qualifications, deliveries in the main program continued to be made to Kodiak processors. In addition, only Kodiak processors participated in the entry level fishery by providing markets for entry level catcher vessels.

(4) A temporal redistribution of rockfish fishery landings had operational benefits for shore-based processors in Kodiak and had additional benefits to the community of Kodiak through catcher vessels and their crews being in the community for a longer portion of the year (and perhaps longer periods of time during deliveries). The impacts on Kodiak processing crews and support service businesses from the shift of the peak in rockfish landings from July to May/June in combination with their occurrence over a greater portion of the year were likely beneficial (with the potential exception of a loss of opportunity for overtime pay for some processing workers), but data to quantify these impacts were not available.

(5) The transfer of quota from the catcher processor to the catcher vessel sector benefitted Kodiak through increased local vessel activity and deliveries to shore-based processors.

These findings were broadly consistent with community impacts predicted in the pre-implementation *Regulatory Impact Review and Final Environmental Assessment for Proposed Amendment 68 to the Gulf of Alaska Fishery Management Plan: Central Gulf of Alaska Rockfish Demonstration Program* (NPFMC 2006), with one exception. The 2006 document suggested that "under either alternative, catcher vessel entities that receive small allocations could be disadvantaged, if holders of large allocations are able to draft cooperative terms that favor holders of large allocations over holders of small allocations." The 2008 document is silent on whether entities with smaller allocations were subsequently disadvantaged, but later input from industry (Alaska Groundfish Data Bank 2017[33]) suggested that this has not occurred.

[33] Personal communication 8/21/2017.

The *Regulatory Impact Review, Final Environmental Assessment, and Initial Regulatory Flexibility Analysis for proposed Amendment 88 to the Gulf of Alaska Fishery Management Plan, Central Gulf of Alaska Rockfish Program* (NPFMC 2011), completed after the fourth year of fishery management under the Rockfish Pilot Program, included three main community impact related findings. The first two findings were essentially the same as findings (4) and (5) from the 2008 rockfish pilot program review already described. [34] The third finding was that the community effects of the Rockfish Pilot Program were limited to changes in Kodiak-based activity.

3.5.6.2 Community Impacts of the Rockfish Program

Social and community impacts of the Rockfish Program from its implementation through the first five years of the program were documented in the *Central GOA Rockfish Program Review and Rockfish Allocation Review* (NPFMC 2017) and Appendix 1 to that document, which was an SIA (Northern Economics 2017). The current SIA, providing the information to support the analysis of both Alternative 1 and Alternative 2, builds directly on the 2017 SIA as supplemented with an additional two years of quantitative fisheries data.

The community impacts of the Rockfish Program are broadly consistent with those described for the Rockfish Pilot Program, with a few important differences based primarily on changes in the community protection measures built into the two programs and the change in initial quota allocation qualification years between the two programs.

Among the community protection measures included in the Rockfish Pilot Program were both Kodiak-specific measures and general measures. Kodiak-specific measures included: (1) catcher vessels were allowed to form cooperatives only in association with shore-based processors located in Kodiak, and (2) processors were limited in their ability to process catch outside the communities in which they had traditionally processed primary rockfish species and associated secondary species. This limitation in measure (2) was imposed to help protect the community of Kodiak from adverse impacts of a program that could otherwise increase flexibility of where catch was landed and processed. General community protection measures included the establishment of entry level fisheries for both trawl and longline harvests of CGOA rockfish. Landings in both entry level fisheries could only be made at shore-based processors not in a cooperative.

Community protection measures that were modified or added under the Rockfish Program also included Kodiak-specific measures and general measures. Kodiak specific measures included a Rockfish Pilot Program feature that permitted catcher vessels to form a cooperative only with the processor the catcher vessel made a majority of their deliveries during 1996 through 2000. The Rockfish Program modified the requirement to allow catcher vessels to annually join the cooperative of their choice with a Kodiak-based processor, regardless of where they had delivered rockfish in the past. The NPFMC's recommendation sought to maintain the traditional shore-based processing activity within Kodiak and limit the consolidation of processing effort among rockfish processors.

Further, to address concerns raised by processors that the Rockfish Program would provide harvesters an undue competitive advantage and that they could use that potential advantage to deliver outside of the traditional port of Kodiak, the Rockfish Program included a requirement that all primary and rockfish secondary species cooperative quota in the catcher vessel sector be delivered to a shore-based processor

[34] The only difference in wording in these two findings occurs in what was described as Finding 4 from the 2008 document. The following sentence appears in the 2008 document: "Vessels making deliveries have less pressure to return quickly to the grounds to obtain a share of the available catch in the fisheries, so some likely remain in town for longer periods during which they use local services." In the 2011 document, the wording "…*they* [referring to the vessels] use local services" was changed to "…*the crew* use local services" (emphasis added).

within the City of Kodiak. In addition to protecting traditional processors, the requirement is intended to protect the fishing community of Kodiak.

As a general measure, the entry level fishery for trawl vessels was eliminated but the entry level fishery for longline vessels was maintained under the Rockfish Program.[35] Longline catcher vessels were allowed to deliver to any shore-based processor in any community the GOA region, including processors affiliated with cooperatives. Several other features of the program, though not explicitly community protection measures, served to avoid or minimize some types of adverse social/community impacts experienced when other catch share programs were implemented in Alaska. These include three separate features.

- First, the attachment of catch history to the LLP license and making it non-severable from the LLP license has limited consolidation since quota shares cannot be stacked on fewer LLP licenses. The non-severability of quota from a license also meant that a person would need to sell the entire LLP license including all of the associated quota. Selling the LLP license would result in a vessel operator giving up whatever other endorsements were associated with the LLP license. The vessel operator would need to have access to another LLP license with the appropriate endorsements to continue fishing the GOA/BSAI with trawl gear. LLP license transfers do not appear to have occurred at a greater rate under the Rockfish Program relative the limited access years.

- Second, ownership and use caps have been effective in limiting vessel consolidation. The caps were developed to balance the goals of improving economic efficiency by allowing entities to take advantage of relative economies of scale while maintaining employment opportunities for vessel crew. About the same number of vessels and processors participate in the CGOA rockfish fishery now as before the Pilot Program was implemented, although two processors in Kodiak have exited participation in the program in recent years, one through acquisition by another firm and one through a cessation of operations. Cooperative quota transfers can occur within the cooperative, but consolidation has not been reported as an issue, in part because of the use caps.

- Third, for the Pilot Program, eligibility to receive quota share of primary and secondary species was based on targeted legal qualifying landings made during the years 1996 through 2002. A person's primary species allocation was based on best five of seven years of landings during the eligibility period. The Rockfish Program quota share qualification was based on targeted legal landings during the years 2000 through 2006 or fishing in the entry level fishery during 2007, 2008, or 2009. The allocation of quota share was based on the best five of seven years from 2000 through 2006, or the number of years fished during the qualifying period for entry level fishery participants that did not qualify for quota based on history from 2000 through 2006. This change effectively locked in benefits to Kodiak that accrued from one-way transfers of quota from the catcher processor sector to the catcher vessel sector during the Rockfish Pilot Program.

The community impacts associated with the Rockfish Program and described in Sections 2 and 3 of the SIA are summarized in this section for Kodiak, other Alaska communities, the Seattle MSA, and Lincoln County, Oregon.

3.5.6.3 Impacts of the Alternatives on Communities Engaged in the CGOA Rockfish Fishery

In general terms, the community and social impacts resulting from Alternative 1 would result from a reversion of the management of the CGOA rockfish fishery to pre-Rockfish Pilot Program conditions. The beneficial community impacts described in Section 3.5.6.2 would be reversed. Community level

[35] Catcher vessels that met participation criteria in the Rockfish Pilot Program entry level trawl fishery during 2007, 2008, or 2009 received initial allocations of quota shares under the Rockfish Program.

social impacts resulting from Alternative 2 are described in this section for the communities substantially engaged in and/or dependent on the CGOA rockfish fishery.

3.5.6.3.1 Kodiak

Among communities substantially engaged in, and/or substantially dependent on the CGOA rockfish fisheries managed under the Rockfish Program, Kodiak is the most centrally engaged in and dependent on the fishery as measured by multiple indices. Kodiak has experienced beneficial impacts across harvester, processor, and support services sectors because of the implementation of the Rockfish Program and has specifically benefitted from several community protection measures built into the program. Although not all individual operations have benefitted equally from the change in qualifying years between the Rockfish Pilot Program and the Rockfish Program, and therefore changes in the pattern of initial quota share allocations under the two programs, especially when compared to pre-Rockfish Pilot Program conditions no substantial adverse sector-level or community-level impacts resulting from the implementation of the Rockfish Program have been identified for the community of Kodiak.

3.5.6.3.1.1 Harvest Sector

In terms of CGOA rockfish trawl catcher vessel ownership as measured by ownership address, Kodiak has benefitted from an increase in the annual average number of Kodiak resident-owned CGOA rockfish trawl catcher vessels participating in the fishery between the Pre-Rockfish Pilot Program years (9.3 vessels) and the Rockfish Program years (12.9 vessels). Additionally, the trawl entry level fishery community protection feature of Rockfish Pilot Program was beneficial to Kodiak. All three catcher vessels that qualified for an initial allocation of quota under the Rockfish Program based on their participation in the Rockfish Pilot Program entry level trawl fishery were either Kodiak ownership address vessels at the time of that allocation or have become so in more recent years. Finally, Kodiak ownership address CGOA rockfish trawl catcher vessels further diversified their fishery portfolios under Rockfish Program conditions. This has included more summer salmon tendering opportunities with the continuing temporal separation of rockfish trawl-related and salmon-related peak processing efforts at local shore-based processors, as reported by processing management personnel.

In terms of CGOA trawl catcher vessel LLP license and quota ownership, Kodiak has benefitted from an increase in the annual average number of Kodiak resident-owned catcher vessel LLP licenses between the pre-Rockfish Pilot Program years (15.2 LLP licenses) and the Rockfish Program years (16.7 LLP licenses). The community also benefitted from an increase in the initial allocation percentage of Kodiak resident-owned catcher vessel quota for Northern rockfish (+2.40 percent), Pacific ocean perch (+7.37 percent), and pelagic shelf/dusky rockfish (+7.50 percent) between the Rockfish Pilot Program years and the Rockfish Program years. This across-the-board increase was due in part to quota transfers that occurred during the Rockfish Pilot Program years and in part to changes in qualifying years for initial quota allocations between the two programs. Further, Kodiak specifically benefitted from the CGOA rockfish trawl quota transfer community protection feature of the Rockfish Pilot Program where quota could be transferred from the catcher processor sector to the catcher vessel sector, but not vice versa. These one-way inter-sector transfers resulted in an increase in quota shares associated with Kodiak resident-owned LLP licenses.

In terms of impacts to CGOA rockfish trawl catcher vessel crew, no pre-Rockfish Pilot Program quantitative data are available. However, given that the annual average number of Kodiak ownership address catcher vessels participating in the CGOA rockfish trawl fishery has increased (as have the number of catcher vessels overall) and the overall ex-vessel value of CGOA rockfish trawl-caught landings of those Kodiak-owned (and non-Kodiak-owned) vessels has also increased under the Rockfish Program, it is assumed that the number of crew positions and potentially payments to crew have similarly varied during this time. The impacts of quota leasing costs or program-associated vessel operating costs (such as cost recovery fees and co-op fees), if any, on crew compensation are unknown, as are the impacts

on crew employment, if any, of the increased number of CGOA rockfish trawl fishing days per season. Similarly, the impacts of the reduction of vessel operating costs that may have been achieved as a result of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs), if any, on crew compensation are unknown.

In terms of CGOA rockfish longline catcher vessel local ownership, Kodiak has seen a decrease in annual average number of Kodiak ownership address GOA rockfish longline catcher vessels participating in the Federal open access rockfish fishery between the pre-Rockfish Pilot Program years (9.5 vessels) and the Rockfish Program years (4.3 vessels). However, all participation in this sector during the Rockfish Program in 2012-2016 was by Kodiak resident-owned vessels and Kodiak vessels accounted for between 70 and 80 percent of all active vessels in the most recent two years for which data are available (2017 and 2018).

It is unlikely, however, that the increase in Kodiak longline catcher vessel sector engagement relative to other Alaska communities (if not the absolute increase in engagement) is directly related to the Rockfish Program. Under the Rockfish Program, participants in the entry level longline fishery are no longer required to register and they may deliver their harvest to any shore-based processing facility, including those affiliated with cooperatives, in any community in the GOA. Further, the entry level longline fishery was not subject to the cost recovery program implemented under the Rockfish Program because the fishery is managed under a sector allocation and is not a LAPP as defined in Section 303A of the Magnuson-Stevens Act.

Under the Rockfish Program, the CGOA longline sector in the Federal open access fishery was transitioned from a percentage of TAC to a set number of metric tons allocation. Neither of these types of limits have constrained effort by vessels owned in any community to date, and under the Rockfish Program allocations to the longline fishery can be increased if the sector harvests 90 percent of their allocation the previous year (with caps varying by primary rockfish species).

3.5.6.3.1.2 Processing Sector

In terms of the shore-based processors operating in Kodiak that accepted CGOA trawl-caught rockfish landings, Kodiak did experience the ownership consolidation (by one) of shore-based processors that regularly accepted CGOA rockfish trawl-caught deliveries during Rockfish Program years through the purchase of one large, multi-species processing plant by the owner of another locally operating large, multi-species processing plant. More recently, a different multi-species processing plant discontinued operations.

There was a decrease in the annual average number of shore-based processors operating in Kodiak that accepted CGOA trawl-caught deliveries between the pre-Rockfish Pilot Program years (6.8 processors) and the Rockfish Program years (6.4 processors). However, at the transition from the Rockfish Pilot Program to the Rockfish Program, Kodiak experienced an increase (by two) of shore-based processors that were affiliated with CGOA rockfish cooperatives, due primarily to the change in qualifying years between the two programs; one of the two cooperatives is still operating, despite the consolidation of its affiliated shore-based processor with another operating in Kodiak, while the other cooperative dissolved with the closure of its affiliated processing entity.

Kodiak and its shore-based processors have also specifically benefitted from CGOA rockfish trawl catcher vessel landings requirement community protection features that were initiated under the Rockfish Pilot Program. With the discontinuation of the CGOA rockfish entry level trawl fishery upon the

implementation of the Rockfish Program, all trawl-caught catcher vessel landings of rockfish have been made exclusively in Kodiak.[36]

Further, Kodiak shore-based processors continue to directly benefit from the trawl CGOA rockfish fishery changing from an approximate three-week race to fish starting at the beginning of July, to a fishery that primarily occurs in May and June, with smaller harvest amounts occurring until November 15th; longline vessels may deliver until the end of the calendar year. This shift occurred at the transition from pre-Rockfish Pilot Program conditions to the Rockfish Pilot Program conditions and has been maintained under the Rockfish Program. According to processor management personnel, it has moved CGOA rockfish trawl-caught landings out of peak salmon processing time to what was a period of lower activity for the plants, increasing efficiency of operations and helping to attenuate some of the sharper seasonal peaks and valleys of processing labor demand, while making more local workers potentially available for peak salmon production demands beginning in June.

In terms of processing workers at Kodiak shore-based processors that accepted CGOA trawl-caught rockfish landings, quantitative data on employment of, or payments to, the processing workers employed at Kodiak shore-based processing plants that have accepted CGOA trawl-caught landings is not available for the pre-Rockfish Pilot Program years. Given that the number of Kodiak shore-based processors affiliated with rockfish cooperatives increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings in Kodiak also increased under the Rockfish Program, it is assumed that processing worker labor demand may have increased for at least some operations during this time and more hours would appear to be available for interested workers during the May/June period, but the net effect across all processors attributable specifically to the Rockfish Program, given physical plant consolidation in one instance, the closure of plant in another instance, and other operational changes (e.g., those associated with changes in technology) during this same time, is unknown. Based on EDR data, and using the distribution of labor person-hours and labor payments to workers housed and not housed by the processors as a proxy for non-local and local residents, respectively, in both May and June of 2018, approximately 1,000 groundfish processing employees were reported in five processing plants that accepted GOA trawl-caught deliveries. Within this group of employees, approximately 89 percent of all processing employee labor hours and approximately 88 percent of all processing employee labor payments went to processing workers assumed to primarily be local Kodiak residents (i.e., non-processor housed processing workers).

The impacts of the temporal shift in rockfish processing, which first occurred during the Rockfish Pilot Program, in combination with the increasing number of days fished per season in the CGOA rockfish trawl fishery that occurred during the Rockfish Program, on the average amount of processing personnel overtime compensation cannot be determined with available information. While Rockfish Program Review noted that one entity reported that they have "seen a little bit less overtime than we used to have," input from Kodiak shore-based processing management in general would suggest that overtime hours are typically a function of fishing conditions, with good fishing conditions (and general operational efficiency) favoring a plant running at a high capacity, which results in ongoing overtime opportunities for processing crew. Input from shore-based processing management also suggests that for at least some individual operations, the temporal shift in rockfish processing has increased the availability of work for local Kodiak resident processing workers during the May/June period, contributing to more workforce stability and decreased turnover.

[36] It should be noted, however, that while the transition from the Rockfish Pilot Program to the Rockfish Program was generally beneficial for Kodiak shore-based processing plants as a sector, specific outcomes varied between processors operating in the community due to different processing histories accrued during the different sets of qualifying years used for initial allocations under the two programs, as described in some detail in the Rockfish Program Review SIA (Northern Economics 2017).

In terms of the shore-based processors operating in Kodiak that accepted CGOA longline-caught rockfish landings, the annual average number of Kodiak shore-based processors accepting CGOA rockfish longline-caught deliveries decreased between pre-Rockfish Pilot Program years (5.5 processors) and the Rockfish Program years (4.9 processors). While ex-vessel values of those deliveries showed considerable year-to-year variability, they were consistently minor in relation to the overall scale of most Kodiak shore-based processors. Under the Rockfish Program any processor, including those affiliated with a CGOA rockfish trawl cooperative, can accept deliveries from the longline entry level fishery. Available data, however, would suggest that implementation of the Rockfish Program has not had a substantial impact on Kodiak shore-based processing engagement in the CGOA rockfish longline fishery.

3.5.6.3.1.3 Support Service Sector

In terms of the fishery support sector businesses operating in Kodiak, no systematically collected data on Kodiak fishery support service businesses in general or those linked to the CGOA rockfish fishery specifically are available. However, the number of locally owned CGOA rockfish trawl vessels has increased, and Kodiak became the exclusive port of landings for all trawl catcher vessels engaged in the fishery under the Rockfish Program. The number CGOA rockfish catcher vessel cooperatives has increased and increased revenues accruing to both harvesting and processing sectors has likely been accompanied by increased local spending by catcher vessel owners, catcher vessel crew, and shore-based processing workers, a substantial number of whom are Kodiak residents, but the level of impact on the local purchase of goods and services is unknown.

3.5.6.3.1.4 Tax Revenues

In terms of public revenue impacts in Kodiak, the percentage of CGOA rockfish fishery landings related-revenues subject to taxes that directly benefit the city of Kodiak (and the Kodiak Island Borough) remain modest compared to several other fisheries. However, the average annual ex-vessel value of landings in Kodiak when vessels are checked in to a rockfish cooperative (including bycatch) compared to annual average ex-vessel value of all landings in Kodiak from all fisheries increased between the Rockfish Pilot Program years (3.5 percent) and the Rockfish Program years (5.1 percent). This is, of course, due in part to fluctuations in the value of both the rockfish and other fisheries that, in turn, depend on variable natural resource conditions and variable market conditions far removed from the Kodiak economy as well as on direct fishery management variables. The community protection feature of the Rockfish Program that ensures CGOA rockfish trawl catcher vessel landings will occur in Kodiak, however, builds an additional measure of stability into the public revenue stream compared to previous conditions.

3.5.6.3.2 Other Alaska Communities

In addition to Kodiak, another 25 Alaska communities were directly engaged in the CGOA rockfish federal open access rockfish longline and/or CGOA rockfish trawl fisheries 2003-2018 as measured by a variety of indices. These indices include: catcher vessels with local ownership addresses participating in CGOA rockfish fishery in the hook-and-line or jig sectors; local operation of at least one shore-based processor that accepted longline-caught deliveries of CGOA rockfish; CGOA rockfish trawl catcher vessel LLP licenses with local ownership addresses; participation of CGOA rockfish trawl catcher processors with local ownership addresses; local operation of at least one shore-based processor that accepted trawl-caught caught deliveries of CGOA rockfish in any year 2003-2018; and/or residents who served as crew members aboard CGOA rockfish trawl catcher vessels and/or trawl catcher processors in 2015-2018 (the years for which these data are available). None of these communities were considered to have been substantially engaged in or substantially dependent upon the CGOA rockfish fishery at the time of the implementation of the Rockfish Program.

Ten of these 25 “other” Alaska communities were involved in the entry level longline fishery through having catcher vessels with local ownership addresses, including two in the hook-and-line fishery

(Seldovia and Willow), seven in the jig fishery (Anchor Point, Anchorage, Chiniak, Old Harbor, Ouzinkie, Port Lions, and Wasilla), and one in both the hook-and-line and jig fisheries (Homer). All but two of the communities participating in these fisheries through local ownership of active longline vessels last participated in the fishery before or during the Rockfish Pilot Program. None participated during the last two years of the Rockfish Pilot Program or during any of the years of the Rockfish Program years (through 2018), except Homer (one vessel in 2017) and Wasilla (one vessel in 2017 and 2018).

3.5.6.3.3 Performance of the Federal Open Access Entry Level Fishery

In terms of the Council's specific request for information regarding a review of the performance of the Federal open access entry-level longline fishery and the step-up mechanism that increases the sector's apportionment, it is important to note the declining diversity of Alaska community participation in the harvest sector of fishery and the complete decline of participation by vessels from communities outside of Alaska in the fishery. There has been no participation in the hook-and-line portion of the Federal open access longline fishery by any community inside or outside of Alaska since 2006, the year before the implementation of the Rockfish Pilot Program. There has, however, been participation in the jig portion of the Federal open access longline fishery, but the number of communities participating in that portion of fishery has declined over the 2003-2018 period:

- During pre-Rockfish Pilot Program years 2003-2006, five Alaska communities outside of Kodiak participated in the jig portion of longline fishery catcher vessel sector with a total of 10 vessel participation years over the four calendar years in the period.
- During the Rockfish Pilot Program years 2007-2011, five Alaska communities outside of Kodiak participated in the jig portion of the longline fishery catcher vessel sector with a total of eight vessel participation years over the five calendar years in the period.
- During the Rockfish Program years 2012-2018, two Alaska communities outside of Kodiak participated in the jig portion of the longline fishery catcher vessel sector with a total of three vessel participation years, all of which occurred in the most recent two of the seven calendar years in the period.

Further, there was no participation in the jig portion of the longline CV fishery by vessels with ownership addresses outside of Alaska in any of the Rockfish Program years, although there had been 12 vessel participation years spread across nine communities outside of Alaska in the pre-Rockfish Pilot Program years and there had been four vessel participation years spread across three communities outside of Alaska in the Rockfish Pilot Program years.

It is unlikely, however, that this near lack of participation in the entry level fishery harvest sector outside of Kodiak ownership address vessels during the Rockfish Program years is directly attributable to the Rockfish Program itself, for at least five reasons:

- First, with the two exceptions already noted, community engagement in the fishery through participation of locally owned catcher vessels outside of Kodiak last occurred in 2009, with no landings occurring in the two years before the Rockfish Program was implemented.
- Second, as noted in the Kodiak summary, two key provisions changed under the Rockfish Program that potentially facilitate access to or flexibility in participating in the longline entry level fishery compared to provisions included in the earlier Rockfish Pilot Program:
    - Participants in the entry level longline fishery are no longer required to register, and
    - Landing restrictions have been eased such that they may deliver their harvest to any shore-based processing facility, including those affiliated with cooperatives, in any community in the GOA.

- Third, these vessels are not subject to fees related to the cost recovery program implemented under the Rockfish Program, such that there are no known increases in operational expenses to longline vessels attributable to the program.[37]

- Fourth, Rockfish Program catch limitations have not constrained the longline entry level fishery. As noted in the Kodiak summary, under the Rockfish Program, the CGOA longline sector in the Federal open access fishery was transitioned from a percentage of TAC to a set number of metric tons allocation. Neither of these types of limits have constrained effort by vessels owned in any community to date and under the Rockfish Program allocations to the longline fishery can be increased in a stepwise fashion if the sector harvests 90 percent of their allocation the previous year (with caps varying by primary rockfish species).

- Fifth, in the one instance that the step-up mechanism that increases the sector's apportionment was triggered, it was successfully employed before the fishery was constrained. As noted earlier, in 2016, 90 percent of the 30 mt allocation of dusky rockfish was taken, resulting in an increased allocation of 50 mt in 2017. As of 2019, the entry level longline fishery has not taken 90 percent of the allocation of Northern rockfish or Pacific ocean perch and the entry level allocations remain at 5, 5, and 50 mt for Northern rockfish, Pacific ocean perch, dusky rockfish, respectively.

It is important to note, however, that it is not possible to determine the cause of the decline in participation of Alaska communities other than Kodiak in the entry level longline fishery with existing data. Additional focused research would be needed to help establish the role of the Rockfish Pilot Program and/or the Rockfish Program, if any, in the decline of fishery participation by these vessels and the communities with which they are affiliated.

3.5.6.3.3.1 Harvesting Patterns of Vessels

An additional dimension of the Council's request to describe harvesting patterns of vessels in the Rockfish Program, four of the 25 Alaska communities outside of Kodiak that were engaged CGOA rockfish fishery were engaged in the CGOA rockfish trawl fishery through ownership of LLP licenses that came to have initial allocations of quota under the Rockfish Pilot Program or the Rockfish Program. In three out of four of these cases (Anchorage, False Pass, and Sand Point), the LLP license left community ownership before the implementation of the Rockfish Program, either during the pre-Rockfish Pilot Program years or during the Rockfish Pilot Program years (specifically in 2004, 2007, and 2009, with latter being two years before the expiration of the Rockfish Pilot Program). In the fourth case (Homer), the LLP license first had a community ownership address in 2010 (during the Rockfish Pilot Program years) and has continued to have local ownership address during the Rockfish Program years.

From a community impact perspective, it is important to note that all of the LLP licenses that were used for CGOA rockfish in any year 2003-2018, whether or not they qualified for an initial allocation of cooperative quota share under the Rockfish Program, have remained in active use in other commercial fisheries if not in the rockfish fishery (and therefore have supported fishing employment and income opportunities, fishery related support service sector economic activities, and fishing related public revenue opportunities in fishing communities). Similarly, vessel and processor consolidation, which has been experienced in at least some other LAPP/catch share programs implemented in federal fisheries in Alaska, has not been experienced in the rockfish fishery, due to several factors, including the fact that the rockfish fishery is not the primary fishery for the vessels and processors involved, the non-severability of

[37] All longline catcher vessels in the CGOA rockfish entry level fishery are required to pay a 1.25 percent observer fee (which will increase to 1.65 in 2021), paid when their catch comes off the TAC (Federal and parallel fisheries). All vessels under 40 feet LOA are not required to carry observers, while vessels 40 feet and over LOA are placed in the random selection pool for observer coverage and, if selected, are required to carry an observer. These observer-related requirements, however, are not a part of the Rockfish Program itself, were implemented before the Rockfish Program, and are applicable to all non-LAPP Federal fisheries in the GOA.

quota from LLP licenses, and the role of the rockfish fishery in the annual round of the vessels and processors involved in combination with the relatively modest scale of the fishery, among others.

3.5.6.3.3.2 The Rockfish Program and Larger Trends of Change in Small Alaska Communities

There is no known connection between the implementation of the Rockfish Program and the diminishment or discontinuation of active engagement in the CGOA rockfish longline fishery through vessel ownership and/or in the CGOA rockfish trawl fishery through LLP license ownership. The discontinuation of active engagement in the harvest sector this fishery is, however, in some cases consistent with what has been described in the literature as a trend of ongoing challenges in small, rural Alaska communities of sustaining fluid access to participation in a range of fisheries. These fisheries may vary in their commercial viability but not their cultural importance over time, with lack of flexibility in access resulting in a range of adverse cumulative impacts, as noted in the Rockfish Program Review SIA (Northern Economics 2017).

For many residents of these communities, fishing is not seen solely as a commercial venture, but rather as an integral part of self-identity. This relationship is compounded for those residents who come from families with multi-generational experience in commercial and/or subsistence fishing, particularly for those Alaska Native residents for whom fishing is part of a larger, integrated traditional subsistence and economic sustenance practice rooted in thousands of years of history. Further, existing trends suggest that sustained participation in a range of commercial fisheries by residents of small communities in the region has become more challenging in recent years, with less inherent flexibility to adjust to both short- and long-term fluctuations in resource availability (as well as to changing markets for seafood products).

This flexibility is widely perceived in the communities as a key element in an overall adaptive strategy practiced in subsistence and economic contexts in the region for generations. This strategy involves piecing together individual livings (and often local economies) with an employment and income plurality approach.[38] This plurality approach is particularly important given that the availability of non-fishing alternatives for income and employment are limited and, like the natural resources (and market factors) that underpin commercial fishing opportunities, tend to be subject to both short- and long-term fluctuations. This ongoing fluctuation in non-fishing opportunities further reinforces the importance of flexibility in the pursuit of a range of commercial fishing opportunities to provide individuals and communities the ability to successfully combine fishing and non-fishing as well as commercial and subsistence pursuits considered critical to long-term socioeconomic and sociocultural survival, if not stability. To the extent that the Rockfish Program functions to further restrain that flexibility, if at all, overall sustained participation in a range of local fisheries by residents of the smaller communities in particular would be made all the more challenging. Formulating a causal explanation of the discontinuation of direct participation of catcher vessels with ownership addresses in multiple small communities in the CGOA rockfish longline entry level fishery (and the indirect role, if any, of the Rockfish Program in that observed trend) would require additional focused research.

Crew employment, even in small numbers, aboard CGOA rockfish trawl catcher vessels and/or rockfish trawl catcher processors can be an important resource for small communities and especially valuable to communities with high poverty rates and limited employment and income opportunities. While it is known from EDR data that residents of 13 Alaska communities outside of Kodiak have served as crew members aboard CGOA rockfish trawl catcher vessels in 2015-2018, those are the only years for which data are available. Given the lack of data from earlier years, it is not possible to examine whatever

[38] Few data are available on the relative importance of fishing and non-fishing income to fishery participants from various employment and income opportunities. While some limited point-in-time information has been collected, such as for the 2014 AFSC GOA trawl fishery social survey, little in the way of time-series/historic information is available for GOA rockfish, GOA halibut, and/or GOA Chinook salmon vessel owners, skippers, or crew.

changes in crew employment patterns may have occurred coincident with the implementation of the Rockfish Program.

3.5.6.3.4 The Seattle MSA

The Seattle Metropolitan Statistical Area (MSA) was substantially engaged in the CGOA rockfish trawl fishery in several ways over the period 2003-2018. While changes have occurred in several sectors, no substantial community-level impacts resulting from the implementation of the Rockfish Program have been identified.

The Seattle MSA experienced increases in annual average Seattle MSA ownership address CGOA rockfish trawl catcher vessel and catcher processor participation between the pre-Rockfish Pilot Program years and the Rockfish Program years. The Seattle MSA also experienced an increase in annual average Seattle MSA resident-owned catcher vessel LLP licenses and catcher processor LLP licenses between the pre-Rockfish Pilot Program years and the Rockfish Program years.

The Seattle MSA benefitted from an increase in annual average Seattle MSA ownership address catcher vessel quota with the implementation of the Rockfish Program for Pacific ocean perch and pelagic shelf/dusky rockfish, but a decrease was seen for Northern rockfish. Local ownership address catcher processor quota increased between the Rockfish Pilot Program and the Rockfish Program for Northern rockfish but decreased for Pacific ocean perch and pelagic shelf/dusky rockfish.

In terms of catcher vessel and catcher processor crew employment, as for other communities, quantitative data on employment of, or payments to, Seattle MSA crew members aboard CGOA rockfish trawl catcher vessels and/or catcher processors is not available for the pre-Rockfish Pilot Program years and is available for 2015-2018. Given that the number of Seattle MSA resident-owned catcher vessels in the CGOA rockfish trawl fishery has increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings of those vessels has also increased under the Rockfish Program, it is assumed that the number of crew positions and potentially payments to crew have similarly varied during this time. However, the impacts of quota leasing costs or program associated vessel operating costs (such as cost recovery fees and co-op fees), if any, on crew compensation is unknown, as are the impacts on crew employment, if any, of the increased number of CGOA rockfish trawl fishing days per season. Similarly, the impacts of the reduction of vessel operating costs that may have been achieved as a result of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs), if any, on crew compensation are unknown. The increase in the number of Seattle MSA resident-owned catcher processors participating in the fishery during the Rockfish Program years is also assumed to have increased CGOA rockfish-related employment and potentially income opportunities for crew members in that sector but, again, data to quantify any such any changes are not readily available.

3.5.6.3.5 Lincoln County, Oregon

Lincoln County was substantially engaged in the CGOA rockfish trawl fishery primarily through catcher vessel ownership. While changes have occurred during the Rockfish Program years, no substantial community-level impacts resulting from the implementation of the Rockfish Program have been identified.

In terms of catcher vessel ownership, Lincoln County experienced an increase in annual average county resident-owned CGOA rockfish trawl catcher vessel participation between the pre-Rockfish Pilot Program years and the Rockfish Program years, however, it experienced a decrease in annual average county resident-owned catcher vessel LLP licenses between the Rockfish Pilot Program years and the Rockfish Program years. Further, while the county benefitted from an increase in annual average county resident-owned catcher vessel quota with the implementation of the Rockfish Program for pelagic shelf/dusky rockfish, a decrease was seen for Pacific ocean perch and Northern rockfish.

In terms of catcher vessel crew employment, quantitative data on employment of, or payments to, Lincoln county crew members aboard CGOA rockfish trawl catcher vessels are not available for the pre-Rockfish Pilot Program but are available for 2015-2019. Given that the number of Lincoln County resident-owned catcher vessels in the CGOA rockfish trawl fishery has increased under the Rockfish Program, it is assumed that the number of crew positions have similarly varied during this time. Information on crew compensation, however, is not available for Lincoln County due to data confidentiality constraints.

3.5.6.4 Impacts of the Alternatives on Communities Substantially Engaged in and/or Dependent on Halibut and Chinook Salmon Fisheries

One of the goals of the Rockfish Program was to reduce/minimize halibut and Chinook salmon PSC. To the extent that the program has achieved those goals, indirect benefits should accrue over time to those communities substantially engaged in and/or substantially dependent upon the GOA halibut and/or Chinook salmon targeted commercial fisheries, sport charter fisheries, subsistence fisheries, and/or sport or personal use fisheries.

3.5.6.4.1 CGOA Rockfish Fishery Halibut and Chinook Salmon PSC

In terms CGOA rockfish fishery PSC, as noted earlier, the fishing plan established by shore-based cooperatives also included a system to discourage high halibut bycatch rates. An incentive for these internal bycatch controls is to ensure that the sector's PSC limit is not reached because it would result in the closure of all Rockfish Program fisheries. The bycatch controls include standards that are set and enforced by the cooperative members. These standards include the inter-cooperative red light, yellow light, green light system, which is based on the percentage of halibut PSC per ton of groundfish used in Rockfish Program target fisheries. The ratio of halibut to groundfish indicates whether the vessel may continue fishing, with caution or stop fishing to avoid high halibut bycatch (Alaska Groundfish Databank 2018). This plan, which was made possible in part if not in whole by Rockfish Program management conditions, has been considered effective in reducing halibut PSC.

Similarly, in an attempt to reduce Chinook salmon PSC, all shoreside cooperatives agreed to the Salmon Bycatch Avoidance Plan adopted in 2014, which includes: (1) a "slow start" to fishing to test the fishing grounds; (2) individual vessel Chinook salmon bycatch standards for the months of May, June, July, and August; (3) Chinook salmon hotspot reporting requirements; and (4) full retention of all bycaught Chinook salmon, which became a regulatory requirement starting on January 1, 2015 (Alaska Groundfish Databank 2018). This plan, which was also made possible by Rockfish Program management conditions in part if not in whole, has been considered effective in reducing Chinook salmon PSC.

Under the Rockfish Program, catcher processors are assigned 74.1 mt of halibut PSC for use in Rockfish Program cooperatives, which has never been fully taken. Chinook salmon PSC used by the trawl catcher processor sector in the CGOA has shown considerable variability with relatively large catches reported from 2007 through 2013. Chinook salmon catches before the Pilot Program was implemented and after 2013 are similar and always less than half of the long-term average.

3.5.6.4.2 Halibut and Chinook Salmon Community Impacts of the Alternatives

The communities involved in the relevant directed salmon and halibut fisheries would potentially benefit relative to the degree that ongoing PSC reductions efforts would continue to benefit the GOA halibut and/or Chinook salmon stocks under Alternative 2. These types of indirect beneficial social impacts of halibut and/or Chinook PSC reductions, and the communities to which those beneficial would most likely accrue, have been recently described in the GOA trawl bycatch management analysis SIA (Northern Economics 2016a). That comprehensive description is not recapitulated here.

However, the declines in halibut bycatch have also resulted from using more pelagic trawl gear in addition to implementing measures to communicate where high bycatch rates are occurring and requiring

catcher vessels to stop fishing in that location if the rates are too high. Therefore, it is anticipated that selecting the No Action alternative would result in greater halibut mortality in the CGOA rockfish target fishery than selecting any combination elements under Alternative 2.

Under either the No Action alternative or Alternative 2 it is expected that Chinook salmon bycatch will be difficult to consistently avoid. However, Alternative 2 is expected to continue the structures that have been developed to communicate areas and times of higher Chinook salmon catch rates and agreements to stop fishing when rates are too high. These structures are expected to result in bycatch rates that are lower than would otherwise be the case. Under the No Action alternative, the potential increase in the number of participants and a return to race-for-fish conditions make it less likely those bycatch avoidance measures will be adhered to by the entire fleet.

3.5.6.5 Risks to Fishing Community Sustained Participation in the CGOA Rockfish Trawl or Longline Fisheries

No issues were identified for the Preferred Alternative that would put the sustained participation of any fishing communities (i.e., those substantially engaged in or substantially dependent upon the CGOA rockfish trawl or longline fisheries) at risk.

3.5.7 Rockfish Products

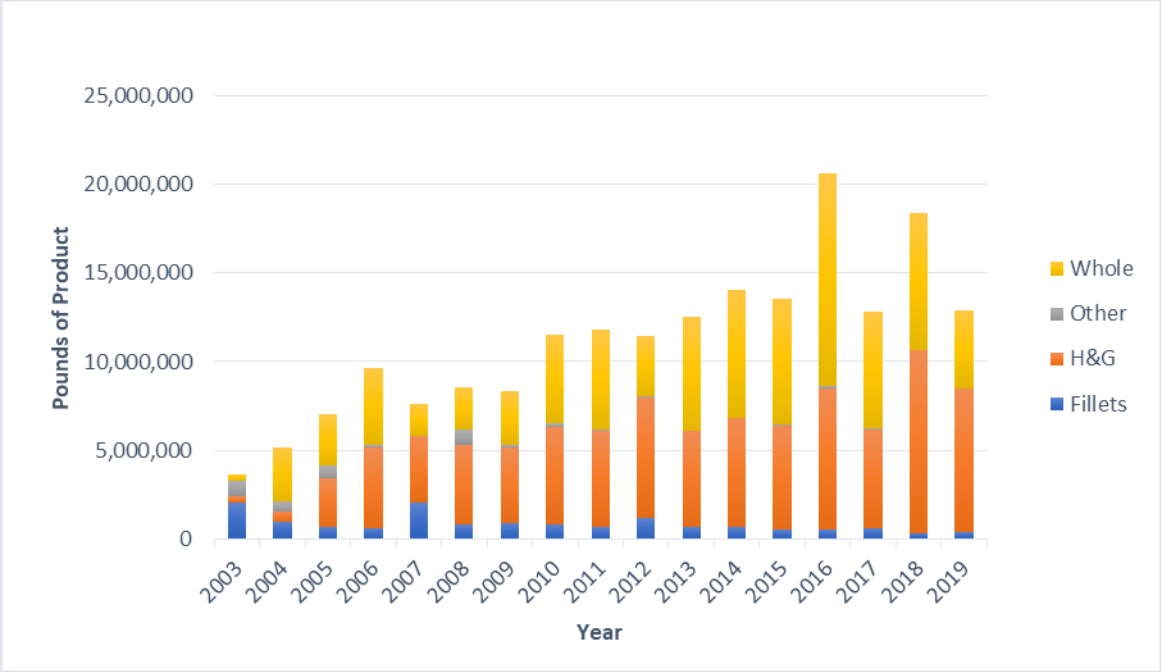
Catcher processors traditionally produce a H&G product from species they harvest, including rockfish (Table 3-21). The same general product forms are produced from rockfish harvested in both the GOA and BSAI. That fish is then sold for secondary processing. Secondary processing typically takes place outside the U.S.

Table 3-21 Product groupings from production report codes

Description	Grouping
Fillets with ribs, no skin. Meat with ribs with skin removed, from sides of body behind head and in front of tail.	Fillets
Fillets with skin and ribs. Meat and skin with ribs attached, from sides of body behind head and in front of tail.	Fillets
Fillets with skin, no ribs. Meat and skin with ribs removed, from sides of body behind head and in front of tail.	Fillets
Fillets, deep-skin. Meat with skin, adjacent meat with silver lining, and ribs removed from sides of body behind head and in front of tail, resulting in thin fillets.	Fillets
Fillets, skinless/boneless. Meat with both ribs and skin removed, from sides of body behind head and in front of tail.	Fillets
Gutted, head on. Belly slit and viscera removed.	H&G
Headed & gutted tail removed. Head removed usually in front of collar bone, and viscera and head removed.	H&G
Headed & gutted, Eastern cut. Head removed just behind the collar bone, and viscera removed.	H&G
Headed & gutted, Western cut. Head removed just in front of collar bone, and viscera removed.	H&G
Bones. (if meal, report as 32) (ancillary only)	Other
Chins. Lower jaw (mandible), muscles, and flesh. (ancillary only)	Other
Heads. Heads only. regardless where severed from body. (ancillary only)	Other
Kirimi. Head removed either in front or behind the collar bone. Viscera removed, and tail removed by cuts perpendicular to the spine, resulting in a steak.	Other
Other retained product. If product is not listed on this table, enter code 97 and write a description with product recovery rate next to it in parentheses.	Other
Pectoral girdle. Collar bone and associated bones, cartilage and flesh.	Other
Roe. Fish eggs, either loose or in sacs or skeins. (ancillary only)	Other
Surimi. Paste from fish flesh and additives.	Other
Wings. On skates, side fins are cut off next to body.	Other
Bled only. Throat, or isthmus, slit to allow blood to drain.	Whole
Whole fish/food fish.	Whole

Kodiak shore-based processors produce a wider variety of products from rockfish that the CP sector. In broad terms, the product forms can be grouped into H&G, whole fish, fillets, and other (Figure 3-14). Shore-based processors are more heterogeneous in the types of products they produce than CPs. Some firms focus more heavily on fillet production and others primarily produce H&G or round product forms. Overall the percentage of fillet production has declined, and H&G production has increased over the years the RPP and RP have been in place relative to the limited access program.

Figure 3-14 Pounds of rockfish products produced by Kodiak processors



Source: AKFIN summary of NMFS production data

Table 3-22 provides the same information presented in the figure above aggregated by time period. The Pre-RPP period includes the years 2003 through 2006, the RPP is 2006 through 2011, and the RP is 2012 through September 2019. The information is presented in product weight. Because fillets have a lower product recovery rate, more round pounds are required to produce a pound of product. For example, it may take three or more pounds of round rockfish to produce one pound of rockfish fish fillets.

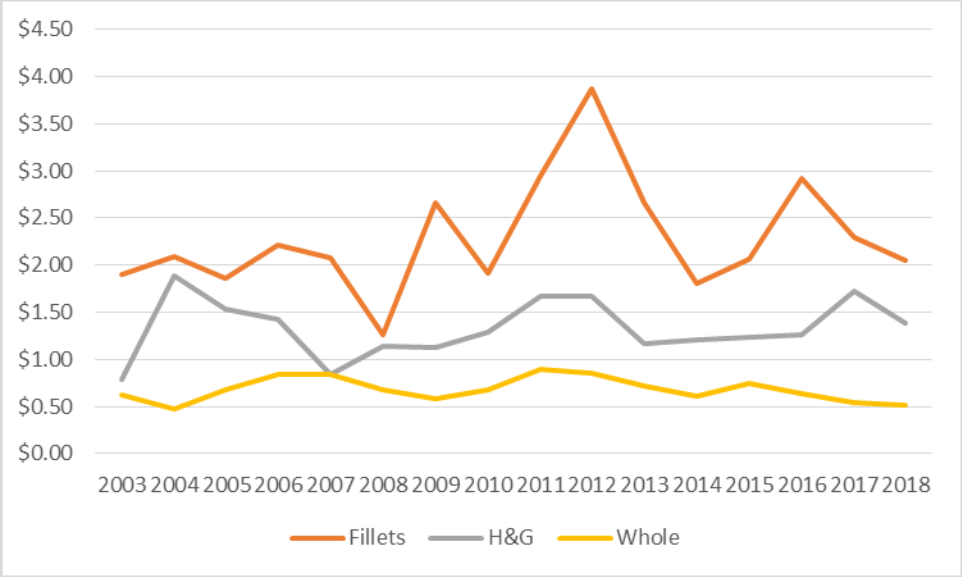
Table 3-22 Percentage of product weight produced by time period

Years	Fillets	H&G	Other	Whole	Total
Pre Pilot Program	17%	33%	9%	42%	100%
Pilot Program	11%	49%	3%	37%	100%
Rockfish Program	4%	47%	0%	49%	100%

Source: AKFIN summary of production data

Figure 3-15 shows the average real first wholesale rockfish prices of three product form groupings. The fillet prices ranged from about $2.00/lb before the RPP was implemented. Fillet first wholesale prices increased to about $4.00/lb in 2012, but have since declined back to about $2.00/lb. H&G and whole prices vary over the period with changes less than shown for fillets. Whole fish and H&G prices are currently close to first wholesale prices prior to implementing the RPP. Rockfish prices are determined by overall supply and demand in the world whitefish markets. However, rockfish producers have been negatively impacted by unfavorable currency valuations and rising secondary processing costs. Both of these factors put downward pressure on raw material pricing for Alaska producers (McDowell Group , 2015). These factors likely played a role in the real price declines after 2012.

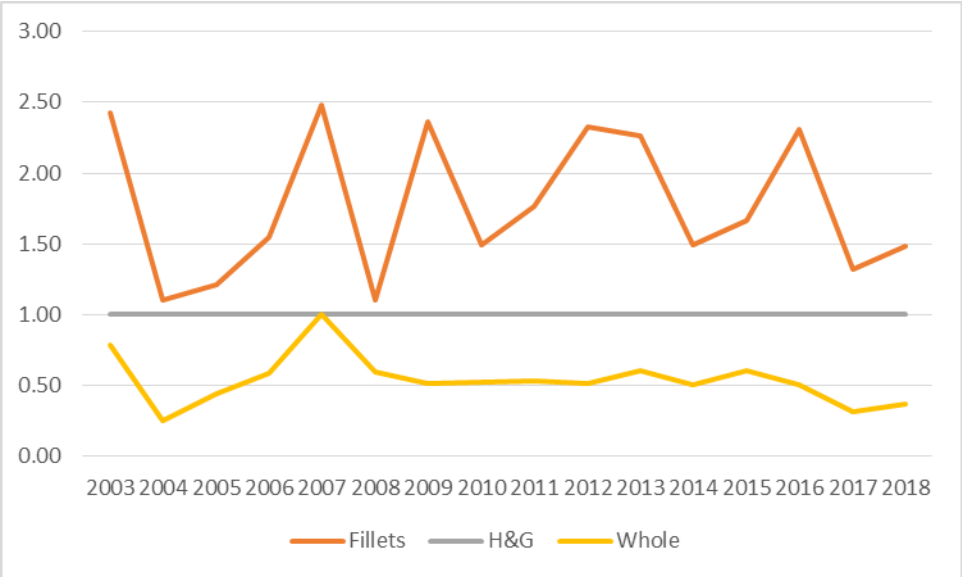
Figure 3-15 Shoreside fillet, H&G, and whole product rockfish first wholesale prices (real 2012 $), 2003 through 2018



Source: AKFIN summary of production and value data

Figure 3-16 is provided to show relative changes in first wholesale prices for fillets and whole products relative to H&G products. Fillets and whole product first wholesale prices were divided by the H&G price to show the relative change. The H&G price is therefore indexed to equal one. Fillet prices relative to H&G prices were more variable than whole product prices. Whole product prices were generally about half of the H&G first wholesale price. Fillets generally ranged from 1.5 to 2.5 times the H&G first wholesale price. However, in 2004, 2005, and 2008 fillet prices were relatively close to the H&G price.

Figure 3-16 Comparison of shoreside fillet and round rockfish first wholesale prices to H&G first wholesale prices, 2003 through 2018



Source: AKFIN summary of production and value data

3.5.8 Markets

Rockfish fisheries have historically been aggregated into a species complex in the Economic Safe Report. Species within the complex include northern rockfish, POP, rougheye rockfish, shortraker rockfish, dusky rockfish and thornyhead rockfish. The only rockfish species defined in the export data is POP which is used for current first-wholesale prices for the aggregate rockfish complex.

NMFS contracted to develop a paper on wholesale market profiles for Alaska crab and groundfish species (Alaska Fisheries Science Center, 2016). The rockfish portion of that paper was limited to POP. However, the general findings are also applicable to the other primary rockfish species. Information presented in that paper is used in this section.

Alaska POP is exported to China (for reprocessing) and Japan. Japan is the largest final consumer market. The paper noted that increasing Atka mackerel quotas in Alaska could impact prices for POP since Atka mackerel and POP are reported to be competitive species in the dried fish market in Japan

A conservative estimate is that at least 48 percent of Alaska rockfish production was exported to China in 2014. Virtually all POP and other rockfish exported to China is frozen whole or H&G fish. Those products are reprocessed in China, where labor costs are lower, into fillets and re-exported.

Seafood sold in the US is tracked using Harmonized System codes (H.S. codes). Use of those codes outside the United States is uncommon. As a result, it is not possible to track competing supply of POP and rockfish coming into China or the markets where it goes. However, data that are available indicates China's major export markets appear to be Japan, Europe, Russia, and the United States.

Markets are expected to be impacted by a 25 percent tariff on Alaska seafood exports to China (Elnes & Evridge, 2019). The tariff was implemented July 6, 2018 and affects most major Alaska seafood products including frozen finfish (salmon, pollock, cod, sablefish, rockfish, and flatfish), roe, geoduck, sea cucumber, scallops, crab species and fishmeal. Some fresh product is exempt (salmon, herring) and fish oil. The anticipated short-term impacts of the tariffs will likely increase the cost of Alaska seafood products to Chinese consumers. Long-term impacts, if the tariff stays in place, it could impact demand and consumer sentiment in China for Alaska seafood/U.S. products. A quantitative estimate of the impacts has not been provide given the uncertainty of the length of time the tariffs will remain in place and the potential changes in demand from buyers in countries that are not subject to the tariff.

3.5.9 Safety Considerations

National Standard 10 states that "conservation and management measures shall, to the extent practicable, promote the safety of human life at sea." In response to National Standard 10, one of the stated goals of the RP is to improve safety at sea. Since fishing practices and seasons are likely to be different under the RP and limited access (No Action alternative), repercussions associated with the management changes on human safety at sea may also differ (North Pacific Fishery Mangement Council, 2011).

Prior to implementation of the RPP participants in the CGOA rockfish fishery would compete for a share of the CGOA rockfish TACs during a brief season, early in July. CGOA weather conditions tend to be relatively good during that time of the year. However, summer storms can cause inclement weather that may cause unsafe fishing conditions.

Economic incentives are created when harvesters are competing to catch a share of the TAC, under the LLP, that may entice a vessel operator to go to sea or continue fishing in weather conditions that may pose a higher operating risk than they would be willing to accept if they were operating under a LAPP. Each person will respond differently to these incentives depending on the level of risk they are willing to accept and the vulnerability of their vessel to those weather conditions. Since the fleet is composed of

relatively small trawl vessels, they may be more susceptible to poor weather conditions than larger trawl vessels.

Management of the rockfish fisheries under the RPP and RP extended the fishing season and moved much of the fishing from July to May and June, but also allowed for fishing in late fall when CGOA weather conditions can be less safe. Although a person's allocation will not be jeopardized by decisions to delay fishing to reduce safety risks, some incentives may exist for persons to fish in inclement weather - including market opportunities and operational cost savings (North Pacific Fishery Mangement Council, 2011).

NIOSH manages the CFID. CFID is a national surveillance system that contains information on work-related fatalities and vessel disasters in the U.S. fishing industry. For Alaska, CFID contains fatality data from 2000 through 2017 and vessel disaster data from 2000 through 2016. One limitation is that these data sources do not include other safety measures, including nonfatal injuries, vessel system failures not resulting in abandonment, and search-and-rescue missions. Study of these areas in the future could provide more insight into additional hazards. A second limitation is that do not cover the most recent fishing years.

NIOSH staff was provided a list of vessels that the AKFIN summary of CAS data indicated were active in the CGOA rockfish fishery from 2003 through July 2019. The list of CGOA rockfish vessels was matched with all fishing vessels that had been added to CFID as the result of:

1. one or more crewmember fatalities that occurred on or otherwise involved the vessel; or
2. if the vessel sunk, capsized, or sustained other damage that required the entire crew to abandon the vessel.

The list of vessels was considered in terms of the CGOA management program(s) they fished under, so the same three groupings of years were considered in this section as other sections of this paper:

1. pre-RPP (2003 through 2006),
2. RPP (2007 through 2011), and
3. RP (2012 through July 2019).

Based on vessel name, casualty date, and casualty location, it was determined that there were no work-related crewmember fatalities or vessel disasters among vessels reported in the CFID system when actively participating in the CGOA rockfish fishery during the pre-RPP, RPP, or the RP. Preliminary surveillance data not yet included in the official CFID database, through August 2019, was also reviewed by NIOSH staff and did not reveal any work-related crewmember fatalities or vessel disasters by vessels participating in the CGOA RP fishery. One potential reason for the good record of safety of human life at sea could include the extended fishing season that would reduce any race to fish and allow crews to choose when to operate in the event of inclement weather or crewmember fatigue.

3.5.10 Catch Monitoring Requirements

Monitoring provisions are established to ensure compliance with the RP regulations and confirm that rockfish QS holders comply with annual rockfish CQ allocations, rockfish sideboard limits, and use/ownership caps. NMFS uses five primary tools for monitoring participants in the RP. Specifically, NMFS:

1. Requires observers aboard vessels that are operating in a rockfish cooperative or a rockfish sideboard fishery to adequately account for catch and bycatch in the fishery. NMFS requires 100 percent observer coverage for CVs when checked-in; 200 percent observer coverage for CPs

fishing in sideboard fisheries or under the authority of a rockfish CQ permit; and 100 percent observer coverage for CP opt-out vessels in the month of July only.

2. Requires that vessels participating in a rockfish cooperative or a rockfish sideboard fishery carry and use a NMFS-approved vessel monitoring system transmitter,

3. Requires that CPs in a rockfish cooperative or rockfish sideboard fishery follow specified catch handling procedures prior to processing,

4. Requires the weighing of all catch from rockfish cooperatives on NMFS- or state approved scales, and

5. Requires that shoreside processors receiving rockfish CQ operate under a NMFS approved Catch Monitoring and Control Plan (CMCP). A CMCP specialist monitors rockfish deliveries to ensure compliance with the CMCP of any processor receiving program landings, and assists processors with rockfish species identification to ensure accurate catch sorting and quota accounting. Shoreside processors are not required to be operating under an approved CMCP to receive groundfish harvested in the entry level longline fishery, since that fishery is not included under the LAPP and QS is not allocated to individual vessels or cooperatives.

3.5.10.1 Catch Monitoring Control Plan

Monitoring requirements for RP deliveries required a CMCP. A CMCP is developed by the processor and approved by NMFS, per criteria established in federal regulations at 50 CFR 679.28(g)(7). The CMCP details a series of performance-based standards that ensure that all delivered catch is accurately sorted and weighed by species. An additional monitoring component for the RP is a NMFS employee, the rockfish CMCP specialist, who observes rockfish landings to provide impartial verification of a processor's adherence to its CMCP. NMFS uses a portion of the cost recovery fees collected under the RP to support this Kodiak-based position. The role of the CMCP specialist is different from NMFS-certified observer and the CMCP specialist does not complete any observer duties such as assisting vessel observers or collecting biological or scientific data. The duties of the rockfish CMCP specialist are to monitor RP deliveries to ensure compliance with the CMCP, to assist processors with rockfish species identification, to ensure accurate catch sorting and quota accounting, and to report the findings to NMFS.

A shoreside processor is required to include a description in their CMCP of how the CMCP specialist would be notified of rockfish CQ deliveries. Since the start of the program, consistently getting landing notices for all deliveries has been somewhat problematic and NMFS has continued to work with processing plants to get advanced notification. Currently, CMCP's require that processor notify the CMCP specialist via email approximately 24 hours prior to an upcoming rockfish delivery. Also, processors are required to contact the CMCP specialist 1 hour prior to the actual delivery via phone (voice or text). However, processors often state that they often do not have this information from delivering vessels 24 hours in advance. The 1-hour phone notice is occasionally forgotten depending on personnel and shift changes and sometimes the delivering vessel does not notify plant personnel of their arrival. In the future, NMFS may consider developing an online notification process to make the process more consistent or developing a method to require the delivering vessels to notify NMFS.

NMFS reports that fulfilling the role of the CMCP specialist has been a successful way to monitoring incoming deliveries. On average, about 85 percent of rockfish deliveries to Kodiak are monitored each season. The degree of monitoring is dependent on the number of simultaneous deliveries, time of day, and day of week. The CMCP specialist attempts to space monitoring events throughout 24 hours and over seven days a week to ensure all time periods and days are covered. When only one vessel is delivering to a plant in Kodiak, then the entire offload may be monitored. For simultaneous deliveries, the CMCP specialist may decide to work at a processor that he has not monitored recently or move between processors to monitor a portion of different deliveries.

One of the duties of the CMCP specialist is to help staff at the processing plant accurately identify rockfish species, which are sometimes quite similar in appearance and can be difficult to distinguish. Throughout the May through November 15 fishing season, there can be quite a bit of turn-over in plant personnel who are responsible for sorting fish by species. As a result, the CMCP specialist conducts ongoing training in order to ensure accurate speciation and catch accounting. To assist in training, NMFS developed the "Processors Guide to Species Identification in the Gulf of Alaska Rockfish Fishery" that contains pictures of each of the primary and secondary species delivered in the RP. The images are of specifically of dead fish, in the condition as they appear during a delivery, and accompanied by key identification characteristics in English, Tagalog and Spanish. The guide is printed on waterproof paper and spirally bound for easy use on the dock and processing facility. A similar 2-page guide for skate identification was also developed and distributed.

Current regulations also require that the RP processor provide an observer sampling station. Alternative 2, Element 9 would remove the observer sampling station requirements for processing plants in the RP. Shoreside plants receiving RP deliveries are not required to maintain 100 percent observer coverage and therefore the requirements for an observer sampling station and intra-plant communication equipment for an observer to receive delivery notifications are not necessary.

3.5.11 Recordkeeping and Reporting

The RP includes requirements for CQ holders to report specific information to NMFS and other management agencies for management, monitoring, and enforcement purposes. These recordkeeping and reporting requirements for the RP can be split into categories by subject:

Recordkeeping and reporting requirements for participants include a mix of electronic and paper submissions to NMFS. Since implementation of the RP, NMFS has transitioned a number of recordkeeping and reporting submissions from paper to electronic applications and forms in an effort to simplify recordkeeping and reporting, reduce costs, and improve accuracy and timeliness of information for management agencies and fishery participants. In most cases, NMFS has maintained options for paper submission when fishery participants are unable to report electronically.

Two electronic recordkeeping and reporting systems are currently used in the RP. The first is eLandings, an interagency program implemented in 2009 and is required for all RP landings. The second system is eFISH, the NMFS Alaska Region online Fisheries Information System (eFISH). Participants in the RP use eFISH to renew annual permits, submit ex-vessel volume and value reports, paying cost-recovery, transfer rockfish CQ between cooperatives, check in and out of the RP, and pay observer program fees. RP participants may also use eFISH to receive information from NMFS relevant to their permits or CQ holdings, including checking CQ balances, and printing LLP licenses.

NMFS has maintained paper submission requirements for a number of reasons, including requirements for original signatures on applications, occasional notarized verifications, and required additional documentation for eligibility requirements.

NMFS has sought out efficiencies in reporting, including removing requirements for a monthly report submitted by the cooperative managers that collected redundant information found in eLandings. It was eliminated in the current program to reduce costs and burden to the industry.

This section provides an overview of the current recordkeeping and reporting requirements for the RP.

Application for Rockfish Cooperative Fishing Quota (Paper)

Each calendar year, the Regional Administrator determines the tonnage of rockfish primary species that will be assigned to participants in a rockfish cooperative. The members of a rockfish cooperative have an exclusive harvest privilege to collectively catch this CQ. Only persons who hold rockfish QS may join a

rockfish cooperative. Each year the holder of an LLP license with rockfish QS must assign that LLP license to a rockfish cooperative in order to participate in the RP. Rockfish QS can only be fished through cooperative membership. The cooperative must form an association with the processor to which it historically delivered the most rockfish. The cooperative/processor associations are intended to ensure that a cooperative lands a substantial portion of its catch with its members' historic processor. The exact terms of the association are subject to negotiation, are confidential to the parties, and require the approval of the associated processor.

As part of the annual CQ application process the cooperative must submit a fishing plan. Alternative 2, Element 8 would eliminate that requirement from the application package. The justification for removing it from the application process is the veracity of the information, given that it must be submitted before the cooperative develops its true and final fishing plan for the year.

Application for Inter-Cooperative Transfer of Rockfish CQ (eFISH)

Each rockfish cooperative receives an annual cooperative fishing quota (CQ). The CQ is an amount of primary and secondary rockfish species the cooperative is able to harvest in a given fishing year. Halibut Prohibited Species Catch (PSC) is also allocated to participants based on historic halibut PSC rates in the primary rockfish species fisheries. Shore-based processors receiving rockfish CQ must be located within the boundaries of the City of Kodiak, Alaska. Once NMFS issues annual CQ to a cooperative, the members of the cooperative may fish on that amount or may transfer catch amounts to another cooperative. The transfer of an annual catch amount is valid only during the calendar year of the transfer. A rockfish cooperative may transfer all or part of its CQ to another rockfish cooperative. A cooperative may only transfer or receive by transfer an annual catch amount if the cooperative submits online an application for inter-cooperative transfer to NMFS. In order for NMFS to approve an inter-cooperative transfer, both parties must be already established and recognized by NMFS as a cooperative prior to the transfer. Under the Program, CP cooperatives are not permitted to receive CQ transfers from CVs cooperatives. This "one-way door" is intended to protect interests of shore plants and communities, in the event that CP production efficiencies exceed those of the shore-based sector.

Annual Rockfish Cooperative Report (Paper)

See Section 1.7 for this discussion.

Vessel Check-in/Check-out Report with Termination of Fishing Declaration (eFISH)

The designated representative of a rockfish cooperative must designate any vessel that is authorized to fish under the rockfish cooperative's CQ permit before that vessel may fish under that CQ permit through a check-in procedure.

The designated representative for a rockfish cooperative must submit to NMFS a check-in report for a vessel:

- At least 48 hours[39] prior to the time the CV begins a fishing trip to fish under a CQ permit; or
- At least 1 hour prior to the time the CP begins a fishing trip to fish under a CQ permit; and
- A check-in designation is effective at the beginning of the first fishing trip after the designation has been submitted.

The designated representative of a rockfish cooperative must designate any vessel that is no longer fishing under a CQ permit for that rockfish cooperative through a check-out procedure.

[39] This could be modified under Alternative 2, Element 12 to 24 hours (see Section 3.7.12).

A check-out report must be submitted to NMFS within 6 hours after the effective date and time the rockfish cooperative ends the vessel's authority to fish under the CQ permit.

- If the vessel is fishing under a CQ permit for a CV cooperative, a check-out designation is effective at the end of a complete offload;
- If the vessel is fishing under a CQ permit for a CP cooperative, a check-out designation is effective upon submission to NMFS.

A Rockfish cooperative may choose to terminate its CQ permit through a declaration submitted to NMFS. NMFS will review the declaration and notify the cooperative's authorized representative once the declaration has been approved.

Rockfish Ex-vessel Volume and Value Report (eFISH)

A rockfish processor (shoreside processor[40]) that receives and purchases landings of rockfish CQ must annually submit to NMFS a complete Rockfish Ex-vessel Volume and Value Report for each reporting period for which the rockfish processor receives rockfish CQ. The reporting period of the Rockfish Ex-vessel Volume and Value Report is from May 1 through November 15 of each year. The deadline for submittal on eFISH is no later than December 1 each year.

Rockfish fee payment (eFISH)

Under section 303A(e) of the Magnuson-Stevens Act, costs for management and enforcement of individual fishing quota and other limited access privilege programs (LAPPs) are recoverable from participants. The RP is a LAPP established under the provisions of section 303A of the Magnuson-Stevens Act. Therefore, NMFS is required to collect fees for the RP. The Magnuson-Stevens Act also limits the cost recovery fee so that it may not exceed three percent of the ex-vessel value of the fish harvested under the RP.

All rockfish CQ holders who harvest rockfish CQ must submit the cost recovery payment for all rockfish CQ landings made on their rockfish CQ permit. A rockfish CQ permit holder must submit any rockfish cost recovery fee liability payment(s) to NMFS no later than February 15 of the year following the calendar year in which the rockfish CQ landings were made. Payment must be made electronically in U.S. dollars by automated clearing house, credit card, or electronic check drawn on a U.S. bank account.

Each CQ holder must pay their cost recovery fee electronically using the Department of the Treasury's online payment system, pay.gov, which can be accessed through the eFISH system.

3.5.12 Cost Recovery

Section 304(d)(2) of the Magnuson-Stevens Act authorizes and requires NOAA Fisheries to recover the actual costs directly related to the management, data collection, and enforcement of any LAPP and the Western Alaska Community Development Quota (CDQ) Program. The RP is subject to cost recovery because it is a LAPP. If the Council takes No action to reauthorize the RP the fishery would no longer be subject to cost recovery.

Direct program costs are incremental costs that would not have been incurred except for the RP. Cost recovery fees do not increase agency budgets or expenditures. The fee only offsets funds that would otherwise have been appropriated for management of the RP. As a result, no budgetary advantage is gained by agencies (NMFS, 2019).

[40] A clarification requested under Alternative 2, Element 5 would specifically state that only shore-based processors are subject to the regulation.

Cost recovery fee regulations require a rockfish processor that receives and purchases landings of RP CQ to annually submit to NMFS a complete Rockfish Ex-vessel Volume and Value Report. The reporting period of the Rockfish Ex-vessel Volume and Value Report extends from May 1 through November 15 of each year. A complete Rockfish Ex-vessel Volume and Value Report must be received by the NMFS not later than December 1 of the year the rockfish processor received the RP CQ species.

NMFS calculates RP direct program costs through an established, systematic accounting system for the Federal fiscal year (FY), which is October 1 through September 30. NMFS tracks internal program costs as well as program costs from the Alaska Fisheries Science Center (AFSC), and the Alaska Department of Fish and Game (ADF&G).

Examples of the types of tasks that were included under the 2018 RP direct program costs are:

- maintenance of electronic reporting systems, including the catch accounting system (NMFS, ADF&G),
- programming and web design for online applications (NMFS),
- determination of annual cooperative allocations of cooperative fishing quota (CQ) and prohibited species catch (PSC) (NMFS),
- issuance of (CQ), responding to questions about CQ applications (NMFS),
- transfers of CQ, responding to questions about transfers (NMFS),
- observer debriefing (AFSC),
- catch monitoring control plan specialist (NMFS),
- monitor cooperative fisheries CQ and PSC, answer questions on cooperative activities, respond to data requests (NMFS),
- determination of standard ex-vessel prices using value and volume reports submitted by rockfish processors (NMFS),
- fee determination and collection process (NMFS),
- cost recovery report (NMFS), and
- analysis and rulemaking activities (NMFS).

Using the estimated program costs provided by agencies that incur recoverable costs, a four-step annual process that is undertaken by NMFS:

1) Calculate the total incremental costs incurred to manage and enforce the fishery.

2) Calculate the total value of the fishery.

3) Divide the total costs in step one by the total fishery value in step two to determine the fee percentage.

4) Apply the fee percentage to each permit holder's catch and invoice each permit holder.

One of the actions considered by the Council would make an annual report on the cost recovery program mandatory. If implemented, it would add a fifth step to the annual process. That amendment is not expected to increase the cost recovery fee, because NMFS currently generates a RP cost recovery report as requested by members of the industry to provide greater transparency on the costs being recovered. The Council is also considering elements that would establish the duration of the program and the amount of analysis that would be required in the future to extend the program. Options that require additional or more frequent analysis are expected to increase the recoverable costs associated with analysis and rulemaking activity. If the result of the additional analytical requirements is a calculated fee greater than 3 percent of the ex-vessel value of the allocated species, the agencies would be required to make up the cost difference from their annual operating budgets. Table 3-23 provides a summary of the cost recovery fees

for 2012 through 2018. Fees have generally ranged from 2 percent and 3 percent of the estimated RP quota ex-vessel value. The cost recovery fee in 2018 was approximately equal to the maximum 3 percent fee. The difference between the 3 percent maximum fee and the recoverable costs was less than $16,000.

The only year the fee was less than 2 percent was the first year it was collected (2012). The difference in the fee percentage and program cost shows the amount the cost recovery fee could have been increased each year if agency costs had been greater than they were. A negative number shows the program costs that were not recovered and had to be paid by one or more of the agencies out of their operating budget.

Table 3-23: Summary of RP cost recovery fees and estimated fishery landings and value

Year	*Pounds landed*	*Fishery Value*	*Total Program Costs*	*Difference: 3% fee minus program cost*	*Calculated Fee Percentage*	*Actual Fee Percentage*
2018	47,261,765	$ 11,231,239	$ 321,411	$15,526	2.86%	2.86%
2017	40,587,961	$ 10,248,424	$ 208,666	$98,787	2.04%	2.04%
2016	49,777,303	$ 12,009,975	$ 304,684	$55,615	2.54%	2.54%
2015	45,152,020	$ 11,117,262	$ 361,790	-$28,272	3.3%	3.0%
2014	44,016,252	$ 10,505,776	$ 345,948	-$30,775	3.3%	3.0%
2013	36,222,525	$ 8,716,340	$ 224,059	$37,431	2.5%	2.5%
2012	40,963,090	$ 14,340,362	$ 194,562	$235,649	1.4%	1.4%

Source: NMFS 2018 RP cost recovery fee report (https://www.fisheries.noaa.gov/resource/document/central-gulf-alaska-rockfish-program-cost-recovery-reports).
Notes: The 2014 values are the corrected values for that year. The pounds landed and fishery value originally reported for 2014 in the *Federal Register* notice (80 FR 6053; February 4, 2015) incorrectly excluded the 2014 CP values.

3.6 Analysis of Impacts: Alternative 1, No Action

Reversion to LLP management would likely result in fishing practices and patterns similar to those seen prior to the RPP. In that fishery, trawl vessels raced for CGOA rockfish when the trawl season opened in July. The fishery typically lasted about three weeks and vessels had to weigh the benefits of participating in the rockfish fishery versus other opportunities (e.g., tendering pink salmon). The reversion to LLP management would also remove the allocation to the entry level fixed gear longline sector.

LLP management requires NMFS to issue directed fishing closures based on projected catch rates by the fleet. The number of participants in the harvesting sectors could increase relative to current levels. In the CV sector any vessel with an LLP license with a trawl gear and CGOA endorsement could participate in the rockfish fishery. Table 3-16, presented earlier in this document provided information on the number of LLP licenses that are issued that could potentially be used to harvest CGOA to show that increased capacity could flow into the fishery under the No Action alternative. Not all LLP license holders would be expected to enter the fishery, but there is potential for increased participation in the rockfish fishery. In the RP, only about 30 CVs are active in the fishery on an annual basis so there is the potential for the number of participants to more than double. However, the actual number of vessels that could participate in the future will also depend on processing capacity and available markets, in addition to weighing participation in the rockfish fishery against participation in other open fisheries. Because the Kodiak

delivery requirement would be removed under the No Action alternative it is possible that processors outside Kodiak could begin taking deliveries or floating processors could enter the fishery.

Product quality and production efficiency would likely suffer, should the rockfish fisheries return to a race for fish. Catcher processors must process rockfish rapidly, to maintain quality and accommodate additional catch. Prior to the RPP, catcher processors in the rockfish fisheries produced mostly whole and H&G products (i.e., relatively low value-added products). These vessels would likely continue to process catch in a similar manner under the No Action alternative. Although catcher processors process their catch quickly relative to CVs, the quality of their products could suffer, to some extent, as participants race to maximize their catch rates. Diminishing quality dissipates a portion of the resource rents that would otherwise be available.

Production efficiency of CVs under the No Action alternative would also be limited by the short duration, race for fish that will likely reemerge. Maximizing catch amounts in each tow and filling holds to capacity can damage rockfish, owing to their being difficult to handle. The No Action alternative would also likely extend trip lengths, to increase catch per trip, which can further result in a decline in the quality of rockfish deliveries. Also, it's expected that the secondary species (sablefish, shortraker, rougheye, thornyheads) catch, and halibut and Chinook salmon PSC would return to rates under the LLP management.

Economic returns to CVs under this alternative would likely be limited, both by the quality of their landings and the compressed time period within which those landings must be made. Most processors would likely process deliveries quickly, to keep pace with the landings. These conditions could dampen competition for landings among the participating processors to some extent. Quality would likely suffer, because of the rapid rate of harvest and processing, and technical efficiency would also be lost, as crews scale up for a short period of time to accommodate the rapid pace of landings during the compressed season.

Consumers are likely to be supplied with products from the rockfish fisheries similar to those supplied prior to the RPP. Catcher processors are likely to produce relatively higher quality, but low "value-added," frozen H&G and whole fish. Production from CV catch is likely to suffer from not being able to take greater care handling the raw product. Limiting the season length and increasing throughput required to keep up with deliveries could negatively impact their ability to produce higher valued products that require more processing time and effort, especially if rockfish production is competing for labor resources and processing line availability with pink salmon deliveries. During years when the pink salmon fishery is approaching record levels the labor and capacity issues could be exacerbated.

Crew participation and compensation would likely revert to receiving a specific percent of the vessel's adjusted revenues, as it was before implementation of the RPP. During that time, most crewmembers worked in several different fisheries, often on the same vessel that they worked on during the rockfish season, while some moved to other vessels for particular fisheries.

For shore-based processing crew, the No Action alternative would result in similar processing practices seen before implementation of the RPP. During that period, most of the processing took place in Kodiak and was undertaken by resident crews and supplemented by non-resident workers brought to the community to fill positions that could not be filled by residents. Crews were employed processing rockfish for a relatively short period of time. When rockfish was being processed, relatively large crews were necessary to maintain a flow of fish through the plants, because the rockfish fisheries coincided with the pink salmon fishery. Processing both species simultaneously, required some plants to employ substantially larger crews, relative to processing under the RP, that were juggled between processing lines for the two fisheries.

3.6.1 Management and Enforcement Considerations

The Council would have needed to provide direction on specific elements of the No Action alternative if it had selected it as the PA. Some of the high-level issues are briefly discussed in Section 3.3. However, the fishery would be managed as it was prior to implementation of the RPP. Before directed fishing opens for rockfish, NMFS will set the directed fishing allowances for the directed fisheries after removing the ICA needed as incidental catch in other CGOA fisheries. NMFS will issue opening and closure notices in the Federal Register. It is expected that the three primary rockfish species would be opened to directed fishing. The secondary species would be closed to directed fishing and used as incidental catch in the rockfish and other fisheries, except for the portion of Pacific cod that had been allocated to the RP which would remain in the trawl CV sector allocation.

Any vessel that is assigned a valid LLP license with a trawl gear endorsement for the CGOA would be allowed to participate in directed fishing for the three primary rockfish species. At a maximum, this would about triple the number of vessels that could participate relative to the number participating under the RP. The fishery would take place in July and would conflict with the pink salmon fishery.

Halibut PSC deducted from the third period apportionment for trawl gear would be available to all trawl vessels fishing in the deep-water species fishery (assuming the Council does not reapportion it to another season or the shallow-water species fishery. The third period halibut PSC reductions associated with the RP will be reviewed and a policy decision must be made whether to keep those reductions or to make the entire PSC limit set-aside to the RP available to the trawl fleet it was originally deducted. The Chinook salmon PSC limit set-aside for the RP would be apportioned to the trawl fleet for use in non-pollock fisheries. This limit was established after the RP was implemented so regulations will need to address this action that were not in place prior to the RPP being implemented. Vessel operators would still be required to avoid PSC to the extent practicable.

Observer and monitoring requirements and coverage levels for catcher vessels and shoreside processors fishing in the CGOA rockfish fishery would be established in the Observer Program Annual Deployment Plan[41]. That plan is developed by NMFS in consultation with the Council and advisory committees and presented to the Council, usually at its annual October meeting. The Council reviews that plan and provides feedback. The recommended observer deployment plan for the CGOA would be implemented for the start of the 2022 fishing year. CPs would be in the full coverage category under the Observer Program as implemented in 2013.

3.7 Analysis of Impacts: Alternative 2

The various elements of Alternative 2 are presented in this section in terms of their impacts. A summary of the general impacts that maintaining the RP, regardless of combination of specific elements selected are presented in this introduction.

As noted when the alternative was introduced in Section 1.6, it is assumed that the QS allocations would remain the same under the reauthorized program as the current RP. LLP license holders will not need to reapply for QS based on their catch history, reducing the implementation burden on both LLP license holders and NMFS. Not altering the number of QS units assigned to each LLP license will reauthorize the current allocations, which reflects the intent of this action. It also will help streamline the application process.

All of the elements and options for both the onshore and offshore sectors, under Alternative 2 would maintain safety at sea that was described in Section 3.5.9 and would control fleet capacity as described in

[41] https://meetings.npfmc.org/CommentReview/DownloadFile?p=f32b6626-2137-405a-b0a4-8231e6f7406d.pdf&fileName=C3%20Observer%20Deployment%20Plan.pdf

Section 3.5.3. In addition, the elements would enhance NMFS' ability to manage species allocated under the RP through traditional management measures of monitoring catch plus the cooperative agreements where cooperative members monitor their harvest to ensure the cooperative does not exceed harvest limits. These agreements also increase vessel accountability that is enforced through civil contracts within the cooperatives and across cooperatives. The slower pace of fishing and greater use of pelagic gear under the RP has reduced sea floor contact as described in Section 2.4. Implementation of the RP has allowed full retention of allocated species. Slowing the pace of the fishery and spreading the fishery over longer periods of time has provided industry with tools to better comply with the full retention of rockfish requirements. Selection of Alternative 2 is also expected to maintain the industry efforts to reduce halibut mortality and Chinook salmon bycatch in the CGOA rockfish fisheries. Improvements in PSC usage in both the CV and CP sectors are presented in Section 3.5.1.4.

In addition, the rockfish fishery dependent communities in the CGOA and the onshore processing sector have benefited from a more stable workforce, more onshore deliveries of rockfish, and improved rockfish quality (Section 3.6). Rockfish product diversity has not changed substantially (Section 3.5.7). The product forms and markets (Section 3.5.8) are driven by market forces that extend well beyond the effects of the RP management structure. Central Gulf of Alaska fishermen, and the onshore processing sector have benefited from reduced conflicts with salmon processing (Section 3.5.5). The offshore sector has benefited from greater spatial and temporal flexibility in prosecuting the fishery (Section 3.5.1.5).

3.7.1 Program Duration

Element 1: Modify regulations at 679.80(a)(2) to specify the duration of the program. Option 1: Remove sunset date Option 2: Replace with new sunset date (10-20 years)

The current RP was established with a sunset date of ten years after the program was implemented. The first option would remove the sunset date. Under Section 303A of the Magnuson-Stevens Act, a LAPP permit is a permit issued for a period of not more than 10 years that will be renewed before the end of that period, unless it has been revoked, limited, or modified. Removing the sunset date would allow NMFS to renew the permits without the Council initiating a formal analysis to reauthorize the program. Option 2 would keep the sunset provision of the program in place at the current 10-year cycle or extend the cycle up to 20 years. At the end of the period the Council and NMFS would be required to reauthorize the program, as is being done under this regulatory package. Selecting one of the options in this element would address the Council Purpose and Need statement "*to reauthorize the RP to retain the management, economic, safety, and conservation gains realized under the RP to the extent practicable, consistent with the Magnuson-Stevens Act"*.

The NRC study (NRC, 1999) points out that LAPPs that are stable and in which persons are able to make long-term investments will achieve greater benefits. While the Magnuson-Stevens Act provides that LAPPs create a revocable privilege that is not permanent, the creation of long-term interests is argued by some to create a stewardship and conservation interest by giving participants a more direct stake in the condition of the stock.

The Council is considering options that would remove the sunset date or modify the current 10-year sunset. If the sunset date is retained it would be extended by a range of 10 to 20 years from the date of implementation, absent Council review and recommendation to extend the program. By selecting the option to remove the sunset date, the program would have an indefinite duration (subject to modification as the Council deems necessary), with reviews set at specific intervals. Program reviews would be conducted 5 years after implementation and every 7 years thereafter, coinciding with the fishery management plan policy review. Reviews would be designed to attempt to objectively measure the success of the program by addressing issues raised in the amendment's problem statement and the

standards set forth in the Magnuson-Stevens Act, including the impact of this action on harvesting and processing sectors, and fishery dependent communities. After reviewing the impacts of the program, the Council would have the option of taking any necessary and appropriate action to modify or end the program.

Review of a program can be important to the program's success. A review process would allow for a full evaluation of whether the program is serving intended objectives and could provide guidance to the Council for revising the program to mitigate harmful or unexpected consequences. Early review of a program can be used to determine that the program is functioning as intended. Periodic reviews can be used to determine whether circumstances have changed in a fishery that would justify amending a management program. A well conducted and fully evaluated review often requires extensive staff time, consultants, and Council time. Reviews are important to ensuring the success of management programs but should be undertaken on a schedule such that the need and utility of the information in the review are likely to outweigh the costs. In this case the program has already been in place since 2012, so the Council, the participants, and other stake holders have better understanding of how the program will function relative to implementing a new program that has never been utilized.

Including a sunset date in the program could have various consequences for the RP. This sunset is likely to affect the value of the licenses that qualify for the program, as the longer-term fishing privilege associated with the license will be uncertain. Limited duration is likely to affect planning by both sectors, as uncertainties will arise concerning future management of the rockfish fisheries, especially as the sunset date approaches. In such an environment, it is possible that participants may choose not to invest in improvements that are beneficial in the share-based management of the cooperative alternatives, but less useful under LLP management. Although the proposed sunset would ensure that program participants cannot lay claim to their allocations in perpetuity, the sunset is likely to intensify lobbying efforts in the future, as participants work to maintain their interests. In addition, mandating Council recommendation to extend the RP would substantially increase Council and agency staff workloads, as a formal extension of the program would be required if the Council follows the normal process for amending its FMP. Although some of the work for such an amendment package would be derived from the reviews of the program, substantial administrative and analytical burdens will arise from any action to extend the program. In addition, advancing a comprehensive analytical package of this type through the Council will likely affect the Council's ability to address other needs, including possible amendments to the existing program. For example, minor modifications being considered from the current RP have been incorporated into this package.

Finally, the RP includes a share duration limit of all RP permits, which would be 10 years. These permits would be renewed before their expiration, unless the permit has been revoked, limited, or modified. NMFS would have discretion in determining which permits would be subject to revocation, limitation, or modification.

3.7.2 Pacific Cod Reallocations

Element 2: Reallocate unharvested RP Pacific cod from RP cooperatives after the RP fisheries close on November 15 consistent with regulations at §679.20(a)(12)(ii).

Description: NMFS does not currently have the authority to move unused Pacific cod from the trawl CV rockfish cooperatives to the limited access fisheries, as NMFS does with other sectors that fish Pacific cod (see §679.20(a)(12)(ii)(B)). The regulatory change would provide NMFS the authority based on the structure in current regulations to reallocate any remaining Pacific cod after the RP fisheries closes for the season or once all members have checked out of their RP cooperative. The amount remaining in the RP CV cooperatives is presented in Table 3-24.

Table 3-24 2011 to 2018 RP Trawl CV cooperative Pacific cod allocations, total catch, remaining allocation, and percent of allocation remaining (amounts are in metric tons).

Year	Allocation	Total Catch	Remaining Allocation	Percent Remaining
2011	843	702	141	17%
2012	1,592	796	796	50%
2013	1,408	490	918	65%
2014	1,517	1,368	149	10%
2015	1,752	792	960	55%
2016	1,409	196	1,213	86%
2017	1,262	52	1,210	96%
2018	232	83	149	64%
Average	1,252	560	692	55%

Source: NMFS, Alaska Region, Catch Accounting System

Similar to the process for other Pacific cod sectors, NMFS could take into account the capacity of the sector, and ability to harvest the remaining Pacific cod TAC. For instance, Pacific cod may still go unfished if a particular sector is approaching its halibut PSC limit and it does not have the opportunity to take advantage of an increased Pacific cod allocation. Annual analysis by NMFS inseason management staff would need to ascertain the need and recipients of any potential reallocation. The Council could allow regular annual reallocations to any sector following the current reallocation regulations. The Regional Administrator would consider a reallocation of the projected unused allocation first to the CV pot, jig, and hook-and-line sectors first, then to the combined CV and CP pot sectors, and then to all other CP sectors, taking into account the capability of a sector, as determined by the Regional Administrator, to harvest the remaining Pacific cod TAC. Any reallocation of a TAC during the fishing year requires publication of a notice in the Federal Register.

The Council could limit any trawl CV cooperative Pacific cod reallocation to only the non-RP trawl CV allocation. However, for non-RP trawl CVs directed fishing for Pacific cod closes by regulation at noon, November 1. A reallocation to support trawl CV directed fishing might not occur in time for this sector to use additional Pacific cod. However, additional Pacific cod could still be used as incidental catch in other fisheries and retained up to the MRA. If the trawl CV sector did not have a sufficient apportionment to cover the bycatch needs, it could benefit the sector and reduce regulatory discards if Pacific cod was placed on PSC status late in the year as occurred in 2019. Under that situation trawl vessels are required to discard Pacific cod but it is still deducted from the overall catch limit. Granting NMFS the authority to roll-over Pacific cod to the trawl sector as well as the fixed gear sector would may allow the trawl CVs to retain incidentally caught Pacific cod during some years when they would not otherwise. This would reduce discards and increase the value of the fishery.

Primary factors that will impact the need for this flexibility on an annual basis are the size of the CGOA Pacific cod TAC, the amount effort in the fixed gear fisheries that would utilize the roll-over after they are available, and the amount of the Pacific cod CQ that goes unused by cooperatives on annual basis.

3.7.3 Exempt Vessels from Crab Program Sideboards when Fishing in CGOA RP

Element 3: Exempt vessels from crab program sideboard limits when fishing in the RP.

Both the AFA and BSAI Crab Rationalization (CR) Programs were implemented with a suite of sideboard limits for vessels that earned harvesting privileges through these programs. Given the economic advantages that these participants had been afforded through their participation in these programs, potentially freeing up capacity, sideboard limits were created to limit the ability for these vessels to

expand into other fisheries. Both of these program (AFA and the CR Program) included sideboards in the CGOA rockfish fisheries, which were not managed as a LAPP at the time these programs were implemented.

In addition, on February 8, 2019, NMFS published a final rule (84 FR 2723) that modifies regulations for the AFA Program and CR Program participants subject to limits on the catch of specific species (sideboard limits) in the GOA. That final rule primarily establishes regulations to prohibit directed fishing for sideboard limits for specific groundfish species or species groups, rather than prohibiting directed fishing for AFA Program and CR Program sideboard limits through the GOA annual harvest specifications. The final rule streamlines and simplifies NMFS's management of applicable groundfish sideboard limits. Prior to implementing the regulation NMFS calculated numerous AFA Program and CR Program sideboard limits as part of the annual GOA groundfish harvest specifications process and publishes these limits in the Federal Register. Concurrently, NMFS prohibited directed fishing for the majority of the groundfish sideboard limits because most limits are too small to support directed fishing. Rather than continue this annual process, the final rule revises regulations to prohibit directed fishing in regulation for most AFA Program and CR Program groundfish sideboard limits. Starting in 2020 and 2021, NMFS will no longer publish in the annual GOA harvest specifications the AFA Program and CR Program sideboard limit amounts for specific groundfish species (Tables 54, 55, 54 to 50 CFR part 679), and those specific groundfish species will be prohibited to directed fishing in regulation. As a result of the action no RP primary or secondary species harvested with trawl gear would remain open to directed fish by sideboarded CR Program vessels.

Currently, CR sideboards apply to non-AFA CVs fishing in the GOA. Non-AFA CVs may be subject to prohibitions on fishing in the GOA except for pollock and Pacific cod. As a result, a non-AFA trawl CV can be prohibited from fishing primary and secondary rockfish species in a RP cooperative other than Pacific cod, if they had access to CQ. This is a result of being exempt from the Pacific cod and pollock sideboard limits but still subject to all other GOA species sideboard limits. This action would impact any non-AFA CV that has been sideboarded under the CR program in the GOA for all species except Pacific cod and pollock. Based on the 2018 LLP license database one LLP license and the vessel generating the LLP license meets this criterion.

This element would allow directed fishing by RP cooperative participants for any primary or secondary RP species when the cooperative holds sufficient CQ to allow directed fishing by a member vessel without being subject to CR Program sideboard limits. Essentially the CQ allocation takes the place of the sideboard limit for those vessels and limits their participation in the fishery.

3.7.4 Require Cost Recovery Reports

Element 4: Require annual NMFS cost recovery reports in regulations.

Regulations require NMFS to produce a cost recovery report for all other LAPPs, except the CGOA RP. For example, §679.33(g) “Annual report. Each year, NMFS will publish a report describing the CDQ Cost Recovery Fee Program for CDQ groundfish and halibut.” Although not required in regulations, NMFS has produced a CGOA RP cost recovery fee report each year since 2015.[42]

More information on the CGOA RP cost recovery fee is presented in Section 3.5.10. Because NMFS already generates this report on an annual basis and this element would not change the detail or structure of the report, it is not expected to increase the costs to industry of the burden on NMFS. The effect of this element is to:

- provide clear direction to the agency to generate the report, and

[42] https://www.fisheries.noaa.gov/resource/document/central-gulf-alaska-rockfish-program-cost-recovery-reports

- provide assurance to the industry that the report will be produced on an annual basis.

3.7.5 Clarify Ex-Vessel Volume and Value Reporting Regulations

Element 5: Clarify regulations at § 679.5(r)(10) to specify that only shoreside processors receiving RP CQ must submit the Rockfish Ex-vessel Volume and Value Report.

Current regulations require a "rockfish processor" to submit annually to NMFS a Rockfish Ex-vessel Volume and Value Report. The use of rockfish processor instead of "rockfish shoreside processor" has created confusion for NMFS staff and CP participants because a rockfish processor could include RP CPs. This element would modify the regulations at 50 CFR 679.5(r)(10) to provide clarifications.

The impact of this change would be to clarify an ambiguity that NMFS must interpret in the current regulations. The clarification is expected to reduce the amount of time NMFS must work with industry to clarify its interpretation of the regulations. It may also reduce the time and cost to review compliance with the regulations and the time it takes CP firms to submit the report.

CPs have never reported taking deliveries from other vessels under the RP, since it would circumvent to the Kodiak delivery requirement. Implementing the change would have no impact on the ex-vessel value used to calculate the cost recovery fee percentage. Also note that when CPs process their own catch, they do not have an arm's length ex-vessel transaction. Therefore, any ex-vessel price they report would not represent a market-based transaction and may not represent an accurate ex-vessel price.

3.7.6 Remove Requirements for an Annual Cooperative Report

Element 6: Remove regulations § 679.5(r)(6)(iii)(B) requiring that an annual RP cooperative report be submitted to NMFS. The Council requests that the RP cooperatives continue to voluntarily provide annual reports to the Council.

As described in Section 1.7, current regulations require RP cooperatives to provide an annual report to NMFS. RP cooperative to submit an annual rockfish cooperative report by December 15 of each year. The report must include at a minimum:

- The cooperative's CQ, sideboard limit (if applicable), and any rockfish sideboard fishery harvests made by the rockfish cooperative vessels on a vessel-by-vessel basis;
- The cooperative's actual retained and discarded catch of CQ, and sideboard limit (if applicable) by statistical area and vessel-by-vessel basis;
- A description of the method used by the cooperative to monitor fisheries in which cooperative vessels participated; and
- A description of any actions taken by the cooperative in response to any members that exceeded their catch as allowed under the rockfish cooperative agreement.

The information submitted to NMFS about harvests, retained catch, and discarded catch by vessel or cooperative is confidential under Section 402(b)(1) of the Magnuson-Stevens Act. The other required information is not confidential. Information about each cooperative's CQ allocations, halibut PSC allocation, and sideboard limits is published on NMFS's website. The inclusion of confidential information means that NMFS cannot post the annual reports on its website or provide the annual reports to the Council or the public.

At the request of the Council, the RP cooperatives also submit written cooperative reports to the Council prior to the April Council meeting each year, and provide a verbal overview of the annual report at the

April Council meeting. Federal regulations do not require the RP cooperatives to submit an annual report to the Council.

In addition to the regulatory requirements for the annual cooperative report, the Council also requests that the RP cooperatives provide additional information in their voluntary annual reports the Council. These additional requirements are described in the action memo prepared by Council staff for the Cooperative Reports agenda item. The most recent action memo was prepared for the April 2019 Council meeting (NPFMC, 2019). By removing the required cooperative report that is submitted to NMFS, the Council would define the information it would like to receive when it receives the annual reports or at any other meeting the issue is addressed.

Removing the requirements to report this information to NMFS will not eliminate the collection of any information that NMFS needs to manage the fishery. Information that the Council may wish to monitor whether the RP is meeting its goals and objectives can continue to be requested as part of the annual cooperative reporting process at the April meetings. Selecting this option will reduce the reporting burden to cooperatives and their members. It will reduce the time NMFS spends collecting and storing the annual reports. It will also eliminate the need to modify regulations that are burdensome and do not provide information necessary to manage the fishery.

3.7.7 Reporting Actions Taken by Cooperatives in Cooperative Reports

Element 7: Revise § 679.5(r)(6)(iii)(D) - to replace “any actions” with “any civil actions.”

Element 7 is not necessary if the Council selects Element 6. Element 7 is not included in the final action.

Current regulations specify that a RP cooperative annual report must include a description of any actions taken by the cooperative in response to any members that exceeded their catch as allowed under the rockfish cooperative agreement. “Any actions” is very broad and could include reports on each intra or inter-cooperative transfer. Intra-cooperative transfers may take place without notifying NMFS. NMFS manages the CQ allocations at a cooperative level and leaves it up to the cooperative to manage its allocation through civil contracts between members. The information needed by the reviewers of the cooperative report is intended to highlight whether the agreements within the cooperative are working as intended. This could be accomplished by reviewing any civil actions taken by members of the cooperative against other members of the cooperative who exceeded their allowed catch under the terms of the contract.

The proposed rule implementing the RP used “any civil actions” in § 679.5 to describe the reporting requirement. This term should have replaced “any actions” in § 679.5 when the RP was implemented. The proposed rule state that “a description of any civil actions taken by the rockfish cooperative in response to any members that exceeded their allowed catch” should be included in the cooperative report. No changes to that intended language was identified in the final rule (72 FR 37678). Therefore, this proposed change would not change the original intent of the RP.

3.7.8 Fishing Plan Reporting Requirements

Element 8: Revise 50 CFR 679.81(f)(4)(i)(D)(3) to remove requirements for a Fishing Plan to be submitted with a cooperative application for CQ.

Current regulations require a RP cooperative Fishing Plan to be included in the cooperative application for CQ. Without the attachment of the Fishing Plan the cooperative application would be considered incomplete.

The cooperatives have to complete the application in February so that it may be submitted to NMFS by March 1st deadline. This timeline requires the members of the cooperative to develop the fishing plan well in advance of when they actually make fishing plans for the season. Because the plan is required before the cooperative develops its true fishing plan, the information provided may not correspond well with the final fishing plan implemented by the cooperative. However, the submitted plan would provide the best information the cooperative representative had when the application needed to be submitted.

The regulations at 50 CFR 679.81(f)(4)(i)(D)(3) and any other appropriate regulations could be amended by NMFS to meet the Council's intent of the proposed action.

The information removed from the application is available and has been included in the cooperative annual reports required at 50 CFR 679.5(r)(6). Deleting the Fishing Plan requirement from the application process does not mean that the information would not be available to persons reviewing the program. This action would benefit cooperative members since they would not have to supply the information twice. The first time before complete information is available.

3.7.9 Exempt Shoreside Processors from Providing Observer Workstation and Observer Communication Requirement

Element 9: Revise § 679.84(f)(1) to exempt shoreside processors under the RP from the requirement to provide an observer work station and observer communication described at §679.28(g)(7)(vii) and (viii)

Current regulations require RP shoreside processors to maintain an observer station at the plant. This requirement is no longer necessary since plant observers are not required for the RP. Instead, the RP employs a Catch Monitoring Control Plan (CMCP) specialist, which negated the need for a plant observer. The current regulations negatively impact shoreside processors because it is costly for processors to maintain an observer workstation and platform scale.

Regulations at 50 CFR 679.84(f)(1) require shoreside processors comply with catch monitoring and control plan requirements. The regulatory text is provided below.

> *(1)Catch monitoring and control plan (CMCP). The owner or operator of a shoreside processor receiving deliveries from a CV described in § 679.51(a)(2) must ensure the shoreside processor complies with the CMCP requirements described in § 679.28(g).*

Regulations at 50 CFR 679.28(g)(7) define the catch monitoring and control standards and paragraphs (vii) and (viii) are presented next.

(vii) Observer work station. Each CMCP must identify and include an observer work station for the exclusive use of observers. Unless otherwise approved by NMFS, the work station must meet the following criteria:

> *(A) Location of observer work station.*
>
> *The observer work station must be located in an area protected from the weather where the observer has access to unsorted catch.*
>
> *For shoreside processors or stationary floating processors taking deliveries from vessels directed fishing for pollock in the BS, including vessels directed fishing for pollock CDQ in the BS, the observer work station must be adjacent to the location where salmon will be counted and biological samples or scientific data are collected.*
>
> *(B) Platform scale. The observer work station must include a platform scale as described in paragraph (c)(4) of this section;*

(C) Proximity of observer work station. The observation area must be located near the observer work station. The plant liaison must be able to walk between the work station and the observation area in less than 20 seconds without encountering safety hazards.

(D) Workspace. The observer work station must include: A working area of at least 4.5 square meters, a table as specified in paragraph (d)(4) of this section, and meet the other requirements as specified in paragraph (d)(6) of this section.

(E) Lockable cabinet. The observer work station must include a secure and lockable cabinet or locker of at least 0.5 cubic meters.

(viii) Communication with observer. The CMCP must describe what communication equipment such as radios, pagers or cellular phones, is used to facilitate communications within the plant. The plant owner must ensure that the plant manager provides the observer with the same communications equipment used by plant staff.

Regulations at 50 CFR 679.84(f)(1) would be modified to specify that processors are not required to comply with these two provisions of the CMCP requirements. Because regulations at 50 CFR 679.28(g)(7) specify general CMCP requirements applicable to all CMCP's, it is preferable to specify which requirements are applicable in the 50 CFR 679.84 instead of modifying the general CMCP requirements in 50 CFR 679.28(g).

The regulations do not provide any benefit to fishery managers, observer program staff, or the stakeholders in the fishery. There are no benefits because the observer coverage requirement for RP deliveries was replaced by the creation of the CMCP specialist with the implementation of the RP in 2012. Regulations that apply to communication equipment that would be altered by this action covers equipment that would be used by an observer assigned at the processing plant to receive delivery information. This element does not remove the requirements to provide communication equipment as specified at 50 CFR 679.51(e)(2) for use by an observer present at the plant to use the shoreside processor's or stationary floating processor's communication equipment for the entry, transmission, and receipt of work-related messages. CVs participating in the RP are required to provide communications equipment to enable observers to enter data electronically while at sea. Some catcher vessels are not equipped with communications capability that would allow the observer to transmit data while at sea and therefore an observer assigned to a CV may request to use the processing plant's equipment to transmit data to NMFS upon delivery at the shoreside processor. This requirement remains unchanged by this element.

Regulation at 50 CFR 679.28(g)(7) define catch monitoring and control standards that would not be impacted by the proposed actions. Those regulations should provide sufficient monitoring of the RP deliveries to ensure RP shore-based cooperatives are abiding by their CQ allocations. The regulations that remain in place specify that the plant must supply an observation area where the CMCP specialist can observe the flow of fish and know when and where the fish will be delivered. The regulations also provide for the sorting, weighing, and documenting the fish delivered to the plant.

(i) Catch sorting and weighing requirements. All groundfish delivered to the plant must be sorted and weighed by species. The CMCP must detail the amount and location of space for sorting catch, the number of staff assigned to catch sorting and the maximum rate that catch will flow through the sorting area.

(ii) Scales used for weighing groundfish. The CMCP must identify by serial number each scale used to weigh groundfish and describe the rational for its use.

(iii) Scale testing procedures. Scales identified in the CMCP must be accurate within the limits specified in paragraph (c)(4)(i) of this section. For each scale identified in the CMCP a testing plan must be developed that:

(A) Describes the procedure the plant will use to test the scale;

(B) Lists the test weights and equipment required to test the scale;

(C) Lists where the test weights and equipment will be stored; and

(D) Lists the plant personnel responsible for conducting the scale testing.

(iv) Printed record. The owner and manager must ensure that the scale produces a complete and accurate printed record of the weight of each species in a delivery. All of the groundfish in a delivery must be weighed on a scale capable of producing a complete printed record as described in paragraph (c)(3) of this section. However, NMFS may exempt scales not designed for automatic bulk weighing from some or all of the printed record requirements if the CMCP identifies any scale that cannot produce a complete printed record, states how the processor will use the scale, and states how the plant intends to produce a complete record of the total weight of each delivery.

(v) Delivery point. Each CMCP must identify a single delivery point. The delivery point is the first location where fish removed from a delivering CV can be sorted or diverted to more than one location. If the catch is pumped from the hold of a CV or a codend, the delivery point normally will be the location where the pump first discharges the catch. If catch is removed from a vessel by brailing, the delivery point normally will be the bin or belt where the brailer discharges the catch.

(vi) Observation area. Each CMCP must designate an observation area. The observation area is a location designated on the CMCP where an individual may monitor the flow of fish during a delivery. The owner and manager must ensure that the observation area meets the following standards:

(A)Access to the observation area. The observation area must be freely accessible to NMFS staff or NMFS-authorized personnel at any time a valid CMCP is required.

(B)Monitoring the flow of fish. From the observation area, an individual must have an unobstructed view or otherwise be able to monitor the entire flow of fish between the delivery point and a location where all sorting has taken place and each species has been weighed.

Cost savings to the plants as a result of eliminating these requirements are not estimated. The actual amount would vary by plant and be dependent on the depreciation of the equipment, cost of maintenance of the work station, and the opportunity cost of the space taken up by the work station.

3.7.10 Provide Authority to Reallocate Unused CGOA Rockfish ICA to RP CVs

Element 10: Allow NMFS to reallocate unused rockfish ICAs to RP cooperatives. Suboption: With a preference to reallocate to CV cooperatives first.

This element would provide NMFS the flexibility to reallocate unused CGOA ICAs for POP, northern rockfish, and dusky rockfish to the RP cooperatives. This is routinely done for the ICAs developed for Bering Sea AFA Pollock and Amendment 80 allocated species except Pacific cod.

ICAs are set in the harvest specifications at the beginning of the season for the three primary RP species. NMFS estimates incidental catch needs at the beginning of each year and then sets the ICA conservatively so that ICA overages will not result in the TAC being exceeded. Table 3-11, presented in Section 3.5.2.3, shows the ICA amount and usage for the years 2017 and 2018, along with the ICA amount for 2019. That table is repeated below as Table 3-25. The information in that table shows the ICAs vary annually. In 2018 NMFS doubled the 2017 ICA for POP to provide for conservative management of the POP fishery and to ensure the TAC was not exceeded. In 2018 less than 60 percent of the ICA was used. Because the ICA could not be reallocated to the cooperatives under the current regulations it could not be fished within the cooperative structure. In 2019 the POP ICA was reduced by 25 percent. As of October 5, 2019, 57 percent of the POP ICA was taken. The substantial swings in the amount of the ICA taken each year highlights the challenges NMFS faces when setting the pre-season ICA. If the ICA is set too high it could result in the fishery not achieving optimum yield; if it is set too low it could result in exceeding the TAC.

Table 3-25 Primary species ICA usage, 2017 and 2018

Species	2017	2018	2019 (Oct 5)
Dusky Rockfish			
ICA (mt)	250	250	250
ICA caught (mt)	281	128	135
% ICA caught	112%	51%	54%
Northern Rockfish			
ICA (mt)	300	300	300
ICA caught (mt)	169	142	134
% ICA caught	56%	58%	45%
POP			
ICA (mt)	2,000	4,000	3,000
ICA caught (mt)	4,472	2,325	1,720
% ICA caught	224%	58%	57%

Note: n/a means the data were not yet available when the table was developed. 2019 data is only through October 5.
Source: AKFIN summary of CAS data.

Assuming the average ex-vessel price in 2012 dollars presented in Table 3-4 and all unused ICAs were reallocated, the increase in ex-vessel value is presented in the left portion of Table 3-26. Because it assumes all unharvested ICA would be reallocated and caught it likely over-estimates the value. The right side of the table reports the same calculation using average first wholesale values per metric ton of rockfish caught. The information in the table indicates that in some recent years the lost ex-vessel value of not reallocating the ICAs could be over $850,000 to less than $50,000. The forgone first wholesale value ranged from less than $200,000 to over $3 million, annually.

Table 3-26 Estimated value of ICA that was unharvested (2012 $)

	Ex-vessel			First Wholesale		
	2017	2018	2019 (Oct 5)	2017	2018	2019 (Oct 5)
Dusky	$0	$54,000	$51,000	$0	$173,000	$163,000
Northern	$49,000	$59,000	$62,000	$184,000	$221,000	$232,000
POP	$0	$739,000	$564,000	$0	$2,768,000	$2,112,000
Total	$49,000	$852,000	$677,000	$184,000	$3,162,000	$2,507,000

This is a conservation and management issue (National Standards 1 and 8) that could be addressed by granting NMFS the authority to reallocate ICAs that are projected to go unused. NMFS could continue to conservatively manage the primary rockfish species allocations in the CGOA, knowing that if an adequate amount of the ICA is projected to go unharvested it could be reallocated to the cooperatives prior to the end of the RP fishing season. This authority is necessary to provide opportunity for harvest of the primary rockfish species CGOA TACs in some years, consistent with the goals and objectives of the Fishery Management Plan for Groundfish of the Gulf of Alaska Management Area

The suboption included at the December 2019 Council meeting would direct NMFS to prioritize the CV sector when considering who should receive the reallocation. Implementation of the suboption would provide direction to the Regional Administrator, but would not establish a requirement that all future reallocations are made to the CV sector. As a result, all else being equal[43], the CV sector would receive all or a majority of the reallocation if they have the capacity to harvest the fish before a reallocation is made to the CP sector.

The Regional Administrator would retain the authority to reallocate ICA to any sector based on need and available capacity. NMFS inseason management staff will consider whether vessels will fish the reallocation and the amount of CQ that has been harvested. These reallocations are both art and science that rely on communication with the fishing fleets and institutional knowledge of how the fishery is prosecuted. After determining the amount of fish that can be reallocated and when the reallocation should be made, NMFS will publish a Federal Register notice to announce the amount a timing of the reallocations. Both the amount of the reallocation and the timing of the reallocation would be at the discretion of the Alaska Regional Administrator. If it is determined that sufficient ICA is not available, reallocations would not occur that year for that primary species.

3.7.11 Catcher Processor Cooperative Quota Transfers to CVs Ownership and Use Caps

Element 11: Clarify regulations regarding accounting for inseason use caps to specify that any transfer of unused rockfish ICA or CP CQ to CV cooperatives does not apply to CV ownership, cooperative use, harvester CQ, or shoreside processor CQ use caps.

The question being raised was the intent of the Council correctly applied when calculating CV sector use caps. Specifically, do the CV sector use and ownership caps include fish transferred from the CP sector to a CV cooperative? For example, if a vessel is close to the vessel use cap but acquires an amount of CQ from the CP cooperative that would result in the vessel harvesting an amount that is greater than 8 percent of CV sector CQ. Does the CP CQ fish count towards the cap since the 8 percent cap is calculated as 8 percent of the CQ primary rockfish species CQ issued to CV sector? The same question applies to the 30 percent processing cap. In both cases, the regulatory text states that the use caps are based on "CQ initially issued" to the CV sector. Processors may not receive or process more than 30 percent of the CQ issued to the CV sector (rockfish primary species, Pacific cod, and sablefish), as described in 50 CFR 679.82(a)(2)(i) and (a)(3). Because CQ derived from CP QS is not subject to the CV sector use caps, processors could potentially use that CQ to process an amount of RP CQ that is greater than 30 percent of the CV sector allocation of the applicable CQ. A possible solution could be that any transfer of CP CQ to CV cooperatives does not apply to any of the CV sector ownership or use caps described in the following paragraph.

Regulatory text from 50 CFR 679.82(a) states that a person may not own more than 4.0 percent of the aggregate rockfish QS initially assigned to the CV sector and resulting CQ unless that eligible rockfish harvester qualifies for an exemption to this use cap; a CV may not be used to harvest more than 8.0

[43] Including the amount of primary species the sector has harvested either over or under their allocation and the expected relative effort that will be in the fishery after the reallocation is made.

percent of the CV sector initial allocation; a rockfish cooperative may not hold or use an amount of rockfish QS that is greater than the amount derived from 30.0 percent of the aggregate rockfish QS initially assigned to the CV sector unless the cooperative was grandfathered into the program at a greater amount; an inshore rockfish processor may not receive or process more than 30% CQ issued to the catcher vessel sector (rockfish primary species, Pacific cod, and sablefish). All of the above limits would be calculated based on QS/CQ initially assigned to the CV sector. Person may be grandfathered in above the caps based on their catch/processing during the qualifying period.

Because NMFS has not interpreted the regulations as applying to only CV QS/CQ implementing the regulations could allow some members of the inshore sector to increase the amount of total QS/CQ they hold or use. This would be most beneficial to members of the CV sector that have access to CP QS/CQ and are at or closely approaching the caps.

3.7.12 Change Cooperative Checking from 48 hours to 24 hours in Advance of Fishing

Element 12. Modify cooperative check-in notice times from 48 to 24 hours

Rockfish cooperative CVs are required to check-in to their cooperative at least 48 hours prior to the time the CV begins a fishing trip to fish under a CQ permit. The requirement to check-in to the program is necessary for NMFS to be able to correctly account for landings associated with vessels that are members of a cooperative during specific times of the year. The online application process is completed by the authorized representative of the vessel logging into eFISH, completing, and submitting the required report. Because the process is a function of eFISH the time lag to submit the report and change the management program code associated with the vessel does not require 48 hours and could be accomplished well within the proposed 24 hour notification requirement.

Industry mentioned in a 2015 Paperwork Reduction Act comment that a 24 hour check-in is sufficient. Staff agrees because the check-in is conducted on-line, without the need to receive, input, and file paper check-in applications. The two day wait time is sometimes inconvenient for cooperative CVs. These regulations are found at 50 CFR 679.5 (r)(8)(i)(A).

Reducing the time required for a CV to check-in to a RP shoreside cooperative could reduce the down-time if the plans for the vessel change. This would likely have the greatest impact on CVs that are already fishing in the CGOA or WGOA as opposed to vessels transiting from the BSAI, but both classes of vessels could be impacted. The cost would be equal to the opportunity cost of fishing in the RP for a day versus the next best alternative for the vessel that day they are prohibited from fishing in the RP. Opportunity cost will vary by vessel depending on the fishing or tendering choices available.

This element would only modify the timing of when this report is submitted to NMFS, and would not modify the information submitted. This requirement was implemented to support catch accounting as well as the enforcement of monitoring requirements for the RPP in 2007. The catch accounting system no longer relies on these check-in reports to ensure accurate accounting of Rockfish Program catch and therefore would not be affected if the timing were changed from 48 hours to 24 hours prior to the start of a fishing trip. Changing the timing of catcher vessel check-ins could impact other monitoring and enforcement provisions. Under the Rockfish Program, catcher vessels are in the full observer coverage category and are required to carry an observer 100 percent of the time and vessels owners or operators are responsible to contract directly with permitted observer providers for observer coverage needs. Trawl catcher vessels operating in the non-Rockfish Program fisheries of the Gulf of Alaska are otherwise in the partial coverage category of the Observer Program where observers are randomly deployed on selected trips by the NMFS contracted observer provider and they are in the full coverage category when participating in the Rockfish Program.

Observer Providers that deploy observers in the full coverage category on Rockfish Program catcher vessels receive notification when a check-in report is submitted. This notification is an indication that an observer may be needed for deployment on a Rockfish Program trip and triggers the observer providers to contact the vessel and start staging observers in locations where they would be ready for deployment when needed. In this regard, the timing of these check-in reports assists with timely coordination between observer providers and vessels and helps with observer logistics planning and deployment. Under this element, the timing of this notification would be reduced from 48 hours to 24 hours prior to the start of a fishing trip and would reduce the amount of advance notice that an observer provider may have to stage observers and get them ready to the port of embarkation. Observer providers are informed through other communication channels.

To deploy an observer, observer providers must plan in advance register observers for training or briefings and arrange travel logistics from Seattle or Anchorage to the port of embarkation (usually Kodiak, AK). This results in Observers Providers needing to plan for observer deployment weeks in advance to have observers staged and ready to deploy when needed. For these reasons, reducing the check-in time from 48 to 24 hours advance notice could affect coordination between vessels and observer providers and potentially negatively affect observer deployment logistics planning which could increase vessel wait time if an observer is unavailable for deployment at the specified time the vessel intends to begin a Rockfish Program fishing trip.

3.7.13 Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries

Element 13: Remove CP rockfish program sideboard limits in the WGOA rockfish fisheries in § 679.82(e)(4).

Element 13 would remove the CP RP sideboard limits established for the WGOA rockfish fisheries. CPs that fish in the RP are subject to both RP sideboards and Amendment 80 sideboards that limit their harvest in the WGOA fisheries. The RP sideboard limits apply during the month of July; Amendment 80 sideboard limits are applied on an annual basis. RP CP sideboard limits for the WGOA are reported at §679.82(e). WGOA sideboard limits established under Amendment 80 are reported at 50 CFR 679 Table 37. Those limits are expressed as a percentage of the WGOA TAC and reported in Table 3-27.

Table 3-27 RP and Amendment 80 sideboard limits applied to CPs in the WGOA

Species	Amendment 80 (annual)	RP (July)
POP	99.4%	50.6%
Dusky Rockfish	76.4%	72.3%
Northern Rockfish	100.0%	74.3%

Source: 50 CFR 679

Based on the Amendment 80 sideboard limits, the CP sector may essentially harvest all of the POP and northern rockfish WGOA TAC on an annual basis and over 75 percent of the dusky rockfish TAC. The RP sideboard limits ensure that the only about half of the POP TAC may be taken during July by the RP CPs and about 75 percent of the available northern rockfish TAC and dusky rockfish TAC may be taken by RP CPs during July[44]. The dusky rockfish sideboard limit established for the Amendment 80 and RP LAPPs are about equal, which means the CP sector may currently harvest almost all of the dusky sideboard in July. Because the sector may harvest almost all of their annual limit in July, eliminating the RP sideboard would have a minimal impact on that fishery. Dusky rockfish is also the species most likely to be harvested by longline or pot vessels. The other two rockfish species have been almost exclusively

[44] Amendment 80 CPs that are not in the RP could still catch all the Amendment 80 rockfish sideboard limit in July.

harvested by the trawl CPs, as shown by the Amendment 80 sideboard limits that were established based on catch history during the Amendment 80 qualifying years (1998 through 2004).

Table 3-28 indicates that CPs have continued to harvest the majority of their WGOA rockfish species during July while the RP has been in place. Catch in other months is more sporadic with August, followed by October having the next highest catches.

Table 3-28 CP catch of rockfish species in the WGOA by species, year, and month

Species/month	2012	2013	2014	2015	2016	2017	2018	Total
POP Total	**840**	**60**	**1,101**	**828**	**1,030**	**1,124**	**2,487**	**7,470**
Jan-Jun	1	15	2	5	33	5	1	62
Jul	838	45		617	966	185	1,522	4,172
Aug			1	193	32	852	660	1,737
Sep				14			303	317
Oct			982			82		1,065
Nov		0	116	0				116
Dusky Total	**122**	**74**	**77**	**96**	**53**	**41**	**39**	**503**
Jan-Jun	1	0	0	0	0	0	0	1
Jul	121	74		50	53	2	23	324
Aug				43	0	39	4	86
Sep				2			12	15
Oct			69			1		69
Nov			8					8
Northern Total	**519**	**729**	**354**	**624**	**49**	**103**	**265**	**2,644**
Jan-Jun	9	4	4	2	1	4	0	24
Jul	510	725		334	48	0	105	1,722
Aug				269		99	92	460
Sep				19			68	87
Oct			288			0		288
Nov			63					63

Northern rockfish and POP are almost exclusively harvested by trawl gear and so the proposed action has a very limited impact on longline and pot gear participants. For example, during 2019 less than 0.2 percent of the catch of the three primary rockfish species was made by these gear types. Similar trends are seen in other years during the RP.

From 2012 through 2018 the trawl CP sector harvested between 98.7 percent and 99.95 percent of each of the three primary species, on average. Sideboard provisions for the trawl CVs prohibit directed fishing in the Western GOA for northern rockfish, Pacific ocean perch, and dusky rockfish from July 1 through July 31, see § 679.2082(d). The participation in the WGOA rockfish fisheries by trawl CVs is very limited and there was no reported activity by the trawl CVs in July from 2012 through 2018.[45] Based on those levels of harvest, removing the RP sideboard limits is expected not to have an impact on the trawl CV sector in the WGOA rockfish fisheries. Removing the RP CP sideboard limits will remove some of the protection of these limits, but no trawl CVs have been participating in these WGOA rockfish fisheries.

The NMFS inseason management report for the GOA presented at the December 2019 Council meeting (Table 18) shows the WGOA rockfish catch by trawl vessels.[46] Information presented in that table shows the number of trawl vessels that participated in these fisheries from 2012 through 2019. During 2012 a

[45] Participation that was reported took place from August through October.
[46] Only two of the 19 total vessels were CVs over the 2012 through 2019 period.

total of 15 trawl vessels participated. By 2014 the number had declined to 5 vessels, and ranged between 5 and 8 vessels from then through 2019.

3.7.14 Remove the 3-day stand down for CVs that move from the BSAI to the GOA if they check into the RP and fish in the CGOA RP

Element 14: Modify regulations at § 679.23(h)(1) by removing the 3-day stand down for CVs that fish for groundfish in the BSAI while pollock or Pacific cod is open to directed fishing in the BSAI from the GOA stand down if they check into the RP and fish in the CGOA RP.

Stand down regulations are implemented to slow the flow of effort moving from the BSAI into the GOA to help protect participants that primarily operated in the GOA by reducing competition on the fishing grounds and extending the season length. Removing the 3-day stand down would allow vessels to enter the CGOA rockfish fishery immediately since additional protections are not needed in a LAPP program.

Regulations implemented at § 679.23(h)(1) state that the owner or operator of a trawl CV fishing for groundfish in the BSAI while pollock or Pacific cod are open to directed fishing in the BSAI are prohibited from deploying trawl gear in the WGOA and CGOA until the third day after the landing or transfer of all groundfish on board the vessel harvested in the BSAI. CVs that operate in the offshore component of the GOA Pacific cod fishery are exempt from the three-day stand down.

Conversely, regulations at § 679.23(h)(3) state that CVs fishing in the CGOA while pollock or inshore Pacific cod is open to directed fishing in the CGOA must stand down for two days after the date of landing or transfer of all groundfish on board the vessel harvested in the CGOA when moving to the BSAI, unless they are going to participate in a CDQ fishery. Because the CDQ fishery provides exclusive harvest privileges policymakers determined that the two-day stand-down was unnecessary. The same logic could be applied to the three-day stand down for CVs moving from the BSAI to the CGOA RP.

Based on 2018 data there were three CVs in the fleet that fished in the BSAI one week and entered the RP the following week. Two of these CVs were Kodiak based vessels and the third was an Oregon based vessel. The Oregon based vessel changed areas in the fall while the two Kodiak vessels changed areas around the start of the RP.

Sixteen vessels moved from the BSAI to the CGOA and fished either the same week or the next week in a non-RP CGOA trawl fishery. These vessels would not be affected under the proposed change in stand down regulations unless they had RP allocations and checked into the RP immediately after their transit from the BSAI. They could then move to the non-RP fisheries immediately if they check out of the RP. If it is a concern that vessels would check in to the RP and quickly check out to avoid the three-day stand down, any proposed regulations could state that the three-day stand down remains in place for WGOA and CGOA non-RP fisheries regardless of whether the vessel participated in the RP after leaving the BSAI.

3.8 Management and Enforcement Considerations

3.8.1 Enforcement

The primary role of the USCG includes safety, prevention, and response. The USCG conducts mandatory commercial fishing vessel safety examinations and at-sea safety boardings. The USCG leads search and rescue efforts when situations occur.

NOAA Office for Law Enforcement (OLE), with assistance from NOAA SF and RAM, enforce the regulations that govern allocation of the RP. These NOAA agencies monitor and enforce allocations and other elements of the program.

OLE has created a partnership with the State of Alaska Department of Public Safety through a Joint Enforcement Agreement (JEA). The JEA provides a mechanism for state enforcement personnel to assist OLE in enforcing federal fishing regulations.

Relative to other fisheries and relative to the pre-RPP, the RP fishery generally operates smoothly with very few compliance issues. The most common violations have been failure to check-in/out and bycatch overages. The number of violations has decreased as participants have become more familiar with new requirements. The CV participants host a pre-season meeting to review regulations; this and other outreach and education efforts with the cooperatives improves compliance and reduces inadvertent violations.

3.8.2 Additional Regulatory Changes

NMFS recommends the following changes to regulations governing the Rockfish Program to improve clarity of the Pacific cod season dates and correct references to allocated rockfish species. These changes improve the clarity of existing regulations and do not substantively change the existing management structure of the Rockfish Program.

3.8.2.1 Pacific Cod Season Dates

NMFS has not identified any major concerns with management of the RP. However, one of the issues that was brought to the Council for consideration but was rejected (See Section 1.10) would have required NMFS to modify regulations. NMFS requested that the Council consider closing the RP Pacific cod fishery on November 1. Changing the closing date from November 15th to November 1st would have been consistent with other GOA Pacific cod seasons and Steller sea lion (SSL) protection measures. Because this change was not recommended by the Council, NMFS proposes to modify regulations at 50 CFR 679 as follows.

There are conflicting season dates for when directed fishing for Pacific cod is authorized in the Western and Central Gulf of Alaska regulatory areas. Regulations at 50 CFR 679.24(d)(3) specify that directed fishing for Pacific cod with trawl gear in the Western and Central Regulatory Areas is authorized in the B season only until 1200 A.l.t., November 1 each year. Regulations at 50 CFR 679.80(a)(3)(ii) specify that fishing by vessels participating in a rockfish cooperative is authorized from 1200 hours, A.l.t., May 1 through 1200 hours, A.l.t., November 15. Because Pacific cod is an allocated species under the Rockfish Program, this creates conflicting season dates for when directed fishing for Pacific cod is authorized. To clarify this, NMFS proposes to modify regulations at 50 CFR 679.24 to reference the specific season dates authorized under the Rockfish Program.

3.8.2.2 Correct References to Rockfish Species

NMFS is recommending administrative changes to references in both the GOA FMP and regulations. The revisions are to update references to pelagic shelf rockfish and replace them with dusky rockfish. This reflects a change in 2012 and does not materially impact the Rockfish Program. Pelagic shelf rockfish had included dusky rockfish, dark rockfish, yellowtail rockfish, and widow rockfish. Yellowtail, dark, and widow rockfish make up a very small proportion of the biomass and starting in 2012 a separate TAC was set for dusky rockfish and that species was allocated as primary species in the Rockfish Program.

These revisions would not materially alter the Rockfish Program requirements. The benefit associated with this administrative change would be to reduce any possible confusion about references to pelagic rockfish when the regulations or the FMP should refer to dusky rockfish.

3.9 Affected Small Entities (Regulatory Flexibility Act Considerations)

Section 603 of the Regulatory Flexibility Act (RFA) requires that an initial regulatory flexibility analysis (IRFA) be prepared to identify if a proposed action will result in a disproportionate and/ or significant adverse economic impact on the directly regulated small entities, and to consider any alternatives that would lessen this adverse economic impact to those small entities. NMFS Alaska Region will prepare the IRFA in the classification section of the proposed rule for an action and a separate IRFA is not necessary for Council final actions on the issue. This section will provide information that NMFS will use in preparing the IRFA for this action, namely a description and estimate of the number of small, directly regulated entities to which the proposed action will apply.

The proposed action would reauthorize the Rockfish Program and remove the sunset date. The Council has identified a preferred alternative and this action alternative would impact small entities.

Identification of Directly Regulated Entities

Entities that might be directly regulated by this action include owners of catcher vessels and catcher processors that are eligible to fish in the Rockfish Program.

Count of Small, Directly Regulated Entities

Under the RFA, businesses that are classified as primarily engaged in commercial fishing are considered small entities if they have combined annual gross receipts not in excess of $11.0 million for all affiliated operations worldwide, regardless of the type of fishing operation (81 FR 4469; January 26, 2016). If a vessel has a known affiliation with other vessels – through a business ownership or through a cooperative – these thresholds are measured against the small entity threshold based on the total gross revenues of all affiliated vessels. **As of 2018, there were 52 active vessels participating in the Rockfish Program of which 11 CVs are considered small entities because the aggregate ex-vessel value of deliveries of all vessels in the cooperative were less than $11.0 million.** The 52 vessels were comprised of 9 catcher processors and 43 catcher vessels. There were also 6 vessels not active in 2018 that were included in the program, 3 catcher processors and 3 catcher vessels. **None of the CPs are classified as small entities because of their affiliation with the Amendment 80 cooperative exceeding the $11 million first wholesale value threshold.** The vessels that were not active in harvesting RP CQ species are able to lease or allow another vessel owned by the same firm to harvest their CQ within their cooperative. In the CP sector there is currently only one cooperative and all of the firms that hold LLP licenses with CQ have at least one vessel that is active the RP. As a result, the firms can increase operational efficiency by harvesting all their CQ on a single vessel. Firms that own CVs that are assigned to cooperatives could fish the CQ themselves or lease the CQ to other cooperative members. Given the number of vessels participating in the CGOA rockfish fishery has not varied much over time, minimal leasing of all an LLP license holder's CQ appears to have taken place.

Because RP is assigned to LLP licenses and LLP licenses are transferable, this section describes the entities that hold LLP licenses with a CGOA trawl endorsement by the type of LLP license and whether RP quota is assigned to the LLP license. A summary of the 118 LLP license with a CGOA trawl endorsement is presented in Table 3-29.

Table 3-29 Summary of the LLP licenses that have a CGOA trawl endorsement

LLP License	LLP License Type		
	C/P	CV	Total
No RP Quota	9	52	61
CP RP quota	11		11

CV RP quota	1	45	46
Total	21	97	118

A total of 61 LLP licenses do not have either CV or C/P RP quota assigned to them. All nine C/P LLP licenses are associated with either the AFA or Amendment 80 programs. As a result, none of the firms that hold those LLP licenses are considered a small entity. Thirteen of the 52 CV LLP licenses that are not assigned CGOA RP quota are derived from AFA vessels and through their affiliation with AFA cooperatives are not considered small entities. The remaining 39 CV LLP licenses that do not qualify are held by 36 different firms. Twenty-nine of the firms hold a single LLP license that cannot be used on a vessel with a MLOA of more than 59 feet. One firm holds three LLP licenses, two of which are endorsed with an MLOA of 59 feet. Why each of these LLP license did not qualify for the RP is not known with certainty, because those data are not available because qualifying for the RPP took place about 20 years ago. However, the vessels associated with these LLP licenses are limit seiners that traditionally prioritize salmon fishing over rockfish and during July are either gearing up to participate in the salmon fishery or already fishing. They would be expected to continue this pattern even if they were allowed to harvest CGOA rockfish under the No Action alternative[47]. The four of the eight CV LLP licenses that have a MLOA of more than 59 feet are either owned by an Amendment 80 firm, a firm that holds other LLP licenses that qualify for the RP, or a firm that participates in the Crab Rationalization program. The remaining four LLP licenses endorsed for vessels greater than 59 feet did not participate in the CGOA over the past 10-years and it is not possible to project whether they would participate in the future.

In summary, there appears to be 69 firms that hold CV LLP licenses with a CGOA trawl endorsement. Eleven of those firms also hold RP quota and are considered a small entity because their aggregate ex-vessel value of all landings by affiliated vessels during 2018 was less than $11 million. Thirty-five firms did not qualify for CV RP quota that are considered small entities. All but four of those firms are likely to prioritize fishing in the salmon fishery over the CGOA July rockfish fishery. The remaining four small entities have not participated in the CGOA rockfish fishery over the past 13 plus years. It is unknown if they would benefit from the No Action alternative, but none of them testified that they opposed the RP.

Impacts to Small, Directly Regulated Entities

The alternatives are fully described and analyzed in the RIR and EA. Based upon the best available scientific data, and consideration of the objectives of this action, it appears that there are no alternatives to the proposed action that have the potential to accomplish the stated objectives of the Magnuson-Stevens Act and any other applicable statutes and that have the potential to minimize any significant adverse economic impact of the proposed rule on small entities.

Reauthorizing the RP is expected to continue to provide benefits to small entities participating in the GOA RP. This action is not expected to have more than a *de minimus* effect on the recordkeeping and reporting requirements of small entities participating in the RP.

3.10 Summation of the Alternatives with Respect to Net Benefit to the Nation

The greatest change in net benefits to the Nation is driven by the Council's decision to select Alternative 2, Element 1 over the No Action alternative. This action is different from most actions the Council considers because the No Action alternative will result in greater impacts to the structure of the fishery

[47] Only one LLP license with a MLOA of 59 feet or less qualified for RP quota and is likely due to the conflict with the July salmon fishery.

than selecting the action alternative. The No Action alternative will result in the CGOA rockfish fishery returning to a limited access fishery under the LLP. Alternative 2 would result in the current management structure, in general, being extended.

Under the No Action alternative vessels would compete to harvest a share of the CGOA rockfish fisheries that are opened to directed fishing. This is expected to result in higher costs of production since participants cannot implement production efficiencies. Section 3.5.1.1 shows that under the No Action Alternative stakeholders may expect lower value for both harvesters and first processors of the harvested fish. Reductions in producer surplus will generate lower net benefits to the Nation. Producer surplus is expected to remain about the same if Alternative 2 is selected. Vessels and processors have been operating under the RP or the RPP for about 15-years. Over that period they have developed working relationships that has allowed the fleet to work together within its cooperative and with its associated processor. That cooperation and the Kodiak delivery requirement has allowed both to generate production efficiencies through scaling the production assets to the level of harvesting and processing (Section 3.5.3). They have also been able to adjust the timing of the fishery overall to allow both harvesters and processors utilize their assets more effectively. Both were able utilize the CGOA rockfish fishery during a time of the year (May and early June) when other opportunities were limited (Section 3.5.6 and the SIA). This allowed harvesters and processors to take advantage of the pink salmon fishery, in terms of tendering and processing. Previously some vessels had to choose one fishery or the other. Processors had to have sufficient capacity to do both. This resulted in the use of less local labor and more reliance on temporary labor brought into Kodiak (Section 3.2.1 of the SIA). Given that Kodiak is dependent on a local work force that allowed more of the labor income to remain in the community and in the U.S.

Secondary processing of rockfish does take place for H&G and round first wholesale products. Secondary processing typically takes place outside the U.S. and has traditionally occurred in China where lower labor costs are available. Limited information is available on the destination of the fish after secondary processing. It is assumed that the majority of that product stays outside the U.S. but some unknown amount is reimported. Therefore, almost all net benefits to the Nation are expected to be captured at the ex-vessel and first wholesale levels.

Consumer surplus is realized for rockfish that stays in the U.S. economy. A higher quality product can result in greater consumer surplus. Product quality is directly related to the timing and handling of fish on the vessel and at the processor. Under Alternative 2 vessels can take shorter trips and handle the rockfish so there is less damage; this results in a fresher and higher quality fish delivered to the processor. Processors can work with their fleet to time deliveries so the fish is on the boat for less time and once at the plant is processed quickly, allowing a better product to be produced.

In summary, it is expected that Alternative 2 will result in greater net benefits to the Nation compared to Alternative 1. The increase in net benefits is a result of increases in both producer and consumer surplus described above.

4 Magnuson-Stevens Act and FMP Considerations

4.1 Magnuson-Stevens Act National Standards

Below are the 10 National Standards as contained in the Magnuson-Stevens Act, and a brief discussion of how the preferred alternative is consistent with the National Standards, where applicable. In recommending a preferred alternative, the Council considered how to balance these national standards.

National Standard 1 — *Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.*

The preferred alternative (Alternative 2) would maintain the existing management structure of the Rockfish Program by removing the duration of the management program and would make minor revisions to improve administrative provisions of the Rockfish Program. This action would not modify the current management system designed to prevent overfishing.

While the TACs for the RP fisheries remain unchanged (see Section 3.5.1), the Council's PA may allow scenarios where these TACs may be harvested more fully by authorizing NMFS to reallocate unharvested Pacific cod and rockfish under the RP. Continuation of the RP and providing NMFS the authority to reallocate unused Pacific cod and rockfish species will continue to prevent overfishing while achieving optimum yield on a continuing basis.

National Standard 2 — *Conservation and management measures shall be based upon the best scientific information available.*

The preferred alternative would not modify data collection or monitoring provisions of the RP. Catch and bycatch limits for species allocated under the RP will continue to be set using the information derived from the stock assessment process. This is the best scientific information available. Inseason management staff will continue to utilize the catch accounting system and observer data to ensure that the catch limits are not exceeded. These take a census of all groundfish catch and monitor bycatch through scientifically reviewed sampling procedures.

National Standard 3 — *To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.*

The preferred alternative would not modify the existing stock management structure. The rockfish, Pacific cod, sablefish, and PSC species allocated under this action will continued to be managed as single stocks throughout their range. This action will not change the amount of each species that may be harvested.

National Standard 4 — *Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be; (A) fair and equitable to all such fishermen, (B) reasonably calculated to promote conservation, and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.*

Under the preferred alternative, CQ would continue to be allocated to US citizens or permanent residences based on legal landings of allocated species during the qualifying period. No elements or options considered in this action would discriminate between residents of different states. The preferred alternative would maintain and enforce harvesting, processing, and use caps to ensure that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

National Standard 5 — *Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.*

The preferred alternative would maintain existing fish harvesting efficiencies under the RP and modify specific administrative provisions of the RP intended to improve operational efficiency. The RP establishes CQ allocations that allow stakeholders and groups of stakeholders to more efficiently utilize the CGOA resource relative to the limited access management that would go into place with no action. Efficiency is enhanced by allowing CQ holders to scale effort spatially and temporally to reduce costs and increase value. The program also allows participants to reduce bycatch and waste in the fishery. Administrative changes to improve harvest efficiency include those recommended under Elements 2, 3, 10, 12, 13, and 14 included in the preferred alternative (Section 1.9.2).

National Standard 6 — *Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.*

The preferred alternative would not modify existing measures to account for variations among, and contingencies in the allocated species and catches. Under all of the RP alternatives, changes in the availability of the rockfish fisheries resources each year would continue to be addressed through changes in annual allocations. These changes in allocations are used to ensure conservation of the resource in the future.

The RP takes into account the unique nature of the CGOA rockfish fishery in terms of it timing during the fishing year and value to the community of Kodiak. The RP allows the fishery to be prosecuted during a longer period of time and avoid conflicts with the salmon fisheries that take place during July.

National Standard 7 — *Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.*

The preferred alternative removed the sunset of the RP. Additional Elements included in the preferred alternative are designed to clarify and/or improve management of the RP and to minimize regulatory burden on industry stakeholders. These elements may reduce certain operational costs. None of the elements of the Council's preferred alternative would result in duplication of management measures and by removing the requirements for cooperatives to file a report with NMFS this would eliminate some duplication of effort by industry.

National Standard 8 — *Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of National Standard 2, in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.*

The preferred alternative maintains the existing management structure of the Rockfish Program. As described in Section 3.5.6 and the SIA, no issues were identified for the PA that would put the sustained participation of any fishing communities (i.e., those substantially engaged in or substantially dependent upon the CGOA rockfish trawl or longline fisheries) at risk.

Implementing the PA would not change the community protection measures built into the RP and previously found to be functioning as intended. The RP is likely to have continued beneficial impacts on fishing communities. As a result of the RP, it is generally understood that RP-dependent communities have enjoyed increased efficiency. Quality of rockfish landings and products has improved as participants in both harvesting and processing sectors have maximized production of harvest quota shares. Patterns of community participation in the CGOA rockfish fisheries are unlikely to change with implementation of

the PA. Kodiak has historically been home to processors that have processed almost all of the CGOA rockfish landings and under the PA, the RP Kodiak landings requirement would be maintained, helping provide predictability and stability in employment, income, and economic opportunities as well as in tax revenues accruing to the community.

National Standard 9 — *Conservation and management measures shall, to the extent practicable, (A) minimize bycatch, and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.*

The preferred alternative maintains the existing conservation and management measures of the Rockfish Program. This action is not expected to change bycatch levels or rates in the RP fisheries because the PA is not expected to change how the fishery is prosecuted relative to the current condition. Halibut discards are expected to remain lower than was realized prior to implementation of the RPP. Salmon bycatch is expected to continue to be variable by year depending on the conditions in the fishery. Bycatch in the CGOA is described in detail in Section 3.5.1.

National Standard 10 — *Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.*

The preferred alternative maintains the existing management structure of the Rockfish Program including the benefits to safety of human life at sea realized under the Rockfish Program. Section 3.5.9 describes the expected impacts on safety at sea that may result from the Council's PA. A number of stakeholders have indicated their belief that the proposed action could increase the operator's ability to promote safe decision-making. As the proposed action continues to allow increased operational flexibility to go fishing when crew are rested and the weather is better As always, increased flexibility should be paired with rational judgement about risks.

4.2 Section 303(a)(9) Fisheries Impact Statement

Section 303(a)(9) of the Magnuson-Stevens Act requires that a fishery impact statement be prepared for each FMP or FMP amendment. A fishery impact statement is required to assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for (a) participants in the fisheries and fishing communities affected by the plan amendment; (b) participants in the fisheries conducted in adjacent areas under the authority of another Council; and (c) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery.

The EA/RIR prepared for this plan amendment constitutes the fishery impact statement. The likely effects of the proposed action are analyzed and described throughout the EA/RIR. The effects on participants in the fishery are described:

- as a general overview in Section 3.5.1 and Section 3.7;
- for harvest vessels in Section 3.5.3 and Section 3.7;
- for shore-based processors in Section 3.5.5 and Section 3.7;
- for communities in Section 3.5.6 and the SIA; and
- for effects of the proposed action on safety of human life at sea in Section 3.5.9 , Section 3.7.1 and under National Standard 10, in Section 4.1.

Based on the information reported in this section, there is no need to update the Fishery Impact Statement included in the FMP.

The proposed action affects the groundfish fisheries in the EEZ off Alaska, which are under the jurisdiction of the North Pacific Fishery Management Council. Impacts on participants in fisheries conducted in adjacent areas under the jurisdiction of other Councils are not anticipated as a result of this action.

4.3 Council's Ecosystem Vision Statement

In February 2014, the Council adopted the following as Council Policy:

Ecosystem Approach for the North Pacific Fishery Management Council

Value Statement

The Gulf of Alaska, Bering Sea, and Aleutian Islands are some of the most biologically productive and unique marine ecosystems in the world, supporting globally significant populations of marine mammals, seabirds, fish, and shellfish. This region produces over half the nation's seafood and supports robust fishing communities, recreational fisheries, and a subsistence way of life. The Arctic ecosystem is a dynamic environment that is experiencing an unprecedented rate of loss of sea ice and other effects of climate change, resulting in elevated levels of risk and uncertainty. The North Pacific Fishery Management Council has an important stewardship responsibility for these resources, their productivity, and their sustainability for future generations.

Vision Statement

The Council envisions sustainable fisheries that provide benefits for harvesters, processors, recreational and subsistence users, and fishing communities, which (1) are maintained by healthy, productive, biodiverse, resilient marine ecosystems that support a range of services; (2) support robust populations of marine species at all trophic levels, including marine mammals and seabirds; and (3) are managed using a precautionary, transparent, and inclusive process that allows for analyses of tradeoffs, accounts for changing conditions, and mitigates threats.

Implementation Strategy

The Council intends that fishery management explicitly take into account environmental variability and uncertainty, changes and trends in climate and oceanographic conditions, fluctuations in productivity for managed species and associated ecosystem components, such as habitats and non-managed species, and relationships between marine species. Implementation will be responsive to changes in the ecosystem and our understanding of those dynamics, incorporate the best available science (including local and traditional knowledge), and engage scientists, managers, and the public.

The vision statement shall be given effect through all of the Council's work, including long-term planning initiatives, fishery management actions, and science planning to support ecosystem-based fishery management.

In considering this action, the Council is being consistent with its ecosystem approach policy. This action would maintain the tools available to foster responsible fishing activities, especially species harvested in the CGOA rockfish trawl fishery. This is directly supportive of the Council's intention to provide best tools that create incentives for the CGOA rockfish trawl vessel operators to fish in a manner that reduces bycatch, retains target species, and reduces habitat impacts associated ecosystem components.

5 Preparers and Persons Consulted

Preparers

Darrell Brannan (Brannan & Associates)
Mike Downs (Wislow Research Associates)
Michael Fey (AKFIN)
Stephanie Warpinski (NMFS AKR)
John Olson (NMFS)

Contributors

Sally Bibb (NMFS AKR)
Samantha Case (CDC/NIOSH/WSD)
Elizabeth Fitzgerald (CDC/NIOSH/WSD)
Mary Furuness (NMFS AKR)
Alicia M Miller (NMFS AKR)
Steve Whitney (NMFS AKR)

Persons Consulted

Julie Bonney (Alaska Groundfish Data Bank)
Stacey Hansen (Saltwater Inc.)
Katy McGauley (Alaska Groundfish Data Bank)
Patrick O'Donnell (Golden West Fisheries)
Christopher Oliver (Alaska Seafood Cooperative)

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7 Appendix 1: Social Impact Assessment (bound separately)

Appendix 1

Social Impact Assessment:
Central Gulf of Alaska Rockfish Program Reauthorization

Prepared for:

North Pacific Fishery Management Council

Prepared by:

Wislow Research Associates LLC
Mike Downs, Ph.D.
With contributions from
Darrell Brannan, Brannan & Associates
Michael Fey, PSFMC Staff

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Acronyms and Abbreviations

A80	Amendment 80 (used in tables only)
ADFG	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AK	Alaska (used in tables only)
AKFIN	Alaska Fisheries Information Network
BSAI	Bering Sea/Aleutian Islands
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFEC	Alaska Commercial Fisheries Entry Commission
CGOA	Central Gulf of Alaska
CP	catcher processor (used in tables only)
CV	catcher vessel (used in tables only)
EA	Environmental Assessment
EDR	Economic Data Report
EO	Executive Order
FFP	Federal Fisheries Permit
FMP	Fishery Management Plan
FR	Federal Register
GOA	Gulf of Alaska
ICA	Incidental Catch Allowance
IFQ	individual fishing quota
IPHC	International Pacific Halibut Commission
KIB	Kodiak Island Borough
KNI	Kodiak Near Island
LAPP	Limited Access Privilege Program
LLP	License Limitation Program
LOA	length overall (used in tables only)
ME	Maine (used in tables only)
MSA	Metropolitan Statistical Area
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
OR	Oregon (used in tables only)
PO	Post Office
PSC	prohibited species catch
RF	rockfish (used in tables only)
RIR	Regulatory Impact Review
RP	Rockfish Program (used in tables only)
RPP	Rockfish Pilot Program (used in tables only)
SBPR	Shore-Based Processor (used in tables only)
SIA	Social Impact Assessment
TAC	total allowable catch
WA	Washington (used in tables only)

Executive Summary

Among communities substantially engaged in and/or substantially dependent on the Central Gulf of Alaska (CGOA) rockfish fisheries managed under the Rockfish Program, Kodiak is the most centrally engaged in and dependent on the fishery as measured by multiple indices across multiple sectors of the fishery. Kodiak has experienced beneficial impacts across harvester, processor, and support services sectors because of the implementation of the Rockfish Program, relative to the pre-Rockfish Pilot Program conditions, and has specifically benefitted from several community protection measures built into the program. Although not all individual operations have benefitted equally from the change in qualifying years between the Rockfish Pilot Program and the Rockfish Program, and therefore changes in the pattern of initial quota share allocations under the two programs, no substantial adverse sector-level or community-level impacts resulting from the implementation of the Rockfish Program have been identified for the community of Kodiak.

During the Rockfish Program years compared to the Rockfish Pilot Program years, Kodiak has experienced increases in annual average resident-owned trawl catcher vessel participation; resident ownership of relevant License Limitation Program (LLP) licenses; and resident ownership of catcher vessel quota shares for Northern rockfish, Pacific ocean perch, and pelagic shelf/dusky rockfish. All three catcher vessels that qualified for an initial allocation of quota under the Rockfish Program based on their participation in the entry level trawl fishery were either Kodiak resident-owned at the time of that allocation or have become so in more recent years.

Given that the number of Kodiak resident-owned catcher vessels in the CGOA rockfish trawl fishery has increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings of those vessels has also increased under the Rockfish Program, it is assumed that the number of crew positions and potentially payments to crew have similarly varied during this time. However, publicly available quantitative data do not currently exist to verify this assumption or, if the assumption is correct, quantify these changes. The impacts of quota leasing costs or program-associated vessel operating costs (such as cost recovery fees and co-op fees), if any, on crew compensation is unknown, as are the impacts on crew employment, if any, of the increased number of CGOA rockfish trawl fishing days per season. Similarly, the impacts of the reduction of vessel operating costs that may have been achieved because of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs), if any, on crew compensation are unknown.

Kodiak did experience the consolidation (by two) of shore-based processors that regularly accepted trawl-caught deliveries of CGOA rockfish during the Rockfish Program years. However, at the transition from the Rockfish Pilot Program to the Rockfish Program, it experienced an increase (by two) of shore-based processors that were affiliated with rockfish cooperatives. While the transition from the limited access fishery to the Rockfish Pilot Program and then to the Rockfish Program was generally beneficial for Kodiak shore-based processing plants, specific outcomes varied between processors operating in the community due to different processing histories accrued during the different sets of qualifying years used for initial allocations under the two programs.

No systematically collected data on Kodiak fishery support service businesses in general or those linked to the CGOA rockfish fishery specifically are available. However, the number of locally owned rockfish trawl vessels increased, Kodiak became the exclusive port of landings for all CGOA trawl-caught rockfish catcher vessel landings, the number of processors affiliated with rockfish cooperatives increased, and gross revenues accruing to both harvesting and processing sectors increased under the Rockfish Program. These increases have likely been accompanied by increased local spending by vessel owners, vessel crews, and processing workers, significant numbers of whom are Kodiak residents, but the level of impact on the local purchase of goods and services is unknown. The percentage of CGOA rockfish

fishery landings related-revenues subject to taxes that directly benefit the city of Kodiak (and the Kodiak Island Borough) remain modest compared to several other fisheries. However, the percent attributable to the rockfish fishery has increased under the Rockfish Program compared to other years. Further, the community protection feature of the Rockfish Program that ensures CGOA rockfish trawl catcher vessel landings will occur in Kodiak also builds an additional measure of stability into the public revenue stream compared to previous conditions. Under the Rockfish Program, attachment of catch history to the LLP license and making it non-severable from the LLP license has served to limit license consolidation and ownership and use caps have served to limit vessel and processor consolidation.

In addition to Kodiak, another 25 Alaska communities were directly engaged in the CGOA rockfish federal open access rockfish longline and/or CGOA rockfish trawl fisheries 2003-2018 as measured by a variety of indices. These indices include: catcher vessels with local ownership addresses participating in CGOA rockfish longline entry level fishery in the hook-and-line or jig sectors; local operation of at least one shore-based processor that accepted longline-caught deliveries of CGOA rockfish; CGOA rockfish trawl catcher vessel LLP licenses with local ownership addresses; participation of CGOA rockfish trawl catcher processors with local ownership addresses; local operation of at least one shore-based processor that accepted trawl-caught caught deliveries of CGOA rockfish in any year 2003-2018; and/or residents who served as crew members aboard CGOA rockfish trawl catcher vessels and/or trawl catcher processors in 2015-2018 (the only years for which these data are available). Based on existing/available data, none of these communities would typically be considered to have been substantially engaged in and/or substantially dependent upon the CGOA rockfish fishery at the time of the implementation of the Rockfish Program, but levels of engagement and dependency varied in earlier years and time series data on crew employment is not available for any years before 2015. No adverse community-level impacts attributable to the Rockfish Program have been identified for any of these communities, but formulating a causal explanation of the discontinuation of direct participation of catcher vessels with ownership addresses in multiple small communities in the CGOA rockfish longline entry level fishery would require additional focused research.

The greater Seattle area (as represented by the Seattle-Tacoma-Bellevue Metropolitan Statistical Area or the "Seattle MSA") was substantially engaged in the CGOA rockfish trawl fishery in several ways over the period 2003-2018. While changes have occurred in several sectors, no community-level impacts resulting from the implementation of the Rockfish Program have been identified. Similarly, Lincoln County, Oregon was identified as substantially engaged in the CGOA rockfish trawl fishery through catcher vessel ownership and, while changes have occurred during the Rockfish Program years, no community-level impacts resulting from the implementation of the Rockfish Program have been identified.

In general terms, the community and social impacts resulting from Alternative 1 (the No Action alternative) would result from a reversion of the management of the CGOA rockfish fishery to pre-Rockfish Pilot Program ("race for fish") conditions, reversing the beneficial community impacts that have resulted from implementation of the Rockfish Program. Community level social impacts resulting from Alternative 2 (Reauthorize the Rockfish Program) would be broadly beneficial and would parallel the impacts described as associated with the implementation of the Rockfish Program.

No issues identified for the Preferred Alternative would put the sustained participation of any fishing communities (i.e., those communities substantially engaged in or substantially dependent upon the CGOA rockfish trawl or longline fisheries) at risk.

1 Overview

This section provides a brief summary of the background of the proposed action and of the social impact assessment (SIA). Discussions of the regulatory context, which guided the development of this SIA, and the methodology utilized in the analysis are also included in this section.

1.1 Background of the Proposed Action

The Central Gulf of Alaska (CGOA) Rockfish Program (Rockfish Program) was implemented on December 27, 2011. The Rockfish Program allocates exclusive harvest privileges to specific License Limitation Program (LLP) license holders who used trawl gear to target Pacific Ocean perch, Northern rockfish, and dusky[1] rockfish in the CGOA. The Rockfish Program was developed to replace the Rockfish Pilot Program that was implemented on November 20, 2006 and expired on December 31, 2011. The Rockfish Program is authorized for 10 years from January 1, 2012, until December 31, 2021. If the North Pacific Fishery Management Council (NPFMC or Council) does not take positive action recommending continuation of the Rockfish Program management of the CGOA rockfish fisheries will revert to the LLP license management structure.

The Council adopted the following problem statement to originate the current proposed action in December 2018.

> *The Central Gulf of Alaska Rockfish Program (Rockfish Program) will sunset on December 31, 2021 and the Council must act if it intends to reauthorize the Rockfish Program. The purpose of this action is to reauthorize the Rockfish Program to retain the management, economic, safety, and conservation gains realized under the Rockfish Program to the extent practicable, consistent with the Magnuson-Stevens Act.*
>
> *For both the onshore and offshore sectors, the Rockfish Program has improved safety at sea, controlled fleet capacity, enhanced NMFS' ability to conserve and manage species allocated under the Rockfish Program, increased vessel accountability, reduced sea floor contact, allowed full retention of allocated species, and reduced halibut and Chinook salmon bycatch. In addition, the rockfish fishery dependent communities in the Central Gulf of Alaska and the onshore processing sector have benefited from a more stable workforce, more onshore deliveries of rockfish, improved rockfish quality, and increased diversity of rockfish products. Central Gulf of Alaska fishermen, and the onshore processing sector have benefited from reduced conflicts with salmon processing. The offshore sector has benefited from greater spatial and temporal flexibility in prosecuting the fishery, resulting in lower bycatch, a more rational distribution of effort, and more stable markets.*
>
> *The Council must act to continue the management, economic, safety, and conservation gains realized under the Rockfish Program. Otherwise, fisheries managed under the Rockfish Program will revert to effort-control management under the License Limitation Program (LLP).*

[1] Pelagic shelf rockfish, which included dusky rockfish, yellowtail rockfish, dark rockfish, and widow rockfish, was used as a primary species category for allocation under the Rockfish Pilot Program. Yellowtail, dark, and widow rockfish make up a very small proportion of the biomass and starting in 2012 a separate Total Allowable Catch (TAC) was set for dusky rockfish and that species was allocated as primary species in the Rockfish Program.

1.2 Background of the Social Impact Assessment

This SIA is not a stand-alone document. As noted below, it is presented as an appendix to the Environmental Assessment/Regulatory Impact Review (EA/RIR) of the proposed action alternatives and it builds directly upon several earlier analyses of social and community impacts of the Rockfish Program that have already been through the Council process. This SIA incorporates those earlier analyses by reference.

1.2.1 Relationship to the Environmental Assessment/Regulatory Impact Review and the Alternatives Analyzed Therein

In concert with NFPMC staff, National Marine Fisheries Service (NMFS) staff, and other contractors, this SIA was developed to evaluate the community and social impacts of the CGOA Rockfish Program Reauthorization. The primary findings of this SIA summarized in Section 3.5.6 of the EA/RIR; the SIA provides the detailed information to support those findings.

The EA/RIR is broader in scope than this SIA, as it provides assessments of the environmental impacts of a proposed action and its reasonable alternatives (the EA), the benefits and costs of the alternatives, the distribution of impacts, and identification of the small entities that may be affected by the alternatives (the RIR). An EA/RIR is a standard document produced by the Council and the NMFS Alaska Region to provide the analytical background for decision-making. The SIA supports that broader analysis with information specific to the social and community dimensions required in both an EA and RIR effort. The two alternatives described and analyzed in the EA/RIR are the same alternatives that underpin the analysis in this SIA: Alternative 1 (No Action) and Alternative 2 (Reauthorize Rockfish Program). The details of the alternatives themselves are available in the EA/RIR and are not recapitulated in this SIA.

1.2.2 Relationship to Earlier Social/Community Assessments of the Rockfish Program

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires a formal and detailed review of Limited Access Privilege Programs (LAPP) 5-years after implementation of the program. Recognizing that the Rockfish Program is a LAPP and that program had been in place for 5-years, a detailed review of the Rockfish Program was completed in 2017 and included a comprehensive SIA (Northern Economics 2017) to provide the information for the section of the review related to community impacts. The data contained in that SIA was typically categorized into the following three periods:

- 2003 through 2006 (pre-Rockfish Pilot Program)
- 2007 through 2011 (Rockfish Pilot Program)
- 2012 through 2016 (Rockfish Program)

This SIA, providing the information to support the analysis of both Alternative 1 and Alternative 2, builds most directly on the 2017 Rockfish Program Review SIA as supplemented with an additional two years of quantitative fisheries data (2017 and 2018, the most recent years for which data are available). Given that Alternative 1 is assumed to involve a reversion to the type of management of the fishery that was in place before the implementation of either the Rockfish Pilot Program or the Rockfish Program, quantitative data presentations in this SIA typically follow the same template used in the 2017 SIA so that trends can be seen for the different management eras.

The analysis is largely focused on the community of Kodiak, Alaska, because the program featured several Kodiak-specific community protection measures in recognition of history of engagement of Kodiak in the CGOA rockfish fishery, including one that specifies that all catcher vessel deliveries of CGOA Rockfish Program quota must be made in Kodiak. Some of the issues described are the general impacts of the rockfish fishery on the community, impacts on harvesters, impacts on processors, impacts on support services, and impacts on fishery related tax revenues received by Kodiak, and other relevant information. Other communities have been considered, but those discussions have been primarily focused on their engagement in the fishery through catcher vessel ownership, catcher processor ownership, and crew employment.

1.3 Regulatory Context of the Social Impact Assessment

This community-level impact assessment component of Rockfish Program reauthorization analysis is guided largely by National Standard 8 – Communities under the provisions of the Magnuson-Stevens Act. The analysis is also informed by the National Environmental Policy Act (NEPA) and Executive Order (EO) 12898, Federal Action to Address Environmental Justice in Minority Population and Low-Income Populations.

1.3.1 Magnuson-Stevens Act National Standard 8

National Standard 8 (50 CFR [Code of Federal Regulations] 600.345) specifies that conservation and measures shall, consistent with the conservation requirements of the Magnuson-Stevens Act, take into account the importance of fishery resources to fishing communities by utilizing economic and social data that are based on the best scientific information available in order to (1) provide for the sustained participation of such communities, and (2) to the extent practicable, minimize adverse economic impacts to such communities.

Per National Standard 8, the term "fishing community" means a community that is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew, and fish processors that are based in such communities. A fishing community is a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing or directly related fisheries-dependent services and industries (for example, boatyards, ice suppliers, tackle shops). Also, per National Standard 8, the term "sustained participation" means continued access to the fishery within the constraints of the condition of the resource. Per the guidelines for National Standard 8:

> *FMPs* [Fishery Management Plans] *must examine the social and economic importance of fisheries to communities potentially affected by management measures. For example, severe reductions of harvests for conservation purposes may decrease employment opportunities for fishermen and processing plant workers, thereby adversely affecting their families and communities. Similarly, a management measure that results in the allocation of fishery resources among competing sectors of a fishery may benefit some communities at the expense of others* (50 CFR 600.345).

1.3.2 Social and Economic Analysis Under NEPA

Under NEPA, "economic" and "social" effects are specific environmental consequences to be examined (40 CFR 1502.16 and 1508.8). Economic effects are examined primarily in multiple sections of the EA/RIR to which this SIA is appended, while social effects (and community-level economic effects) are examined primarily in this document.

1.3.3 EO 12898 Environmental Justice

EO 12898 (59 Federal Register [FR] 7629; February 16, 1994) directs Federal agencies "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The EO directs the development of agency strategies to include identification of differential patterns of consumption of natural resources among minority populations and low-income populations; Council on Environmental Quality (CEQ) environmental justice guidance under NEPA also specifically calls for consideration of potential disproportionately high and adverse impacts to Indian tribes[2] beyond a more general consideration of potential disproportionately high and adverse impacts to minority populations (Council on Environmental Quality 1997). Given that the level of potential impacts of the proposed action have been determined as suitable for analysis within an EA rather than an Environmental Impact Statement, this SIA does not contain a formal environmental justice analysis. Demographic and economic information has, however, been provided that would help support such an analysis, should one later be deemed necessary.

1.4 Social Impact Assessment Methodology

This CGOA Rockfish Program Reauthorization SIA builds directly upon the recent SIA for the CGOA Rockfish Program Review and Rockfish Allocation Review (Northern Economics 2017) and incorporates by reference much of the analysis in that earlier SIA.

For the purposes of this community assessment, a two-pronged approach to analyzing the community changes associated with the reauthorization of the CGOA Rockfish Program was utilized. First, tables based on existing quantitative fishery information were developed to identify patterns of participation/engagement in the various components of the relevant fisheries. This is consistent with the portion of the National Standard 8 guidelines that state:

> *To address the sustained participation of fishing communities that will be affected by management measures, the analysis should first identify affected fishing communities and then assess their differing levels of dependence on and engagement in the fishery being regulated* (50 CFR 600.345[3]).

Summary tables, typically including data on an annual basis from 2003 through 2018, are presented in Section 2, along with accompanying narrative. This analysis focuses on fishery sectors (primarily catcher vessels, catcher processors, and/or shore-based processors for relevant rockfish commercial fisheries) and follows annual and average participation indicators. All fishery gross revenue figures are presented in 2009 dollars (real or adjusted dollars) for comparability with data presented in the 2017 Rockfish Program Review SIA.[4]

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[2] The term Indian tribe is retained due to its use in both the EO and CEQ guidance; the provisions of the EO and CEQ guidance are understood to apply to Alaska Native tribes in the region potentially affected by the program under review.

[3] The National Standard 8 guidelines referenced in this SIA, current as of July 16, 2019, are from the Electronic Code of Federal Regulations (CFR) Title 50, Chapter VI, Part 600, Subpart D, Section 600.345 (cited as 50 CFR 600.345) are available at https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=6b0acea089174af8594db02314f26914&mc=true&r=SECTION&n=se50.12.600_1345 accessed 7/18/19.

[4] The only tables in this SIA using nominal dollars are the Kodiak tax revenue tables presented in Section 3.2.1.

Within this quantitative characterization of fishery participation, several simplifying assumptions were made.

- For the purposes of this analysis, assignment of catcher vessels (and catcher processors) to a region or community has been made based upon ownership address information as listed in the National Oceanic and Atmospheric Administration (NOAA) Fisheries federal fisheries permit (FFP) data. Thus, some caution in the interpretation of this information is warranted. It is not unusual for vessels to have complex ownership structures involving more than one entity in more than one region. Further, ownership location does not directly indicate where a vessel spends most of its time, purchases services, or hires its crew as, for example, some of the vessels Pacific Northwest ownership addresses spend a great deal of time in Kodiak and other Alaska ports and at times hire crew members from these ports. The region or community of ownership, however, does provide a rough indicator of the direction or nature of ownership ties (and a proxy for associated economic activity, as no existing datasets provide information on where CGOA rockfish catcher vessel earnings are spent), especially when patterns are viewed at the sector or vessel class level. Ownership location has further been chosen for this analysis as the link of vessels to communities rather than other indicators, such as vessel homeport information, based on previous Council FMP social impact assessment experience (e.g., AECOM 2010) that indicated the problematic nature of existing homeport data.
- For shore-based processors, regional or community designation was based on the location of the plant itself (rather than ownership address) to provide a relative indicator of the local volume of fishery-related economic activity, which can also serve as a rough proxy for the relative level of associated employment and local government revenues. This is also consistent with other recent Council FMP social impact assessment practice.

There are, however, considerable limitations on the data that can be utilized for these purposes, based on confidentiality restrictions. A prime example of this is where a community is the site of one or two processors or the location of ownership of one or two catcher vessels. No information can be disclosed about the volume and/or value of landings in those communities or harvests of catcher vessels owned in those communities. This, obviously, severely limits quantitative community-level discussions of the impacts of CGOA Rockfish Program reauthorization.

In short, the frame of reference or unit of analysis for the discussion in this section is the individual sector,[5] and the analysis looks at how participation in fisheries most likely to be affected by the Rockfish Program has been differentially distributed across communities and regions within this framework. The practicalities of data limitations, however, serve to restrict this discussion.

The second approach to producing this community analysis involved selecting a subset of communities engaged in the CGOA rockfish fisheries for characterization of the community context of the relevant fisheries to describe the range, direction, and order of magnitude of social- and community-level engagement and dependency on those fisheries. The total set of communities is relatively limited compared to several other Gulf of Alaska (GOA) fisheries but range from Alaska to the Pacific Northwest. Communities (and types of potential impacts) vary based upon the type of engagement of the

[5] In this community analysis, the term "trawl catcher vessels" is often used as shorthand for "catcher vessels utilizing trawl gear." In reality, some individual CGOA rockfish trawl catcher vessels have fished groundfish with both trawl and fixed gear over the period 2003-2018, although these multi-gear vessels are few. As cited in the recent Rockfish Program review (Northern Economics 2017), of the 10 vessels that participated in the CGOA rockfish trawl fishery 2003-2016 that also used fixed gear in any fishery in any area in any year during this same period, only one vessel targeted CGOA rockfish specifically using both trawl and fixed gear, and no vessels from Alaska did so. In the case of the single vessel that did so, the vessel had Oregon ownership, targeted CGOA rockfish with both trawl and jig gear, and, based on catch data, focused its targeted CGOA rockfish efforts virtually exclusively on trawl gear (AKFIN 2017).

individual community in the fishery, whether it is through ownership of catcher vessels, being the location of shore-based processing, being the base of catcher processor or floating processor ownership or activity, and/or being the location of fishery support sector businesses.

In short, this second approach uses the community or region as the frame of reference or unit of analysis (as opposed to the fishery sector as in the first approach). This approach examines, within the community or region, the local nature of engagement or dependence on the fishery in terms of the various sectors present in the community and the relationship of those sectors (in terms of size and composition, among other factors) to the rest of the local social and economic context. This approach then qualitatively provides a context for potential community impacts that may occur because of fishery management-associated changes to the locally present sectors in combination with other community-specific attributes and socioeconomic characteristics.[6]

Simplifying assumptions also needed to be made as to which communities to characterize, given the desire to focus on the communities most engaged in and/or dependent on the relevant fisheries (and therefore most likely to be directly affected by the Rockfish Program). Thus, the communities selected for characterization were those communities that had at least some multi-year CGOA rockfish trawl catcher vessel activity and/or continuing shore-based processing activity in the years covered by the primary dataset used for analysis (2003-2018). Specifically, they were those communities that:

- Had at least one catcher vessel with a local ownership address that made at least one CGOA rockfish trawl-caught delivery in more than one year over the period 2003-2018 and/or
- Had an average of 0.5 or more shore-based processors that accepted CGOA trawl-caught rockfish deliveries operating in the community annually over any of the periods 2003-2006, 2007-2011, or 2012-2018 (i.e., the community had, on average, shore-based processing in at least half of the years during the pre-Rockfish Pilot Program period, the Rockfish Pilot Program period, and/or the Rockfish Program period), consistent with the approach used for other recent NPFMC SIAs (e.g., the GOA trawl bycatch management SIA in 2016).

This is also consistent with the portion of the National Standard 8 guidelines that state:

> *The best available data on the history, extent, and type of participation in these fishing communities in the fishery should be incorporated into the social and economic information presented in the FMP. The analysis does not have to contain an exhaustive listing of all communities that might fit the definition; a judgment can be made as to which are primarily affected* (50 CFR 600.345).

Using these criteria, Kodiak was selected for characterization as the only Alaska community substantially engaged in, and potentially dependent on, the CGOA rockfish trawl fisheries potentially affected by Rockfish Program reauthorization.

Additionally, two Pacific Northwest communities or groupings of communities were chosen for more brief characterization based on relatively substantial and/or ongoing engagement in the CGOA rockfish trawl fishery through one or more sectors relative to other participating communities in the Pacific Northwest region: the Seattle, Washington metropolitan statistical area (Seattle MSA[7]) and Lincoln

[6] No fieldwork was conducted for this analysis, but the recent Rockfish Program review (Northern Economics 2017) upon which it builds benefitted from information gathered during brief fieldwork conducted for another recent analysis (Northern Economics 2016a), as well as phone and/or email follow-ups with a limited number of persons in the catcher vessel, catcher processor, and shore-based processor sectors, as well as individuals representing industry groups in those sectors. The Alaska Groundfish Data Bank facilitated written responses from several shore-based processors in Kodiak to questions provided by the analytic team, while the Pacific Seafood Processors Association facilitated input from others.

[7] The Seattle-Tacoma-Bellevue Metropolitan Statistical Area, referred to as the "Seattle MSA" in this document, is a U.S. Census Bureau defined region used to tabulate the metropolitan area in and around Seattle, Washington. It includes of King, Pierce, and Snohomish counties.

County, Oregon (based on substantial multi-sector engagement in the former and substantial local ownership catcher vessel engagement in the latter).

Kodiak and its proximity to the GOA federal fishery management areas and the halibut regulatory areas in the GOA may be seen in Figure 1.[8] The location of the Seattle MSA and Lincoln County, Oregon may be seen in Figure 2.[9]

Summary characterizations of each of these communities or aggregations of communities, including data relevant to the analysis of community effects of Rockfish Program reauthorization for each of these communities or aggregations of communities, are presented in Section 3. The background sections of these brief community characterizations are informed by previous detailed community-profiling efforts, some of which are summarized in part in this analysis and some of which are incorporated by reference. Discussions of sector- and community-level changes associated with the Rockfish Program for each of the communities described in this section are informed by quantitative fishery engagement data presented for each community that are consistent with, and in most instances subset of, the larger datasets used to inform the other topical or resource area analyses encompassed by the EA/RIR to which this SIA is an appendix.[10] Together, the qualitative community description data and the quantitative community-level fishery engagement data incorporated into the discussion provide a perspective on community the level of engagement in, and dependence on, the CGOA rockfish fishery and potential vulnerability to adverse community-level impacts resulting from the proposed action alternatives.

Section 4 provides an overall comparative summary of community impacts previously described in NPFMC documents as associated with the Rockfish Pilot Program and/or with Rockfish Program as relevant to the current proposed action alternatives. This section also provides conclusions potential community or social impacts related to the current proposed action alternatives.

[8] This figure also includes other Alaska communities mentioned in the text as having direct involvement in the CGOA rockfish fisheries in at least one year 2003-2018 through: (1) local ownership address of participating hook-and-line catcher vessels (Homer, Seldovia, and Willow) and/or jig catcher vessels (Anchor Point, Anchorage, Chiniak, Homer, Kodiak, Old Harbor, Ouzinkie, Port Lions, and Wasilla); (3) local operation of at least one shore-based processor that accepted longline-caught CGOA rockfish deliveries (Akutan, Anchorage, Cordova, Homer, Kenai, Kodiak, Ninilchik, Sand Point, Seward, and Sitka); (3) local ownership of a GOA LLP license with a trawl endorsement for the CGOA that has been used in the CGOA rockfish trawl target fishery (Anchorage, False Pass, Homer, Kodiak, and Sand Point); (4) local ownership of CGOA rockfish trawl catcher processors (Unalaska/Dutch Harbor); and/or (5) the local operation of a shore-based processor accepting CGOA trawl-caught rockfish deliveries (Kodiak and Seward). Also shown are those communities linked to the CGOA rockfish trawl fishery through catcher vessel or catcher processor crewmember residence 2015-2018 that would not have been otherwise included on the map (Delta Junction, Gustavus, Juneau, Kenai, Palmer, Soldotna, Sterling, and Unalaska/Dutch Harbor). Finally, several other communities are shown in grey font for general geographic orientation purposes (King Cove, Yakutat, and Ketchikan).

[9] This figure also includes other Washington and Oregon communities at least minimally directly engaged in the CGOA rockfish fishery through local ownership of participating hook-and-line catcher vessels (Linden, Washington) and/or jig catcher vessels (Bellingham, Blaine, Bow, Cathlamet, and Ridgefield, Washington; Brookings, Newport, and Warrenton, Oregon) during the period 2003-2018. Also included are communities not otherwise listed that had local ownership of a GOA LLP license with a trawl endorsement for the CGOA that has been used in the CGOA rockfish trawl target fishery (Chinook, Mercer Island, Shoreline, Sumner, and Woodway, Washington; Astoria, Charleston, Cloverdale, and Toledo, Oregon).

[10] These community descriptions were also shaped by "lessons learned" in the analysis of the social impacts of other quota share management programs in Alaska as described in Attachment 2 (Section 8, Fishing Community Vulnerability, Fishery Dependency, and Types of Social Impacts Associated with other Quota Share Management Programs in Alaska).

Figure 1. Selected Alaska Communities and Adjacent North Pacific Federal and International Pacific Halibut Commission Fisheries Regulatory Areas

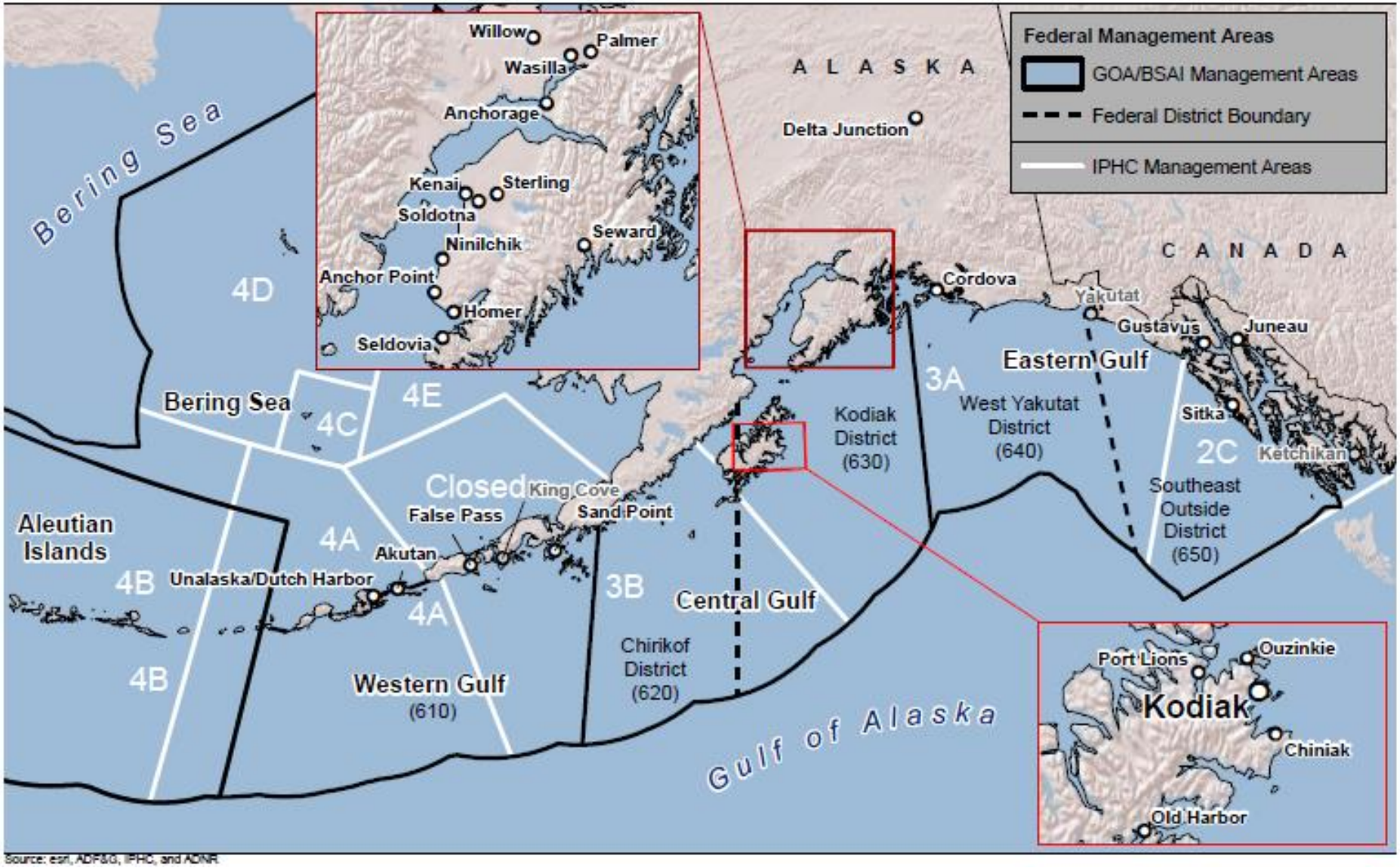
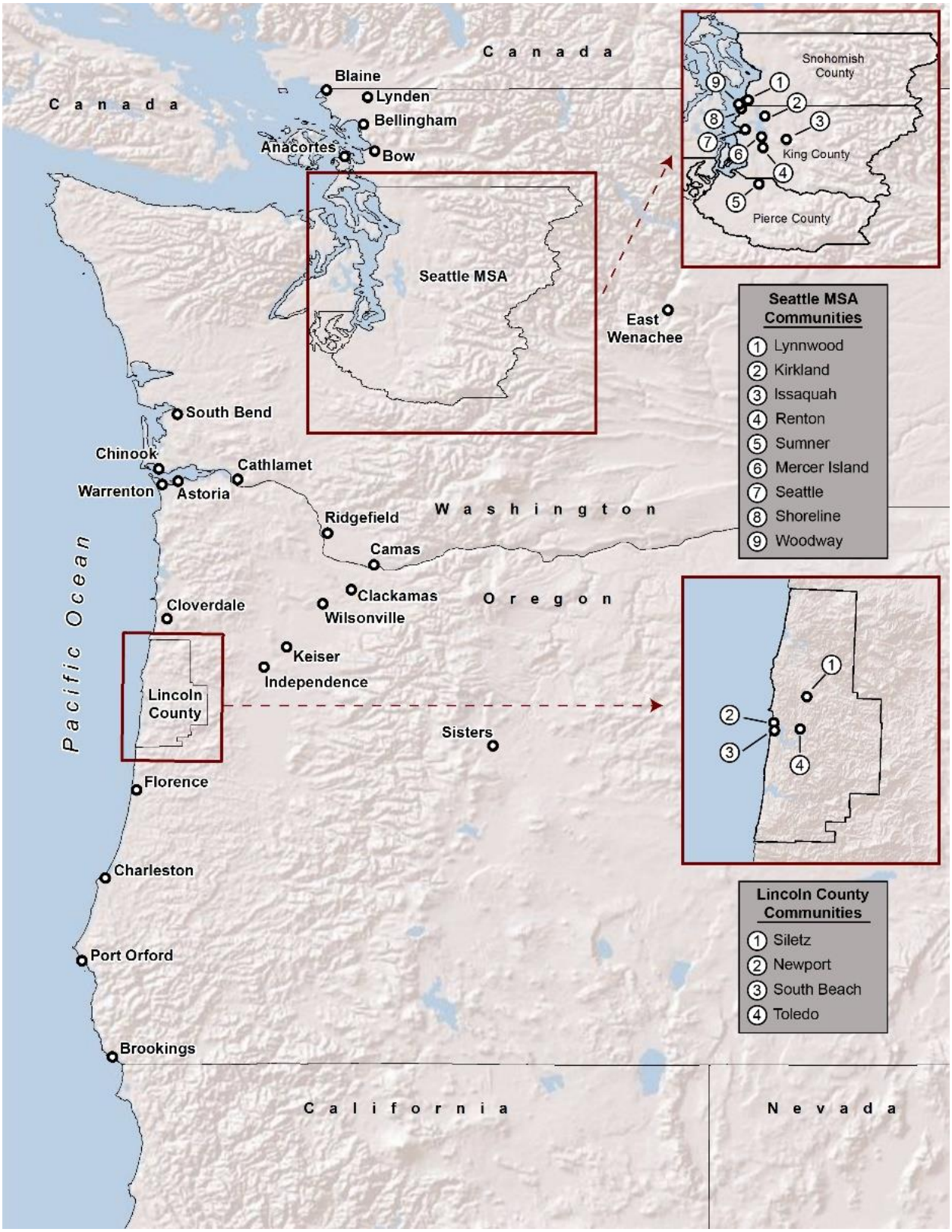


Figure 2. Map of Selected Washington and Oregon Communities



Source: ESRI and Washington DOT.

2 Quantitative Indicators of Community Fishery Engagement and Dependence

The following series of tables provides quantitative CGOA rockfish fishery participation information, within the bounds of confidentiality restrictions, for the communities most directly engaged in the CGOA rockfish trawl fisheries (Section 2.1), along with their participation in the CGOA rockfish longline fisheries where relevant (Section 2.2). This information is summarized, on a community-by-community basis, in the community characterizations in a later section of this document (Section 3).

2.1 CGOA Rockfish Trawl Fishery Indicators

The following sections contain a range of quantitative information describing engagement (or participation) in and dependency (or reliance) on the CGOA rockfish trawl fishery by community for the following sectors:

- CGOA Rockfish Trawl Catcher Vessels (Section 2.1.1)
- CGOA Rockfish Trawl Catcher Processors (Section 2.1.2)
- Shore-Based Processors Accepting CGOA Rockfish Trawl-Caught Deliveries (Section 2.1.3)

2.1.1 CGOA Rockfish Trawl Catcher Vessels

Table 1 provides a count, by community of ownership and year (2003-2018), of CGOA rockfish trawl catcher vessels for all communities and states. As shown, the largest component of fleet ownership during any given year is typically in Alaska, followed by Washington and Oregon. Within Alaska, ownership of engaged vessels is exclusive to Kodiak.

Table 2 provides CGOA rockfish trawl catcher vessel ex-vessel gross revenue information by community and year (2003-2018) to the extent possible within data confidentiality restrictions. As shown, the only two communities for which revenue data can be disclosed are Kodiak (all years) and the Seattle MSA (2004 and 2012-2018 only[11]).

Table 3 provides information on CGOA rockfish trawl catcher vessel dependency on CGOA trawl-caught rockfish compared to all other areas, gear types, and species fished by those same vessels during the 2003-2006 (Pre-Rockfish Pilot Program) period. As shown, CGOA rockfish trawl ex-vessel gross revenues ranged between 14 to 15 percent of all ex-vessel revenues for CGOA rockfish trawl catcher vessels on an annual average basis, across all the geographies of ownership.

Table 4 provides information on overall community catcher vessel fleet (all commercial fishing catcher vessels in the community that fish off of Alaska, not just vessels that participated in the CGOA rockfish trawl fishery) dependency on CGOA trawl-caught rockfish during the 2003-2006 (Pre-Rockfish Pilot Program) period compared to all other areas, gear types, and species fished by those vessels with local ownership addresses during that same time period to the extent possible given data confidentiality restrictions. As shown, CGOA trawl-caught rockfish accounted for somewhat less than 2 percent of the total ex-vessel gross revenues for the Kodiak community fleet as a whole, about 0.2 percent total ex-vessel gross revenues for the combined community offshore Alaska fleets of the Seattle MSA and all other Washington communities that had any vessels participating CGOA rockfish trawl fisheries, and about 2 percent total ex-vessel gross revenues for the combined community offshore Alaska fleets of Lincoln County and all other Oregon and Idaho communities that had any vessels participating CGOA rockfish trawl fisheries.

[11] Data for the Seattle MSA could otherwise be displayed for the years 2007-2011, were it not necessary to suppress those data to allow disclosure of a State of Washington subtotal.

Table 5 provides information on CGOA rockfish trawl catcher vessel dependency on CGOA trawl-caught rockfish compared to all other areas, gear types, and species fished by those same vessels during the 2007-2011 (Rockfish Pilot Program) period. As shown, CGOA rockfish trawl ex-vessel gross revenues ranged between 8 and 9 percent of all ex-vessel revenues for Kodiak-owned and combined Oregon and Idaho-owned CGOA rockfish trawl catcher vessels on an annual average basis, while they accounted for approximately 12 percent of all ex-vessel revenues for Washington-owned CGOA rockfish trawl catcher vessels.

Table 6 provides information on overall community catcher vessel fleet (all commercial fishing catcher vessels in the community that fish off of Alaska, not just vessels that participated in the CGOA rockfish trawl fishery) dependency on CGOA trawl-caught rockfish during the 2007-2011 (Rockfish Pilot Program) period compared to all other areas, gear types, and species fished by those vessels with ownership addresses in the same community during that same time period to the extent possible given data confidentiality restrictions. As shown, CGOA trawl-caught rockfish accounted for roughly 1 percent of the total ex-vessel gross revenues for the Kodiak community fleet as a whole, less than 1 percent of the total ex-vessel gross revenues for the combined community offshore Alaska fleets of the Seattle MSA and all other Washington communities that had any vessels participating CGOA rockfish trawl fisheries, and roughly 1 percent total ex-vessel gross revenues for the combined community offshore Alaska fleets of Lincoln County and all other Oregon and Idaho communities that had any vessels participating CGOA rockfish trawl fisheries.

Table 7 provides information on CGOA rockfish trawl catcher vessel dependency on CGOA trawl-caught rockfish compared to all other areas, gear types, and species fished by those same vessels during the 2012-2018 (Rockfish Program) period. As shown, CGOA rockfish trawl ex-vessel gross revenues were approximately 11 percent of all ex-vessel revenues for Kodiak-owned CGOA rockfish trawl catcher vessels on an annual average basis, about 11 percent for all Washington-owned CGOA rockfish trawl catcher vessels (although internal variability by subarea is evident[12]), and about 8 percent of all ex-vessel revenues for Oregon and Idaho-owned CGOA rockfish trawl catcher vessels combined.

Table 8 provides information on overall community catcher vessel fleet (all commercial fishing catcher vessels in the community that fish off of Alaska, not just vessels that participated in the CGOA rockfish trawl fishery) dependency on CGOA trawl-caught rockfish during the 2012-2018 (Rockfish Program) period compared to all other areas, gear types, and species fished by those ownership addresses in same community during that same time period to the extent possible given data confidentiality restrictions. As shown, CGOA trawl-caught rockfish accounted for roughly 3 percent of the total ex-vessel gross revenues for the Kodiak community fleet as a whole, less than 1 percent of the total ex-vessel gross revenues for the combined community offshore Alaska fleets of the Seattle MSA and all other Washington communities that had any vessels participating CGOA rockfish trawl fisheries (although again some internal variability by subarea is evident), and roughly 1 percent total ex-vessel gross revenues for the combined community offshore Alaska fleets of Oregon and Idaho communities that had any vessels participating CGOA rockfish trawl fisheries.

Table 9 provides information on the American Fisheries Act (AFA) status of CGOA rockfish trawl catcher vessels by community and region. All else being equal, AFA status would likely reduce the vulnerability of individual vessels to adverse impacts, if any, of the Rockfish Program through co-op or other internal vessel class compensation mechanisms and/or separate accounting of prohibited species

[12] Some caution is warranted in interpreting this variation (and the analogous variation noted in the following table as well). Consistent with earlier analyses, the Seattle MSA is considered a single community, whereas "Other Washington" is not. The Seattle MSA includes smaller communities within its boundaries in the total ex-vessel gross revenue calculations that may have offshore Alaska fleets but that did not have any vessels participating in the CGOA rockfish trawl fishery during the relevant time period. The "Other Washington" communities aggregation includes only those communities within Washington but outside the Seattle MSA that had at least one locally owned vessel participating in the CGOA rockfish trawl fishery during the relevant time period.

catch (PSC) thresholds unique to that vessel class (thereby insulating these vessels somewhat from adverse consequences of actions of vessels outside of their restricted class over which they have very little influence or control). As shown, the percentage of AFA vessels among locally owned CGOA rockfish trawl catcher vessels vary considerably by geography with, for example, most of the Kodiak vessels not being AFA vessels and most of the Seattle MSA vessels being AFA vessels.

Table 10 provides information on initial allocation of primary species to catcher vessel LLP licenses, by community of LLP license address, for the Rockfish Pilot Program and for the Rockfish Program, along with the change in quota share allocation between the two programs. A net gain or loss for grand total quota share shown for all catcher vessel LLP licenses is possible as the result of quota moving between the catcher vessel and catcher processor sectors. Among Alaska communities, catcher vessel quota shares are highly concentrated in Kodiak, and have increased between the two programs. Of the LLP licenses owned in Alaska communities outside of Kodiak that qualified for initial allocations under either program, no Homer-owned LLP license qualified an initial allocation under the Rockfish Pilot Program, but one did so under the Rockfish Program. One Sand Point-owned LLP license, on the other hand, qualified for an initial qualification under the Rockfish Pilot Program, but none did so under the Rockfish Program. Table 11 provides a sum of quota share holdings of primary rockfish fishery species by percentage of all quota shares (catcher vessels and catcher processors combined) and distinct count of trawl catcher vessel LLP licenses, by community, for the first year and the most recent year of Rockfish Program (2012 and 2019, respectively).

Table 12 provides information on the correspondence of number of CGOA rockfish trawl catcher vessels participating in the fishery, on an annual average basis and a total number of unique vessels, and the number of active and inactive CGOA Rockfish Program trawl endorsed LLP licenses used in the CGOA rockfish fishery, by community for Pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods. As shown, the annual average number of active vessels and the number of unique vessels increases somewhat between the periods, while the number of unique active LLP licenses remains constant. The number of inactive LLP licenses ("latent licenses") is zero for each period, as every LLP license that was used to participate in the CGOA rockfish trawl fishery in the Pre-Rockfish Program years continued to be actively used in commercial fishing in all subsequent years, even if they did not qualify for quota under the Rockfish Program. As shown in Section 3.5.4 of the EA/RIR to which this SIA is appended, the total number of catcher vessels with a trawl endorsement that could enter the CGOA rockfish fishery under Alternative 1 is substantially greater than the number that have historically participated in the CGOA rockfish fishery.

A total of four CGOA rockfish trawl catcher vessels participated in the Rockfish Pilot Program entry level trawl fishery in three years (2007, 2008, and/or 2009) designated as qualifying years for an initial allocation of Pacific ocean perch quota shares under the Rockfish Program. Three of these vessels obtained allocations. All four of the vessels have or had ownership ties to Kodiak, which are discussed in detail in Section 3.2.1.

Figure 3 provides information on patterns of community of ownership over the years 2003-2018 of the 55 GOA trawl-endorsed catcher vessel LLP licenses that have obtained quota shares under the CGOA Rockfish Program. As shown, Alaska ownership is highly concentrated in Kodiak and over the years three LLP licenses that previously had "Other Oregon" ownership and two LLP licenses that previously had "Other Washington" ownership later came to have Kodiak ownership. On the other hand, three LPPs that had Kodiak ownership in earlier years have had Seattle ownership in later years, and two LLP licenses that had Kodiak ownership for at least some years later came to have "Other Oregon" and "Other States" ownership.[13]

[13] In 2018, 8 of these LLP licenses were not active in the fishery (1 with a Kodiak ownership address, 6 with a Seattle MSA ownership address, and 1 with an "Other Washington" ownership address). These are included in this analysis as it is assumed, given their past history of participation in the fishery, they may be more likely than other vessels not

Also, as shown in Figure 3, Alaska ownership of relevant catcher vessel LLP licenses outside of Kodiak during 2003-2018 was limited to four communities: Anchorage, False Pass, Homer, and Sand Point.

- Anchorage appears in the data as an ownership address for one LLP license in 2003 and 2004 (and ownership of that LLP license is shown as Seattle for 2005-2018). This LLP license did not qualify for a Rockfish Pilot Program initial allocation based on Anchorage ownership years related catch history.

- False Pass appears in the data as the ownership address for one LLP license for 2003-2009, while Homer appears as the ownership address for that same LLP license for 2010-2018 (making this the only LLP license shown as continuously having Alaska ownership for the entire 2003-2018 period outside of Kodiak, albeit in two different communities). This LLP license did not qualify for a Rockfish Pilot Program initial allocation based on False Pass ownership years related catch history but did qualify for Rockfish Program initial allocation based on its Homer ownership years related catch history.

- Sand Point appears in the data as an ownership address for one LLP license in 2006 and 2007 (and ownership of that LLP license is shown as Bellingham, Washington for 2003-2005 and 2008-2013, and Kodiak for 2014-2018). This LLP license did qualify for a Rockfish Pilot Program initial allocation based on Sand Point ownership years related catch history, but did not qualify for Rockfish Program initial allocation based on its Sand Point ownership years related catch history

Table 13 provides information the number of days fished annually by CGOA rockfish trawl catcher vessels 2003-2018, as measured by the number of days hauls were recorded. Breakouts are provided by open access[14] fishery, with entry level fishery years delineated, Rockfish Pilot Program fishery, and Rockfish Program fishery. As shown, the average annual number of days fished increased substantially between the pre-Rockfish Pilot Program years and the Rockfish Pilot Program years, and then again between the Rockfish Pilot Program years and the Rockfish Program years. Also apparent is the relatively modest size of the entry level fishery compared to the co-occurring Rockfish Pilot Program fishery, with the entry level fishery accounting for about five percent of all CGOA rockfish trawl catcher vessel fishing days 2007-2011 (the years that the entry level trawl fishery was in existence).

Table 14 shows the relationship of the community of CGOA rockfish trawl catcher vessel ownership and the communities in which crew members on those vessels reside, utilizing data from the Annual GOA Trawl Catcher Vessel Economic Data Report (EDR) for calendar years 2015 and 2016. Some caution should be used in interpreting these data as 2015 was the first year EDR catcher vessel crew data were collected, the available data have not been audited (as audits typically rely on multiple years of data to identify anomalous entries), and some data are missing. They do, however, represent the best available data and provide insight into overall community patterns/order of magnitude of crew employment. Table 15 shows similar information for 2017 and 2018. Apparent across all years is the concentration among Alaska communities of crew employment in Kodiak and the concentration of overall employment in Alaska among the different states represented in the data.

currently in the fishery to choose to become active in the fishery should Alternative 1 (the No Action Alternative) be selected.

[14] In this SIA, the term "open access" (or "Federal open access") is used to denote pre-Rockfish Pilot Program CGOA rockfish fisheries that were subject to a federally established total allowable catch (TAC) limit, including parallel fisheries that may have included landings from state waters in addition to those from federal waters. The term also encompasses entry level fisheries that occurred under the Rockfish Pilot Program (trawl and longline) or are occurring under the Rockfish Program (longline only) that were/are subject to TAC limits.

Table 16 shows annual payments for captains and crew of CGOA rockfish trawl catcher vessels by community of vessel ownership for 2015 using EDR data. Table 17, Table 18, and Table 19, provide similar information for 2016, 2017, and 2018, respectively. It is important to note that these represent total captain and crew payments for these vessels, not just payments related to the CGOA rockfish fishery, as data on fishery-specific earnings are not available. Further, the same EDR data caveats as noted above apply and there are some inconsistencies in the data between these tables and the preceding tables on crew residence.[15] They do, however, provide insights into patterns of total crew payments on these vessels across ownership geographies.

Table 1. Individual CGOA Rockfish Trawl Catcher Vessels by Community of Vessel Owner, 2003-2018 (number of vessels)

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Annual Average 2003-2018 (number of vessels)	Annual Average 2003-2018 (percent of all vessels)	Total Unique CVs 2003-2018 (number of vessels)
Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Kodiak, Alaska	10	9	8	10	11	12	12	14	12	12	14	13	12	13	12	13	11.7	44.63%	19
Issaquah*	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0.4	1.67%	1
Lynnwood*	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	0.48%	1
Seattle*	2	3	3	3	3	3	3	2	2	5	5	7	6	5	5	5	3.9	14.80%	8
Seattle MSA Subtotal	3	4	3	3	4	4	4	4	4	5	5	7	6	5	5	5	4.4	16.94%	9
Anacortes	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.3	1.19%	1
Camas	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.6	2.39%	1
East Wenatchee	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.82%	1
South Bend	2	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1.6	5.97%	2
Other WA Subtotal	3	4	3	3	3	3	3	3	3	4	4	4	4	4	4	4	3.5	13.36%	5
Washington Total	6	8	6	6	7	7	7	7	7	9	9	11	10	9	9	9	7.9	30.31%	14
Newport**	3	1	1	1	3	1	1	1	1	1	3	2	3	2	1	2	1.7	6.44%	6
Siletz**	2	1	1	0	0	1	2	1	1	1	1	1	2	1	2	1	1.1	4.30%	4
South Beach**	0	1	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0.3	1.19%	1
Lincoln Co. OR Subtotal	5	3	2	1	3	3	3	3	3	3	4	3	5	3	3	3	3.1	11.93%	9
Clackamas	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0.4	1.67%	1
Florence	1	1	1	1	1	1	2	1	1	2	1	0	0	0	0	0	0.8	3.10%	2
Independence	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0.2	0.72%	1
Keizer	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.2	0.72%	1
Port Orford	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0.6	2.39%	1
Sisters	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.43%	1
Warrenton	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0.3	1.19%	1
Wilsonville	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.48%	1
Other OR Subtotal	4	5	5	5	5	4	4	3	3	4	2	1	1	1	1	1	3.1	11.69%	7
Oregon Total	9	8	7	6	8	7	7	6	6	7	6	4	6	4	4	4	6.2	23.63%	14
Fruitland, Idaho	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	1.43%	1
Grand Total	**26**	**26**	**22**	**23**	**27**	**27**	**26**	**27**	**25**	**28**	**29**	**28**	**28**	**26**	**25**	**26**	**26.2**	**100.00%**	**38**

*Denotes community within the Seattle MSA.

**Denotes community within Lincoln County, Oregon.

Note: Due to vessel movement between communities over the years shown, total unique CVs per community may not sum to state or grand totals.

Source: AKFIN 2019

[15] This is likely due in part as come from different data queries of different datasets. The crew residence data derives from a count of crew licenses and individuals may be double counted if they served on more than one vessel during the calendar year. The crew compensation data comes from a count of crew members provided in a different portion of the EDR and does not link to the count of crew licenses.

Table 2. CGOA Rockfish Trawl Catcher Vessel Ex-Vessel Gross Revenues, CGOA Trawl-Caught Rockfish Target Fisheries Only (in millions of 2009 dollars), by Community of Vessel Owner, 2003-2018

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program						
Geography	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Kodiak, Alaska	$1.35	$1.30	$1.27	$1.42	$1.09	$1.22	$0.81	$1.43	$1.65	$2.83	$2.17	$2.27	$2.25	$2.79	$2.46	$2.53
Seattle MSA	*	$0.39	*	*	**	**	**	**	**	$1.18	$0.80	$0.95	$0.86	$1.13	$0.87	$0.94
Other Washington	*	$0.41	*	*	*	*	*	*	*	$1.15	$0.71	$0.89	$0.75	$0.97	$0.65	$0.91
Washington Subtotal	0.78	$0.80	$0.89	$1.09	$1.43	$0.93	$0.77	$1.16	$1.50	$2.33	$1.51	$1.84	$1.61	$2.10	$1.52	$1.85
Oregon and Idaho Subtotal	$1.89	$1.31	$1.19	$1.52	$1.37	$1.38	$0.77	$0.79	$0.80	$1.53	$0.83	$0.81	$0.73	$0.88	$0.64	$0.76
Grand Total	**$4.03**	**$3.41**	**$3.34**	**$4.02**	**$3.89**	**$3.53**	**$2.35**	**$3.38**	**$3.95**	**$6.69**	**$4.51**	**$4.93**	**$4.59**	**$5.77**	$4.62	$5.14

*Suppressed due to data confidentiality.
**Suppressed to protect data confidentiality in other cells.
Source: AKFIN 2019

Table 3. CGOA Rockfish Trawl Catcher Vessels Ex-Vessel Gross Revenue Diversification (in 2009 dollars) by Community of Vessel Owner, All Communities, 2003-2006 (Pre-Rockfish Pilot Program Years)

Geography	**Annual Average Number of CGOA Rockfish Trawl CVs 2003-2006**	**CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2003-2006 ($ millions)**	**CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2003-2006 ($ millions)**	**CGOA Rockfish Trawl CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2003-2006**
Kodiak, Alaska	9.3	$1.33	$9.23	14.50%
Seattle MSA	3.3	*	*	*
Other Washington	3.3	*	*	*
Washington Subtotal	6.5	$0.89	$6.34	14.00%
Oregon and Idaho Subtotal	8.5	$1.48	$9.92	14.90%
Grand Total	**24.3**	**$3.70**	**$25.49**	**14.50%**

*Suppressed due to data confidentiality.
Source: AKFIN 2017b

Table 4. CGOA Rockfish Trawl Catcher Vessel and All Catcher Vessel (all species, all gear types, all areas combined) Ex-Vessel Gross Revenue Diversification (in 2009 dollars) by Community of Vessel Owner, 2003-2006 (Pre-Rockfish Pilot Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2003-2006	Annual Average Number of All Commercial Fishing CVs 2003-2006	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2003-2006 ($ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2003-2006 ($ millions)	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2003-2006
Kodiak, Alaska	9.3	208.8	$1.33	$83.76	1.60%
Seattle MSA	3.3	208.5	*	*	*
Other Washington	3.3	131.8	*	*	*
Washington Subtotal	6.5	340.3	$0.89	$382.92	0.20%
Oregon and Idaho Subtotal	8.5	88.5	$1.48	$79.78	1.90%
Grand Total	**24.3**	**2,142.5****	**$3.70**	**$808.24****	**0.50%**

*Suppressed due to data confidentiality.
**Grand total includes vessels and values from Alaska communities outside of Kodiak and from other states not included in the rows above because they are from geographies not directly involved as participants in the CGOA rockfish trawl fishery.
Source: AKFIN 2017b

Table 5. CGOA Rockfish Trawl Catcher Vessels Ex-Vessel Gross Revenue Diversification (in 2009 dollars) by Community of Vessel Owner, All Communities, 2007-2011 (Rockfish Pilot Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2007-2011	CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2007-2011 ($ millions)	CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2007-2011 ($ millions)	CGOA Rockfish Trawl CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2007-2011
Kodiak, Alaska	12.2	$1.24	$15.22	8.10%
Seattle MSA	4.0	**	**	**
Other Washington	3.0	*	*	*
Washington Subtotal	7.0	$1.16	$9.55	12.10%
Oregon and Idaho Subtotal	7.2	$1.02	$11.58	8.80%
Grand Total	**26.4**	**$3.42**	**$36.35**	**9.40%**

*Suppressed due to data confidentiality.
**Suppressed to protect confidential data in other cells.
Source: AKFIN 2017b

Table 6. CGOA Rockfish Trawl Catcher Vessel and All Catcher Vessel (all species, all gear types, all areas combined) Ex-Vessel Gross Revenue Diversification (in 2009 dollars) by Community of Vessel Owner, 2007-2011 (Rockfish Pilot Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2007-2011	Annual Average Number of All Commercial Fishing CVs 2007-2011	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2007-2011 ($ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2007-2011 ($ millions)	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2007-2011
Kodiak, Alaska	12.2	213.2	$1.24	$104.84	1.20%
Seattle MSA	4.0	184.6	**	**	**
Other Washington	3.0	125.8	*	*	*
Washington Subtotal	7.0	310.4	$1.16	$406.05	0.30%
Oregon and Idaho Subtotal	7.2	74.0	$1.02	$79.13	1.30%
Grand Total	**26.4**	**2,197.0*** **	**$3.42**	**$922.06*** **	**0.40%**

*Suppressed due to data confidentiality.
**Suppressed to protect confidential data in other cells.
**Grand total includes vessels and values from Alaska communities outside of Kodiak and from other states not included in the rows above because they are from geographies not directly involved as participants in the CGOA rockfish trawl fishery
Source: AKFIN 2017b

Table 7. CGOA Rockfish Trawl Catcher Vessels Ex-Vessel Gross Revenue Diversification (in 2009 dollars) by Community of Vessel Owner, All Communities, 2012-2018 (Rockfish Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2012-2018	CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2012-2018 ($ millions)	CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2012-2018 ($ millions)	CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2012-2018
Kodiak, Alaska	12.7	$2.38	$21.04	11.33%
Seattle MSA	5.4	$0.93	$11.55	8.03%
Other Washington	4.0	$0.84	$4.52	18.56%
Washington Subtotal	9.4	$1.77	$16.06	11.00%
Oregon and Idaho Subtotal	4.9	$0.86	$10.65	8.08%
Grand Total	**27.0**	**$5.01**	**$47.75**	**10.49%**

Source: AKFIN 2019

Table 8. CGOA Rockfish Trawl Catcher Vessel and All Catcher Vessel (all species, all gear types, all areas combined) Ex-Vessel Gross Revenue Diversification (in 2009 dollars) by Community of Vessel Owner, 2012-2018 (Rockfish Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2012-2018	Annual Average Number of All Commercial Fishing CVs 2012-2018	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2012-2018 ($ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2012-2018 ($ millions)	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value Annual Average 2012-2018 as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2012-2018
Kodiak, Alaska	12.7	220.1	$2.38	$94.53	2.52%
Seattle MSA	5.4	270.3	$0.93	$341.82	0.27%
Other Washington	4.0	239.1	$0.84	$75.52	1.11%
Washington Subtotal	9.4	509.4	$1.77	$417.34	0.42%
Oregon and Idaho Subtotal	4.9	218.9	$0.86	$133.95	0.64%
Grand Total	**27.0**	**3,165.5**	**$5.01**	**$978.32**	**0.51%**

Source: AKFIN 2019

Table 9. CGOA Rockfish Trawl Catcher Vessels AFA Program Designation by Community of Vessel Owner, Annual Average 2003-2018

	Annual Average 2003-2018 (number of CGOA Rockfish Trawl Vessels)			Annual Average 2003-2018 (percent of CGOA Rockfish Trawl Vessels)		
	Total	AFA		Total	AFA	
Geography	Vessels	Yes	No	Vessels	Yes	No
Kodiak, Alaska	11.7	4.7	7.0	100.0%	40.1%	59.9%
Seattle MSA	5.3	3.7	1.5	100.0%	68.9%	31.1%
All Other Washington	3.5	0.0	3.5	100.0%	0.0%	100.0%
Washington Total	8.7	3.7	5.1	100.0%	41.8%	58.2%
Lincoln County Oregon	4.5	1.8	2.8	100.0%	37.0%	63.0%
All Other Oregon	2.7	2.3	0.4	100.0%	85.4%	14.6%
Oregon Total	7.2	4.1	3.1	100.0%	55.3%	44.7%
All Other States	0.1	0.0	0.1	100.0%	0.0%	100.0%
Total	**27.7**	**12.3**	**15.4**	**100.0%**	**44.2%**	**55.8%**

Source: AKFIN 2019.

Table 10. Initial Allocations of Primary Species to Trawl Catcher Vessel Licenses, Rockfish Pilot Program and Rockfish Program, by Community, by Percentage of All Quota Shares (CV and CP combined)

State	Community	Northern Rockfish			Pacific Ocean Perch			Pelagic Shelf/Dusky Rockfish		
		Pilot	RP	Change	Pilot	RP	Change	Pilot	RP	Change
Alaska	Homer	0.00%	0.21%	0.21%	0.00%	1.11%	1.11%	0.00%	0.25%	0.25%
	Kodiak	16.45%	18.86%	2.40%	16.23%	23.60%	7.37%	14.75%	22.25%	7.50%
	Sand Point	0.16%	0.00%	-0.16%	0.06%	0.00%	-0.06%	0.00%	0.00%	0.00%
	ALASKA TOTAL	**16.62%**	**19.06%**	**2.45%**	**16.29%**	**24.71%**	**8.42%**	**14.75%**	**22.50%**	**7.75%**
Washington	Issaquah	3.30%	0.00%	-3.30%	2.15%	0.00%	-2.15%	1.87%	0.00%	-1.87%
	Mercer Island	0.00%	0.01%	0.01%	0.00%	0.31%	0.31%	0.00%	0.23%	0.23%
	Seattle	7.29%	9.71%	2.42%	8.23%	12.03%	3.80%	3.87%	9.82%	5.94%
	Sumner	3.57%	0.00%	-3.57%	1.42%	0.00%	-1.42%	2.28%	0.00%	-2.28%
	Seattle MSA Subtotal	14.16%	9.71%	-4.45%	11.80%	12.34%	0.54%	8.03%	10.05%	2.02%
	Bellingham	0.44%	0.00%	-0.44%	0.17%	0.00%	-0.17%	0.09%	0.00%	-0.09%
	Camas	0.00%	7.63%	7.63%	0.00%	2.64%	2.64%	0.00%	5.75%	5.75%
	East Wenatchee	0.92%	1.63%	0.72%	1.21%	1.48%	0.27%	0.57%	1.38%	0.81%
	Lynden	1.69%	0.00%	-1.69%	1.27%	0.00%	-1.27%	1.98%	0.00%	-1.98%
	South Bend	2.36%	3.29%	0.93%	2.19%	2.66%	0.47%	3.27%	4.35%	1.08%
	Other WA Subtotal	5.40%	12.55%	7.15%	4.84%	6.78%	1.94%	5.92%	11.48%	5.56%
	WASHINGTON TOTAL	**19.56%**	**22.26%**	**2.70%**	**16.64%**	**19.12%**	**2.48%**	**13.95%**	**21.53%**	**7.58%**
Oregon	Newport	4.34%	0.87%	-3.47%	4.46%	1.76%	-2.70%	2.76%	0.47%	-2.29%
	Siletz	3.73%	5.26%	1.53%	2.45%	4.04%	1.59%	2.48%	5.88%	3.40%
	South Beach	1.84%	1.58%	-0.26%	1.11%	1.11%	0.01%	0.80%	0.95%	0.15%
	Toledo	0.00%	0.00%	0.00%	0.00%	0.19%	0.19%	0.00%	0.02%	0.02%
	Lincoln Co. Subtotal	9.91%	7.72%	-2.19%	8.02%	7.10%	-0.92%	6.04%	7.32%	1.28%
	Astoria	0.00%	3.48%	3.48%	0.00%	2.21%	2.21%	0.00%	4.09%	4.09%
	Charleston	0.00%	1.30%	1.30%	0.00%	1.10%	1.10%	0.00%	0.82%	0.82%
	Clackamas	2.39%	1.83%	-0.56%	2.14%	2.26%	0.12%	0.95%	1.15%	0.20%
	Cloverdale	0.00%	0.00%	0.00%	0.12%	0.00%	-0.12%	0.01%	0.00%	-0.01%
	Florence	3.68%	3.37%	-0.31%	1.73%	2.49%	0.76%	2.30%	3.86%	1.56%
	Port Orford	1.61%	0.00%	-1.61%	1.15%	0.00%	-1.15%	1.63%	0.00%	-1.63%
	Sisters	2.01%	0.00%	-2.01%	0.57%	0.00%	-0.57%	0.88%	0.00%	-0.88%
	Warrenton	0.56%	0.00%	-0.56%	0.81%	0.00%	-0.81%	0.46%	0.00%	-0.46%
	Other OR Subtotal	10.24%	9.98%	-0.27%	6.52%	8.06%	1.54%	6.24%	9.92%	3.69%
	OREGON TOTAL	**20.15%**	**17.70%**	**-2.46%**	**14.55%**	**15.17%**	**0.62%**	**12.27%**	**17.24%**	**4.97%**
Other States	Fruitland, Idaho	5.03%	0.00%	-5.03%	2.14%	0.00%	-2.14%	4.32%	0.00%	-4.32%
	Roland, Oklahoma	0.00%	0.16%	0.16%	0.00%	0.97%	0.97%	0.00%	0.29%	0.29%
	OTHER STATES TOTAL	**5.03%**	**0.16%**	**-4.87%**	**2.14%**	**0.97%**	**-1.17%**	**4.32%**	**0.29%**	**-4.03%**
All CVs	**SUBTOTAL**	**61.36%**	**59.17%**	**-2.18%**	**49.61%**	**59.97%**	**10.35%**	**45.30%**	**61.57%**	**16.27%**
All CPs	**SUB TOTAL**	**38.64%**	**40.83%**	**2.18%**	**50.39%**	**40.03%**	**-10.35%**	**54.70%**	**38.43%**	**-16.27%**
CVs and CPs	**GRAND TOTAL**	**100.00%**	**100.00%**	**0.00%**	**100.00%**	**100.00%**	**0.00%**	**100.00%**	**100.00%**	**0.00%**

Source: 2017 Rockfish Program Review

Table 11. Sum of Quota Share Holdings of Primary Rockfish Species by Percentage of All Quota Shares (CV and CP combined) and Distinct Count Trawl Catcher Vessel LLP Licenses, by Community, First Year (2012) and Most Recent Year (2019) of the Rockfish Program

		Northern Rockfish				Pacific Ocean Perch				Pelagic Shelf/Dusky Rockfish			
		2012		2019		2012		2019		2012		2019	
State	Community	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses
Alaska	Homer	0.21%	1	0.21%	1	1.11%	1	1.11%	1	0.25%	1	0.25%	1
	Kodiak	18.86%	16	18.89%	17	23.60%	16	23.66%	17	22.25%	16	21.47%	17
	ALASKA TOTAL	**19.06%**	**17**	**19.09%**	**18**	**24.71%**	**17**	**24.77%**	**18**	**22.50%**	**17**	**21.72%**	**18**
Washington	Mercer Island	0.01%	1	0.00%	0	0.31%	1	0.00%	0	0.23%	1	0.00%	0
	Renton	0.00%	0	0.01%	1	0.00%	0	0.31%	1	0.00%	0	0.23%	1
	Seattle	9.71%	9	10.12%	10	12.03%	9	11.80%	10	9.82%	9	10.11%	10
	Woodway	0.00%	0	2.17%	1	0.00%		1.43%	1	0.00%	0	3.69%	1
	Seattle MSA Subtotal	9.71%	10	12.29%	12	12.34%	10	13.54%	12	10.05%	10	14.03%	12
	Camas	7.63%	1	7.63%	1	2.64%	1	2.64%	1	5.75%	1	5.75%	1
	East Wenatchee	1.63%	1	1.63%	1	1.48%	1	1.48%	1	1.38%	1	1.38%	1
	South Bend	3.29%	2	3.29%	2	2.66%	2	2.65%	2	4.35%	2	4.35%	2
	Other WA Subtotal	12.55%	4	12.55%	4	6.78%	4	6.77%	4	11.48%	4	11.48%	4
	WASHINGTON TOTAL	**22.26%**	**14**	**24.83%**	**16**	**19.12%**	**14**	**20.31%**	**16**	**21.53%**	**14**	**25.51%**	**16**
Oregon	Newport	0.87%	3	2.34%	3	1.76%	2	4.01%	3	0.47%	3	1.48%	3
	Siletz	5.26%	3	5.62%	4	4.04%	3	4.04%	3	5.88%	3	6.02%	4
	South Beach	1.58%	1	0.00%	0	1.11%	1	0.00%	0	0.95%	1	0.00%	0
	Toledo	0.00%	1	0.00%	0	0.19%	1	0.00%	0	0.02%	1	0.00%	0
	Lincoln Co. Subtotal	7.72%	8	7.96%	7	7.10%	7	8.05%	6	7.32%	8	7.50%	7
	Astoria	3.48%	2	3.48%	2	2.21%	2	2.21%	2	4.09%	2	4.09%	2
	Charleston	1.30%	1	1.30%	1	1.10%	1	1.10%	1	0.82%	1	0.82%	1
	Clackamas	1.83%	1	0.00%	0	2.26%	1	0.00%	0	1.15%	1	0.00%	0
	Florence	3.37%	2	0.00%	0	2.49%	2	0.00%	0	3.86%	2	0.00%	0
	Keizer	0.00%	0	1.58%	1	0.00%	0	1.11%	1	0.00%	0	0.95%	1
	Other OR Subtotal	9.98%	6	6.36%	4	8.06%	6	4.42%	4	9.92%	6	5.86%	4
	OREGON TOTAL	**17.70%**	**14**	**14.32%**	**11**	**15.17%**	**13**	**12.47%**	**10**	**17.24%**	**14**	**13.36%**	**11**
Other States and Unknown	Roland, Oklahoma	0.16%	1	0.00%	0	0.97%	1	0.00%	0	0.29%	1	0.00%	0
	Unknown/Blank	0.00%		0.93%	1	0.00%	0	2.45%	1	0.00%	0	0.98%	1
	OTHER STATES TOTAL	**0.16%**	**1**	**0.93%**	**1**	**0.97%**	**1**	**2.45%**	**1**	**0.29%**	**1**	**0.98%**	**1**
All CVs	**SUBTOTAL**	**59.17%**	**46**	**59.17%**	**46**	**59.97%**	**45**	**60.00%**	**45**	**61.57%**	**46**	**61.57%**	**46**
All CPs	**SUB TOTAL**	**40.83%**	**11**	**40.83%**	**11**	**40.03%**	**10**	**40.00%**	**10**	**38.43%**	**11**	**38.43%**	**11**
CVs and CPs	**GRAND TOTAL**	**100.00%**	**57**	**100.00%**	**57**	**100.00%**	**55**	**100.00%**	**55**	**100.00%**	**57**	**100.00%**	**57**

Source: AKFIN 2019

Table 12. Correspondence CGOA Rockfish Catcher Vessel Ownership Community with GOA Trawl Endorsed Groundfish LLP License Ownership Community Used in the CGOA Rockfish Fishery, Selected Time Intervals, 2003-2018

Community	2003-2006 (Pre-Rockfish Pilot Program)				2007-2011 (Rockfish Pilot Program)				2012-2018 (Rockfish Program)			
	CGOA Rockfish Trawl Catcher Vessels		GOA Trawl Endorsed LLPs used in the CGOA Rockfish Fishery		CGOA Rockfish Trawl Catcher Vessels		GOA Trawl Endorsed LLPs used in the CGOA Rockfish Fishery		CGOA Rockfish Trawl Catcher Vessels		GOA Trawl Endorsed LLPs used in the CGOA Rockfish Fishery	
	Annual Average Number of Active Vessels	Number of Unique Active Vessels	Number of Unique Active LLPs	Number of Unique Inactive LLPs	Annual Average Number of Active Vessels	Number of Unique Active Vessels	Number of Unique Active LLPs	Number of Unique Inactive LLPs	Annual Average Number of Active Vessels	Number of Unique Active Vessels	Number of Unique Active LLPs	Number of Unique Inactive LLPs
Kodiak	9.3	10	16	0	12.2	15	17	0	12.7	16	19	0
Anchorage*	0	0	1	0	0	0	0	0	0	0	0	0
False Pass*	0	0	1	0	0	0	1	0	0	0	0	0
Homer*	0	0	0	0	0	0	1	0	0	0	1	0
Sand Point*	0	0	1	0	0	0	1	0	0	0	0	0
Seattle MSA	3.3	4	15	0	4	5	16	0	5.4	7	19	0
Other Washington	3.3	4	9	0	3	4	9	0	4	4	8	0
Lincoln Co. Oregon	2.8	6	10	0	3	4	9	0	3.4	6	8	0
Other Oregon	4.8	5	7	0	3.8	6	5	0	1.6	5	8	0
Other States	1	1	1	0	0.4	1	1	0	0	0	1	0
Total	24.3	30	55	0	26.4	32	55	0	27.1	33	55	0

Note: Number of unique vessels and LLPs may not sum to column total as ownership may have changed during the periods shown.

* Alaska ownership of relevant LLPs outside of Kodiak is limited to these four communities. Anchorage appears in the data as an ownership address for 1 LLP in 2003 and 2004 (and ownership of that LLP is shown as Seattle for 2005-2018). False Pass appears in the data as the ownership address for 1 LLP for 2003-2009, while Homer appears as the ownership address for that same LLP for 2010-2018 (making this the only LLP shown as continuously having Alaska ownership for the entire 2003-2018 period outside of Kodiak, albeit in 2 different communities). Sand Point appears in the data as an ownership address for 1 LLP in 2006 and 2007 (and ownership of that LLP is shown as Bellingham WA for 2003-2005 and 2008-2013 and Kodiak for 2014-2018).

Source: AKFIN 2019, NOAA Fisheries 2019.

Figure 3. GOA Catcher Vessel LLP Licenses with Trawl Endorsements and CGOA Rockfish Program Quota Shares, by Community of Ownership, 2003-2018

LLP Count	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
2	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
3	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
4	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
5	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
6	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
7	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
8	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
9	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
10	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
11	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
12	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
13	Kodiak	Kodiak	Kodiak	Roland OK	Kodiak	Kodiak	Kodiak	Kodiak	Roland OK	Roland OK	Roland OK	Roland OK	Roland OK	Roland OK	Roland OK	Kodiak
14	Anacortes	Anacortes	Anacortes	Anacortes	Anacortes	Anacortes	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
15	Bellingham	Bellingham	Bellingham	Sand Point	Sand Point	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
16	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
17	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
18	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
19	False Pass	False Pass	False Pass	False Pass	False Pass	False Pass	False Pass	Homer	Homer	Homer	Homer	Homer	Homer	Homer	Homer	Homer
20	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Mercer Island	Renton	Renton
21	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
22	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
23	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
24	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
25	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
26	Seattle	Seattle	Seattle	Seattle	Sumner	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
27	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
28	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Issaquah	Issaquah	Seattle	Seattle	Seattle	Seattle	Edmonds	Edmonds
29	Shoreline	Shoreline	Shoreline	Shoreline	Seattle	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Seattle	Seattle	Seattle	Seattle
30	Kodiak	Kodiak	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
31	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
32	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Seattle	Seattle	Seattle	Woodway	Woodway
33	Anchorage	Anchorage	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
34	Siletz	Siletz	Siletz	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
35	Newport	Newport	Toledo	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
36	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
37	Cloverdale	Cloverdale	Cloverdale	Cloverdale	Cloverdale	Toledo	Toledo	Toledo	Toledo	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
38	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
39	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham
40	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee	E. Wenatchee
41	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend
42	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend
43	Camas	Fruitland ID	Fruitland ID	Fruitland ID	Fruitland ID	Camas	Camas	Camas	Camas	Camas	Camas	Camas	Camas	Camas	Camas	Camas
44	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Ridgefield	Ridgefield	Ridgefield	Ridgefield	Ridgefield	Ridgefield	Ridgefield
45	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz
46	Newport	Newport	Newport	Newport	Newport	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz
47	Newport	Newport	Newport	Newport	Newport	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz
48	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz
49	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Lincoln City	Newport
50	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport
51	Wilsonville	Wilsonville	Wilsonville	Clackamas	Clackamas	Clackamas	Clackamas	Clackamas	Clackamas	Clackamas	Newport	Newport	Newport	Newport	Newport	Newport
52	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	South Beach	Keizer	Keizer
53	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Astoria	Astoria	Astoria	Astoria	Astoria	Astoria	Astoria
54	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Astoria	Astoria	Astoria	Astoria	Astoria	Astoria	Astoria
55	Warrenton	Warrenton	Warrenton	Warrenton	Warrenton	Kodiak	Kodiak	Kodiak	Kodiak	Charleston	Charleston	Charleston	Charleston	Charleston	Charleston	Charleston

Key:	KODIAK ALASKA	OTHER ALASKA	SEATTLE MSA WASHINGTON	OTHER WASHINGTON	LINCOLN COUNTY OREGON	OTHER OREGON	OTHER STATES

Table 13. Number of Catcher Vessel Days Fished (days when hauls were recorded) in the CGOA Rockfish Trawl Fishery, 2003-2018

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Annual Average	Annual Average	Annual Average
CGOA Rockfish Fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Pre-RPP Years	RPP Years	RP Years
Open Access Fishery*	48	62	35	32	15	7	8	7	4	--	--	--	--	--	--	--	44.3	8.2	0
RPP and RP Fisheries	--	--	--	--	152	141	134	150	142	193	174	176	192	198	160	182	0	143.8	182.1
Total Days Fished	**48**	**62**	**35**	**32**	**167**	**148**	**142**	**157**	**146**	**193**	**174**	**176**	**192**	**198**	**160**	**182**	**44.3**	**152**	**182.1**
Entry Level Fishery Days Fished as a percent of Total Days Fished					9.0%	4.7%	5.6%	4.5%	2.7%	No Entry Level Fishery							--	5.40%	--

*Open access fishery years 2007-2011 represent entry level trawl fishery efforts. The entry level trawl fishery ended with the implementation of the Rockfish Program (with participation in the entry level fishery in 2007, 2008, and/or 2009 used as the qualifying years criterion for initial allocation of quota under the Rockfish Program).

Source: NMFS in-season management data.

Table 14. Correspondence of CGOA Rockfish Trawl Catcher Vessel Ownership Community and Crew Residence Community, 2015 and 2016

	CV Ownership Address 2015							CV Ownership Address 2016						
Community of CV Crew Residence	Kodiak	Seattle MSA	Other WA	Lincoln Co OR	Other OR	2015 Total	2015 Percent	Kodiak	Seattle MSA	Other WA	Lincoln Co OR	Other OR	2016 Total	2016 Percent
Kodiak	41	10	14	9	1	74	41.6%	45	18	12	6	1	78	41.5%
Anchor Point	2	--	1	--	--	3	1.7%	1	--	2	--	--	3	1.6%
Anchorage	4	--	--	--	1	4	2.2%	--	1	--	1	1	2	1.1%
Chiniak	1	--	--	--	--	1	0.6%	--	--	--	--	--	0	0.0%
Gustavus	1	--	--	--	--	1	0.6%	--	--	--	--	--	0	0.0%
Homer	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Juneau	1	--	--	--	--	1	0.6%	--	--	--	--	--	0	0.0%
Kenai	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Old Harbor	1	--	--	--	--	1	0.6%	1	--	--	--	--	1	0.5%
Palmer	1	1	--	--	1	3	1.7%	1	1	1	--	--	3	1.6%
Seward	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Soldotna	--	--	--	1	1	1	0.6%	--	1	--	--	--	1	0.5%
Sterling	--	--	1	--	--	1	0.6%	--	--	--	--	--	0	0.0%
Wasilla	--	--	--	--	--	0	0.0%	1	--	--	2	--	2	1.1%
Washington	5	9	5	--	--	18	10.1%	4	8	4	4	--	20	10.6%
Oregon	8	6	2	18	4	37	20.8%	12	--	--	20	3	34	18.1%
Other States	6	3	--	1	1	10	5.6%	3	4	1	1	2	11	5.9%
Unknown	10	3	6	4		23	12.9%	27	1	--	3	2	33	17.6%
Total	79	32	29	33	9	177	100%	95	34	20	37	9	188	100%
Percent	43.4%	17.6%	15.9%	18.1%	4.9%	100%	--	48.7%	17.4%	10.3%	19.0%	4.6%	100%	--

Table 15. Correspondence of CGOA Rockfish Trawl Catcher Vessel Ownership Community and Crew Residence Community, 2017 and 2018

Community of CV Crew Residence	CV Ownership Address 2017					2017 Total	2017 Percent	CV Ownership Address 2018					2018 Total	2018 Percent
	Kodiak	Seattle MSA	Other WA	Lincoln Co OR	Other OR			Kodiak	Seattle MSA	Other WA	Lincoln Co OR	Other OR		
Kodiak	54	11	7	8	1	80	42.3%	68	10	4	6	4	90	45.5%
Anchor Point	2	1	1	--	--	4	2.1%	3	--	--	--	--	3	1.5%
Anchorage	1	--	--	--	--	1	0.5%	1	--	--	--	--	1	0.5%
Chiniak	1	--	--	--	--	1	0.5%	--	--	--	--	--	0	0.0%
Gustavus	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Homer	--	1	--	--	--	1	0.5%	--	--	--	--	--	0	0.0%
Juneau	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Kenai	--	--	1	1	--	2	1.1%	--	--	--	--	--	0	0.0%
Old Harbor	1	--	--	--	--	1	0.5%	1	--	--	--	--	1	0.5%
Palmer	1	1	--	1	--	3	1.6%	2	--	--	1	--	3	1.5%
Seward	--	--	--	1	--	1	0.5%	--	--	--	--	--	0	0.0%
Soldotna	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Sterling	--	--	--	--	--	0	0.0%	--	--	--	--	--	0	0.0%
Wasilla	2	--	--	1	--	3	1.6%	2	--	--	--	--	2	1.0%
Washington	9	9	4	1	--	23	12.2%	3	14	--	1	--	18	9.1%
Oregon	8	6	2	15	1	32	16.9%	10	9	1	12	2	34	17.2%
Other States	7	9	--	2	2	20	10.6%	6	5	--	2	2	15	7.6%
Unknown	13	1	2	1	--	17	9.0%	18	5	--	10	--	31	15.7%
Total	99	39	17	31	4	189	100%	114	42	4	32	8	196	100%
Percent	52.1%	20.5%	8.9%	16.3%	2.1%	100%	--	57.0%	21.0%	2.0%	16.0%	4.0%	100%	--

Source: GOA CV EDR data 2019.

Table 16. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, by Community of Catcher Vessel Ownership, 2015

Community	Number of Catcher Vessels	Combined Number of Captains and Crew	Total Captain Labor Payments	Total Crew Labor Payments	Combined Captain and Crew Labor Payments	Percent of Grand Total
Kodiak, Alaska	11	79	$2,347,413	$3,460,009	$5,807,422	**48.7%**
Seattle MSA	6	41	$755,268	$1,133,794	$1,889,062	**15.9%**
Other Washington*	5	24	$807,401	$1,122,723	$1,930,124	**16.2%**
Washington Subtotal	11	65	$1,562,669	$2,256,517	$3,819,186	**32.1%**
Oregon**	4	35	$799,792	$1,488,469	$2,288,261	**19.2%**
Grand Total	**26**	**138**	**$4,709,874**	**$7,204,995**	**$11,914,869**	**100.0%**

Source: GOA EDR Data 2019

Table 17. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, by Community of Catcher Vessel Ownership, 2016

Community	Number of Catcher Vessels	Combined Number of Captains and Crew	Total Captain Labor Payments	Total Crew Labor Payments	Combined Captain and Crew Labor Payments	Percent of Grand Total
Kodiak, Alaska	13	97	$2,658,313	$3,861,948	$6,520,261	**55.5%**
Seattle MSA	5	30	$432,849	$582,077	$1,014,926	**8.6%**
Other Washington*	5	24	$807,401	$1,122,723	$1,930,124	**16.4%**
Washington Subtotal	10	54	$1,240,250	$1,704,800	$2,945,050	**25.1%**
Oregon**	4	35	$799,792	$1,488,469	$2,288,261	**19.5%**
Grand Total	**27**	**186**	**$4,698,355**	**$7,055,217**	**$11,753,572**	**100.0%**

Source: GOA EDR Data 2019

Table 18. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, by Community of Catcher Vessel Ownership, 2017

Community	Number of Catcher Vessels	Combined Number of Captains and Crew	Total Captain Labor Payments	Total Crew Labor Payments	Combined Captain and Crew Labor Payments	Percent of Grand Total
Kodiak, Alaska	12	95	$2,547,370	$3,841,949	$6,389,319	**55.0%**
Seattle MSA	5	35	$513,445	$779,047	$1,292,493	**11.1%**
Other Washington*	3	14	$462,224	$553,484	$1,015,708	**8.8%**
Washington Subtotal	8	49	$975,669	$1,332,531	$2,308,201	**19.9%**
Oregon**	5	27	$1,310,749	$1,599,377	$2,910,126	**25.1%**
Grand Total	**25**	**171**	**$4,833,788**	**$6,773,857**	**$11,607,646**	**100.0%**

Source: GOA EDR Data 2019

Table 19. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, by Community of Catcher Vessel Ownership, 2018

Community	Number of Catcher Vessels	Combined Number of Captains and Crew	Total Captain Labor Payments	Total Crew Labor Payments	Combined Captain and Crew Labor Payments	Percent of Grand Total
Kodiak, Alaska	13	114	$2,455,517	$3,762,148	$6,217,665	**60.4%**
Seattle MSA	5	40	$553,287	$842,664	$1,395,951	**13.6%**
Other Washington*	1	4	$170,261	$218,798	$389,059	**3.8%**
Washington Subtotal	6	44	$723,548	$1,061,462	$1,785,010	**17.3%**
Oregon**	5	32	$941,606	$1,344,047	$2,285,653	**22.2%**
Grand Total	**24**	**190**	**$4,120,671**	**$6,167,657**	**$10,288,328**	**100.0%**

Source: GOA EDR Data 2019

2.1.2 CGOA Rockfish Trawl Catcher Processors

Table 20 provides a count, by community and year (2003-2018), of CGOA rockfish trawl catcher processors by community of ownership address. As shown, the largest component of fleet ownership in every year during this period is in the Seattle MSA. Alaska ownership was limited to one catcher processor in Unalaska/Dutch Harbor during all but one year each in the pre-Rockfish Pilot Program and Rockfish Pilot Program periods. Washington CGOA rockfish trawl catcher processor ownership addresses outside of the Seattle MSA were limited to Bellingham in two years during the Rockfish Pilot Program period (2009 and 2010). No CGOA rockfish trawl catcher processors with Oregon ownership addresses are shown in the data for any year 2003 through 2018. Table 21 provides CGOA rockfish trawl catcher processor first wholesale gross revenue information for CGOA rockfish only by community and year (2003-2018) to the extent possible within data confidentiality restrictions. As shown, no data at the individual community level can be disclosed.

Table 22 provides information on CGOA rockfish trawl catcher processor dependency on CGOA trawl-caught rockfish compared to all other areas, gear types, and species fished by those same vessels. Table 23 provides information on overall "community catcher processor fleet" (all catcher processors with ownership addresses in that community, not just catcher processors that participate in the CGOA rockfish trawl fishery) dependency on CGOA trawl-caught rockfish compared to all other areas, gear types, and species fished by those vessels. (The universe of communities included in Table 23 consists of those communities with at least one CGOA rockfish trawl catcher processor having a local ownership address [Unalaska/Dutch Harbor; Bellingham, Washington; the Seattle MSA, and Rockland, Maine].) Importantly, these two tables are derived from a different data source than Table 21, with some differences resulting from limitations within available processor diversity data. Thus, these data should be used as a relative gauge of diversity rather than used in direct comparison to the preceding table. As shown, based on first wholesale gross revenues, for CGOA rockfish trawl catcher processors, CGOA rockfish trawl first wholesale gross revenues range between six and 7.5 percent of CGOA rockfish trawl catcher processor first wholesale gross revenues and account for about 1 percent of overall community trawl catcher processor fleet first wholesale gross revenues.

Table 24 provides information on the Amendment 80 and AFA status of CGOA rockfish trawl catcher processors by community and region. As with trawl catcher vessels, all things being equal, inclusion of trawl catcher processors in either or both of these classes would likely reduce the vulnerability of individual catcher processors to adverse impacts that could have resulted from adverse program impacts, if any, through co-op or other internal vessel class compensation mechanisms and/or separate accounting of PSC thresholds unique to that vessel class (thereby insulating these catcher processors somewhat from adverse consequences of actions of catcher processors outside of their restricted class over which they have very little influence or control).

Table 25 provides information on initial allocation of primary species to catcher processor LLP licenses, by community of LLP license ownership address, for the Rockfish Pilot Program and for the Rockfish Program, along with the change in quota share allocation between the two programs. A net gain or loss for grand total quota share shown for all catcher processor LLP licenses is possible as the result of quota moving between the catcher vessel and catcher processor sectors. As shown, apart from a gain quota share associated with Renton, Washington catcher processor ownership, declines are seen across the board in the catcher processor sector. This is due to two factors: a transfer of quota between the two sectors through a series of individual transactions and a change in qualifying years between the two programs. Table 26 provides a sum of quota share holdings of primary rockfish fishery species by percentage of all quota shares (catcher processors and catcher vessels combined) and distinct count of trawl catcher processor LLP licenses, by community, for the first year and the most recent year of Rockfish Program (2012 and 2019, respectively).

Figure 4 provides information on patterns of community of ownership over the years 2003-2018 of the 16 GOA trawl-endorsed catcher processor LLP licenses that have obtained quota shares under the CGOA

Rockfish Program. As shown, ownership is highly concentrated in the Seattle MSA and over the years three LLP licenses that previously had Bellingham, Washington ownership later came to have Seattle MSA ownership. Within the Seattle MSA, all the relevant LLP licenses were tied to a Seattle address until 2011, when the ownership address of three of the LLP licenses changed from Seattle to Renton, Washington, where they remained through 2016; in 2017 all three changed ownership address communities (one back to Seattle and two to Rockland, Maine). Between 2011, the last year of the Rockfish Pilot Program, and 2012, the first year of the Rockfish Program, two Seattle ownership address LLP licenses changed to having Kirkland ownership address, where they have remained through 2018, the most recent data year. From 2007 through 2016, 14 of the 16 LLP licenses had Seattle MSA ownership addresses, except for 2008 and 2009 when 15 of the 16 were had Seattle MSA ownership addresses. In two most recent data years, Seattle MSA ownership has been 12 out of 16 LLP licenses.[16]

Table 27 provides information the number of days fished annually by CGOA rockfish trawl catcher processors 2003-2018, as measured by the number of days hauls were recorded. As shown, the average annual number of days fished decreased between the pre-Rockfish Pilot Program years and the Rockfish Pilot Program years before increasing substantially between the Rockfish Pilot Program years and the Rockfish Program years.

Table 28 provides summary information on the number of employees and number of positions onboard CGOA rockfish trawl catcher processors in each year 2015 through 2018 (the only years for which EDR data are available). Information on catcher processor crew community of residence 2017 and 2018 from EDR data is provided in SIA Attachment 3 (Section 9, Table 57).[17] Information on fishery-specific numbers of positions and employees onboard is not available.

Table 29 provides summary information on the number of fishing days and labor expenses for CGOA rockfish trawl catcher processors in each year 2015 through 2018 (the only years for which EDR data are available). Information on fishery-specific fishing days and labor expenses is not available.

Table 20. Individual Active CGOA Rockfish Trawl Catcher Processors by Community of Vessel Owner, 2003-2018 (number of vessels)

	Pre-Rockfish Pilot Program Years				Rockfish Pilot Program Years					Rockfish Program Years							Annual Average 2003-2018 (number of vessels)	Annual Average 2003-2018 (percent of all vessels)	Total Unique CPs 2003-2018 (number of vessels)
Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Unalaska/Dutch Harbor AK	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0.4	6.9%	1
Bellingham WA	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0.2	3.4%	2
Kirkland WA	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8	32.2%	2
Renton WA	0	2	2	2	0	2	2	2	2	0	0	2	1	2	0	0	1.2	21.8%	2
Seattle WA	5	3	1	0	1	1	1	1	1	3	4	1	1	2	2	2	1.8	33.3%	8
Seattle MSA Subtotal	5	5	5	4	3	5	5	5	5	5	6	5	4	6	4	4	4.8	87.4%	8
Washington Subtotal	5	5	5	4	3	5	7	6	5	5	6	5	4	6	6	6	5.2	95.4%	8
Rockland ME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	2.3%	1
Grand Total	**5**	**6**	**6**	**4**	**4**	**6**	**8**	**7**	**5**	**5**	**6**	**5**	**4**	**6**	**5**	**5**	**5.4**	**100.0%**	**9**

Note: Due to vessel movement between communities over the years shown, total unique CPs per community may not sum to state or grand totals. Table includes only CPs targeting CGOA rockfish, not CPs landing rockfish as bycatch in other target fisheries.

Source: AKFIN 2019

[16] In 2018, five of these LLP licenses were not active in the fishery (three with a Seattle MSA ownership addresses, one with an "Other Washington" ownership address, and one with an "Other States" ownership address). These are included in this analysis as it is assumed, given their past history of participation in the fishery, they may be more likely than other vessels not currently in the fishery to choose to become active in the fishery should Alternative 1 (the No Action alternative) be selected.

[17] Similarly detailed information on catcher processor crew communities of residence for 2015 and 2016 is available in the Rockfish Program Review, SIA Appendix 1, Attachment 2, Tables 78 and 79 (Northern Economics 2017).

Table 21. CGOA Rockfish Trawl Catcher Processor First Wholesale Gross Revenues (in millions of 2009 dollars), CGOA Rockfish Only, by Community of Vessel Owner, 2003-2018

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Average	Average 2003-2018
Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2003-2018	(percent)
All Geographies	$6.73	$6.63	$8.96	$8.36	$5.31	$6.22	$5.18	$9.56	$13.63	$12.93	$9.46	$11.61	$12.39	$11.50	$12.53	$12.79	$9.61	100.00%

Source: AKFIN 2019

Table 22. CGOA Rockfish Trawl Catcher Processor First Wholesale Gross Revenue Diversification (in millions of 2009 dollars), All Communities of Ownership Combined, 2003-2018

Geography	Years	Annual Average Number of RockfishTrawl CPs	CGOA Rockfish First Wholesale Gross Revenues Annual Average ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average
CGOA Rockfish Trawl Catcher Processors Only	2003-2006 Pre-Rockfish Pilot Program	5.3	$7.7	$102.1	7.5%
CGOA Rockfish Trawl Catcher Processors Only	2007-2011 Rockfish Pilot Program	6.0	$8.0	$135.9	5.9%
CGOA Rockfish Trawl Catcher Processors Only	2012-2018 Rockfish Program	5.1	$11.9	$160.6	7.4%

Source: AKFIN 2019

Table 23. All Areas and Species First Wholesale Gross Revenues Diversity (in millions of 2009 dollars), Community CP Fleets, for All Communities with at least one CGOA Rockfish Trawl Catcher Processor, 2003-2018

Geography	Years	Annual Average Number of RockfishTrawl CPs	Annual Average Number of All CPs	CGOA Rockfish First Wholesale Gross Revenues Annual Average ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average
All Catcher Processors*	2003-2006 Pre-Rockfish Pilot Program	5.3	35.0	$7.7	$774.9	1.0%
All Catcher Processors*	2007-2011 Rockfish Pilot Program	6.0	33.0	$8.0	$803.8	1.0%
All Catcher Processors*	2012-2018 Rockfish Program	5.1	32.0	$11.9	$883.4	1.3%

*Includes all CPs with ownership in Unalaska/Dutch Harbor, Bellingham, the Seattle MSA, and Rockland, ME.

Source: AKFIN 2019

Table 24. CGOA Rockfish Trawl Catcher Processors Amendment 80 and AFA Program Designations by Community of Vessel Owner, Annual Average 2003-2018

	Annual Average 2003-2018 (number of CGOA Rockfish Trawl CPs)					Annual Average 2003-2018 (percent of CGOA Rockfish Trawl CPs)				
	Total Vessels	Amendment 80		AFA		Total Vessels	Amendment 80		AFA	
		Yes	No	Yes	No		Yes	No	Yes	No
Unalaska/Dutch Harbor AK	0.4	0.4	0	0	0.4	100%	100%	0%	0%	100%
Bellingham WA	0.1	0.1	0	0	0.1	100%	100%	0%	0%	100%
Kirkland WA	0.2	0.2	0	0	0.2	100%	100%	0%	0%	100%
Renton WA	1.8	1.8	0	0	1.8	100%	100%	0%	0%	100%
Seattle WA	1.2	1.2	0	0	1.2	100%	100%	0%	0%	100%
Seattle MSA Subtotal	1.8	1.8	0	0	1.8	100%	100%	0%	0%	100%
Washington Subtotal	4.8	4.8	0	0	4.8	100%	100%	0%	0%	100%
Rockland ME	5.2	5.2	0	0	5.2	100%	100%	0%	0%	100%
Grand Total	5.4	5.4	0	0	5.4	100%	100%	0%	0%	100%

Source: AKFIN 2019

Table 25. Initial Allocations of Primary Species to Trawl Catcher Processor Licenses, Rockfish Pilot Program and Rockfish Program, by Community, by Percentage of All Quota Shares (CV and CP combined)

State	Community	Northern Rockfish			Pacific Ocean Perch			Pelagic Shelf/Dusky Rockfish		
		Pilot	RP	Change	Pilot	RP	Change	Pilot	RP	Change
Washington	Renton WA	0.00%	13.27%	13.27%	0.00%	25.24%	25.24%	0.00%	7.67%	7.67%
	Seattle WA	32.23%	27.56%	-4.67%	40.88%	14.79%	-26.08%	41.50%	30.76%	-10.74%
	Seattle MSA Subtotal	32.23%	40.83%	8.60%	40.88%	40.03%	-0.84%	41.50%	38.43%	-3.07%
	Bellingham WA	6.41%	0.00%	-6.41%	9.34%	0.00%	-9.34%	13.20%	0.00%	-13.20%
	South Bend WA	0.00%	0.00%	0.00%	0.17%	0.00%	-0.17%	0.01%	0.00%	-0.01%
	Other WA Subtotal	6.41%	0.00%	-6.41%	9.51%	0.00%	-9.51%	13.21%	0.00%	-13.21%
	WASHINGTON TOTAL	38.64%	40.83%	2.18%	50.39%	40.03%	-10.35%	54.70%	38.43%	-16.27%
All CPs	**SUBTOTAL**	**38.64%**	**40.83%**	**2.18%**	**50.39%**	**40.03%**	**-10.35%**	**54.70%**	**38.43%**	**-16.27%**
All CVs	**SUBTOTAL**	**61.36%**	**59.17%**	**-2.18%**	**49.61%**	**59.97%**	**10.35%**	**45.30%**	**61.57%**	**16.27%**
CVs and CPs	**GRAND TOTAL**	**100.00%**	**100.00%**	**0.00%**	**100.00%**	**100.00%**	**0.00%**	**100.00%**	**100.00%**	**0.00%**

Source: 2017 Rockfish Program Review

Table 26. Sum of Quota Share Holdings of Primary Rockfish Species by Percentage of All Quota Shares (CP and CV combined) and Distinct Count Trawl Catcher Processor LLP Licenses, by Community, First Year (2012) and Most Recent Year (2019) of the Rockfish Program

State	Community	Northern Rockfish				Pacific Ocean Perch				Pelagic Shelf/Dusky Rockfish			
		2012		2019		2012		2019		2012		2019	
		Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses	Sum of Quota Share	Distinct Count of Licenses
Washington	Kirkland	0.00%	0	18.47%	2	0.00%	0	12.28%	2	0.00%	0	22.56%	2
	Renton	13.27%	3	0.00%	0	25.24%	3	0.00%	0	7.67%	3	0.00%	0
	Seattle	27.56%	8	13.29%	7	14.79%	7	12.91%	6	30.76%	8	11.22%	7
	WASHINGTON TOTAL	**40.83%**	**11**	**31.76%**	**9**	**40.03%**	**10**	**25.18%**	**8**	**38.43%**	**11**	**33.78%**	**9**
Maine	Rockland	0.00%	0	9.07%	2	0.00%	0	14.82%	2	0.00%	0	4.65%	2
All CPs	**SUB TOTAL**	**40.83%**	**11**	**40.83%**	**11**	**40.03%**	**10**	**40.00%**	**10**	**38.43%**	**11**	**38.43%**	**11**
All CVs	**SUBTOTAL**	**59.17%**	**46**	**59.17%**	**46**	**59.97%**	**45**	**60.00%**	**45**	**61.57%**	**46**	**61.57%**	**46**
CVs and CPs	**GRAND TOTAL**	**100.00%**	**57**	**100.00%**	**57**	**100.00%**	**55**	**100.00%**	**55**	**100.00%**	**57**	**100.00%**	**57**

Source: AKFIN 2019

Figure 4. GOA Catcher Processor LLP Licenses with Trawl Endorsements and CGOA Rockfish Program Quota Shares, by Community of Ownership, 2003-2018

LLP Count	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
2	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
3	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
4	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
5	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
6	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
7	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Renton	Renton	Renton	Renton	Renton	Renton	Seattle	Seattle
8	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland
9	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland
10	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
11	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
12	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
13	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend	South Bend
14	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Renton	Renton	Renton	Renton	Renton	Renton	Rockland ME	Rockland ME
15	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Renton	Renton	Renton	Renton	Renton	Renton	Rockland ME	Rockland ME
16	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME

KEY	SEATTLE MSA WASHINGTON	OTHER WASHINGTON	OTHER STATES

Table 27. Number of Catcher Processor Days Fished (days when hauls were recorded) in the CGOA Rockfish Trawl Fishery, 2003-2018

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Annual Average	Annual Average	Annual Average
Fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Pre-RPP Yrs	RPP Years	RP Years
CGOA Rockfish Trawl	89	68	67	71	50	71	61	72	68	102	87	119	124	144	123	107	73.8	64.4	115.1

Source: NMFS in-season management data.

Table 28. Summary Number of Positions and Employees Onboard CGOA Rockfish Trawl Catcher Processors, 2015-2018

Year	CP Ownership Communities (Number of CPs)	Number of CPs*	Number of Employees Onboard				Average Number of Positions Onboard			
			Fishing (Deck Crew)	Processing	All Other **	Total	Fishing (Deck Crew)	Processing	All Other **	Total
2015	Kirkland (2) Seattle (1) Renton (1)	4	58	259	66	383	27	104	26	157
2016	Kirkland (2) Seattle (1) Renton (2)	5	88	322	96	506	36	139	36	211
2017	Kirkland (2) Seattle (1) Rockland ME (1)	4	53	326	71	450	29	115	30	174
2018	Kirkland (2) Seattle (1) Rockland ME (1)	4	42	307	61	410	26	122	30	178
Grand Total		**17**	**241**	**1,214**	**294**	**1,749**	**118**	**480**	**122**	**720**

* Includes only those catcher processors that actively fished in the CGOA rockfish target fishery (i.e., does include catcher processors assigned to rockfish cooperatives that did not actively fish CGOA rockfish in a given year, although those catcher processors and their employees may have benefited in several ways from being a part of rockfish cooperatives through the ability to optimize participation in other fisheries, etc.).

**Includes officers, engineers, cooks, etc.

Source: EDR Data (NOAA Fisheries 2019).

Table 29. Summary Number of Fishing Days by Fishery and Labor Expenses for CGOA Rockfish Trawl Catcher Processors, 2015-2018

Year	CP Ownership Communities (Number of CPs)	Number of CPs*	Number of Days by Fishery				Labor Expenses***			
			A80 (BSAI)	GOA	Other	Total	Fishing (Deck Crew)	Processing	All Other **	Total
2015	Kirkland (2) Seattle (1) Renton (1)	4	717	233	missing data	950	$3,350,241	$9,334,333	$6,024,615	$18,709,189
2016	Kirkland (2) Seattle (1) Renton (2)	5	1,010	192	0	1,202	$4,816,692	$13,862,034	$8,538,540	$27,217,266
2017	Kirkland (2) Seattle (1) Rockland ME (1)	4	642	219	0	861	$4,281,754	$17,108,769	$9,626,600	$31,017,123
2018	Kirkland (2) Seattle (1) Rockland ME (1)	4	679	161	105	945	$4,562,790	$13,751,914	$12,866,222	$31,180,926
Grand Total		**17**	**3,048**	**805**	**105**	**3,958**	**$17,011,477**	**$54,057,050**	**$37,055,977**	**$108,124,504**

* Includes only those catcher processors that actively fished in the CGOA rockfish target fishery (i.e., does include catcher processors assigned to rockfish cooperatives that did not actively fish CGOA rockfish in a given year, although those catcher processors and their employees may have benefited in several ways from being a part of rockfish cooperatives through the ability to optimize

**Includes officers, engineers, cooks, etc.

***Includes bonuses and payroll taxes, but excludes benefits and insurance.

Source: EDR Data (NOAA Fisheries 2019).

2.1.3 Shore-Based Processors Accepting Trawl-Caught CGOA Rockfish Deliveries

Table 30 provides information on the distribution of shore-based processors that accepted trawl-caught CGOA rockfish deliveries in the period 2003-2018. As shown, among Alaska communities, shore-based processing was limited to Kodiak, apart from some processing that occurred in 2011 in Seward (likely because of provisions in the Rockfish Pilot Program entry level trawl fishery that required participants in that fishery to land their CGOA trawl-caught rockfish at shore-based processors that were not affiliated with a cooperative[18]). For the purposes of this analysis, shore-based CGOA trawl-caught rockfish processors are defined as those shore-based entities (as identified by "F_ID" [intent to operate] and "SBPR" [shore-based processor] codes in AKFIN [Alaska Fisheries Information Network] data) accepting catcher vessel CGOA trawl-caught rockfish deliveries.[19]

Table 31 provides information on the first wholesale gross revenues from trawl-caught CGOA rockfish deliveries by community and year (2003-2014) to the extent possible within data confidentiality restrictions. As shown, only information for Kodiak can be disclosed on an individual community basis for the years 2003-2010 and 2012-2018; in 2011, data from Kodiak and Seward are combined.

Table 32 provides information on average annual shore-based processor dependency on CGOA trawl-caught rockfish compared to all area and species fisheries landings processed by those same processors for the 2003-2006, the Pre-Rockfish Pilot Program period, 2007-2011, the Rockfish Pilot Program Period, and 2012-2018, the Rockfish Program period. Importantly, this table is derived from a different data source than the preceding table, with differences resulting from limitations within available processor (both shore-based processor and catcher processor) diversity data. Thus, these data should be used as a relative gauge of diversity rather than used in direct comparison to the preceding table. As shown, in the case of Kodiak CGOA trawl-caught rockfish processors, about 12, 9, and 6 percent of the total first wholesale gross revenues generated by landings at the processors were associated with CGOA trawl-caught rockfish those successive periods.

Table 33 provides information on average annual total shore-based processor dependency (all shore-based processors in the communities that had at least one CGOA rockfish trawl shore-based processor, not just the shore-based processors that participated in the CGOA rockfish trawl fishery) on CGOA trawl-caught rockfish compared to all area and species fishery landings processed by all processors for the 2003-2006, the Pre-Rockfish Pilot Program period, 2007-2011, the Rockfish Pilot Program Period, and 2012-2018, the Rockfish Program period. This table is derived from the same data source as the preceding table, and the same data interpretation caveats detailed above equally apply. As shown, the distribution pattern and total value of CGOA trawl-caught rockfish ex-vessel gross revenues for all community processors closely tracked those processors accepting CGOA trawl-caught rockfish deliveries over these same years.

[18] All of the shore-based processors that were affiliated with cooperatives under the Rockfish Pilot Program were in Kodiak, but not all shore-based processors in Kodiak were affiliated with a cooperative. Deliveries by CGOA rockfish trawl vessels participating in the entry level trawl fishery made the large majority of their deliveries to Kodiak shore-based processors.

[19] The shore-based CGOA trawl-caught rockfish processing activity attributed to Seattle in 2003 (i.e., during the pre-pilot program period) in this table is actually activity associated with a Seattle-owned inshore floating processor operating in Alaska waters (but for which good operation location data are not available). "Other/Unknown" shore-based processing activity shown as occurring during two of the Rockfish Program years (2012 and 2015) is assumed to have occurred in Kodiak due to Rockfish Program landing requirements, but this activity cannot be assigned to specific Kodiak processors because of incomplete records in the data.

Table 30. Shore-Based Processors Accepting CGOA Rockfish Trawl-Caught Deliveries by Community, 2003-2018 (number)

Geography	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Average 2003-2018 (number)	Average 2003-2018 (percent)	Unique SBPRs 2003-2018 (number)
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Kodiak AK	5	7	7	8	8	6	6	8	8	7	7	7	6	7	6	5	6.8	96.4%	12
Seward AK	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	0.9%	1
Seattle WA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0.9%	1
Other/Unknown	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0.1	1.8%	1
Grand Total	**6**	**7**	**7**	**8**	**8**	**6**	**6**	**8**	**9**	**8**	**7**	**7**	**7**	**7**	**6**	**5**	**7.0**	**100.0%**	**15**

Source: AKFIN 2019

Table 31. First Wholesale Gross Revenues (in millions of 2009 dollars) from CGOA Rockfish Trawl-Caught Deliveries to Shore-Based Processors by Community, 2003-2018

Geography	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Annual Average 2003-2018
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	
Kodiak and Seward* AK	$10.43	$9.78	$13.53	$12.88	$10.24	$9.84	$10.36	$12.92	$15.53	$19.11	$13.28	$13.98	$14.01	$19.09	$15.18	$18.40	$13.66

Note: Landings took place in Seward in 2011 only.
Source: AKFIN 2019

Table 32. Shore-Based Processors in Alaska Accepting CGOA Trawl-Caught Rockfish Deliveries First Wholesale Gross Revenues Diversity (in 2009 dollars), by Community, 2003-2018

Geography	Years	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average
Kodiak, AK	2003-2006 Pre-Rockfish Pilot Program	6.8	$11.9	$101.2	11.7%
Kodiak and Seward, AK*	2007-2011 Rockfish Pilot Program	7.4	$12.2	$133.5	9.1%
Kodiak, AK	2012-2018 Rockfish Program	6.9	$16.1	$277.3	5.8%

*Landings only took place in Seward in 2011 only.
Source: AKFIN 2019

Table 33. All Areas and Species First Wholesale Gross Revenues Diversity (in 2009 dollars) by Community for All Shore-Based Processors (for Alaska communities with at least one shore-based processor accepting CGOA trawl-caught rockfish deliveries), 2003-2018

Geography	Years	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish	Average Number of Total Processors	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average
Kodiak, AK	2003-2006 Pre-Rockfish Pilot Program	6.8	8.0	$11.9	$101.9	11.7%
Kodiak and Seward, AK*	2007-2011 Rockfish Pilot Program	7.4	10.0	$12.2	$133.7	9.1%
Kodiak, AK	2012-2018 Rockfish Program	6.9	9.9	$16.1	$289.1	5.6%

*Landings only took place in Seward in 2011 only.
Source: AKFIN 2019

2.2 CGOA Rockfish Longline Fishery Indicators

As noted in the EA/RIR to which this SIA is appended, the entry level longline fishery is open to hook-and-line, jig, troll, and handline gear. To date, available data show activity in only the hook-and-line and jig gear sectors, as described below.

Vessels fishing in the Rockfish Pilot Program entry level allocation in Federal waters were required to have an LLP license and be registered for the entry level fishery. All vessels (both trawl and longline entry level vessels) that fished in the Federal fishery under the Rockfish Pilot Program were prohibited from delivering their entry level species catch to a processor in a rockfish cooperative.[20] While the trawl entry level fishery was eliminated when the Rockfish Program was implemented, the longline entry level fishery has continued. Under the Rockfish Program, participants in the entry level longline fishery are no longer required to register, they may deliver their harvest to any shore-based processing facility, including those affiliated with cooperatives, in any community in the GOA, and they are not subject to fees related to the cost recovery program implemented under the Rockfish Program.

Whereas the Rockfish Pilot Program established a set-aside total allowable catch (TAC) percentage for the entry level longline fishery, under the Rockfish Program a set number of metric tons is allocated to the limited access longline fishery. These limits did not constrain effort under the Rockfish Pilot Program and have not to date under the Rockfish Program. Under the Rockfish Program allocations to the longline fishery can be increased if the sector harvests 90 percent of their allocation the previous year (with varying caps by primary rockfish species[21]).

2.2.1 CGOA Rockfish Hook-and-Line Catcher Vessels

Table 34 provides information on individual CGOA rockfish hook-and-line catcher vessels active in the federal open access fishery, by community of vessel owner, for the period 2003-2018. As shown, a total of eight unique vessels accounting for a total of 10 vessel participation years were active in the fishery during 2003-2006 (the pre-Rockfish Pilot Program years) and none were active during the subsequent Rockfish Pilot Program or Rockfish Program years.

Of the eight unique vessels participating in the fishery, six of the eight were from three different Alaska communities. None of the Alaska-owned vessels participated in the fishery for more than one year and, while quantitative harvest information is confidential, in qualitative terms none of the annual harvests of these vessels in this fishery would have been characterized as substantial. One vessel with Washington ownership outside of the Seattle MSA participated in the fishery for one year and one vessel for which

[20] Longline vessels that fished exclusively in parallel waters and did not have an LLP or a federal fisheries permit were not required to register for the program, and they were allowed to deliver their catch to any processor - including processors qualified for the main program.

[21] As described in 2017 Rockfish Program Review, in 2012, the allocation to the rockfish entry level longline fishery was 5 mt for Northern rockfish, 5 mt for Pacific ocean perch, and 30 mt for pelagic shelf/dusky rockfish. If catch during a calendar year exceeds 90 percent of the allocation, then allocation in the following calendar year would increase by 5 mt for Northern rockfish, 5 mt for Pacific ocean perch, and 20 mt for pelagic shelf/dusky rockfish, except the maximum amount of TAC assigned to the Rockfish Program (after deducting the incidental catch allowance) that may be allocated to the longline rockfish entry level fishery is 2 percent for Northern rockfish, 1 percent for Pacific ocean perch, and 5 percent for pelagic shelf/dusky rockfish. In 2016, 90 percent of the 30 mt allocation of pelagic shelf/dusky rockfish was taken, resulting in an increased allocation of 50 mt in 2017. As of 2019, the entry level longline fishery has not taken 90 percent of the allocation of Northern rockfish or Pacific ocean perch and the entry level allocations remain at 5, 5, and 50 mt for Northern Rockfish, Pacific ocean perch, and pelagic shelf/dusky rockfish, respectively.

good ownership location information is unavailable fished in three separate years. Among the "outside of Alaska and/or unknown ownership location" vessels, one vessel in one year had a harvest that would be considered more substantial than any other of the vessels in any year in any known or unknown ownership location.

Table 34. Individual CGOA Rockfish Hook-and-Line Catcher Vessels by Community of Vessel Owner, Federal Open Access Fishery, 2003-2018 (number of vessels)

Community	Pre-Rockfish Pilot Program				Total Unique CVs
	2003	2004	2005	2006	
Homer	2	1	0	1	4
Seldovia	1	0	0	0	1
Willow	0	1	0	0	1
Alaska Subtotal	3	2	0	1	6
Lynden, WA	0	0	1	0	1
Unknown	1	1	1	0	1
Grand Total	**4**	**3**	**2**	**1**	**8**

Source: AKFIN 2019

2.2.2 CGOA Rockfish Jig Catcher Vessels

Table 35 provides information on individual CGOA rockfish jig catcher vessels active in the federal open access fishery, by community of vessel owner, for the period 2003-2018.[22] Table 36 provides information on ex-vessel gross revenues of landings made by these vessels.

As shown, participation in the fishery was concentrated among Alaska-owned vessels. Alaska-owned vessels accounted for 56 of 64 (88 percent) of the unique vessels that participated in the fishery and 107 of 124 (86 percent) of the participating vessel years over this period.

Among Alaska-owned vessels, only those owned in Kodiak participated in every year 2003-2018 and, with two exceptions, they were the only vessels that participated in any of the Rockfish Program years. A total of 41 unique Kodiak-owned vessels have participated in the fishery over this time, accounting for 84 vessel fishing years. The number of Kodiak vessels participating each year ranged from seven to 12 in the pre-Rockfish Pilot Program years; one to five in the Rockfish Pilot Program years, and two to seven in the Rockfish Program years. Among the eight other Alaska communities shown:

- Participation in the fishery for four communities consisted of one vessel in one year: Anchor Point (2009), Chiniak (2004), Old Harbor (2008), and Port Lions (2006).
- Ouzinkie participated in two years (2003 and 2004) with a different vessel each year.
- Wasilla-owned vessels participated in four different years. One unique vessel participated in two years (2007 and 2009), while two different vessels participated in one other year each (2017 and 2018), for a total of three unique vessels.
- Anchorage-owned vessels participated in the fishery each year 2003-2008, with two vessels active in 2004 and one vessel active in each the other years (with a total of three unique Anchorage-owned vessels overall participating in the fishery).

[22] As noted in Section 2.2 (and in greater detail in Section 3.5.1.2.2 of the EA/RIR to which this SIA is appended), individual longline vessels, including jig vessels, are not allocated quota share, cannot join cooperatives, or fish cooperative quota under the Rockfish Program. Rather, these vessels fish off a sector allocation made to the rockfish entry level longline fishery that at present (2020) stands at 5 mt for Northern rockfish, 5 mt for Pacific ocean perch, and 50 mt for pelagic shelf/dusky rockfish.

- A total of five unique Homer-owned vessels participated in the fishery: two were active in 2004, with one was active in 2006, 2007, 2009, and 2017. The vessel that participated in 2017 was the only vessel to participate in two different years.

No vessels owned outside of Alaska participated in the jig fishery during the Rockfish Program years. A total of six Washington-owned vessels, all from outside of the Seattle MSA, participated in the fishery between 2003 and 2007, with four different communities accounting for one unique vessel each and a fifth accounting for two unique vessels (and the only vessel that fished outside of the pre-Rockfish Pilot Program years). Washington-owned vessels accounted for a total of eight vessel fishing years

A total of four unique Oregon-owned vessels from three different communities accounted for a total of five vessel fishing years between 2004 and 2011. Participation of vessels from other states or unknown ownership locations were limited to the pre-Rockfish Pilot Program years, consisting of three unique vessels and four vessel fishing years.

Table 35. CGOA Rockfish Jig Catcher Vessels by Community of Vessel Owner, Federal Open Access Fishery, 2003-2018 (number of vessels)

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Total Unique
Community	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CVs
Anchor Point	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Anchorage	1	2	1	1	1	1	--	--	--	--	--	--	--	--	--	--	3
Chiniak	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Homer	--	2	--	1	1	--	1	--	--	--	--	--	--	--	1	--	5
Kodiak	7	12	11	8	5	5	4	1	1	2	4	3	5	7	5	4	41
Old Harbor	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1
Ouzinkie	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Port Lions	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	1
Wasilla	--	--	--	--	1	--	1	--	--	--	--	--	--	--	1	1	3
Alaska Subtotal	**9**	**18**	**12**	**11**	**8**	**7**	**7**	**1**	**1**	**2**	**4**	**3**	**5**	**7**	**7**	**5**	**56**
Bellingham	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Blaine	--	--	1	1	1	--	--	--	--	--	--	--	--	--	--	--	2
Bow	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Cathlamet	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Ridgefield	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Washington Subtotal	**1**	**1**	**4**	**1**	**1**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**6**
Brookings	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Newport*	--	--	--	1	--	1	--	1	--	--	--	--	--	--	--	--	2
Warrenton	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	1
Oregon Subtotal	**--**	**1**	**--**	**1**	**--**	**1**	**--**	**1**	**1**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4**
Lemmon SD	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Steamboat CO	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Other States Subtotal	**--**	**2**	**1**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2**
Unknown	1	--	--	--	--	--	--	--	--	--	--	--	--	--		--	1
Grand Total (Unique Vessels)	**11**	**22**	**17**	**13**	**9**	**8**	**7**	**2**	**2**	**2**	**4**	**3**	**5**	**7**	**7**	**5**	**64**

*Newport is the only Oregon community listed that is within Lincoln County. None of the Washington communities listed are within the Seattle MSA.
Source: AKFIN 2019

Table 36. Ex-Vessel Gross Revenues (in 2009 dollars), CGOA Rockfish Jig Catcher Vessels by Community of Vessel Owner, Federal Open Access Fishery, 2003-2018

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program						
Community	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Kodiak	$3,797	$16,069	$5,275	$1,568	$2,208	$20	$3,293	*	*	*	$5,473	*	$5,549	$25,182	**	**
Other Alaska	*	$2,198	*	*	*	*	*	$0	$0	$0	$0	$0	$0	$0	*	*
Alaska Subtotal	**	$18,268	**	**	**	**	**	*	*	*	$5,473	*	$5,549	$25,203	**	**
Other States and Unknown Subtotal	*	$9,749	*	*	*	*	$0	$0	*	$0	$0	$0	$0	$0	$0	$0
Grand Total	**$4,237**	**$28,016**	**$11,749**	**$4,802**	**$3,291**	**	**	*	*	*	**$5,473**	*	**$5,549**	**$25,203**	**$7,773**	**$3,870**

*Denotes suppressed confidential data.

**Denotes values suppressed to protect confidential data in other cells.

Source: AKFIN 2017a

2.2.3 Shore-based Processors Accepting Longline-Caught CGOA Rockfish Deliveries

Table 37 provides information on the distribution of shore-based processors that accepted longline-caught CGOA rockfish deliveries in the period 2003-2018. As shown, shore-based processing of longline-caught CGOA rockfish occurred in 10 different Alaska communities over this period. This relatively wide distribution of community engagement in the CGOA longline rockfish fishery through ongoing shore-based processing effort is, however, likely less substantial than it may appear, as shown in the next table.

Table 38 provides information on the ex-vessel value of longline-caught CGOA rockfish deliveries by community and year (2003-2018) to the extent possible within data confidentiality constraints. As shown, the only community for which values can be shown separately is Kodiak, and then only for seven out of the 16 years covered by the data, due only two Kodiak processors engaged in the fishery in 2010 and the small number of processors outside of Kodiak in eight other years). Readily apparent, however, is the modest scale of engagement of communities outside of Kodiak, with the annual average ex-vessel value of deliveries to the nine Alaska communities outside of Kodiak combined being less that one thousand dollars per year during the 2003-2018 period, or, on average, just over $100 per year per community (with average values for individual communities ranging from less than one dollar to approximately $320, with values in any given year exceeding $1,000 occurring in only one year each in two different communities).

Table 37. Number of Shore-Based Processors Accepting Longline-Caught CGOA Rockfish from the Federal Open Access Fishery, by Community of Operation, 2003-2018

Community	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Average 2003-2018 (number)	Average 2003-2018 (percent)	Unique SBPRs* 2003-2018 (number)
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Kodiak	6	6	5	5	6	3	6	2	5	3	6	5	5	7	6	5	5.1	63.3%	12
Akutan	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	--	0.1	0.8%	1
Anchorage	1	1	--	--	--	--	--	--	--	--	1	--	1	1	1	2	0.5	6.3%	2
Cordova	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	0.8%	1
Homer	3	2	--	--	--	--	1	--	1	1	1	--	1	1	1	--	0.8	9.4%	4
Kenai	2	1	--	--	--	--	--	--	--	--	--	--	--	--	1	1	0.3	3.9%	3
Ninilchik	1	1	1	1	--	--	--	--	--	--	--	--	--	--	--	--	0.3	3.1%	1
Sand Point	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	0.8%	1
Seward	1	--	--	--	--	2	--	--	2	1	1	1	1	2	2	1	0.9	10.9%	4
Sitka	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	0.8%	1
Grand Total	**16**	**11**	**7**	**6**	**6**	**5**	**7**	**2**	**8**	**5**	**9**	**7**	**8**	**11**	**11**	**9**	**8.0**	**100.0%**	**30**

*Note: counts are based on unique shore-based processor intent to operate codes in the data.
Source: AKFIN 2019

Table 38. Ex-Vessel Value (in 2009 dollars) of CGOA Rockfish Longline-Caught Deliveries from the Federal Open Access Fishery to Shore-Based Processors, by Community, 2003-2018

Community	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Grand Total	Annual Average 2003-2018 (dollars)	Annual Average 2003-2018 (percent)
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
Kodiak	$6,136	$50,792	**	**	**	**	**	*	**	**	$14,382	**	$6,399	$58,313	$8,441	$5,029	$288,821	$18,051	95.2%
All Others	$2,279	$320	*	*	*	*	*	*	*	*	$559	*	$1,056	$1,251	$1,985	$1,201	$14,507	$907	4.8%
Grand Total	$8,415	$51,112	$109,448	$14,293	$6,751	**	$407	*	$10,338	$912	$14,941	$2,598	$7,455	$59,565	$10,426	$6,230	$303,328	$18,958	100.0%

*Denotes confidential data.
**Denotes data suppressed to protect confidential data in other cells.
Source: AKFIN 2019

3 Community Context of the CGOA Rockfish Fishery

3.1 Overview

This section contains a set of characterizations of communities that were substantially engaged in and/or substantially dependent upon the CGOA rockfish trawl fishery over the period 2003-2018, organized by their geographic location and sector mode of engagement in the fishery. The first subsection focuses on Alaska communities. Within Alaska, Kodiak is the center of this fishery with respect to local catcher vessel ownership addresses, shore-based processing activity, support service business engagement with the fishery, and public revenues deriving from the fishery. Given this level of engagement, a summary profile of Kodiak, focusing on the role of the CGOA rockfish trawl fishery in the community, is provided. A separate discussion more briefly notes the nature and level of engagement in the fishery by other Alaska communities as a group.

The second subsection focuses on communities in the Pacific Northwest. Within the Pacific Northwest summary information on two communities or groupings of communities is presented based on substantial engagement in the CGOA rockfish trawl fishery through one or more sectors relative to other participating communities in the Pacific Northwest region: the Seattle, Washington metropolitan area and Lincoln County, Oregon (based on substantial multi-sector engagement in the former and substantial locally owned catcher vessel engagement in the latter).

The level of detail provided in the following community discussions varies by the nature and relative order of magnitude of community engagement in and/or dependency on the fishery and, therefore, the likelihood that these communities would experience community-level social impacts under one or more of the proposed alternatives. In general, however, the community sections are relatively brief, given that the 2017 Rockfish Program Review SIA covered these topics in detail, is readily available,[23] and is incorporated by reference (Northern Economics 2017).

The community description of Kodiak covers, in summary form, local demographics, the local economy and socioeconomic context, commercial fisheries engagement through the harvest and processing sectors, the local fishing support service sector, and fishery related public revenue sources. Other communities are described in less detail, with relevant information presented in more abbreviated form, and then only to the extent necessary to contextualize the community's specific type of involvement in the CGOA rockfish fishery.

3.2 Alaska Communities

3.2.1 Kodiak

3.2.1.1 Introduction, Location, and History

The city of Kodiak, located on a northeastern shore of Kodiak Island and bridge connected Near Island in the Gulf of Alaska, is approximately 250 miles southwest of Anchorage. Kodiak is incorporated as a Home Rule City within the Kodiak Island Borough (KIB). Kodiak Island is only reachable by air and sea, but an on-island road system, which does not connect to the other incorporated communities in the borough, does connect Kodiak to the unincorporated census designated places of Chiniak and Womens Bay, as well Kodiak Station, the site of the largest U.S. Coast Guard installation in the country. Kodiak is adjacent to the CGOA Regulatory Area, Kodiak District (630), and halibut regulatory area 3A (Figure 1).

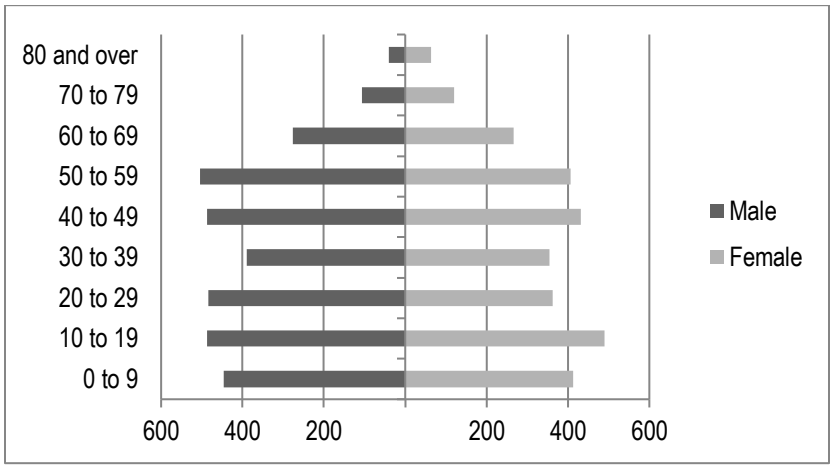
[23] https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Rockfish/CGOA_RockfishReview_SIA1017.pdf

Kodiak Island, including the area encompassed by the contemporary community of Kodiak, is estimated to have been inhabited for at least 7,500 years by the ancestors of the present-day inhabitants of the Alutiiq culture area. At the time of the Russian contact in the mid-1700s, the peoples living on Kodiak Island were the Koniags, the Alutiiq of Kodiak Island and the Alaska Peninsula; following contact disease, violence, and hardship drastically reduced the indigenous population of the island (NOAA 2013). A Russian trading post was established on a site that is now a part of the city of Kodiak in 1792 and for a time the community served as the capital of Russian America. While the fur trade continued after the purchase of Alaska by the United States, substantive development of commercial fishing in the area can be traced back to the establishment of a cannery on the Karluk spit in 1882, with multiple canneries opening in the 1890s. The community served as a major center of military activity during the Aleutian Campaign in World War II, with the local Navy base of that era providing the foundation of the contemporary Coast Guard installation. Following the war, Kodiak once again became an important regional center for fish processing (NOAA 2013).

3.2.1.2 Community Demographics

According to U.S. Census figures from 2010, a total of 6,130 people reside in Kodiak. There were proportionally more males in the population than most communities profiled, as demonstrated in Figure 5, and the largest cohort of residents consisted of individuals aged 10 to 19. The gender composition of Kodiak varies from state and national averages, especially during those years when individuals would be mostly likely to be in the active labor pool, indicative of being the work location of an industry or industries with predominately male, relatively transient workforces whose members have come to Kodiak for employment. However, Kodiak's population is not as disproportionately male as some of the smaller communities in the southwestern Alaska region that are tied to very large seafood processing operations relative to the overall population base, reflective of a more diverse economy and larger population base in Kodiak (AECOM 2013).

Figure 5. Kodiak 2010 Population Structure



Source: U.S. Census Bureau 2011

Census figures from 2010 show that 40.3 percent of the residents of Kodiak identified themselves as White, 9.9 percent as American Indian or Alaska Native, 0.5 percent as Black/African American, 37.4 percent as Asian, 1.0 percent as Pacific Islander, and 10.9 percent as "some other race" or "two or more races." Finally, 9.4 percent of the residents of any race in Kodiak identified themselves as Hispanic. Based on race and ethnicity combined, 62.7 percent of Kodiak's total population was composed of minority residents (that is, all residents other than those identified as White/non-Hispanic

[race/ethnicity]). In general, compared to several smaller fishing communities in the region, Kodiak has a relatively small Alaska Native population segment, but one that is larger than those communities in the region that were not originally Alaska Native communities. Like the smaller fishing communities of King Cove and Sand Point in the Western GOA, however, Kodiak has a sizeable Asian/Pacific Islander/Other population segment that is often associated with larger seafood processing operations that in other communities draw a proportionately large number of workers from a non-local labor pool (AECOM 2013).

Housing data from the U.S. Census, as shown in Table 39, indicate that 97.7 percent of all Kodiak residents lived in non-group quarters housing, with total housing units in Kodiak numbering 2,178. Of those housing units, approximately 93.6 percent were occupied. Family households number 1,342, with an average household size of 2.94 persons. The relatively few residents living in group quarters differentiates Kodiak from many other communities dominated by seafood processing, as those communities typically have substantial numbers of relatively transient residents living in group housing. Despite a large seafood processing population, these workers tend to be long-term Kodiak residents and do not live in group quarters housing, although many may have originally come to the community for seafood processing employment opportunities before settling in the community for the longer term (AECOM 2013).

Table 39. Kodiak 2010 Housing Information

Category	Number	Percent
Total Population	6,130	100.0%
Living in Non-Group Quarters	5,986	97.7%
Living in Group Quarters	144	2.3%
Total Housing Units	2,178	100.0%
Occupied Housing (Households)	2,039	93.6%
Vacant Housing	139	6.4%
Family Households	1,342	65.8%
Average Household Size	2.94	--

Source: U.S. Census Bureau 2011

Figure 6 provides a comparison of selected demographic indices for race, ethnicity, and minority status by housing type for Kodiak. As shown, the demographics of the portion of the population living in non-group quarters is quite different from the portion of the population living in group quarters. In other communities in southwestern Alaska with relatively large processing capacity, such as Sand Point and King Cove, it is common for Alaska Native residents to make up a relatively large proportion of the non-group quarters population and a relatively small proportion of the group quarters population, with the opposite being true for persons of Asian/Pacific Islander/Other descent. In Kodiak, that pattern is reversed, which is primarily attributable to two factors. First, a substantial portion of the Kodiak population consists of individuals who originally came to Kodiak for employment opportunities in the processing industry but who stayed long-term, settling in the community as permanent residents (and/or are individuals who have kinship or other pre-existing social ties to other individuals who did so), a situation not common in other southwest Alaska communities. Second, group quarter housing in other (smaller) southwest Alaska communities with relatively large processing capacity tends to be processor housing that, in turn, houses a large portion of the total population of the community. In Kodiak, however, relatively few people live in group quarters housing, and much of that housing is not affiliated with processing entities, with several examples including homeless shelters, juvenile correction facilities, and nursing facilities, residential institutions that are not common in smaller fishing communities in the region.

Figure 6. Selected Demographic Indices by Housing Type, Kodiak, 2010

Source: U.S. Census Bureau 2011

3.2.1.3 Local Economy and Socioeconomic Context

As described in AECOM 2010, the economic underpinning of the community of Kodiak is commercial fishing, with much of the direct and indirect economic activity in Kodiak relying to a greater or lesser degree on fishing activity as a base. Though commercial fishing remains a central element underpinning the local economy, Kodiak's economy is relatively diversified, particularly by rural Alaska standards. The local U.S. Coast Guard installation, although self-contained in some respects, contributes substantially to

the local economy. Tourism has grown in importance in recent years as an economic driver but is not nearly as important to economy as the commercial fishing and government sectors.

The latest estimates based on the 2013-2017 U.S. Census American Community Survey suggest that 3,463 people were employed in Kodiak, with an unemployment rate of 4.8 percent. Per capita income for people in Kodiak was estimated at $30,853, median household income was $69,868, and median family income was $77,266. An estimated 10.9 percent of Kodiak's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2019). Table 40 displays the top five occupations in Kodiak.

Table 40. Kodiak Top Five Occupations, 2016

Occupation	Number of workers	Female	Male	Age 45 and over	Age 50 and over
Meat, Poultry, and Fish Cutters and Trimmers	937	396	541	620	519
Janitors and Cleaners	70	17	53	43	33
Cashiers	69	51	18	20	12
Sales and Related Workers, All Other	69	44	25	25	19
Retail Salespersons	66	49	17	21	18

Source: Alaska Department of Labor and Workforce Development 2019

3.2.1.4 Commercial Fisheries Engagement

Overview

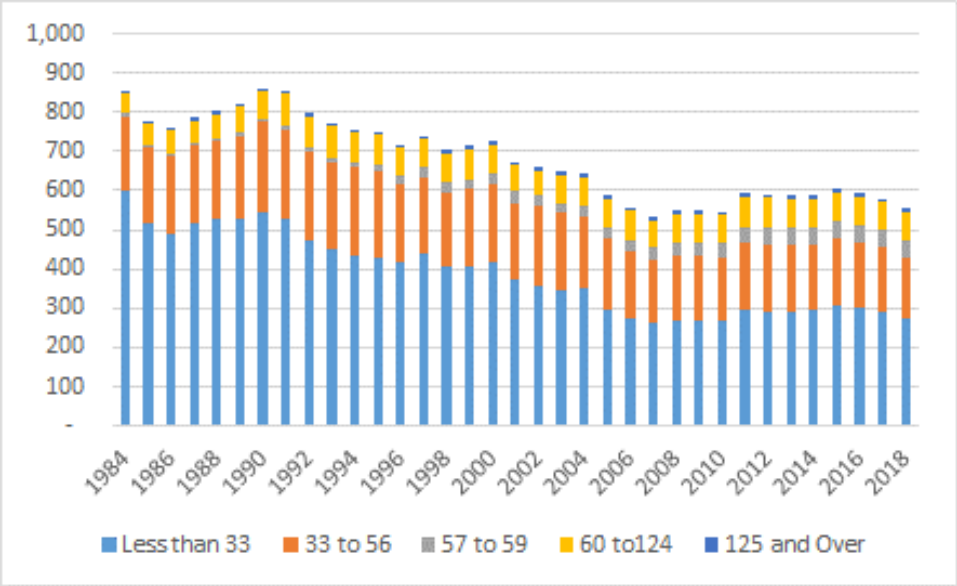
According to a study commissioned by the KIB and the City of Kodiak, in 2014 the seafood industry accounted for an annual average of just over 3,900 jobs in the KIB, $236 million in total annual labor income, and $396 million in total output, including all direct, indirect, and induced effects (McDowell Group 2016). According to this same study, that represents, conservatively, 30 to 40 percent of the local economy, measured in terms of income and employment, respectively (McDowell Group 2016).

Harvest Sector

General

Figure 7 shows changes in the number of locally owned commercial fishing vessels in Kodiak, based on the number of vessels with current registrations in each year, by size class, for the period 1984 through 2018. This is the overall registered "community commercial fishing fleet" and includes vessels that may participate in state and/or federal water fisheries (but is not directly indicative of the level of activity of those vessels). As shown, there was a general decreasing trend in the number of registered commercial fishing vessels with ownership addresses in the community from around 1990 through 2009, with overall fleet numbers plateauing in more recent years, well below the peak seen roughly 25 years ago. A detailed, if now somewhat dated, overview of the Kodiak fleet, including types of vessels and their associated annual rounds, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of the fishing effort of the local fleet is available in an earlier NPFMC community profile (EDAW 2005). As updating this information is effort intensive and not central to the current CGOA rockfish trawl-oriented community analysis, this overarching characterization has not been updated here. Rather, the more CGOA rockfish specific-focused discussion has been expanded below.

Figure 7. Number of Commercial Fishing Vessels with Kodiak Ownership Addresses, by Length Category, 1984-2018.



Source: Commercial Fisheries Entry Commission 2019

As shown in earlier tables, the average annual number of commercial fishing vessels with Kodiak ownership addresses actively participating in all fisheries, using all gear types in all areas combined (i.e., the community commercial fishing fleet), ranged from 209 in the pre-Rockfish Pilot Program years 2003-2006 (Table 4) to 220 in the Rockfish Program years 2012-2018 (Table 8). Annual average ex-vessel gross revenues (in 2009 dollars) for these two time periods were $84 million and $95 million, respectively.

CGOA Rockfish Trawl Catcher Vessels

As shown in Table 1, a total of 19 unique Kodiak ownership address CGOA rockfish trawl catcher vessels participated in the fishery over the years 2003-2018, averaging approximately 11.7 vessels participating per year, ranging between eight vessels (2005) and 14 vessels (2010 and 2013) participating in the fishery under Kodiak ownership in any given year. These vessels accrued a total of 187 vessel participation years under Kodiak ownership over this 16-year span, with the participation of individual vessels under Kodiak ownership addresses ranging from one to 16 years.

Eight of these vessels also were active in the fishery for some portion of this period under other community ownership. None of the eight vessels that changed community ownership during this time moved to Kodiak from another Alaska community or moved from Kodiak to another Alaska community.

During the pre-Rockfish Pilot Program years (2003-2006), an annual average of 9.3 Kodiak-owned catcher vessels participated in the CGOA rockfish trawl fishery. Analogous annual averages for the Rockfish Pilot Program (2007-2011) and Rockfish Program (2012-2018) years were 12.2 vessels and 12.7 vessels, respectively.

A total of four CGOA rockfish trawl catcher vessels participated in the Rockfish Pilot Program entry level trawl fishery in at least one of three years (2007, 2008, and/or 2009) designated as qualifying years for an initial allocation of Pacific ocean perch quota shares under the Rockfish Program. Three of these vessels

obtained allocations. All three of the vessels that received quota shares have Kodiak ownership connections (shown as *Kodiak CV 11, Kodiak CV 12,* and *Kodiak CV 17* in Table 41). Only one of the three, however, was a Kodiak-owned vessel during the qualifying years (in this case, 2008 and 2009) and for all subsequent years covered by the data 2010-2018 (although this vessel does not show as active in the fishery in 2011). Of the two other vessels, neither were Kodiak-owned during 2007-2009. One shows in the data as Florence, Oregon owned 2003-2012 and Kodiak-owned 2013-2018 (although this vessel does not show as active in the fishery in 2015 or 2017-2018), while the other shows as Anacortes, Washington owned 2003-2008 and Kodiak owned 2010-2016 (and as not active in the fishery in 2009).[24]

Table 41. Kodiak-Owned Catcher Vessel Participation in the CGOA Rockfish Trawl Fishery, by Year, 2003-2018

CGOA Rockfish Trawl CV	LOA	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Kodiak Ownership Years Active in CGOA RF 2003-2018	Other Ownership Years Active in CGOA RF 2003-2018	Total Years Active in CGOA RF 2003-2018	Total Years Not Active in CGOA RF 2003-2018
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018				
Kodiak CV 1	94	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16	0
Kodiak CV 2	93	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16	0
Kodiak CV 3	92	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16	0
Kodiak CV 4	86	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16	0
Kodiak CV 5	79	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	15	1	16	0
Kodiak CV 6	99	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	15	0	15	1
Kodiak CV 7	90	1			1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14	2
Kodiak CV 8	86	1	1	1	1	1	1	1	1	1	1	1	1					12	0	12	4
Kodiak CV 9	97	1	1	1	1	1	1	1	1	1	1	1						11	5	16	0
Kodiak CV 10	92							1	1	1	1	1	1	1	1	1	1	10	6	16	0
Kodiak CV 11	58						1	1	1		1	1	1	1	1	1	1	10	0	10	6
Kodiak CV 12	87								1	1	1	1	1	1	1	1	1	9	5	14	2
Kodiak CV 13	107	1	1	1	1	1	1	1	1									8	6	14	2
Kodiak CV 14	86												1	1	1	1	1	5	11	16	0
Kodiak CV 15	78													1	1	1	1	4	0	4	12
Kodiak CV 16	71						1		1	1								3	5	8	8
Kodiak CV 17	70											1	1		1			3	2	5	11
Kodiak CV 18	58					1												1	0	1	15
Kodiak CV 19	57											1						1	0	1	15
Kodiak CV 20	78																1	1	0	1	15
Total	--	**10**	**9**	**8**	**10**	**11**	**12**	**12**	**14**	**12**	**12**	**14**	**13**	**12**	**13**	**11**	**12**	**186**	**41**	**227**	**68**

Note: A numeral "1" in a data cell in a year column indicates the CV had a Kodiak ownership address that year.
Source: AKFIN 2019.

As shown in Table 2, CGOA trawl-caught rockfish ex-vessel gross revenues for Kodiak ownership address CGOA rockfish trawl catcher vessels averaged approximately $1.8 million annually over the period 2003-2018, ranging from approximately $0.81 million (2009) to approximately $2.83 million (2012) in any given year. Relative dependency of Kodiak-owned CGOA rockfish trawl vessels on CGOA trawl-caught rockfish, as measured in ex-vessel gross revenues, compared to ex-vessel gross revenues from all other fisheries pursued by those same vessels ranged from 14.5 percent in the pre-Rockfish Pilot

[24] The CGOA rockfish trawl vessel that participated in the Rockfish Pilot Program entry level trawl fishery during any of the qualifying years 2007-2009 but did not qualify for an initial allocation of quota shares under the Rockfish Program as a result of that participation also has a Kodiak ownership connection, but has a more complicated ownership pattern. It is a 74-foot length overall (LOA) vessel shown in the data in various years as being owned in Lynnwood, Washington (2003-2007 and 2009-2011); Juneau, Alaska (2008); Seattle (2012-2013 and 2016-2017); Kodiak (2014); and having no FFP/not active in federal fisheries (2015). It does not show up in the CFEC data in 2018 or 2019. In addition to having changed ownership and ownership locations during this time, it was also renamed during the 2003-2018 period.

Program years (Table 3), to 8.1 percent in the Rockfish Pilot Program years (Table 5), to 11.3 percent in Rockfish Program years (Table 7).

Information on relative dependence of all Kodiak ownership address catcher vessels (i.e., catcher vessels participating in any species, any gear type, and any area commercial fishery [the Kodiak "community fleet"]) on CGOA trawl-caught rockfish, as measured in ex-vessel gross revenues, compared to ex-vessel gross revenues from all other fisheries pursued by those same vessels, was, on an annual average basis, 1.6 percent in the pre-Rockfish Pilot Program period (Table 4), 1.2 percent in the Rockfish Pilot Program period (Table 6), and 2.5 percent Rockfish Program period (Table 8).

Interview data and NMFS Catch Accounting System data suggests that the shift of the bulk of the CGOA rockfish trawl catcher vessel effort to earlier in the year, thereby avoiding most overlap with peak salmon production efforts at Kodiak shore-based processing plants, has provided the opportunity for additional sources of revenue for Kodiak ownership address (and other) CGOA rockfish trawl catcher vessels. According to several Kodiak shore-based processing plant managers, it has become common under Rockfish Program conditions for catcher vessels in their trawl delivering fleet to tender in the summer salmon fisheries, which was much more difficult under pre-Rockfish Pilot Program race-for-fish conditions. As noted in the EA/RIR to which this SIA is appended, this shift also allows vessels to move to the Bering Sea if they have the opportunity to fish BSAI pollock when it opens on June 10.

As shown in Table 9, of the CGOA rockfish trawl vessels with Kodiak ownership addresses that fished 2003-2018, an average of 4.7 vessels (40 percent of the total) were AFA vessels. As noted in an earlier section, all else being equal, inclusion of vessels the AFA class would likely reduce the vulnerability of individual vessels to adverse impacts, if any, of the Rockfish Program through co-op or other internal vessel class compensation mechanisms and/or separate accounting of PSC thresholds unique to that vessel class (thereby insulating these vessels somewhat from adverse consequences of actions of vessels outside of their restricted class over which they have very little influence or control). Further, most Kodiak ownership address CGOA rockfish trawl vessels have been a part of local trawl industry associations and an informal, voluntary co-op under which Kodiak trawlers have been operating for several years, that has included bycatch hot-spot reporting (Northern Economics 2016a) in addition to the cooperatives that were formed under the Rockfish Pilot Program and the Rockfish Program.

CGOA Rockfish Trawl Catcher Vessel Quota and LLP Licenses

As shown in Table 10, LLP licenses with Kodiak ownership addresses received the following initial allocations of primary species under the Rockfish Pilot Program and Rockfish Program (as a percentage of all catcher vessel and catcher processor quota shares combined):

Northern Rockfish

- Rockfish Pilot Program: 16.45 percent
- Rockfish Program: 18.86 percent
- ***Change: +2.40 percent***

Pacific Ocean Perch

- Rockfish Pilot Program: 16.23 percent
- Rockfish Program: 23.60 percent
- ***Change: +7.37 percent***

Pelagic Shelf/Dusky Rockfish

- Rockfish Pilot Program: 14.75 percent
- Rockfish Program: 22.25 percent
- ***Change: +7.50 percent***

This across-the-board increase in quota was due in part to quota transfers that occurred during the Rockfish Pilot Program years and in part to changes in qualifying years for initial quota allocations between the two programs. Kodiak specifically benefitted from the CGOA rockfish trawl quota transfer community protection feature of the Rockfish Pilot Program, where quota could be transferred from the catcher processor sector to the catcher vessel sector, but not vice versa.

Initial allocations of quota varied based on qualifying catch history and have resulted in different patterns of direct use and leasing of annual quota pound allocations. While annual allocations are made to cooperatives, not individual vessels, it is standard practice that vessels are assigned a proportion of cooperative quota consistent with the catch history the vessel/LLP license brought to the cooperative. Transfer or leasing arrangements made within cooperatives are not publicly reported, but a limited number of interviews conducted with industry personnel for the Rockfish Program Review (Northern Economics 2017) suggest several common sets of circumstances have led to leasing in recent years:

- Vessels with quota allocations considered to be too small to be economically attractive to fish directly tend to lease quota out. Given that under the Rockfish Program quota shares are not severable from LLP licenses, a vessel/LLP license owner who controls a small amount of quota but desires to fish cannot purchase/permanently acquire additional quota (and thereby avoid having to lease in quota) without acquiring additional LLP licenses.

- Individuals may lease out remaining unused quota as they approach their annual allocation limits to avoid overages.

- Individuals may lease in quota to cover inadvertent overages.

- Individuals may trade quota based on a range of fishing condition factors.

- Leases or trades may be formal or informal. Reported lease rates for formal leases varied in the range of 20-35 percent based on a variety of factors, but non-monetary/informal trades of quota were also reported.

While this information is broadly suggestive, no systematically collected, publicly available data are adequate to understand the specific dynamics of leasing and/or quantify the potential effects of leasing on vessel operations and crew employment and compensation. Transfer or leasing arrangements made within cooperatives also allows persons who own multiple LLP licenses/vessels to consolidate their catch onto fewer of the boats that they operate.

As shown in Table 42 a total of 22 unique Kodiak ownership address CGOA rockfish trawl catcher vessel LLP licenses were utilized in the fishery over the years 2003-2018, averaging 16.2 LLP licenses per year, ranging between 14 (2006) and 18 LLP licenses (2018) active in the fishery under Kodiak ownership in any given year. These LLP licenses accrued a total of 259 active LLP license years under Kodiak ownership over this 16-year span, with the activity of individual LLP licenses under Kodiak ownership ranging from two to 16 years. During the pre-Rockfish Pilot Program years (2003-2006), an annual average of 15.3 Kodiak ownership address catcher vessel LLP licenses were utilized in the CGOA rockfish trawl fishery. Annual averages for the Rockfish Pilot Program (2007-2011) and Rockfish Program (2012-2018) years were 16.2 LLP licenses and 16.7 LLP licenses, respectively.

Ten of the 22 listed “Kodiak” LLP licenses in Table 42 were active in the fishery for some portion of the 2003-2018 period under other community ownership. One of the 10 LLP licenses that changed community ownership during this time moved to Kodiak from another Alaska community or moved from Kodiak to another Alaska community, but it did not do so directly. The LLP license shown in the table as

Kodiak LLP 20 appears in the data as having Sand Point, Alaska (2006-2007) and Bellingham, Washington (2003-2005 and 2008-2013) ownership addresses before coming to have a Kodiak ownership address (2014-2018).

A total of four CGOA trawl catcher LLP licenses were used to participate in the Rockfish Pilot Program entry level trawl fishery in at least one of the three years (2007, 2008, and/or 2009) designated as qualifying years for an initial allocation of Pacific ocean perch quota shares under the Rockfish Program. Three of these LLP licenses obtained allocations. All three of the LLP licenses that received quota shares have Kodiak ownership connections (shown as *Kodiak LLP 1*, *Kodiak LLP 11*, and *Kodiak LLP 18* in Table 42). Two of the LLP licenses had a Kodiak ownership addressed all 16 years 2003-2018, but the other had a Kodiak ownership address for 2013-2018 only (after having had a Florence, Oregon ownership address for 2003-2012).

Table 42. Kodiak-Owned Catcher Vessel LLP License Activity in the CGOA Rockfish Trawl Fishery, by Year, 2003-2019

CGOA Rockfish	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program							Kodiak Ownership Years Active in CGOA RF	Other Ownership Years Active in CGOA RF	Total Years Active in CGOA RF
Trawl CV LLP	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2003-2018	2003-2018	2003-2018
Kodiak LLP 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	0	16
Kodiak LLP 13	1	1	1	1	1	1	1	1	1	1	1						11	5	16
Kodiak LLP 14	1	1	1	1	1	1	1	1	1								9	7	16
Kodiak LLP 15							1	1	1	1	1	1	1	1	1	1	10	6	16
Kodiak LLP 16	1	1	1		1	1	1	1								1	8	8	16
Kodiak LLP 17										1	1	1	1	1	1	1	7	9	17
Kodiak LLP 18											1	1	1	1	1	1	6	10	16
Kodiak LLP 19						1	1	1	1								4	12	16
Kodiak LLP 20												1	1	1	1	1	5	11	16
Kodiak LLP 21												1	1	1	1	1	5	11	16
Kodiak LLP 22	1	1															2	14	16
Total	**16**	**16**	**15**	**14**	**15**	**16**	**17**	**17**	**16**	**15**	**16**	**17**	**17**	**17**	**17**	**18**	**259**	**93**	**353**

Note: A numeral "1" in a data cell in a year column indicates the LLP had a Kodiak ownership address that year.
Source: AKFIN 2019.

Data are presented on the NMFS website for 2019 LLP license owners with Kodiak and other Alaska addresses, some of which are street addresses while others are post office box addresses. Of the 17 LLP licenses with Kodiak ownership addresses, 10 have addresses associated with a single LLP license, nine of which are PO Boxes and one is a street address. Of the remaining seven LLP licenses with a Kodiak ownership address, three LLP licenses are associated with a single street address, two LLP licenses are associated with a single PO Box address and two other LLP licenses are associated with a different single PO Box address.

CGOA Rockfish Trawl Catcher Vessel Crew

Quantitative data on employment of, or payments to, Kodiak crew members aboard CGOA rockfish trawl vessels are not available for the pre-Rockfish Pilot Program or the Rockfish Pilot Program years and are available for only the most recent four of the seven Rockfish Program years. The quantitative CGOA rockfish trawl catcher vessel crew data are available come from two primary sources: National Marine Fisheries Service EDR data that were collected for 2015-2018 and Alaska Fisheries Science Center (AFSC) GOA trawl fishery social survey data that were collected in 2014.

EDR GOA Trawl Catcher Vessel Crew Data 2015-2018

Summary EDR data are presented in Table 14 and Table 15. Apparent across all years covered by those tables (2015-2018) is the concentration among Alaska communities of crew employment in Kodiak and the concentration of overall employment in Alaska among the different states represented in the data. Table 16 shows annual payments for captains and crew of CGOA rockfish trawl catcher vessels by community of vessel ownership for 2015 using EDR data. Table 17, Table 18, and Table 19, provide similar information for 2016, 2017, and 2018, respectively. It is important to note that these represent total captain and crew payments for these vessels, not just payments related to the CGOA rockfish fishery, as data on fishery-specific earnings are not available. As shown, Kodiak ownership address vessels account for roughly half all combined payments to captains and crew for vessels that participated in the CGOA rockfish fishery over the years covered by the data.

Given that the number of Kodiak ownership address catcher vessels in the CGOA rockfish trawl fishery has increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings of those vessels has also increased under the Rockfish Program, it is assumed that the number of crew positions and potentially payments to crew have similarly varied during this time. However, publicly available quantitative data do not currently exist to verify this assumption or, if the assumption is correct, quantify these changes. Specifically:

- Crew employment and compensation data are only available for 2015-2018 and rockfish fishery-specific data are not available for any year.

- The impacts of quota leasing costs or program-associated vessel operating costs (such as cost recovery fees and co-op fees), if any, on crew compensation are unknown,[25] as are the impacts on crew employment, if any, of the increased number of CGOA rockfish trawl fishing days per season.

[25] Given that annual quota allocations are assigned to cooperatives rather than vessels, and cooperatives decide internally how that quota will be fished among member vessels, very little information is available on that process. NMFS does collect data on catch by vessel within the cooperative and that information is reported in the annual cooperative repots. However, NMFS does not collect information on how quota is transferred within the cooperative or compensation for transfers that occur.

- Similarly, the impacts of the reduction of vessel operating costs that may have been achieved because of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs), if any, on crew compensation are unknown.

Rockfish Pilot Program and/or Rockfish Program changes that have had a direct influence on the nature of crew employment include a shift in the timing of the bulk of CGOA rockfish trawl effort (to move the effective peak season several weeks earlier in the year to avoid overlapping with peak salmon season at the Kodiak processing plants) and an increase in the number of days fished (days when hauls were recorded) per year in the CGOA rockfish trawl fishery, from an annual average of approximately 44 in 2003-2006 (pre-Rockfish Pilot Program) to approximately 152 in 2007-2011 (Rockfish Pilot Program) to approximately 182 in 2012-2018 (Rockfish Program) as shown in Table 13. As noted in EA/RIR to which this SIA is appended, the increase in the number of days fished has been driven in part by the end of the race-for-fish (and accompanying shift of effort into portions of the year that were previously slower times for both catcher vessels and processors) and in part by a roughly doubling of the Pacific ocean perch TAC over this period. According to several Kodiak processing plant management personnel, the continuing temporal separation of rockfish trawl-related and salmon-related peak processing efforts at local shore-based processors has resulted in more summer salmon tendering opportunities for the catcher vessels that make CGOA rockfish trawl deliveries to their plants; presumably, this provides additional employment/earnings opportunities for catcher vessel crew members as well (Alaska Groundfish Data Bank 2017[26]).

AFSC 2014 Social Survey GOA Trawl Catcher Vessel Crew Data

For the AFSC survey, vessels were assigned to communities not based on location of ownership or another indicator in standard datasets, but on the "primary port of mooring" as determined via the AFSC survey and/or through key person interviews during the AFSC survey effort. Importantly, the vessel's primary port of mooring is not necessarily the same as the catcher vessel owners' and/or crews' place of residence. As a result, the data should be used as indicative of vessels associated with Kodiak and not directly compared to data from vessels with Kodiak ownership addresses as indicated in the AKFIN dataset used as the primary quantitative data source for this SIA.

Of the Kodiak GOA trawl catcher vessel owners and crew members (n=93) who participated in the 2014 AFSC GOA trawl fishery social survey (NOAA 2015) and answered the specific questions relevant to the following demographic, industry participation, and employment topics:

- 98.9 percent were male.
- Average age was 45.3 years (with a standard deviation of 13.2).
- 89.9 percent identified themselves as white/Caucasian, 1.1 percent identified themselves as Alaska Native or American Indian, 3.4 percent identified themselves as Native Hawaiian or Other Pacific Islander, 0.0 percent identified themselves as black/African American, 0.0 percent identified themselves as Asian, and 5.7 percent identified themselves as being some other race or two or more races. 3.7 percent identified themselves as Hispanic or Latino.
- 58.7 percent indicated their family historically participated in commercial fishing or processing activities.
- Their families had been participating in commercial fishing or processing activities for an average of 3.5 generations (with a standard deviation of 5.6).
- On average, they were 18.5 years old when they started to work in commercial fishing or processing activities (with a standard deviation of 7.6).

[26] Personal communication 8/4/2017.

- They had been working in the GOA groundfish trawl fishery an average of 16.5 years (with a standard deviation of 11.5).
- 96.6 percent indicated that 76-100 percent of their combined family income came from their participation in fishing activities.
- 3.4 percent indicated that 51-75 percent of their combined family income came from their participation in fishing activities.
- 11.1 percent indicated they maintained a job outside of commercial fishing or processing industry.

For additional detail on selected AFSC survey questions and responses, please see Section 10, SIA Attachment 4, Table 58.

CGOA Rockfish Longline Catcher Vessels

Kodiak ownership address CGOA rockfish longline vessels participated in the Federal open access fishery exclusively through the use of jig gear over the 2003-2018 period. Of the eight unique vessels participating in the hook-and-line sector of the fishery, six of the eight were from three different Alaska communities, but none were from Kodiak and none were active in the fishery after 2006 (Table 34).

Table 35 provides information the number of Kodiak ownership address CGOA rockfish jig catcher vessels participating in the Federal open access fishery by year 2003-2018. As shown, a total of 41 unique Kodiak-owned vessels participated in the fishery over this time (about 65 percent of all unique vessels in this fishery during this time period), accounting for 84 vessel fishing years. The number of Kodiak vessels participating each year ranged from seven to 12 in the pre-Rockfish Pilot Program years; one to five in the Rockfish Pilot Program years, and two to seven in the Rockfish Program years. During the pre-Rockfish Pilot Program years (2003-2006), an annual average of 9.5 Kodiak-owned catcher vessels participated in the CGOA rockfish jig fishery. Annual averages for the Rockfish Pilot Program (2007-2011) and Rockfish Program (2012-2018) years were 3.2 vessels and 4.3 vessels, respectively.

Among Alaska-owned jig catcher vessels participating in the fishery, only those owned in Kodiak participated in every year 2003-2018, and they were the only vessels that participated in the last two years of the Rockfish Pilot Program (2010-2011) or any of the first five Rockfish Program years (2012-2016). In 2017 and 2018 combined, a total of 3 vessels from two other Alaska communities participated in this fishery, for a total of three vessels years. Ex-vessel gross revenues from landings by Kodiak ownership address vessels in jig fishery are shown in Table 36, and varied from $20 (2008) to $25,000 (2016) among the years for which data specific to Kodiak could be disclosed.

Processing Sector

General

Kodiak's shoreplants have played an important role in the history of the community, influencing its economic and demographic patterns over the years. Even among the major contemporary processing plants, there is a considerable amount of diversity in the size, volume, and species processed. Locally based processors vary in product output and specialization, ranging from large quantity canning of salmon, to fresh and fresh-frozen products, as well as niche markets servicing the sport-fishing industry (AECOM 2010).

As shown in Table 33, from 2003 through 2018, the annual average number of active Kodiak shore-based processors varied from eight in the pre-Rockfish Pilot Program years, to 10 in both the Rockfish Pilot Program years and the Rockfish Program years. The annual average first wholesale gross revenues for

these processors ranged from $102 million, to $134 million, to $289 million over the pre-Rockfish Pilot Program years (2003-2006), to the Rockfish Pilot Program years (2007-2011), to the Rockfish Program years (2012-2018), respectively.

Kodiak has historically been, and remains, the center of seafood processing for the CGOA region. As of 2018, five relatively large, multi-species shore-based processors in Kodiak were accepting substantial volumes of GOA trawl-caught deliveries on a regular basis. These include:

- Alaska Pacific Seafoods
- International Seafoods of Alaska
- Ocean Beauty Seafoods
- Pacific Seafoods
- Trident Seafoods

Profiles of each of these five Kodiak shore-based processors (plus a sixth, Global Seafoods, which ceased operations in 2017) describing in summary the plant history, current annual operational round, labor force, and delivering fleet, were compiled for the Preliminary Social Impact Assessment: GOA Trawl Bycatch Management Analysis (Northern Economics 2016a). Those profiles are provided with this document in Section 11, SIA Attachment 5.[27] While these profiles are now becoming dated, they still represent the most current operational descriptions of these plants, and the role of the CGOA rockfish fishery in those operations.[28]

CGOA Trawl-Caught Rockfish Shore-Based Processors

Table 30 provides information Kodiak shore-based processors that accepted trawl-caught CGOA rockfish deliveries in the period 2003-2018, based on a count of intent to operate numbers. Among Alaska communities, shore-based processing was limited to Kodiak, apart from some processing that occurred in 2011 in Seward (likely because of provisions in the Rockfish Pilot Program entry level trawl fishery that required participants in that fishery to land their CGOA trawl-caught rockfish at shore-based processors that were not affiliated with a cooperative[29]). Due to data confidentiality constraints, Seward data first wholesale gross revenue data for 2011 cannot be displayed separately so, for the sake of completeness, is included with Kodiak first wholesale gross revenues for 2011 in Table 31.[30] As shown, between five and eight shore-based processors in Kodiak accepted trawl-caught deliveries of CGOA rockfish in each year, and a total of 12 unique shore-based processors in Kodiak accepted CGOA rockfish trawl-caught deliveries over the years 2003-2018. During the pre-Rockfish Pilot Program years (2003-2006), an annual average of 6.8 shore-based processors in Kodiak accepted trawl-caught landings of CGOA rockfish. Annual averages for the Rockfish Pilot Program (2007-2011) and Rockfish Program (2012-2018) years were 7.2 shore-based processors and 6.4 shore-based processors, respectively.

[27] Also included in Section 11, SIA Attachment 5, are profiles of two shore-based processing plants operating in Seward that have historically processed CGOA groundfish and have indicated their desire to do so in the future.

[28] The Trident Seafoods Kodiak operations profile included in Section 11, SIA Attachment 5, has benefitted from a limited update based on information provided by the firm in January 2020.

[29] All of the shore-based processors that were affiliated with cooperatives under the Rockfish Pilot Program were in Kodiak, but not all shore-based processors in Kodiak were affiliated with a cooperative. Deliveries by CGOA rockfish trawl vessels participating in the entry level trawl fishery made the large majority of their deliveries to Kodiak shore-based processors.

[30] Additionally, "Other/Unknown" location shore-based processing activity shown in Table 30 as occurring during two of the Rockfish Program years (2012 and 2015) is assumed to have occurred in Kodiak due to Rockfish Program landing requirements, but this activity cannot be assigned to specific Kodiak processors because of incomplete records in the data.

First wholesale gross revenues from CGOA rockfish trawl-caught deliveries for Kodiak shore-based processors averaged approximately $14 million annually over the period 2003-2018, ranging from approximately $9.8 million (2004 and 2008) to approximately $19 million (2012 and 2016) in any given year.

Information on relative dependency of Kodiak shore-based processors on CGOA trawl-caught rockfish, as measured in first wholesale gross revenues, compared to first wholesale gross revenues from deliveries from all other fisheries accepted by those same shore-based processors, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 32. As shown, relative dependency has varied between roughly six and 12 percent, decreasing in each successive period, as the annual average first wholesale gross revenues attributable to CGOA rockfish and those attributable to all other fisheries increased between the first and second periods and between the second and third periods, but at different rates. Importantly, these values in this table are derived from a different data source than first wholesale gross revenues noted in the immediately preceding table and paragraph with those differences resulting from limitations within available processor (both shore-based processor and catcher processor) diversity data. Thus, these data should be used as a relative gauge of diversity rather than used in direct comparison to the data presented in the preceding table and paragraph.

Information on relative dependency of all Kodiak shore-based processors (i.e., shore-based processors of landings of any species, caught by any gear type, and from any area commercial fishery, not just those whose processing portfolio included CGOA trawl-caught rockfish) on CGOA trawl-caught rockfish, as measured in first wholesale gross revenues associated with those deliveries, compared to first wholesale gross revenues associated with deliveries from all other fisheries, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 33. As shown, relative dependency is nearly identical to that shown in the previous table, which is a function of the scale of the multi-species processors involved in the CGOA trawl rockfish fishery as a group compared to all other processors in the community, which are of a relatively small scale. The data presented in this table derives from the same data source as the previous table, and the same caveats related to comparability with earlier tables apply.

Changes that have occurred in the Kodiak processing sector over the last several years include consolidation of processing into fewer plants, with the purchase of the local Alaska Fresh Seafoods and Western Alaska Fisheries plants by another locally operating processor in 2014 and 2015, respectively, as well as the closure of Global Seafoods in 2017. Western Alaska Fisheries was a large, multi-species plant for which GOA trawl-caught fish, including rockfish, were an important part of the annual round of operations; in contrast, the processing of GOA trawl-caught deliveries was not a central focus of operations at Alaska Fresh Seafoods, although the plant did accept at least some GOA trawl-caught deliveries most years 2003-2014.[31] Western Alaska Fisheries was a part of a cooperative formed under the

[31] Western Alaska Fisheries is shown in the 2003-2018 data as reporting CGOA rockfish value from trawl fisheries annually over the period 2005-2014 (but nothing in 2015, the year it was purchased by another processor, or in successive years). Alaska Fresh Seafoods is shown in the 2003-2018 data as reporting CGOA rockfish value from trawl fisheries in 2003, 2007, 2010, and 2011 only. The physical plant operated by Western Alaska Fisheries was shuttered after its purchase in 2015 but was put back in service under the new ownership in the summer of 2016. At that time, however, the new owner reported that processing at the former Western Alaska Fisheries facility would focus exclusively on value added processing of salmon for the foreseeable future and the facility would also be used for other, non-processing support activities, such as providing gear storage, bait, and ice to the catcher vessel fleet (Northern Economics 2016a). While the former Western Alaska Fisheries plant no longer processes CGOA rockfish, both the cooperatives formerly affiliated with that processor and the processor that acquired Western have continued to operate. The physical plant operated by Alaska Fresh Seafoods was operated by its new owner for about a year after its acquisition in 2014 before the structure was razed to allow construction of a new facility that is an integrated part of a larger processing complex owned by the company that acquired Alaska Fresh Seafoods (Northern Economics 2016a).

Rockfish Pilot Program; Alaska Fresh Seafoods was not. In summary, the Kodiak shore-based processing plants (and their associated cooperatives under the Rockfish Pilot Program) were:

- Alaska Pacific Seafoods (North Pacific Rockfish Cooperative)
- International Seafoods of Alaska (I.S.A. Rockfish Cooperative)
- Ocean Beauty Seafoods (Ocean Beauty Seafood Incorporated Cooperative)
- Trident Seafoods (Star of Kodiak Rockfish Cooperative)
- Western Alaska Fisheries (Western Alaska Fisheries Rockfish Cooperative)

With the implementation of the Rockfish Program, these plants continued their associations with the cooperatives noted, but the other two relatively large, multi-species plants then operating in Kodiak that previously were not associated with any rockfish cooperative (which meant they were eligible to take deliveries from vessels participating in the Rockfish Pilot Program trawl entry level fishery and the Rockfish Pilot Program longline entry level fishery) became associated with their own cooperatives, due primarily to the change in qualifying years between the two programs. Those plants (and their associated cooperatives under the Rockfish Program) were:

- Global Seafoods (Global Rockfish Cooperative)
- Pacific Seafoods (Pacific Rockfish Cooperative)

Following the discontinuation of operations of Global Seafoods in 2017, however, the cooperative affiliated with that processors was disbanded in 2018, with the vessels that were members moving to other cooperatives. Table 43 provides information on the number of catcher vessel LLP licenses and the number of CGOA rockfish trawl catcher vessels assigned to CGOA rockfish cooperatives each year 2007-2019. Readily apparent is the increase in the number of cooperatives at the transition from the Rockfish Pilot Program to the Rockfish Program, which resulted primarily from the change in qualifying years under the two programs.

Not shown in the Table 43 is the simultaneous consolidation that occurred that occurred among catcher processor cooperatives (see Table 55). One of these catcher processor cooperatives, the Trident Offshore Rockfish Cooperative Association, shared its processing capacity ownership with one of the Kodiak shore-based processing plants. This catcher processor cooperative was active each year during the Rockfish Pilot Program but, due to changes in the qualification years for initial allocations between the Rockfish Pilot Program and the Rockfish Program, did not receive an initial allocation of quota in the Rockfish Program and has not been active since. In this case, while the community of Kodiak was arguably not directly affected, one of the large Kodiak shore-based processing plant owners was affected. It is common for owners of multiple facilities in the region to balance operations across those platforms, with the result that the impact of the implementation of the Rockfish Program was different in nature for this firm than for other firms operating shore-based processors in the community.

Table 43. Number of Catcher Vessel LLP Licenses (Number of Catcher Vessels) Assigned to CGOA Rockfish Cooperatives, 2007-2019

	Rockfish Pilot Program Year					Rockfish Program Year								2012-2019
Catcher Vessel Cooperative	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**Total**
I.S.A. Rockfish Cooperative	9(9)	9(9)	9(9)	10(10)	10(10)	6(6)	6(6)	6(6)	5(5)	6(6)	6(6)	7(8)	7(7)	8(9)
North Pacific Rockfish Cooperative	6(6)	6(6)	6(6)	6(6)	6(6)	10(9)	11(10)	12(11)	12(11)	12(11)	12(11)	13(12)	13(12)	13(13)
Ocean Beauty Seafood Incorporated Cooperative	8(7)	8(7)	8(7)	8(7)	8(7)	9(8)	8(7)	7(6)	7(6)	6(5)	6(5)	6(5)	6(5)	9(8)
Star of Kodiak Rockfish Cooperative	11(11)	12(12)	12(12)	12(12)	12(12)	11(10)	11(10)	11(10)	11(10)	11(10)	11(10)	12(12)	12(12)	12(13)
Western Alaska Fisheries Rockfish Cooperative	10(10)	10(10)	10(10)	10(10)	10(10)	5(5)	6(6)	5(5)	6(6)	6(6)	6(6)	6(6)	6(6)	9(8)
Global Rockfish Cooperative	--	--	--	--	--	3(3)	2(2)	3(3)	3(3)	3(3)	3(3)	--	--	3(3)
Pacific Rockfish Cooperative	--	--	--	--	--	2(2)	2(2)	2(2)	2(2)	2(2)	2(2)	2(2)	2(2)	2(3)
Total Catcher Vessel Cooperatives	**44(43)**	**45(44)**	**45(44)**	**46(45)**	**46(45)**	**46(43)**	**46(43)**	**46(43)**	**46(43)**	**46(43)**	**46(43)**	**46(45)**	**46(44)**	**46(49)**

Source: AKFIN summary of cooperative data submitted to NMFS (adapted from EA/RIR Table 3-17).

Kodiak shore-based processors continue to directly benefit from the CGOA rockfish fishery changing from an approximate three-week race to fish starting at the beginning of July, to a fishery that primarily occurs in May and June, with smaller harvest amounts occurring until November. This shift occurred at the transition from pre-Rockfish Pilot Program conditions to the Rockfish Pilot Program conditions, but it has been maintained under the Rockfish Program. It has moved CGOA rockfish trawl-caught landings out of peak salmon processing time to what was a period of lower activity for the plants, increasing efficiency of operations and helping to attenuate some of the sharper seasonal peaks and valleys of processing labor demand, according to processing management personnel.

According to processing management, this has helped with workforce stability by providing the opportunity for more reliable/steady processing employment opportunities, particularly for Kodiak resident processing workers, during the May/June period, helping with worker retention, while making more local workers potentially available for peak salmon production demands beginning in June. The reduced conflicts with salmon fisheries have also provided the opportunity to more efficiently time rockfish deliveries at the processors, reducing offload times and increased the quality of fish delivered.

Kodiak, and its shore-based processors, also specifically benefitted from the CGOA rockfish trawl catcher vessel landings requirement community protection feature of Rockfish Pilot Program. Since the discontinuation of the CGOA rockfish entry level trawl fishery upon the implementation of the Rockfish Program, all trawl-caught catcher vessel landings of rockfish have been made exclusively in Kodiak. While the transition from the Rockfish Pilot Program to the Rockfish Program was generally beneficial for Kodiak shore-based processing plants, specific outcomes varied between processors operating in the community due to different processing histories accrued during the different sets of qualifying years used for initial allocations under the two programs. Further, input from industry stakeholders suggested that changes in the cooperative structure between the Pilot Program and Rockfish Program was one factor in decision-making process that resulted in the sale of the shore-based processing facility that represented the limited consolidation of large, multi-species shore-based processing plants in Kodiak that regularly accepted trawl-caught CGOA rockfish deliveries that was seen during the Rockfish Program.

Processing Workers at Shore-Based Processing Plants Accepting Trawl-Caught Rockfish Deliveries

Quantitative data on employment of, or payments to, the processing workers employed at Kodiak shore-based processing plants that have accepted CGOA trawl-caught landings are not available for the pre-Rockfish Pilot Program or the Rockfish Pilot Program years but are available for only the most recent four of the seven Rockfish Program years covered by this SIA.

Given that the number of Kodiak shore-based processors affiliated with rockfish cooperatives has increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings in Kodiak has also increased under the Rockfish Program, it is assumed that processing worker labor demand may have increased for some operations during the Rockfish Program years. More hours would appear to be available for interested workers during the May/June period, but the net effect across all processors attributable specifically to the Rockfish Program, given physical plant consolidation and other operational changes (e.g., those associated with changes in technology) during this same time, is unknown.

The impacts of the temporal shift in rockfish processing, which occurred during the Rockfish Pilot Program, in combination with the increasing number of days fished per season in the CGOA rockfish trawl fishery that occurred during the Rockfish Program, on the average amount of processing personnel overtime compensation cannot be determined with available quantitative information. While one processing entity reported that they have "seen a little bit less overtime than we used to have," input from Kodiak shore-based processing management personnel from other entities suggested that overtime hours are typically a function of fishing conditions, with good fishing conditions (and general operational

efficiency) favoring a plant running at a high capacity, which results in ongoing overtime opportunities for processing crew. As noted above, input from shore-based processing management also suggests that for at least some individual operations, the temporal shift in rockfish processing has increased the availability of work for local Kodiak resident processing workers during the May/June period, which was otherwise typically a slow period, contributing to more workforce stability and decreased turnover. One processing entity specifically reported that there has been less utilization of assistance programs (i.e., unemployment benefits) among their workers during this time of year since the Rockfish Pilot Program/Rockfish Program-related shift of much of the rockfish processing activity into the May/June timeframe (Alaska Groundfish Data Bank 2017[32]).

Processor worker data for shore-based processors accepting CGOA trawl-caught rockfish deliveries that are available come from two primary sources: EDR data that were collected annually 2015-2018[33] and AFSC GOA trawl fishery social survey data that were collected in 2014. Both are summarized in this section.

2015-2018 EDR Shoreside Processors Accepting CGOA Trawl-Caught Rockfish Deliveries Employee Data

Data collected through the EDR program are available 2015-2018 for both processing and non-processing employees at shoreside[34] processors in Kodiak and elsewhere. Several changes in Kodiak shore-based processing took place in 2015 and 2017 that could make both years somewhat different for local operations than immediately preceding or following years, including the new Trident Seafoods Kodiak Near Island (KNI) plant becoming operational in the summer of 2015, operations at the former Western Alaska Fisheries facility changing with the acquisition of that plant by another processor in 2015, and the closure of Global Seafoods in 2017.

Table 44 provides annual wage and salary information for non-processing workers at shoreside processors in Kodiak that accepted GOA trawl-caught deliveries 2015-2018. Table 45 provides labor hour and payment information for housed and non-housed processing workers (i.e., those provided company housing and those not provided company housing) at shoreside processors in Kodiak that accepted CGOA trawl-caught rockfish deliveries in 2015 and 2016, where non-housed workers may be taken as a proxy for Kodiak resident workers. Table 46 provides the same type of information as Table 45, but for the years 2017 and 2018.

[32] Personal communication 8/4/2017.

[33] Some of the caveats noted for catcher vessel EDR data also apply to these shoreside processor EDR data, including: 2015 was the first year these EDR data were collected; only four years of data are available; some data are missing); and some of the data are unaudited. These data are, however, the best available and are presented here as an indication of relative if not exact crew employment.

[34] The term “shoreside” in this document is used exclusively in the context of EDR data. In those data (and the EDR forms that were used to collect those data), the term “shoreside” is used to refer to both shore-based processors and inshore floating processors. In other discussions in this document, the distinction is made between shore-based processors and inshore floating processors where applicable.

Table 44. Annual Wages and Salaries for Non-Processing Employees, Kodiak Shoreside Processors that Accepted CGOA Trawl-Caught Rockfish Deliveries, 2015-2018

Year	Number of Non-Processing Employees	Total Wages and Salaries
2015	103	$5,867,350
2016	99	$5,687,856
2017	105	$5,555,475
2018	89	$5,487,553

Source: EDR data 2019.

Table 45. Processor Hours and Labor Payments for Processing Employees by Housing Type, Kodiak Shoreside Processors that Accepted CGOA Trawl-Caught Rockfish Deliveries, by Month, 2015 and 2016

Month	Number of Federal Processor Permits	Number of Groundfish Processing Employees	Processing Labor Person-Hours			Processing Labor Payment		
			Housed	Not Housed	Not Housed as Percent of Total	Housed	Not Housed	Not Housed as Percent of Total
2015								
January	7	1,422	34,440	182,484	84.1%	$326,052	$2,165,849	86.9%
February	7	1,645	127,474	255,663	66.7%	$1,339,541	$2,659,635	66.5%
March	7	1,686	126,612	315,540	71.4%	$1,390,093	$3,958,886	74.0%
April	7	1,567	82,725	213,604	72.1%	$954,102	$2,785,893	74.5%
May	7	1,136	25,805	160,411	86.1%	$286,175	$1,874,488	86.8%
June	7	1,123	18,898	119,953	86.4%	$225,211	$1,478,947	86.8%
July	7	533	6,714	83,271	92.5%	$82,558	$1,024,004	92.5%
August	7	532	6,903	78,400	91.9%	$97,876	$952,292	90.7%
September	7	1,542	99,816	267,124	72.8%	$1,114,167	$3,447,614	75.6%
October	7	1,625	108,175	245,339	69.4%	$1,277,053	$3,181,930	71.4%
November	7	1,108	28,320	100,738	78.1%	$340,911	$1,286,226	79.0%
December	7	407	4,768	46,271	90.7%	$68,512	$579,133	89.4%
2015 Total	**7**	--	**670,650**	**2,068,798**	**75.5%**	**$7,502,251**	**$25,394,897**	**77.2%**
2016								
January	6	1,416	40,983	141,787	77.6%	$414,063	$1,762,917	81.0%
February	6	1,739	104,791	423,371	80.2%	$1,123,608	$4,317,818	79.4%
March	6	1,711	108,898	508,516	82.4%	$1,162,563	$6,383,753	84.6%
April	6	1,550	35,152	289,338	89.2%	$376,939	$3,679,383	90.7%
May	6	1,240	23,670	274,940	92.1%	$260,548	$3,502,565	93.1%
June	6	1,174	22,016	194,014	89.8%	$241,854	$2,446,436	91.0%
July	6	541	4,065	57,916	93.4%	$47,077	$715,933	93.8%
August	6	1061	61,397	206,916	77.1%	$663,975	$2,540,827	79.3%
September	6	1,395	41,109	282,793	87.3%	$430,362	$3,568,261	89.2%
October	6	1,411	68,606	374,406	84.5%	$748,545	$4,774,549	86.4%
November	6	1,129	8,330	113,185	93.1%	$93,893	$1,486,277	94.1%
December	6	583	995	43,941	97.8%	$10,838	$564,543	98.1%
2016 Total	**6**	--	**520,012**	**2,911,123**	**84.8%**	**$5,574,265**	**$35,743,262**	**86.5%**

Source: EDR data.

Table 46. Processor Hours and Labor Payments for Processing Employees by Housing Type, Kodiak Shoreside Processors that Accepted CGOA Trawl-Caught Rockfish Deliveries, by Month, 2017 and 2018

Month	Number of Federal Processor Permits	Number of Groundfish Processing Employees	Processing Labor Person-Hours			Processing Labor Payment		
			Housed	Not Housed	Not Housed as Percent of Total	Housed	Not Housed	Not Housed as Percent of Total
2017								
January	6	1,444	49,942	121,947	70.9%	$612,372	$1,579,243	72.1%
February	6	1,534	105,773	283,165	72.8%	$1,334,812	$3,664,889	73.3%
March	6	1,481	94,269	257,202	73.2%	$1,191,503	$3,305,801	73.5%
April	6	1,336	30,071	148,696	83.2%	$381,180	$1,886,238	83.2%
May	6	1,071	22,113	138,482	86.2%	$282,189	$1,747,326	86.1%
June	6	1,096	22,114	97,210	81.5%	$278,373	$1,228,786	81.5%
July	6	517	515	9,788	95.0%	$5,635	$122,383	95.6%
August	6	420	108	14,797	99.3%	$1,408	$206,540	99.3%
September	6	1,418	93,279	176,232	65.4%	$1,210,082	$2,318,023	65.7%
October	6	1,370	86,731	167,815	65.9%	$1,108,837	$2,152,471	66.0%
November	6	1,178	23,878	107,530	81.8%	$303,195	$1,387,384	82.1%
December	6	435	1,655	27,623	94.3%	$17,485	$348,168	95.2%
2017 Total	**6**	**--**	**530,448**	**1,550,487**	**74.5%**	**$6,727,071**	**$19,947,252**	**74.8%**
2018								
January	5	1,198	23,234	54,953	70.3%	$294,096	$759,267	72.1%
February	5	1,419	94,830	186,460	66.3%	$1,245,136	$2,469,460	66.5%
March	5	1,346	101,499	225,155	68.9%	$1,317,629	$2,985,137	69.4%
April	5	1,199	20,317	97,170	82.7%	$257,451	$1,245,224	82.9%
May	5	1,026	15,920	124,347	88.7%	$205,795	$1,593,915	88.6%
June	5	1,082	13,634	102,589	88.3%	$177,458	$1,355,264	88.4%
July	5	350	513	7,107	93.3%	$6,661	$93,256	93.3%
August	5	1,110	37,466	61,754	62.2%	$484,369	$867,589	64.2%
September	5	1,294	79,476	180,313	69.4%	$1,095,101	$2,520,576	69.7%
October	5	1,243	77,684	181,999	70.1%	$1,047,285	$2,449,670	70.1%
November	5	1,038	15,670	96,753	86.1%	$211,008	$1,316,152	86.2%
December	5	160	1,034	9,192	89.9%	$12,176	$107,712	89.8%
2018 Total	**5**	**--**	**481,277**	**1,327,792**	**73.4%**	**$6,354,165**	**$17,763,222**	**73.7%**

Source: EDR data.

AFSC 2014 Social Survey Processing Worker Data

Of the processing workers at Kodiak shore-based processors that accepted GOA trawl-caught deliveries[35] who participated (n=1,169, for all processor employees; n=1,158 for questions oriented toward "line" workers only) in the 2014 AFSC GOA trawl fishery social survey (NOAA 2015) and answered the specific questions relevant to the following demographic, industry participation, and employment topics:

[35] All of the shore-based processing plants in Kodiak that participated in the 2014 AFSC social survey accepted CGOA trawl-caught rockfish deliveries that year.

- 64.3 percent were male.
- Average age was 46.8 years (with a standard deviation of 14.0).
- 6.0 percent identified themselves as white/Caucasian, 0.9 percent identified themselves as Alaska Native or American Indian, 0.9 percent identified themselves as Native Hawaiian or Other Pacific Islander, 6.2 percent identified themselves as black/African American, 79.0 percent identified themselves as Asian, and 7.0 percent identified themselves as being some other race or two or more races. 19.1 percent identified themselves as Hispanic or Latino.
- On average, 2.7 other members of their household worked as processing employees (with a standard deviation of 2.2).
- 50.6 percent indicated that they worked as a processing employee 10-12 months per year.
- 29.8 percent indicated that they worked as a processing employee 7-9 months per year.
- 10.5 percent indicated that they worked as a processing employee 4-6 months per year.
- 9.0 percent indicated that they worked as a processing employee 0-3 months per year.
- Most individuals (56.5 percent) were unemployed during the months when not working at their current processing employer, but 18.5 percent were working at a different processor during those months.
- 44.1 percent indicated that 76-100 percent of their combined family income came from their participation in processing activities.
- 14.1 percent indicated that 51-75 percent of their combined family income came from their participation in processing activities.
- 12.9 percent indicated that 26-50 percent of their combined family income came from their participation in processing activities.
- 12.7 percent indicated that 10-25 percent of their combined family income came from their participation in processing activities.
- 16.2 percent indicated that 0-9 percent of their combined family income came from their participation in processing activities.
- On average, 3.7 people were supported financially with the money the respondent earned as a processing employee (with a standard deviation of 2.8).
- Over half (51.6 percent) were U.S. citizens, 74.6 percent had immediate family living in the U.S.
- Survey responses indicated that a substantial percentage of respondent's salaries were sent to family members that live elsewhere in the United States or in another country.

For additional detail on selected AFSC survey questions and responses, please see Section 10, SIA Attachment 4, Table 59.

CGOA Longline-Caught Rockfish Shore-Based Processing

Table 37 provides information the number of shore-based processors in Kodiak accepting CGOA rockfish longline-caught deliveries from the Federal open access fishery. As shown, during the pre-Rockfish Pilot Program years (2003-2006), an annual average of 5.5 shore-based processors in Kodiak accepted longline-caught landings of CGOA rockfish. Annual averages for the Rockfish Pilot Program (2007-2011) and Rockfish Program (2012-2018) years were 4.4 shore-based processors and 5.3 shore-based processors, respectively.

Table 38 provides ex-vessel values of longline-caught CGOA rockfish deliveries to Kodiak shore-based processors over the period 2003-2018. While these deliveries showed considerable year-to-year variability, ranging from approximately $5,000 (2018) to approximately $58,000 (2015) in any given year (among the 7 out of 17 years Kodiak data could be disclosed) and annually averaging approximately

$18,000 for Kodiak processors as a group 2003-2018, they are consistently minor in relation to the overall scale of most Kodiak shore-based processors.

Under the Rockfish Program, any processor, including those affiliated with a CGOA rockfish trawl cooperative, can accept deliveries from the longline entry level fishery. Available data, however, would suggest that implementation of the Rockfish Program has not had a substantial impact on Kodiak shore-based processing engagement in the CGOA rockfish longline fishery.

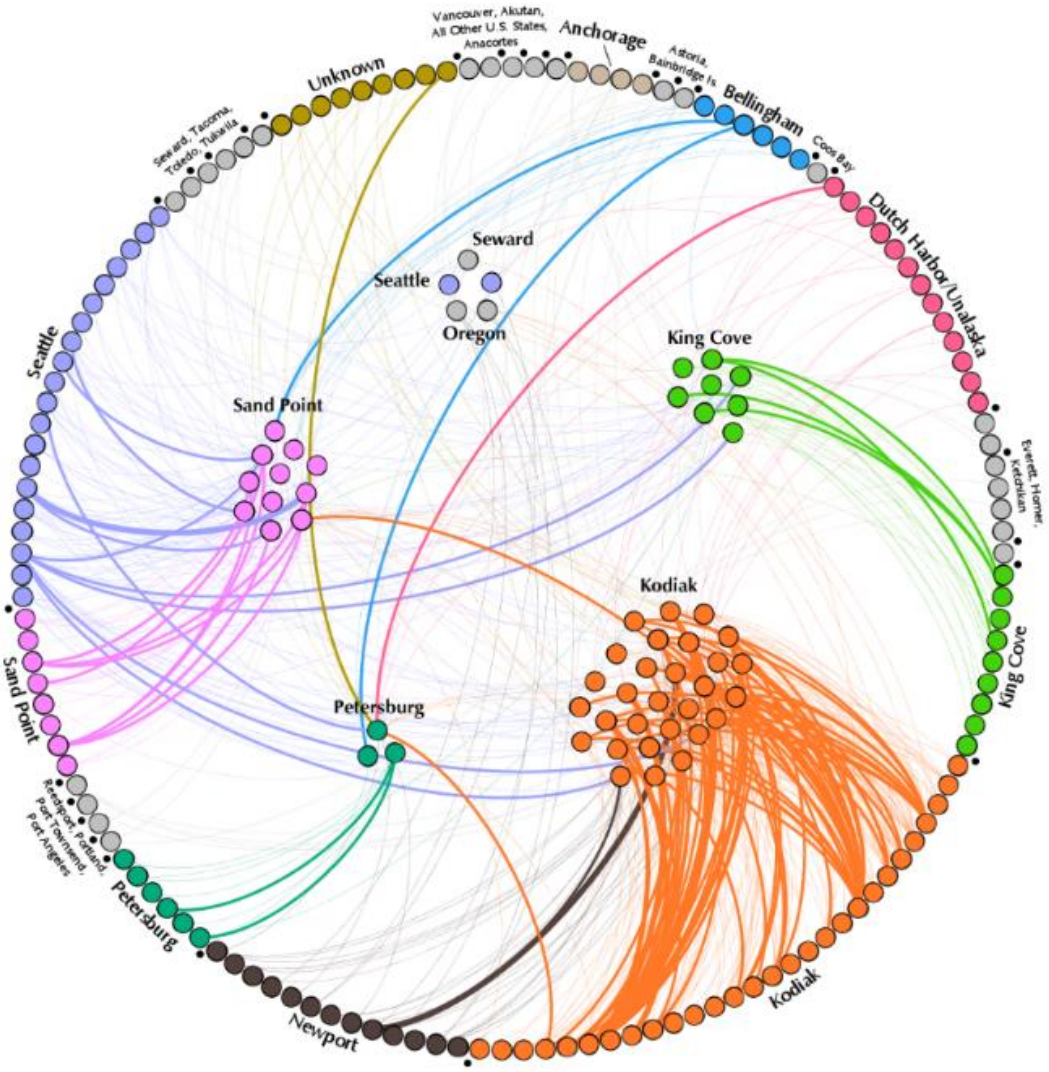
3.2.1.5 Support Services Sector

Beyond the magnitude of its direct harvesting and processing engagement in a wide range of fisheries, the community of Kodiak is distinguished from most other Alaskan fishing ports by the number and range of support service businesses that cater in whole or in part to the commercial fishing industry. In Kodiak, this sector has businesses that focus on a range of subsectors within the fishing industry including: shoreplant support, such as the local fishmeal plant; vessel support services, including marine hardware/gear supply, hydraulics, welding, marine electronics, marine mechanical, marine fuel sales, general stores, boatyard services, electrical services; and shipping, among others. This sector is described in detail in earlier NPFMC documents (especially AECOM 2010), including business attributes, seasonal fluctuations, and employment information for the individual enterprises in the various sectors. While Kodiak has consistently been a center for support service provision for the commercial fishing industry, the level and nature of service provision have not been consistent, with changes in the fisheries and technology driving changes in the support sector. Earlier NPFMC documents also note, however, that in addition to local direct support service providers, a range of indirect service providers still depend to a degree on fisheries-related activities, such as accounting and bookkeeping services and vehicle rental enterprises. Further, there are also several educational and governmental entities that operate fisheries-related research facilities in Kodiak.

No systematically collected, current data on Kodiak fishery support service businesses in general, or those linked to the CGOA rockfish fishery specifically, are available. However, the number of locally owned CGOA rockfish trawl vessels has increased, and Kodiak became the exclusive port of landings for all trawl catcher vessels engaged in the fishery under the Rockfish Program. The number of processors affiliated with CGOA rockfish cooperatives has increased, and increased revenues accruing to both harvesting and processing sectors has likely been accompanied by increased local spending by catcher vessel owners, catcher vessel crew, and/or shore-based processing workers, a substantial number of whom are Kodiak residents, but the level of impact on the local purchase of goods and services is unknown.

Figure 8 graphically illustrates the relationship of the community of GOA trawl catcher vessel ownership and the communities where those vessels obtain support services, utilizing data from the 2014 AFSC GOA Trawl Social Survey. Vessels and their community of ownership are shown as clustered dots within the circle, and support service businesses are shown, arranged by community where goods and services were obtained, as dots forming the circle itself. Thicker connecting lines represent multiple mentions for single businesses, while the thin lines in the background show the pervasive interconnections that result from unique mentions on the survey.

Figure 8. Community of GOA Trawl Catcher Vessel Ownership and Community of Vessel Support Service Businesses Utilized by those Vessels, 2014



Source: National Oceanic and Atmospheric Administration 2015

According to a recent study completed on behalf of the KIB and the City of Kodiak, seafood producers located in the city of Kodiak used approximately one-third of all electricity generated by the Kodiak Electrical Association and half of the water treated and collected by the City of Kodiak (McDowell Group 2016). The relationship between seafood processing demand for power and water and local infrastructure systems and public revenues, both for the KIB and the City of Kodiak, was prepared for a Council analysis of a proposed GOA trawl bycatch management action in 2016. That discussion, "Investment in Kodiak's Utility Infrastructure," can be found in Section 12, SIA Attachment 6.

Additional information developed for 2015-2018 through the shore-based processor EDR data collection has also recently become available on utility service demand specifically generated by the local shore-based processing sector entities. Table 47 provides information on water and electric utilities demand, by month, for Kodiak shore-based processors that accepted GOA trawl-caught rockfish deliveries in the 2015 and 2016 calendar years and Table 48 provides the same type of information for the 2017 and 2018

calendar years. As shown, demand for both water and electricity vary considerably by month. It should be noted, however, that some caution should be exercised in the interpretation of these data as a longer time series is not available.[36] Several changes in Kodiak shore-based processing took place in 2015 and 2017 that could make both years somewhat different for local operations than immediately preceding or following years, including the new Trident Seafoods KNI plant becoming operational in the summer of 2015, operations at the former Western Alaska Fisheries facility changing with the acquisition of that plant by another processor in 2015, and the closure of Global Seafoods in 2017.

Table 47. Kodiak Shore-Based Processor Utility Consumption and Cost, by Month, 2015 and 2016

Month	Number of Federal Processor Permits	Water		Electric	
		Gallons	Cost	Kilowatt Hours	Cost
2015					
January	7	46,024,274	$81,563	2,018,888	$322,521
February	7	92,334,474	$156,842	3,795,568	$586,266
March	7	124,259,373	$209,605	4,591,400	$683,252
April	7	93,551,669	$158,815	4,335,532	$656,278
May	7	46,021,267	$81,715	2,567,102	$412,177
June	7	41,768,698	$74,618	2,541,842	$396,310
July	7	62,942,266	$117,794	2,643,761	$416,302
August	7	95,178,696	$174,526	4,310,587	$650,138
September	7	136,935,109	$247,282	5,180,840	$774,986
October	7	89,338,626	$164,013	4,263,351	$647,379
November	7	44,779,424	$82,546	2,381,607	$389,462
December	7	21,076,880	$39,804	1,153,906	$136,076
2015 Total	7	894,210,756	$1,589,123	39,784,384	$6,071,147
2016					
January	6	48,497,373	$92,698	1,842,775	$316,326
February	6	103,662,120	$189,373	4,022,316	$600,616
March	6	143,169,094	$258,610	4,038,861	$620,100
April	6	94,465,721	$173,176	3,275,995	$522,632
May	6	51,141,130	$97,470	2,839,576	$473,775
June	6	39,492,444	$77,036	2,655,513	$425,243
July	6	24,788,566	$55,198	2,143,017	$339,651
August	6	36,428,844	$77,601	3,364,041	$495,816
September	6	88,491,335	$179,206	3,617,869	$554,719
October	6	117,036,262	$234,520	4,626,121	$705,466
November	6	44,807,217	$94,334	2,267,459	$375,006
December	6	16,490,610	$39,263	894,747	$118,936
2016 Total	6	808,470,716	$1,568,485	35,588,290	$5,548,286

Source: EDR data.

[36] Some of the caveats noted for catcher vessel EDR data also apply to these shoreside processor EDR data, including: 2015 was the first year these EDR data were collected; only four years of data are available; and some of the available data are unaudited. These data are, however, the best available and are presented here as an indication of relative if not exact utilities service demand.

Table 48. Kodiak Shore-Based Processor Utility Consumption and Cost, by Month, 2017 and 2018

Month	Number of Federal Processor Permits	Water		Electric	
		Gallons	Cost	Kilowatt Hours	Cost
2017					
January	6	48,109,800	$106,401	2,003,332	$345,421
February	6	157,220,170	$318,410	5,459,642	$822,008
March	6	133,932,380	$273,071	4,411,893	$679,741
April	6	63,607,920	$136,573	2,776,104	$440,534
May	6	42,675,100	$95,791	2,932,416	$459,261
June	6	48,682,120	$107,551	2,561,394	$406,132
July	6	54,029,390	$129,936	3,189,786	$494,998
August	6	115,349,640	$259,301	5,449,709	$827,501
September	6	108,748,380	$245,993	5,162,168	$788,538
October	6	121,140,370	$272,416	4,784,090	$712,991
November	6	56,453,990	$134,013	2,223,695	$363,578
December	6	11,925,670	$38,580	940,944	$169,660
2017 Total	6	961,874,930	$2,118,036	41,895,173	$6,510,363
2018					
January	5	14,326,145	$46,988	1,251,048	$198,563
February	5	80,506,455	$188,651	4,303,673	$664,594
March	5	110,237,730	$252,885	4,227,144	$546,667
April	5	36,429,980	$94,762	2,020,461	$334,035
May	5	33,079,550	$87,764	2,254,076	$373,632
June	5	34,406,560	$90,627	2,127,640	$352,736
July	5	24,683,630	$75,613	1,909,466	$313,066
August	5	64,845,130	$171,067	3,198,011	$503,970
September	5	113,304,520	$285,877	4,444,849	$678,021
October	5	102,382,860	$260,006	4,091,283	$631,325
November	5	36,282,250	$103,093	1,599,269	$274,113
December	5	8,618,660	$37,150	731,502	$128,492
2018 Total	5	659,103,470	$1,694,483	32,158,422	$4,999,214

Source: EDR data.

3.2.1.6 Public Revenues

Table 49 provides information on selected fisheries related revenues accruing to the City of Kodiak 2003-2018. As shown, shared fisheries tax revenues typically range between roughly six and eight percent of total general fund revenues in any given year (with 2017, at three percent, being an exception), and substantial revenues also accrue from boat harbor sources, which are not a part of the general fund. Kodiak has also been the beneficiary of a number harbor improvement projects in recent years, including major improvements to Pier III, which have included installation of a Matson 100-gauge crane that arrived in Kodiak in August 2015 (Northern Economics 2016b).

Table 50 provides information on ex-vessel value of landings in Kodiak, which are the primary basis of shared fishery tax revenues that accrue to the city, broken out by major species group by year 2003-2018. To place CGOA trawl-caught rockfish landings into this context, Table 51 provides information on ex-vessel values of both CGOA trawl-caught and longline-caught landings in Kodiak both in absolute terms and in terms of percentage of all landings in Kodiak. As shown, the ex-vessel value of CGOA rockfish landings accounted, roughly, for between one and five percent of the ex-vessel value of all landings in Kodiak in any given year, with annual average percentages increasing between the pre-Rockfish Pilot Program years (2003-2006) and the Rockfish Pilot Program years (2007-2011), from 1.7 percent to 1.8 percent, and again between the Rockfish Pilot Program years and the Rockfish Program years (2012-2018), from 1.8 percent to 3.5 percent. If ex-vessel value of landings in Kodiak are used for total value of catch when vessels are checked in to a rockfish cooperative (including bycatch), those landings accounted, roughly, for between three and seven percent of the ex-vessel value of all landings in Kodiak in any given year 2007-2018, with annual average percentages increasing between the Rockfish Pilot Program years (2007-2011) and the Rockfish Program years (2012-2018), from 3.6 percent to 5.1 percent.

Overall, the percentage of CGOA rockfish fishery landings related-revenues subject to taxes that directly benefit the city of Kodiak (and the KIB) remain modest compared to several other individual fisheries and all other fisheries combined. However, the community protection feature of the Rockfish Program that ensures CGOA rockfish trawl catcher vessel landings will occur in Kodiak, however, builds an additional measure of stability into the public revenue stream compared to previous conditions.

Table 49. Selected Fisheries Related Revenues (nominal dollars), City of Kodiak, 2003-2018

	General Fund Revenue						
	Shared Fisheries Tax Revenue						
Year	Shared Fisheries Business Tax Revenue	Shared Fisheries Resource Landing Tax Revenue	Total Shared Fisheries Tax Revenue	All Other General Fund Revenue	Total General Fund Revenue	Total Shared Fisheries as a Percent of Total General Fund Revenue	Boat Harbor Revenue
2003	$562,000	$65,719	$627,719	$10,246,779	$10,874,498	5.8%	$1,183,714
2004	$788,947*	$37,048	$825,995	$10,025,735	$10,851,730	7.6%	$1,114,408
2005	$597,723	$45,837	$643,560	$10,654,165	$11,297,725	5.7%	$1,465,129
2006	$655,636	$56,788	$712,424	$11,374,385	$12,086,809	5.9%	$1,616,940
2007	$760,099	$68,674	$828,773	$12,095,045	$12,923,818	6.4%	$1,894,868
2008	$823,097	$62,581	$885,678	$14,498,488	$15,384,166	5.8%	$1,999,486
2009	$946,635	$70,855	$1,017,490	$14,303,651	$15,321,141	6.6%	$2,183,999
2010	$1,046,010	$68,818	$1,114,828	$14,517,148	$15,631,976	7.1%	$2,233,292
2011	$740,229	$87,810	$828,039	$13,883,507	$14,711,546	5.6%	$2,394,368
2012	$1,123,205	$120,822	$1,244,027	$15,228,387	$16,472,414	7.6%	$2,507,552
2013	$1,252,420	$90,469	$1,342,889	$16,290,881	$17,633,770	7.6%	$2,602,989
2014	$1,189,750	$106,436	$1,296,186	$16,802,027	$18,098,213	7.2%	$2,344,260
2015	$1,164,404	$90,093	$1,254,497	$18,857,391	$20,111,888	6.2%	$2,371,246
2016	$1,021,500	$88,138	$1,109,638	$16,741,076	$17,850,714	6.2%	$2,231,594
2017	$602,501	$53,428	$655,929	$23,054,407	$23,710,336	2.8%	$2,293,765
2018	$995,756	$14,243	$1,009,999	$14,176,266	$15,186,265	6.7%	$2,484,736

Source: DCCED 2017, 2019.

Table 50. Ex-Vessel Value of Landings in Kodiak (nominal dollars), by Major Species Group, 2003-2018

Year	Groundfish	Halibut	Herring	Salmon	Crab	Other	All Species
2003	$33,884,367	$23,353,661	$1,104,674	$16,101,726	$6,404,546	$559,951	$81,408,924
2004	$36,470,806	$25,246,325	$1,563,998	$19,882,008	$6,651,483	$260,874	$90,075,494
2005	$43,920,208	$25,381,445	$1,663,673	$22,157,250	$7,375,334	$390,491	$100,888,401
2006	$49,889,256	$34,463,621	$562,074	$24,793,300	$6,770,583	$540,084	$117,018,918
2007	$55,437,021	$37,790,465	$740,416	$26,326,082	$7,630,331	$1,716,626	$129,640,940
2008	$67,504,985	$38,636,779	$1,177,075	$30,175,061	$11,190,575	$553,558	$149,238,032
2009	$42,153,300	$24,044,819	$1,950,991	$36,098,370	$7,073,637	$426,694	$111,747,811
2010	$60,029,312	$33,086,149	$1,342,910	$27,198,360	$9,367,819	$417,348	$131,441,898
2011	$78,769,524	$38,886,470	$662,062	$46,896,578	$9,659,090	$1,282,837	$176,156,562
2012	$87,364,469	$29,423,482	$1,978,322	$45,174,819	$6,488,124	$892,099	$171,321,315
2013	$68,666,607	$17,717,673	$1,361,453	$64,633,426	$4,089,791	$1,047,305	$157,516,256
2014	$79,772,095	$17,480,616	$324,265	$39,721,858	$4,984,776	$1,350,522	$143,634,132
2015	$77,574,416	$18,288,848	$83,311	$38,269,623	$8,981,104	$1,016,952	$144,214,253
2016	$61,736,848	$18,462,552	$35,044	$24,242,387	$9,213,644	$823,718	$114,514,192
2017	$63,568,464	$20,204,792	$51,835	$62,525,036	$5,111,754	$812,028	$152,273,909
2018	$57,787,163	$10,990,057	$70,531	$22,950,642	$6,935,576	$614,117	$99,348,086
Grand Total	**$964,528,842**	**$413,457,753**	**$14,672,631**	**$547,146,526**	**$117,928,165**	**$12,705,205**	**$2,070,439,122**

Source: AKFIN 2019

Table 51. Ex-Vessel Value of Landings in Kodiak (nominal dollars), CGOA Rockfish and CGOA Rockfish Vessels when Checked in to Cooperative, 2003-2018

Year	CGOA Rockfish Trawl Landings	Rockfish Federal Open Access Fishery Longline Landings	CGOA Rockfish Subtotal	Total Value of All Landings (From All Fisheries, Gear Types, and Areas)	CGOA Rockfish as Percent of All Landings	Total Value of Landings of Vessels when Checked in To Rockfish Cooperative (including bycatch)	of Vessels When Checked in to Rockfish Cooperative as Percent of All Local Landings
2003	$1,284,369	$0	$1,284,369	$81,408,924	1.6%	$0	0.0%
2004	$1,150,735	$0	$1,150,735	$90,075,494	1.3%	$0	0.0%
2005	$1,705,867	$0	$1,705,867	$100,888,401	1.7%	$0	0.0%
2006	$2,437,232	$907	$2,438,139	$117,018,918	2.1%	$0	0.0%
2007	$3,137,972	$6,836	$3,144,808	$129,640,940	2.4%	$5,048,129	3.9%
2008	$2,918,707	$848	$2,919,555	$149,238,032	2.0%	$5,273,136	3.5%
2009	$1,467,564	$1,833	$1,469,397	$111,747,811	1.3%	$3,650,259	3.3%
2010	$2,274,062	*	$2,274,062	$131,441,898	1.7%	$4,922,303	3.7%
2011	$2,537,091	*	$2,537,091	$176,156,562	1.4%	$6,048,510	3.4%
2012	$5,914,263	*	$5,914,263	$171,321,315	3.5%	$9,213,303	5.4%
2013	$4,178,559	$10,228	$4,188,787	$157,516,256	2.7%	$6,299,608	4.0%
2014	$4,204,523	*	$4,204,522	$143,634,132	2.9%	$6,836,163	4.8%
2015	$4,481,751	$11,917	$4,493,668	$144,214,253	3.1%	$6,674,220	4.6%
2016	$5,535,558	$31,848	$5,567,406	$114,514,192	4.9%	$7,229,291	6.3%
2017	$3,795,082	$7,773	$3,802,855	$152,273,909	2.5%	$6,160,297	4.0%
2018	$5,131,807	$3,870	$5,135,678	$99,348,086	5.2%	$6,762,277	6.8%
Grand Total	**$52,155,142**	**$76,061**	**$52,231,201**	**$2,070,439,122**	**2.5%**	**$74,117,496**	**3.6%**

*Value suppressed due to confidentiality constraints (too few catcher vessels delivering). Suppressed values combined with CGOA Rockfish Trawl Landings in these four years (and are included in the CGOA Rockfish Trawl Landings grand total). They do not appear in the CGOA Rockfish Federal Open Access Fishery Longline Landings grand total. In general, the longline values are small relative to other values and should be taken as an indication of relative order of magnitude, rather than exact values.

Source: AKFIN 2019

3.2.2 Other Alaska Communities

In addition to Kodiak, another 25 Alaska communities were directly engaged in the CGOA rockfish federal open access rockfish longline and/or CGOA rockfish trawl fisheries 2003-2018 as measured by a variety of indices. These indices include: catcher vessels with local ownership addresses participating in CGOA rockfish fishery in the hook-and-line or jig sectors; local operation of at least one shore-based processor that accepted longline-caught deliveries of CGOA rockfish; CGOA rockfish trawl catcher vessel LLP licenses with local ownership addresses; participation of CGOA rockfish trawl catcher processors with local ownership addresses; local operation of at least one shore-based processor that accepted trawl-caught caught deliveries of CGOA rockfish in any year 2003-2018; and/or residents who served as crew members aboard CGOA rockfish trawl catcher vessels and/or trawl catcher processors in 2015-2018 (the years for which these data are available). These communities include:

Akutan	Juneau	Seward
Anchor Point	Kenai	Sitka
Anchorage[37]	Ninilchik	Soldotna
Chiniak	Old Harbor	Sterling
Cordova	Ouzinkie	Unalaska/Dutch Harbor
Delta Junction	Palmer	Wasilla
False Pass	Port Lions	Willow
Gustavus	Sand Point	
Homer	Seldovia	

The following sections briefly characterize the nature of engagement of these communities in the relevant CGOA rockfish fisheries. Based on existing/available data, none of these communities would typically be considered to have been substantially engaged in or substantially dependent upon the CGOA rockfish fishery at the time of the implementation of the Rockfish Program, but levels of engagement and dependency varied in earlier years and data on crew employment is not available for any years other than 2015-2018.

3.2.2.1 CGOA Rockfish Longline Federal Open Access Fishery

Alaska ownership address CGOA rockfish longline vessels utilizing hook-and-line gear to participate in the Federal open access fishery 2003-2018 included vessels from three communities: Homer, Seldovia, and Willow (Table 34).

- All activity took place 2003-2006.
- A total of six unique vessels participated: 4 from Homer, 1 from Seldovia, and 1 from Willow. None of the vessels participated in the fishery for more than one year.

Alaska (outside of Kodiak) ownership address CGOA rockfish longline vessels utilizing jig gear to participate in the Federal open access fishery 2003-2018 included vessels from eight communities: Anchor Point, Anchorage, Chiniak, Homer, Old Harbor, Ouzinkie, Port Lions, and Wasilla (Table 35).

- All activity took place 2003-2009 and 2017-2018.
- Four communities had one vessel fish in one year: Anchor Point (2009), Chiniak (2004), Old Harbor (2008), and Port Lions (2006).

[37] Includes Girdwood (which appears as a separate location some of the quantitative indicator data).

- One community had one vessel in each of two years: Ouzinkie (2003 and 2004) with those being two unique vessels.
- Anchorage vessels fished each year 2003-2008, with two vessels fishing in 2004 and one vessel fishing in the other years (with a total of three unique vessels overall).
- Wasilla vessels participated one each in 2007, 2009, 2017, and 2019 (with only one vessel active in more than one year, for a total of three unique vessels overall).
- A total of five unique Homer vessels participated in the fishery with only one individual vessel active in more than one year: two were active in 2004; three different vessels active one year each in 2006, 2007, and 2009; and one previously active vessel was active again in 2017.

Shore-based processors operating in Alaska (outside of Kodiak) that accepted Federal open access fishery CGOA rockfish longline-caught deliveries 2003-2018 were located in nine communities: Akutan, Anchorage, Cordova, Homer, Kenai, Ninilchik, Sand Point, Seward, and Sitka (Table 37).

- Activity occurred in one or more communities each year 2003-2018 except in 2007 and 2010. However, this relatively wide distribution of community engagement is likely more apparent than real, due to the relatively infrequent, small volume deliveries behind these processor counts.
- Ex-vessel values of landings can only be disclosed for Kodiak in any year 2003-2018 (Table 38).
- Among all communities other than Kodiak and Homer, none had any single calendar year where the ex-vessel value of CGOA longline-caught rockfish landings at all locally operating shore-based processors combined would typically be considered representative of substantial shore-based processing engagement in the fishery.

3.2.2.2 CGOA Rockfish Trawl Fishery

Alaska ownership address communities of CGOA rockfish trawl catcher vessels were limited to Kodiak. Alaska community of ownership address (outside of Kodiak) of relevant CGOA rockfish trawl catcher vessel LLP licenses during 2003-2018 included four communities: Anchorage, False Pass, Homer, and Sand Point (Figure 3).

- With one exception (Homer) all LLP license ownership in these communities occurred 2003-2009.
- Anchorage appears in the data as an ownership address for one LLP license in 2003 and 2004 (with ownership shown as Seattle 2005-2018). This LLP license did not receive a Rockfish Pilot Program or a Rockfish Program initial allocation under its Anchorage ownership address.
- False Pass appears in the data as the ownership address for one LLP license for 2003-2009, while Homer appears as the ownership address for that same LLP license for 2010-2018 (making this the only LLP license shown as continuously having Alaska ownership for the entire 2003-2018 period outside of Kodiak, albeit in 2 different communities).
    - This LLP license did not receive a Rockfish Pilot Program or Rockfish Program initial allocation under its False Pass ownership address.
    - This LLP license did receive a Rockfish Program initial allocation under its Homer ownership address.
- Sand Point appears in the data as an ownership address for one LLP license in 2006 and 2007 (with ownership of that LLP license shown as Bellingham, Washington for 2003-2005 and 2008-2013, and Kodiak for 2014-2018). This LLP license did receive a Rockfish Pilot Program initial allocation (but not a Rockfish Program initial allocation) under its Sand Point address.

Residents of 13 Alaska communities outside of Kodiak worked as crew aboard CGOA rockfish trawl catcher vessels in 2015, 2016, 2017, and/or 2018 (the only years for which crew data are available) (Table 14 and Table 15). These included Anchor Point, Anchorage, Chiniak, Gustavus, Homer, Juneau, Kenai, Old Harbor, Palmer, Seward, Soldotna, Sterling, and Wasilla.

CGOA rockfish trawl catcher processors with Alaska ownership addresses during 2003-2018 were limited to Unalaska/Dutch Harbor (Table 20). This ownership was limited to one unique catcher processor active in the fishery in 2004-2005 and 2007-2010.

Residents of six Alaska communities outside of Kodiak served as crew aboard CGOA rockfish trawl catcher processors in 2015, 2016, 2017 and/or 2018: Anchorage, Delta Junction, Kenai, Seldovia, Unalaska/Dutch Harbor, and Wasilla. (For 2017 and 2018, see Table 57 in this SIA; for 2015 and 2016, see Tables 78 and 79 in the Rockfish Program Review SIA [Northern Economics, 2017]).

Shore-based processors operating in Alaska (outside of Kodiak) that accepted CGOA rockfish trawl-caught deliveries 2003-2018 were limited to Seward (Table 30).

- Seward shore-based processing of CGOA trawl-caught rockfish occurred in 2011 only.
- This activity was likely linked to the entry level trawl fishery that occurred under the Rockfish Pilot Program (but was eliminated under the Rockfish Program).

3.2.2.3 Summary of Other Alaska Community Engagement

Table 52 provides a tabular summary of the community engagement indicators listed in the previous two sections to allow an at-a-glance perspective on those communities engaged in more than one sector of the fishery as reflected through multiple indicators.

Table 53 provides information on an indicator not included in those covered in the bulleted listing in the previous section, the relationship of CGOA rockfish trawl catcher vessel community of ownership address and homeport community, using Alaska Commercial Fisheries Entry Commission (CFEC) data for homeport designation, for 2018. In those instances where community of ownership varies from community of homeport, that may be indicative of a pattern of differential distribution of vessel port activities, but previous NPFMC social impact analyses (e.g., AECOM 2010) would suggest that homeport designations are, in general, inconsistently predictive of the location of vessel activity in any given fishery. Nevertheless, the table shows marked variation in patterns of correspondence of community of ownership and homeport for CGOA rockfish trawl catcher vessels for the single year shown. Of the 10 communities shown as having local ownership of catcher vessels, only two of those communities have some or all of those vessels also homeported in the same community. It also suggests the potential additional importance of Kodiak has a homeport for, and a potential supplier of support services to, vessels with ownership addresses in other communities, as seven out of 19 (37 percent) of the vessels reporting Kodiak as their homeport have Washington community ownership addresses. Conversely, only one out of 12 (eight percent) of vessels with Kodiak ownership addresses is shown as not being homeported in Kodiak as well.

Table 52. Selected Measures of CGOA Rockfish Fishery Participation, Alaska Communities Other than Kodiak, 2003-2018

	Region of Alaska	Borough	Community	CGOA Rockfish Longline Federal Open Access Fishery			CGOA Rockfish Trawl Fishery										
				Longline CV Ownership Years (number of vessels active in specified year) [total number of unique vessels all years]		Local SBPR Accepting CGOA Longline-Caught Rockfish Years (number of SBPRs active in specified year) [total number of unique SBPRs all years]	CGOA Rockfish Trawl CV LLP Ownership Years (number of LLPs active in specified year) [total number of unique LLPs all years]	No. of CGOA Trawl CVs Home-ported in 2018 (only)	CGOA Rockfish Trawl CV Crew Members				CGOA Rockfish Trawl CP Ownership Years (number of CPs active in specified year) [total number of unique CPs all years]	CGOA Rockfish Trawl CP Crew Members				Local SBPR Accepting CGOA Trawl-Caught Rockfish Years (number of SBPRs active in specified year) [total number of unique SBPRs all years]
				Hook-and-Line	Jig				2015	2016	2017	2018		2015	2016	2017	2018*	
1	Kodiak	Kodiak Island	Chiniak	--	2004(1)[1]	--	--	--	1	--	1	--	--	--	--	--	--	--
2	Kodiak	Kodiak Island	Old Harbor	--	2008(1)[1]	--	--	--	1	1	1	1	--	--	--	--	--	--
3	Kodiak	Kodiak Island	Ouzinkie	--	2003(1) 2004(1)[2]	--	--	--	--	--	--	--	--	--	--	--	--	--
4	Kodiak	Kodiak Island	Port Lions	--	2006(1)[1]	--	--	--	--	--	--	--	--	--	--	--	--	--
5	South Central	Anchorage	Anchorage	--	2003(1) 2004(2) 2005(1) 2006(1) 2007(1) 2008(1)[3]	2003(1) 2004(1) 2013(1) 2015(1) 2016(1) 2017(1) 2018(2)[2]	2003-2004(1)[1]	--	4	2	1	1	--	3	7	5	--	--
6	South Central	Kenai Peninsula	Anchor Point	--	2009(1)	--	--	--	3	3	4	3	--	--	--	--	--	--
7	South Central	Kenai Peninsula	Homer	2003(2) 2004(1) 2006(1)[4]	2004(2) 2006(1) 2007(1) 2009(1) 2017(1)[5]	2003(3) 2004(2) 2009(1) 2011(1) 2012(1) 2013(1) 2015(1) 2016(1) 2017(1)[4]	2010-2018(1)[1]	--	--	--	1	--	--	--	--	--	--	--
8	South Central	Kenai Peninsula	Kenai	--	--	2003(2) 2004(1) 2017(1) 2018(1)[3]	--	--	--	2	--	--	--	1	1	--	--	--
9	South Central	Kenai Peninsula	Ninilchik	--	--	2003(1) 2004(1) 2005(1) 2006(1)[1]	--	--	--	--	--	--	--	--	--	--	--	--
10	South Central	Kenai Peninsula	Seldovia	2003(1)[1]	--	--	--	--	--	--	--	--	--	1	--	--	--	--
11	South Central	Kenai Peninsula	Seward	--	--	2003(1) 2008(2) 2011(2) 2012(1) 2013(1) 2014(1) 2015(1) 2016(2) 2017(2) 2018(1)[4]	--	--	--	--	--	--	--	--	--	--	--	2011(1)
12	South Central	Kenai Peninsula	Soldotna	--	--	--	--	--	1	1	--	--	--	--	--	--	--	--
13	South Central	Kenai Peninsula	Sterling	--	--	--	--	--	1	--	--	--				--	--	
14	South Central	Matanuska-Susitna	Palmer	--	--	--	--	--	3	3	2	3	--	--	--	--	--	--
15	South Central	Matanuska-Susitna	Wasilla	--	2007(1) 2009(1) 2017(1) 2018(1)[1]	--	--	--	--	2	2	2	--	1	1	1	1	--
16	South Central	Matanuska-Susitna	Willow	2004(1)[1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	South Central	Unorganized**	Cordova	--	--	2014(1)[1]	--	--	--	--	--	--	--	--	--	--	--	--
18	Aleutian/Pribilof	Aleutians East	Akutan	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
19	Aleutian/Pribilof	Aleutians East	False Pass	--	--	--	2003-2009(1)[1]	--	--	--	--	--	--	--	--	--	--	--
20	Aleutian/Pribilof	Aleutians East	Sand Point	--	--	2003(1)[1]	2006-2007(1)[1]	--	--	--	--	--	--	--	--	--	--	--
21	Aleutian/Pribilof	Unorganized**	Unalaska/ Dutch Harbor	--	--	--	--	--	--	--	--	--	2004-2005(1) 2007-2010(1)[1]	7	14	9	4	--
22	Southeast	City and Borough of Juneau	Sitka	--	--	2003(1)[1]	--	--	--	--	--	--	--	--	--	--	--	--
23	Southeast	City and Borough of Juneau	Juneau	--	--	--	--	1***	1	--	--	--	--	--	--	--	--	--
24	Southeast	Unorganized**	Gustavus	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--
25	Interior	Unorganized**	Delta Junction	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--

*2018 catcher processor crew data are preliminary.

**Cordova is located within the Valdez-Cordova Census Area; Unalaska/Dutch Harbor is located within the Aleutians West Census Area; Gustavus is located within Hoonah-Angoon Census Area; Delta Junction is located within the Southeast Fairbanks

***The CGOA rockfish trawl catcher vesses homeported in Juneau in 2018 (the only year for which homeport data are shown) had a South Bend, Washington ownership address.

Source: AKFIN 2017a, AKFIN 2019, NOAA Fisheries 2016a, NOAA Fisheries 2017a, NOAA Fisheries 2017b, NOAA Fisheries 2019.

Table 53. Correspondence of Community of Ownership and Community of Homeport of Catcher Vessels Making CGOA Rockfish Trawl-Caught Deliveries, 2018

Community		CV Homeport										
		Kodiak	Juneau	Seattle, WA*	Camas, WA	East Wenatchee, WA	South Bend, WA	Newport, OR**	Siletz, OR**	Keiser, OR	Portland, OR	Total
CV Ownership Address	Kodiak	11	-	-	-	-	-	1	-	-	-	12
	Juneau	--	--	--	--	--	--	--	--	--	--	0
	Seattle, WA*	4	--	1	--	--	--	--	--	--	--	5
	Camas, WA	1	--	--	--	--	--	--	--	--	--	1
	East Wenatchee, WA	1	--	--	--	--	--	--	--	--	--	1
	South Bend, WA	1	1	--	--	--	--	--	--	--	--	2
	Newport, WA**	1	--	--	--	--	--	1	--	--	--	2
	Siletz, OR**	--	--	--	--	--	--	1	--	--		1
	Keiser, OR	--	--	--	--	--	--		--	--	1	1
	Portland, OR	--	--	--	--	--	--		--	--	--	0
Total		19	1	1	0	0	0	3	0	0	1	25

*Denotes communities in the Seattle MSA.
**Denotes communities in Lincoln County, Oregon.
Source: AKIFN 2019.

Table 54. Correspondence of Community of Ownership and Community of Homeport of Catcher Processors Active in the CGOA Rockfish Trawl Fishery, 2018

Community		CP Homeport			
		Kodiak	Seattle, WA*	Kirkland, WA*	Total
CP Ownership Address	Kodiak	1	--	--	1
	Seattle, WA*	--	1	--	1
	Kirkland, WA*	--	2	--	2
Total		1	3	0	4

*Denotes communities in the Seattle MSA.
Source: AKFIN 2019.

3.3 Pacific Northwest Communities

3.3.1 Seattle MSA and Other Washington Communities

The Seattle MSA was chosen as a unit of analysis for the purposes of this social impact assessment rather than the City of Seattle itself, consistent with the approach used in other recent NPFMC analyses (e.g., the GOA Halibut PSC Limit Reduction analysis [AECOM 2013], the GOA Trawl Bycatch Management Analysis [Northern Economics 2016a], and the Rockfish Program Review SIA [Northern Economics 2017]). This is due in part to the integration of fisheries related activities into that larger metropolitan area and in part to a desire to avoid understating the importance of that larger community to the fishery. It is recognized, however, that there are areas of the Seattle MSA, such as Ballard, that traditionally have been

more closely associated with commercial fishing in general, and a history of participating in Alaska fisheries, than others.

Additionally, although multiple other Washington communities were engaged in the CGOA rockfish trawl fishery in the years covered by the relevant data (2003-2018), the focus of this section is largely on the Seattle MSA itself, as the direct engagement of Washington communities outside of the Seattle MSA in the CGOA rockfish trawl fishery is typically limited to catcher vessel ownership and to a relatively few vessels in any one community. Specifically, as noted below, among the multiple communities with CGOA rockfish trawl catcher vessel ownership outside of the Seattle MSA 2003-2018, only two communities had an annual average of one or more local ownership address vessels participating in the fishery over this period (one of which had an annual average of 1.0 catcher vessel participating and the other had an annual average of 1.5 catcher vessels participating [Table 1]). On the other hand, also as noted below, the Seattle MSA was substantially engaged in virtually all sectors of the fishery in all the years covered by the data.

3.3.1.1 Location and History

The Seattle MSA is located along the eastern edge of Puget Sound, an inlet of the Pacific Ocean and part of the Salish Sea, in northwest Washington. It includes King, Pierce, and Snohomish counties, the three most populous counties within the Puget Sound region, and is typically used to characterize the greater Seattle metropolitan area.[38] Major cities within the Seattle MSA include Seattle, Tacoma, Bellevue, and Everett, with the city of Seattle itself located in King County between Elliot Bay and Lake Washington.

The area that is encompassed by the contemporary Seattle MSA was a part of the Puget Sound area home of the Duwamish and Suquamish Native American groups in traditional times. The Hudson's Bay Company established a post in the area in 1833, with development occurring on what is now the site of Seattle in the early 1850s. In the late 1800s, Seattle became a jumping off point those travelling north to participate in gold rushes in Canada and Alaska; in that same era fishermen and fishing companies from the west coast began participating in the Pacific cod fisheries of the Bering Sea and Gulf of Alaska, along with the salmon fisheries in Bristol Bay. Early on, Seattle played a pivotal role in this process, establishing a pattern of substantial engagement of the community across a range of North Pacific fisheries, a pattern that has continued to the present (NOAA 2007).

3.3.1.2 Community Demographics and Economy

According to federal census data, the Seattle MSA had a population of 3,439,809 in 2010. Census figures from that year show that 71.9 percent of the residents of the Seattle MSA identified themselves as White, 1.1 percent as American Indian or Alaska Native, 5.6 percent as Black/African American, 11.4 percent as Asian, 0.8 percent as Hawaiian Native and Other Pacific Islander, and 9.2 percent as "some other race" or "two or more races," while 9.0 percent of the residents of any race in the Seattle MSA identified themselves as being of Hispanic or Latino origin. Based on race and ethnicity combined, 32.0 percent of the Seattle MSA's total population was composed of minority residents (that is, all residents other than those identified as both White [race] and of non-Hispanic or Latino origin [ethnicity]) in 2010. Housing data from the U.S. Census indicate that 98.1 percent of all Seattle MSA residents lived in non-group quarters housing.

According to the most recent U.S. Census American Community Survey (2013-2017), 1,913,825 were employed in the Seattle MSA with an unemployment rate of 5.5 percent. Per capita income for people in

[38] Based on commuting patterns, adjacent areas of Olympia, Bremerton, and Mount Vernon, along with a few smaller satellite urban areas, are often grouped into the larger Seattle-Tacoma-Olympia Combined Statistical Area, commonly referred to as the Puget Sound Region, for the purposes of labor market and other economic analyses.

the Seattle MSA was estimated at $40,699, median household income was $77,269, and median family income was $94,366. An estimated 10.4 percent of Seattle MSA's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2019).

As of 2017, major industries in the Seattle MSA included educational services, health care, and social assistance (20.5 percent); professional, scientific, management, and administrative services (15.4 percent); retail trade (12.1 percent); and manufacturing (11.1 percent). Natural resource jobs including agriculture, forestry, fishing, hunting, and mining represented 0.6 percent of local employment (U.S. Census Bureau 2019). Major employers in King County included the Boeing Company, Microsoft, University of Washington, Amazon.com, county government, Starbucks, Swedish Health Services, city government, Costco, Nordstrom, and Group Health Cooperative (Economic Development Council 2016).

3.3.1.3 Commercial Fisheries Engagement

Overview

The Seattle MSA, by many measures, is the community most heavily engaged in, if not dependent on, multiple federal fisheries off Alaska managed by the NPFMC. It is also a community heavily engaged in federally fisheries off the West Coast managed by the Pacific Fishery Management Council. Among the seven Washington communities outside of the Seattle MSA that were also engaged in the CGOA rockfish trawl fishery 2003-2018, three of those communities (Anacortes, Bellingham, and South Bend) are described in an earlier NOAA document (NOAA 2007) as fishing communities engaged in both the West Coast and North Pacific fisheries, while the others (Camas, East Wenatchee, Lynden, and Ridgefield) are not.

Catcher Vessel Sector

General

As shown in Table 4, during the pre-Rockfish Pilot Program years (2003 through 2006), the annual number of Seattle MSA ownership address commercial fishing vessels participating in all offshore Alaska fisheries, using all gear types in all areas combined (i.e., the community offshore Alaska commercial fishing fleet), annually averaged 209 vessels. The analogous figures for the Rockfish Pilot Program years (2007-2011) and the Rockfish Program years (2012-2018) were 187 vessels (Table 6) and 270 vessels (Table 8), respectively . The annual average ex-vessel gross revenues for all relevant Washington community fleets combined ranged from $383 million (2003-2006) to $406 million (2007-2011) to $417 million (2012-2016) as shown on those same tables.

CGOA Rockfish Trawl Catcher Vessels

Table 1 shows information on Washington community participation in the CGOA rockfish trawl fishery, as indicated by the number local ownership address catcher vessels engaged in the fishery by year, 2003-2018.

- Within the Seattle MSA, three individual communities were the location of ownership of CGOA rockfish trawl catcher vessels in at least one year during the period 2003-2018. As a whole, the Seattle MSA averaged 4.4 vessels participating per year, with the city of Seattle averaging 3.9 vessels per year and the other two communities (Issaquah and Lynnwood) averaging less than one vessel each per year. A total of eight unique city of Seattle ownership address catcher vessels participated in the CGOA rockfish trawl fishery during the 2003-2018 period, as did one vessel each from the other two communities.

- Outside of the Seattle MSA, a total of four Washington communities were engaged in the CGOA rockfish trawl fishery during the period 2003-2018 through local ownership of CGOA rockfish trawl catcher vessels. Of these communities, two had an annual average number of participating vessels of one or greater: East Wenatchee (1.0 vessels) and South Bend (1.6 vessels). South Bend was the only Washington community outside of the Seattle MSA that had more than one unique CGOA rockfish trawl catcher vessel participate over the period 2003-2018: South Bend had two unique vessels do so, while Anacortes, Camas, and East Wenatchee had one unique catcher vessel with a local ownership address participating in the CGOA rockfish trawl fishery over this period.

In percentage terms, Washington ownership address CGOA rockfish trawl catcher vessels accounted for about 33 percent of all catcher vessels in the fishery on an annual average basis over the period 2003-2018, with Seattle MSA ownership address vessels accounting for about 17 percent of the fishery total and other Washington ownership address vessels accounting for about 13 percent of the fishery total.

As shown in Table 2, over the 2003-2018 period, Washington ownership address CGOA rockfish trawl catcher vessels accounted for an annual average of approximately 32 percent of average annual catcher vessel ex-vessel gross revenues in the fishery. Separate ex-vessel gross revenues for vessels with ownership addresses in the Seattle MSA and other Washington communities cannot be presented due to confidentiality restrictions, except for the years 2004 and 2012-2018. During the 2012-2018 period, Seattle MSA ownership address vessels accounted for an annual average of approximately 19 percent of average annual catcher vessel ex-vessel gross revenues in the fishery, while vessels locally owned in other Washington communities accounted for about 17 percent of the total, with all Washington ownership address vessels accounting for roughly 35 percent of the total.

Information on relative dependency of Washington ownership address CGOA rockfish trawl vessels on CGOA trawl-caught rockfish, as measured in ex-vessel gross revenues, compared to ex-vessel gross revenues from all other fisheries pursued by those same vessels, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 3. As shown, relative dependency has varied between roughly 15, 12, and 11 percent during the 2003-2006, 2007-2011, and 2012-2018 periods, as the annual average gross revenues of CGOA rockfish and ex-vessel gross revenues for all species increased between both the first and second and second and third periods, but at different rates.

Information on relative dependency of all Washington ownership address catcher vessels (i.e., catcher vessels participating in any species, any gear type, and any area commercial fishery [the Washington "community fleet"]) on CGOA trawl-caught rockfish, as measured in ex-vessel gross revenues, compared to ex-vessel gross revenues from all other fisheries pursued by those same vessels, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, ranged from 0.2 percent, to 0.3 percent, to 0.4 percent, respectively (Table 4, Table 6, and Table 8). Relative dependency has varied as the annual average gross revenues of CGOA rockfish increased between the first and second periods and second and third periods, while ex-vessel gross revenues for all species/gear type/area fisheries combined also increased between the first and second periods and between second and third periods, but at different rates.

CGOA Rockfish Trawl Catcher Vessel Quota and LLP Licenses

As shown in Table 10, LLP licenses with Seattle MSA ownership addresses received the following initial allocations of primary species under the Rockfish Pilot Program and Rockfish Program (as a percentage of all catcher vessel and catcher processor quota shares combined):

Northern Rockfish

- Rockfish Pilot Program: 14.16 percent
- Rockfish Program: 9.71 percent
- ***Change: -4.45 percent***

Pacific Ocean Perch

- Rockfish Pilot Program: 11.80 percent
- Rockfish Program: 12.34 percent
- ***Change: +0.54 percent***

Pelagic Shelf/Dusky Rockfish

- Rockfish Pilot Program: 8.03 percent
- Rockfish Program: 10.05 percent
- ***Change: +2.02 percent***

CGOA Rockfish Trawl Catcher Vessel Crew

Summary EDR data are presented in Table 14 and Table 15. Apparent across all years covered by those tables (2015-2018) is that roughly 10 percent of crew members reside in Washington, but that vessels with Washington ownership addresses provide employment for roughly 20 and 30 percent of all crew members. Table 16 shows annual payments for captains and crew of CGOA rockfish trawl catcher vessels by community of vessel ownership for 2015 using EDR data. Table 17, Table 18, and Table 19, provide similar information for 2016, 2017, and 2018, respectively. It is important to note that these represent total captain and crew payments for these vessels, not just payments related to the CGOA rockfish fishery, as data on fishery-specific earnings are not available. As shown, Washington ownership address vessels account for between roughly 17 percent and 32 percent, depending on the year, of all combined payments to captains and crew for vessels that participated in the CGOA rockfish fishery over the years covered by the data.

Catcher Processor Sector

In the years covered by the 2003-2018 dataset, ownership of CGOA rockfish trawl catcher processors has been highly concentrated in the state of Washington in general and in the Seattle MSA specifically. Over these years, on an annual average basis, about 87 percent of the participating catcher processors had ownership addresses in the Seattle MSA, while Washington as a whole averaged about 95 percent of the participating catcher processors on an annual average basis over this same period as measured by ownership location information (Table 20). Alaska ownership of participating CGOA rockfish trawl catcher processors over this period was limited to one catcher processor with an Unalaska/Dutch Harbor ownership addresses in 2004-2005 and 2007-2010. No other state other than Washington and Alaska had local ownership (as reported in the federal fisheries permit data[39]) of a CGOA rockfish trawl catcher processor during the years 2003-2016, however in 2017 and 2018, one vessel with a Rockford, Maine ownership address participated in the fishery.

Under the Rockfish Program, the catcher processor sector has seen a consolidation of ownership within the Seattle MSA compared to earlier pre-Rockfish Pilot Program or Rockfish Pilot Program years. As shown in Table 20, while CGOA trawl catcher processor ownership included other communities in the pre-Rockfish Pilot Program (Unalaska/Dutch Harbor, Alaska) and Rockfish Pilot Program (Unalaska/Dutch Harbor and Bellingham, Washington) years, catcher processor ownership was exclusive to the Seattle MSA among Alaska, Washington, and Oregon communities during the years 2011-2018

[39] There was one entity that is associated with a catcher processor LLP license that shows an out-of-state address in 2010, as shown in Figure 4.

(and all communities from 2011-2016 before the Rockland, Maine vessel ownership entry). Similarly, as shown in Table 25, while some trawl catcher processor LLP licenses receiving initial quota share allocations under the Rockfish Pilot Program were owned in other communities (Bellingham and South Bend, Washington), only catcher processor LLP licenses owned in the Seattle MSA received initial quota share allocations under the Rockfish Program.

As shown in Table 55, the number CGOA rockfish catcher processor cooperatives declined under the Rockfish Program as well, but only in comparison to the two final years of the Rockfish Pilot Program. The number of catcher processor LLP licenses and catcher processor vessels assigned to cooperatives under the Rockfish Program declined only in comparison to the year immediately before the implementation of the Rockfish Program, with additional volatility in the sector reflected in the growth of the Gulf of Alaska Rockfish Best Use Cooperative, which came to more closely mirror the Alaska Seafood Cooperative, an Amendment 80 Bering Sea/Aleutian Islands (BSAI) cooperative, and the exit of the Trident Offshore Rockfish Cooperative Association. In the two most recent years covered by the data (2017 and 2018) all catcher processor participation in the fishery took place within a single cooperative following the sale of the Fishing Company of Alaska fleet and the dissolution of the associated cooperative.

Table 55. Number of Catcher Processor LLP Licenses (Number of Catcher Processors) Assigned to CGOA Rockfish Cooperatives, 2007-2019

	Rockfish Pilot Program Year					Rockfish Program Year								2012-2019
Catcher Processor Cooperative	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
FCA Cooperative	3(3)	3(3)	3(3)	3(3)	3(3)	3(3)	3(3)	3(3)	3(3)	3(3)	4(4)	--	--	4(5)
Trident Offshore Rockfish Cooperative Association	2(2)	2(2)	2(2)	3(3)	3(3)	--	--	--	--	--	--	--	--	--
Gulf of Alaska Rockfish Best Use Cooperative	--	--	--	2(2)	2(2)	8(7)	8(7)	8(7)	8(7)	8(7)	7(6)	11(10)	11(10)	11(13)
Cascade Unimak Rockfish Cooperative	--	--	--	--	2(2)	--	--	--	--	--	--	--	--	--
USS Rockfish Cooperative	--	--	--	--	2(2)	--	--	--	--	--	--	--	--	--
Total Catcher Processor Cooperatives	**5(5)**	**5(5)**	**5(5)**	**8(8)**	**12(12)**	**11(10)**	**11(10)**	**11(10)**	**11(10)**	**11(10)**	**11(10)**	**10(10)**	**10(10)**	**11(14)**

Source: AKFIN summary of cooperative data submitted to NMFS (adapted from EA/RIR Table 3-15).

Due to the low number of participating vessels outside of the Seattle MSA in any given year, a breakdown of first wholesale gross revenues cannot be given for any geographic subset of catcher processor ownership. It is assumed, however, that the large majority of the $9.6 million average annual CGOA rockfish trawl catcher processor first wholesale gross revenues accrue to the Seattle MSA-owned portion of the fleet, based on vessel count distribution. As there is a comprehensive analysis of the catcher processor sector in the EA/RIR to which this social impact assessment is appended, and that sector is nearly exclusively associated with the Seattle MSA, that baseline characterization is not recapitulated here.

CGOA Rockfish Trawl Catcher Processor Crew

CGOA rockfish trawl catcher processor crew data are available from one primary source: EDR data that were collected for 2015-2018[40] and are summarized in this section. There are too few catcher processors with ownership addresses outside of the Seattle MSA to disaggregate volume and value data (or other confidential business data) to the community level. As the large majority of CGOA rockfish trawl catcher

[40] As noted elsewhere, multiple caveats apply to catcher processor EDR data, including: 2015 was the first year EDR catcher processor crew data were collected; only two years of data are available; the available data have not been audited (as audits typically rely on multiple years of data to identify anomalous entries); and the scope of the information reported varied by firm. These data are, however, the best available and are presented here as an indication of relative if not exact crew employment.

processors have ownership addresses in the Seattle MSA, crew data for the entire sector are described in this section.

It is not possible to provide counts of catcher processor crew by community of employee residence, for fishing (deck crew), processing, or other onboard employees using EDR data. By matching CFEC gear operator permit and Alaska Department of Fish and Game (ADFG) crew license data with the EDR data, however, it is possible to generate an inventory of communities of residence for the EDR data provided to allow description of the geographic distribution of the residence information in the data.

As reported in the recent Rockfish Program Review (Northern Economics, 2017), a total of 17 states and 1 U.S. territory are represented in the 2015 data, along with 77 unique communities. The seven states with the most unique communities in the data and the number of those communities by state are:

- Washington – 38 communities
- Oregon – 7 communities
- Alaska – 6 communities
- Idaho – 4 communities
- Arizona – 3 communities
- California – 3 communities
- Texas – 3 communities

Other states/territories in the 2015 data include:

- 2 community states or territories: American Samoa, Montana, and Nevada.
- 1 community states: Alabama, Florida, Massachusetts, Michigan, Missouri, North Carolina, and Pennsylvania.

Also as reported in the recent Rockfish Program Review (Northern Economics, 2017), total of 22 states and 1 U.S. territory are represented in the 2016 data, along with 96 unique communities. The eight states with the most unique communities in the data and the number of those communities by state are:

- Washington – 40 communities
- California – 12 communities
- Oregon – 8 communities
- Alaska – 5 communities
- Idaho – 4 communities
- Arizona – 4 communities
- Colorado – 3 communities
- Texas – 3 communities

Other states/territories in the 2016 data include:

- 2 community states: Alabama, Hawaii, Idaho, Illinois, and Nevada.
- 1 community states or territories: American Samoa, Florida, Michigan, Minnesota, North Carolina, Nebraska, New York, Ohio, Oklahoma, Pennsylvania, and Virginia.

As shown in Table 57, total of 12 states and 1 U.S. territory are represented in the 2017 data, along with 65 unique communities. The five states with the most unique communities in the data and the number of those communities by state are:

- Washington – 39 communities
- Arizona – 5 communities
- California – 5 communities

- Alaska – 3 communities
- Oregon – 3 communities

Other states/territories in the 2017 data include:

- 2 community states: Massachusetts and Pennsylvania.
- 1 community states or territories: American Samoa, Hawaii, Idaho, Illinois, Ohio, and Virginia.

Also as shown in Table 57, total of 13 states are represented in the 2018 data, along with 44 unique communities. The five states with the most unique communities in the data and the number of those communities by state are:

- Washington – 38 communities
- Oregon – 4 communities

Other states/territories in the 2018 data include:

- 2 community states: Alaska, Arizona, California, and Massachusetts
- 1 community states: Idaho, Illinois, Louisiana, Maine, Mississippi, New Hampshire, and Texas.

All of the CGOA rockfish trawl catcher processors active in 2015 and 2016 for which EDR data are available are associated with the Seattle MSA. In 2017 and 2018, in addition to the Seattle MSA, there are data associated with one catcher processor with a Rockland, Maine address, but details cannot be reported separately for this one vessel. As these data are discussed in Section 2.1.2 they are not recapitulated here. Table 27 provides information on the number of catcher processor days fished by year 2003-2018. Table 28 provides summary information on the number of positions and number of employees onboard CGOA rockfish trawl catcher processors 2015-2018, but these data are not specific by fishery. Table 29 provides summary information on the number of fishing days and labor expenses for CGOA rockfish trawl catcher processors 2015-2018. Information on fishery-specific fishing days and labor expenses is not available.

Processing Sector

The Seattle MSA is the location of the corporate offices, or domestic the corporate offices, for most of the shore-based processors operating in Alaska that accepted CGOA trawl-caught rockfish deliveries over the period 2003-2018. Home of the closest U.S. port complex to both Alaska and Asia, the Seattle MSA often serves as the logistical support base for other shore-based processors operating in Alaska as well.

Support Services Sector

Seattle has a large fisheries support service sector that includes harbors, nautical supply facilities, ship yards, boat building and repair companies, cold storage plants, and shipping companies familiar with doing work in rural Alaskan communities as well as serving international customers, with the Port of Seattle being the 4th largest container facility in the United States. The port facility is separated into a north (Seattle) and south (Tacoma) harbor. Across the facilities, the port spans 1,754 acres, includes 10 container terminals, 23 deep-water berths, and has 47 container cranes (Northwest Seaport Alliance 2016).

The Port of Seattle, in addition to being a large container port, offers commercial moorage at multiple locations, including Piers 90 and 91, frequently home to factory trawlers that work the North Pacific, as well as the Bell Street Pier, Maritime Industrial Center, Terminal 30, and Fishermen's Terminal. The Port of Tacoma, which handles more than 70 percent of the marine cargo moving between Alaska and the contiguous 48 states, is also home to a substantial number of commercial fishing vessels, both catcher vessels and catcher processors, that regularly participate in the North Pacific (NOAA 2007).

Fisherman's Terminal is located in along the Lake Washington Ship Canal and has been the center of commercial fishing support service in Seattle since 1914. The facility has moorage for 700 vessels, lineal moorage of 2,800 feet, 371 stalls, three cranes, an electric hoist, and forklifts for rental (NOAA 2007; Port of Seattle 2016). Another benefit of Fisherman's Terminal is that it is on the Lake Washington side of the Chittenden Locks, which means that moorage and repair work can occur out of more corrosive saltwater.

Finally, Seattle is also home to multiple fishing industry organizations engaged in Alaska fisheries. These include the Alaska Seafood Cooperative, the At-Sea Processor's Association, the Deep Sea Fishermen's Union of the Pacific, the Pacific Seafood Processors Association, and United Catcher Boats, among others.

3.3.2 Lincoln County and Other Oregon Communities

Similar to the structure of the Seattle MSA profile above, the focus of this section is largely on Lincoln County. Direct engagement in the CGOA rockfish trawl fishery by Oregon communities outside of the county in 2003-2018 was typically limited to catcher vessel ownership, with relatively few vessels in any one community, especially in recent years. Specifically, among the multiple Oregon communities with CGOA rockfish trawl catcher vessel local ownership outside of Lincoln County 2003-2018, all had an annual average of less than one locally owned vessel participating in the fishery over this period (Table 1). In contrast to the Seattle MSA, however, and like the other Oregon communities, direct sector participation in the CGOA rockfish trawl fishery in Lincoln County was largely limited to the catcher vessel sector.

3.3.2.1 Location and History

Lincoln County is located along a north-central portion of Oregon's Pacific coast. Newport, the seat of Lincoln County, is located on Yaquina Bay, a coastal estuary at the mouth of the Yaquina River. There are two distinct areas of Newport, the Bayfront, which continues to feature a working waterfront, and Nye Beach, which has attracted seasonal visitors to the area since the 1800s, along the oceanfront.

The coastal area that is encompassed by contemporary Lincoln county (and nearby Tillamook and Lane counties) was inhabited by the ancestors of the Siletz people in traditional times. European miners arrived in the area in the 1850s, and soon thereafter local Native American groups were forced onto reservations. The area opened to settlement by non-Native Americans in the mid-1860s, around the time an oyster industry developed on Yaquina Bay. From that time through the present, tourism, fishing, and logging have defined Newport (NOAA 2007).

3.3.2.2 Community Demographics and Economy

According to federal census data, Lincoln County had a population of 46,034 in 2010. Census figures from that year show that 87.7 percent of the residents of Lincoln County identified themselves as White, 3.5 percent as American Indian or Alaska Native, 0.4 percent as Black/African American, 1.1 percent as Asian, 0.1 percent as Hawaiian Native and Other Pacific Islander, and 7.1 percent as "some other race" or "two or more races," while 7.9 percent of the residents of any race in Lincoln County identified themselves as being of Hispanic or Latino origin. Based on race and ethnicity combined, 15.6 percent of Lincoln County's total population was composed of minority residents (that is, all residents other than those identified as both White [race] and of non-Hispanic or Latino origin [ethnicity]) in 2010. Housing data from the U.S. Census indicate that 98.3 percent of all Lincoln County residents lived in non-group quarters housing.

The latest employment estimate based on the 2013-2017 U.S. Census American Community Survey suggests that 18,891 were employed in Lincoln County, Oregon, with an unemployment rate of 6.5 percent. Per capita income for people in Lincoln County was estimated at $25,782, median household income was $43,291, and median family income was $52,530. An estimated 18.4 percent of Lincoln

County's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2019).

Newport, the community within Lincoln County most heavily engaged in the CGOA rockfish trawl fishery, had a population of 9,989 in 2010 according to federal census data. Census figures from that year show that 84.1 percent of the residents of Newport identified themselves as White, 2.1 percent as American Indian or Alaska Native, 0.6 percent as Black/African American, 1.6 percent as Asian, 0.2 percent as Hawaiian Native and Other Pacific Islander, and 11.5 percent as "some other race" or "two or more races," while 15.3 percent of the residents of any race in Newport identified themselves as being of Hispanic or Latino origin. Based on race and ethnicity combined, 22.0 percent of Newport's total population was composed of minority residents (that is, all residents other than those identified as both White [race] and of non-Hispanic or Latino origin [ethnicity]) in 2010. Housing data from the U.S. Census indicate that 96.8 percent of all Newport residents lived in non-group quarters housing.

As of 2017, major industries in Newport included arts, entertainment, recreation, accommodation, and food services (20.2 percent); educational services, health care, and social assistance (16.9 percent); and retail trade (14.5 percent). Natural resource jobs including agriculture, forestry, fishing, hunting, and mining represented 4.3 percent of local employment (U.S. Census Bureau 2019). Major employers in Lincoln County included the Confederated Tribes of Siletz Indians, Samaritan Health Services, Lincoln County School District, county government, Georgia Pacific Toledo, Oregon State University Hatfield Marine Science Center, Pacific Seafood, NOAA, Walmart, and Oregon Coast Brewing (Economic Development Alliance 2016).

3.3.2.3 Commercial Fisheries Engagement

Overview

Newport, and the nearby Lincoln County communities of Siletz, South Beach, and Toledo, like the Seattle MSA, are substantially engaged in multiple federal fisheries off Alaska managed by the NPFMC. These are also communities heavily engaged in federally fisheries off of the West Coast managed by the Pacific Fishery Management Council. Among the eight Oregon communities outside of Lincoln County that are directly engaged in the CGOA rockfish trawl fishery, four of the communities (Florence, Port Orford, Sisters, and Warrenton) are described in an earlier NOAA document (NOAA 2007) as fishing communities engaged in both the West Coast and North Pacific fisheries, while the other four (Clackamas, Independence, Keiser, and Wilsonville) are not.

Harvest Sector

General

As shown in Table 4, during the pre-Rockfish Pilot Program years (2003 through 2006), the annual number of Oregon and Idaho commercial fishing vessels participating in all offshore Alaska fisheries, using all gear types in all areas combined (i.e., the Oregon/Idaho offshore Alaska commercial fishing fleet), annually averaged 89 vessels. The analogous figures for the Rockfish Pilot Program years (2007-2011) and the Rockfish Program years (2012-2018) were 74 vessels (Table 6) and 219 vessels (Table 8), respectively. The annual average ex-vessel gross revenues for all relevant Oregon/Idaho community fleets combined ranged from $79.8 million (2003-2006) to $79.1 million (2007-2011) to $134 million (2012-2016) as shown on those same tables.

CGOA Rockfish Trawl Catcher Vessels

Table 1 shows information on Oregon community participation in the CGOA rockfish trawl fishery, as indicated by the number of local ownership address catcher vessels engaged in the fishery by year, 2003-2018.

- Within Lincoln County, three individual communities had CGOA rockfish trawl catcher vessels with local ownership addresses participate in the fishery in at least five years during the period 2003-2018. As a whole, the Lincoln County averaged 3.1 vessels participating per year, with the city of Newport averaging 1.7 vessels per year. The other two communities, Siletz and South Beach, averaged 1.1 and 0.3 vessels per year, respectively. A total of six unique city of Newport ownership address catcher vessels participated in the CGOA rockfish trawl fishery during the 2003-2018 period, as did four unique vessels from Siletz and one vessel unique vessel from South Beach.
- Outside of Lincoln County, a total of eight Oregon communities were engaged in the CGOA rockfish trawl fishery during the period 2003-2018 through local ownership address CGOA rockfish trawl catcher vessels. Of these communities, all had an average of less than one vessel participating per year, and all but one had one unique participating over this time. The exception, Florence, had two unique vessels participate during this time.

In percentage terms, Oregon ownership address CGOA rockfish trawl catcher vessels accounted for about 24 percent of all catcher vessels in the fishery on an annual average basis over the period 2003-2018, with Lincoln County ownership address vessels accounting for about 12 percent of the fishery total and other Oregon ownership address vessels accounting for about 12 percent of the fishery total.

Due to data confidentiality constraints, Oregon CGOA rockfish trawl catcher vessel ex-vessel gross revenues have been aggregated with those of a single Idaho ownership address vessel that participated in the fishery for a total of six years 2003-2008. Over the 2003-2018 period, Oregon and Idaho ownership address CGOA rockfish trawl catcher vessels accounted for an annual average of approximately 17 percent of average annual catcher vessel ex-vessel gross revenues in the fishery. Separate ex-vessel gross revenues for vessels locally owned in the Lincoln County and other Oregon communities cannot be presented due to confidentiality restrictions.

Information on relative dependency of Oregon and Idaho ownership address CGOA rockfish trawl vessels on CGOA trawl-caught rockfish, as measured in ex-vessel gross revenues, compared to ex-vessel gross revenues from all other fisheries pursued by those same vessels, for the pre-Rockfish Pilot Program years (2003-2006) was approximately 15 percent (Table 3) while the analogous figures for the Rockfish Pilot Program (2007-2011) and the Rockfish Program periods (2012-2018), were approximately 8.8 percent (Table 5) and 8.1 percent (Table 7), respectively. As shown, relative dependency has varied as the annual average ex-vessel gross revenues of CGOA rockfish decreased between both the first and second and second and third periods, while annual average ex-vessel gross revenues for other fisheries pursued by these same vessels increased between the first and second periods, but decreased between second and third periods.

Information on relative dependency of all Oregon and Idaho ownership address catcher vessels (i.e., catcher vessels participating in any species, any gear type, and any area commercial fishery [the Oregon and Idaho "community fleet"]) on CGOA trawl-caught rockfish, as measured in ex-vessel gross revenues, compared to ex-vessel gross revenues from all other fisheries pursued by those same vessels, for the pre-Rockfish Pilot Program years was 1.9 percent (Table 4), with the analogous figures for the Rockfish Pilot Program and Rockfish Program years were 1.3 percent (Table 6) and 0.6 percent (Table 8), respectively. As shown, relative dependency has varied as the annual average ex-vessel gross revenues of CGOA rockfish decreased between both the first and second and second and third periods, while ex-vessel gross revenues for all species/gear type/area fisheries combined were essentially flat between the first and second periods, and increased between second and third periods.

CGOA Rockfish Trawl Catcher Vessel Quota and LLP Licenses

As shown in Table 10, LLP licenses with Lincoln County ownership addresses received the following initial allocations of primary species under the Rockfish Pilot Program and Rockfish Program (as a percentage of all catcher vessel and catcher processor quota shares combined):

Northern Rockfish

- Rockfish Pilot Program: 9.91 percent
- Rockfish Program: 7.72 percent
- ***Change: -2.19 percent***

Pacific Ocean Perch

- Rockfish Pilot Program: 8.02 percent
- Rockfish Program: 7.10 percent
- ***Change: -0.92 percent***

Pelagic Shelf/Dusky Rockfish

- Rockfish Pilot Program: 6.04 percent
- Rockfish Program: 7.32 percent
- ***Change: +1.28 percent***

CGOA Rockfish Trawl Catcher Vessel Crew

Summary EDR data are presented in Table 14 and Table 15. Apparent across all years covered by those tables (2015-2018) is that roughly 17 to 21 percent of crew members reside in Oregon, depending on the year, and that vessels with Oregon ownership addresses provide employment for roughly 18 to 23 percent of all crew members. Table 16 shows annual payments for captains and crew of CGOA rockfish trawl catcher vessels by community of vessel ownership for 2015 using EDR data. Table 17, Table 18, and Table 19, provide similar information for 2016, 2017, and 2018, respectively. It is important to note that these represent total captain and crew payments for these vessels, not just payments related to the CGOA rockfish fishery, as data on fishery-specific earnings are not available. As shown, Oregon ownership address vessels account for between roughly 19 percent and 25 percent, depending on the year, of all combined payments to captains and crew for vessels that participated in the CGOA rockfish fishery over the years covered by the data.

Support Services Sector

The Port of Newport includes 1,400 feet for waterfront property and includes the port's administration building and the commercial marina. The commercial marina includes moorage for approximately 200 commercial fishing vessels, a 300-foot fixed service dock with four hoists, 200 feet of floating dock for dockside vessel repair, and two acres of crab gear storage. Also, a shipwright is located within the marina and 50 to 60 fishery support service businesses are located along the waterway (Port of Newport 2016; Dillman 2013).

The Newport area is also tied closely to other communities in the region, including Depoe Bay and Toledo. The Port of Toledo, located up the Yaquina River from Newport, is the only inland Oregon coastal community with a deep-water channel and is home to a major boatyard in Sturgeon Bend that includes a 300-ton dry dock capable of handling vessels up to 100 feet long and 46 feet wide. A group of approved independent contractors are available for various commercial vessel services through the public boatyard (Dillman 2013). In addition to providing services to the locally based fleet, support facilities in the area are used to service vessels from elsewhere on the West Coast engaged in a wide range of Alaska fisheries, as well as a number of vessels based in Alaska itself.

4 Summary and Conclusions

This section summarizes the findings of this CGOA Rockfish Program Reauthorization SIA. The individual subsection summaries include discussions of the background of the analysis, previously analyzed community impacts of the Rockfish Program, impacts of the alternatives on communities engaged in the CGOA rockfish fishery, impacts of the alternatives on Alaska communities substantially engaged in and/or substantially dependent on halibut and Chinook salmon fisheries, and risks to fishing community sustained participation in the CGOA rockfish trawl or longline fishery.

4.1 Background

This SIA has built upon several previous analyses of changes in the CGOA rockfish fishery that have occurred since the inception of the Rockfish Pilot Program, given that Alternative 1 is assumed to be a reversion to the type of management of the fishery that was in place before the implementation of either the Rockfish Pilot Program or the Rockfish Program. Community impacts of the Rockfish Pilot Program were documented in two previous NPFMC reports. These are the *Gulf of Alaska Rockfish Pilot Program Review* (NPFMC 2008) and the *Regulatory Impact Review, Final Environmental Assessment, and Initial Regulatory Flexibility Analysis for proposed Amendment 88 to the Gulf of Alaska Fishery Management Plan, Central Gulf of Alaska Rockfish Program* (NPFMC 2011). The main findings of those documents relative to community or social impacts are summarized in this section.

The *Gulf of Alaska Rockfish Pilot Program Review* (NPFMC 2008), completed after the first year of fishery management under the Rockfish Pilot Program, included what can be described as five main community impact related findings.

(1) Transfers of quota from catcher processor cooperative allocations to catcher vessel cooperatives benefitted catcher vessel cooperatives affiliated with Kodiak shore-based processors as well as the processors themselves. Catcher processor cooperatives were not permitted to receive quota transfers from catcher vessels cooperatives and this 'one-way door' was intended to protect interests of shore plants and communities, in the event that catcher processor production efficiencies exceed those of the shore-based sector. Under these rules, approximately half of the primary rockfish allocation to catcher processor cooperatives was transferred to catcher vessel cooperatives. In addition, approximately one-half of the catcher processor sablefish allocation was transferred to catcher vessel cooperatives.

(2) Little information was available regarding impacts to captains and crew, but no major adverse program effects were obvious. Impacts to catcher vessel crew payments were assumed to be beneficial, but data to quantify these impacts were not available.

(3) Some Kodiak shore-based processors benefited from their history in the fishery, others benefitted from their participation in the entry level fishery, and the community benefitted from virtually all CGOA rockfish shore-based processing remaining in Kodiak. Historically, Kodiak was the base for operations in the shore-based sector of the CGOA rockfish fisheries and almost all processing in the fisheries took place in Kodiak leading up to implementation of the program. Since the program established a cooperative system with strong cooperative associations with historic processors and a limited access fishery that required deliveries to processors meeting historic processing qualifications, deliveries in the main program continued to be made to Kodiak processors. In addition, only Kodiak processors participated in the entry level fishery by providing markets for entry level catcher vessels.

(4) A temporal redistribution of rockfish fishery landings had operational benefits for shore-based processors in Kodiak and had additional benefits to the community of Kodiak through catcher vessels and their crews being in the community for a longer portion of the year (and perhaps longer periods of time during deliveries). The impacts on Kodiak processing crews and support service businesses from the shift of the peak in rockfish landings from July to May/June in combination with their occurrence over a greater portion of the year were likely beneficial (with the potential exception of a loss of opportunity for overtime pay for some processing workers), but data to quantify these impacts were not available.

(5) The transfer of quota from the catcher processor to the catcher vessel sector benefitted Kodiak through increased local vessel activity and deliveries to shore-based processors.

These findings were broadly consistent with community impacts predicted in the pre-implementation *Regulatory Impact Review and Final Environmental Assessment for Proposed Amendment 68 to the Gulf of Alaska Fishery Management Plan: Central Gulf of Alaska Rockfish Demonstration Program* (NPFMC 2006), with one exception. The 2006 document suggested that "under either alternative, catcher vessel entities that receive small allocations could be disadvantaged, if holders of large allocations are able to draft cooperative terms that favor holders of large allocations over holders of small allocations." The 2008 document is silent on whether entities with smaller allocations were subsequently disadvantaged, but later input from industry (Alaska Groundfish Data Bank 2017[41]) suggested that this has not occurred.

The *Regulatory Impact Review, Final Environmental Assessment, and Initial Regulatory Flexibility Analysis for proposed Amendment 88 to the Gulf of Alaska Fishery Management Plan, Central Gulf of Alaska Rockfish Program* (NPFMC 2011), completed after the fourth year of fishery management under the Rockfish Pilot Program, included three main community impact related findings. The first two findings were essentially the same as findings (4) and (5) from the 2008 Rockfish Pilot Program review already described. [42] The third finding was that the community effects of the Rockfish Pilot Program were limited to changes in Kodiak-based activity.

4.2 Previously Analyzed Community Impacts of the Rockfish Program

Social and community impacts of the Rockfish Program from its implementation through the first five years of the program were documented in the *Central GOA Rockfish Program Review and Rockfish Allocation Review* (NPFMC 2017) and Appendix 1 to that document, which was an SIA (Northern Economics 2017). This current SIA, providing the information to support the analysis of both Alternative 1 and Alternative 2, builds directly on the 2017 SIA as supplemented with an additional two years of quantitative fisheries data.

The community impacts of the Rockfish Program are broadly consistent with those described for the Rockfish Pilot Program, with a few important differences based primarily on changes in the community protection measures built into the two programs and the change in initial quota allocation qualification years between the two programs.

[41] Personal communication 8/21/2017.

[42] The only difference in wording in these two findings occurs in what was described as Finding 4 from the 2008 document. The following sentence appears in the 2008 document: "Vessels making deliveries have less pressure to return quickly to the grounds to obtain a share of the available catch in the fisheries, so some likely remain in town for longer periods during which they use local services." In the 2011 document, the wording "…*they* [referring to the vessels] use local services" was changed to "…*the crew* use local services" (emphasis added).

Among the community protection measures included in the Rockfish Pilot Program were both Kodiak-specific measures and general measures. Kodiak-specific measures included: (1) catcher vessels were allowed to form cooperatives only in association with shore-based processors located in Kodiak, and (2) processors were limited in their ability to process catch outside the communities in which they had traditionally processed primary rockfish species and associated secondary species. This limitation in measure (2) was imposed to help protect the community of Kodiak from adverse impacts of a program that could otherwise increase flexibility of where catch was landed and processed. General community protection measures included the establishment of entry level fisheries for both trawl and longline harvests of CGOA rockfish. Landings in both entry level fisheries could only be made at shore-based processors not in a cooperative.

Community protection measures that were modified or added under the Rockfish Program also included Kodiak-specific measures and general measures. Kodiak specific measures included a Rockfish Pilot Program feature that permitted catcher vessels to form a cooperative only with the processor the catcher vessel made a majority of their deliveries during 1996 through 2000. The Rockfish Program modified the requirement to allow catcher vessels to annually join the cooperative of their choice with a Kodiak-based processor, regardless of where they had delivered rockfish in the past. The NPFMC's recommendation sought to maintain the traditional shore-based processing activity within Kodiak and limit the consolidation of processing effort among rockfish processors.

Further, to address concerns raised by processors that the Rockfish Program would provide harvesters an undue competitive advantage and that they could use that potential advantage to deliver outside of the traditional port of Kodiak, the Rockfish Program included a requirement that all primary and rockfish secondary species cooperative quota in the catcher vessel sector be delivered to a shore-based processor within the City of Kodiak. In addition to protecting traditional processors, the requirement is intended to protect the fishing community of Kodiak.

As a general measure, the entry level fishery for trawl vessels was eliminated but the entry level fishery for longline vessels was maintained under the Rockfish Program.[43] Longline catcher vessels were allowed to deliver to any shore-based processor in any community the GOA region, including processors affiliated with cooperatives. Several other features of the program, though not explicitly community protection measures, served to avoid or minimize some types of adverse social/community impacts experienced when other catch share programs were implemented in Alaska.[44] These include three separate features.

- First, the attachment of catch history to the LLP license and making it non-severable from the LLP license has limited consolidation since quota shares cannot be stacked on fewer LLP licenses. The non-severability of quota from a license also meant that a person would need to sell the entire LLP license including all of the associated quota. Selling the LLP license would result in a vessel operator giving up whatever other endorsements were associated with the LLP license. The vessel operator would need to have access to another LLP license with the appropriate endorsements to continue fishing the GOA/BSAI with trawl gear. LLP license transfers do not appear to have occurred at a greater rate under the Rockfish Program relative the limited access years.
- Second, ownership and use caps have been effective in limiting vessel consolidation. The caps were developed to balance the goals of improving economic efficiency by allowing entities to

[43] Catcher vessels that met participation criteria in the Rockfish Pilot Program entry level trawl fishery during 2007, 2008, or 2009 received initial allocations of quota shares under the Rockfish Program.

[44] A listing of some different general types of changes that have been seen or repeatedly expressed in public testimony as social impact issues of general concern associated with other programs as implemented in Alaska are provided in Attachment 2 (Section 8, Fishing Community Vulnerability, Fishery Dependency, and Types of Social Impacts Associated with other Quota Share Management Programs in Alaska).

take advantage of relative economies of scale while maintaining employment opportunities for vessel crew. About the same number of vessels and processors participate in the CGOA rockfish fishery now as before the Pilot Program was implemented, although two processors in Kodiak have exited participation in the program in recent years, one through acquisition by another firm and one through a cessation of operations. Cooperative quota transfers can occur within the cooperative, but consolidation has not been reported as an issue, in part because of the use caps.

- Third, for the Pilot Program, eligibility to receive quota share of primary and secondary species was based on targeted legal qualifying landings made during the years 1996 through 2002. A person's primary species allocation was based on best five of seven years of landings during the eligibility period. The Rockfish Program quota share qualification, on the other hand, was based on targeted legal landings during the years 2000 through 2006 or fishing in the entry level fishery during 2007, 2008, or 2009. The allocation of quota share was based on the best five of seven years from 2000 through 2006, or the number of years fished during the qualifying period for entry level fishery participants that did not qualify for quota based on history from 2000 through 2006. This change effectively locked in benefits to Kodiak that accrued from one-way transfers of quota from the catcher processor sector to the catcher vessel sector during the Rockfish Pilot Program.

The community impacts associated with the Rockfish Program and described in Sections 2 and 3 of this SIA are summarized in this section for Kodiak, other Alaska communities, the Seattle MSA, and Lincoln County, Oregon.[45]

4.3 Impacts of the Alternatives on Communities Engaged in the CGOA Rockfish Fishery

In general terms, the community and social impacts resulting from Alternative 1 would result from a reversion of the management of the CGOA rockfish fishery to pre-Rockfish Pilot Program conditions. The beneficial community impacts described in Section 4.2 would be reversed. Community level social impacts resulting from Alternative 2 are described in this section for the communities substantially engaged in and/or dependent on the CGOA rockfish fishery.

Alternative 2 includes 14 elements. This section overview briefly describes the potential social and community impacts associated with each of these elements, if any. For Element 1, consideration of the potential impacts noted here are expanded in community-specific subsections that follow. For Elements 2-14, the potential impacts noted in the bulleted list immediately below are not further considered in this SIA.

- **Element 1, Program Duration**: This element has two options: Option 1 would remove the program sunset date and Option 2 would replace the current sunset date with a new sunset date within the range of 10 to 20 years. The numbered community subsections below summarize the impacts associated with this element in its most basic form (continuation of the Rockfish Program versus termination of the Rockfish Program under Alternative 1). From a social/community impact perspective, the main difference between the options under this element is that sunset date removal provides to communities (and individual program participants) a level of stability and predictability not found in simply extending the sunset date. Program reviews and the associated periodic opportunity to broadly consider modifications to the program would occur under either option, but the uncertainty of potential program termination is largely removed under the first

[45] Data that were noted in Sections 4 and 5 (or are noted in this section) as unavailable for analysis are summarized in SIA Attachment 1: Unavailable Information.

option (and the necessity of cyclically recurring efforts to prevent that termination is largely avoided). The distinction between the two options is not further described in this SIA but is described in detail in the EA/RIR to which this SIA is appended.

- **Element 2, Pacific Cod Reallocations**: From a social/community impact perspective, adoption of this element would have potential beneficial impacts without any anticipated adverse impacts, however the magnitude of potential beneficial impacts is unknown. The reallocation would potentially benefit the specific types of participants that have historically participated in the entry level longline fishery as well as pot vessels without negatively impacting rockfish cooperative members, given the specified order of potential reallocations,[46] but it is unknown how much the operators of these fixed gear directed fishery vessels, especially as associated with individual communities, would capitalize on that opportunity and under what circumstances they would or would not do so. It could also reduce regulatory discards of Pacific cod in the trawl sectors during years when Pacific cod is placed on PSC status and flatfish fisheries are still open to directed fishing.
- **Element 3, Exempt Vessels from Crab Program Sideboards when Fishing in CGOA Rockfish Program**: From a social/community impact perspective, adoption of this element would have potential beneficial impacts without any anticipated adverse impacts. Essentially, it would create the opportunity to increase flexibility of use of different vessels within the co-op structure and, given that both fisheries are LAPPs, it does so without disadvantaging vessels not participating in either or both LAPP fisheries. It would also make management of program consistent with established practice for LAPP management in the region, which has been considered beneficial in each instance.
- **Element 4, Require Cost Recovery Reports**: This element would essentially require what is currently being done in practice, which would increase predictability/reduce uncertainty for program participants resulting in a beneficial impact across all involved communities.
- **Element 5, Clarify Ex-Vessel Volume and Value Reporting Regulations**: This element would clarify an ambiguity, eliminating reporting efforts that would be made clearly unnecessary by some members of industry. This increase in efficiency would be beneficial to fishery participants.
- **Element 6, Remove Requirement for Annual Rockfish Cooperative Report Submission to NMFS**: This would increase participant efficiency, an across-the-board beneficial impact, without sacrificing data quality, as the data that is currently reported by industry participants will still be otherwise available to analysts, and the Council may request that the Rockfish Program participants voluntarily provide annual reports to the Council.
- **Element 7, Reporting Actions Taken by Cooperatives in Cooperative Reports**: This element would provide consistency between regulatory language and language provided in the proposed rule, reducing reporting burden on the part of industry participants without adversely impacting regulatory oversight. This increase in efficiency would be beneficial to fishery participants.
- **Element 8, Fishing Plan Reporting Requirements**: This element would revise these requirements for the annual cooperative application for cooperative quota to exclude fishing plan information that is not readily available at the time the application is due. This change would not mean that fishing plan information would not be available to individuals reviewing the program,

[46] Any reallocation decision by the Regional Administrator would consider a reallocation of the projected unused allocation to the catcher vessel sectors first, then to the combined catcher vessel and catcher processor pot sector, and then to all other catcher processor sectors, taking into account the capability of a sector, as determined by the NMFS Alaska Regional Administrator, to harvest the remaining Pacific cod TAC..

but it would eliminate the need for industry participants to submit the information twice. This increase in efficiency would be beneficial to fishery participants.

- **Element 9, Exempt Shoreside Processors from Providing Observer Workstation**. This element would eliminate a costly and operationally inconvenient requirement for industry that is no longer necessary. This would be a beneficial impact across the sector, with no loss of efficiency in regulatory oversight. This gain in economic and operational efficiency would be beneficial to fishery participants.
- **Element 10, Provide Authority to Reallocate Unused CGOA Rockfish Incidental Catch Allowance to Rockfish Program Cooperatives**: This element would allow NMFS the flexibility to reallocated unused Incidental Catch Allowance (ICA) to cooperatives as is done in the Bering Sea pollock fishery and the Amendment 80 cooperatives. This would be a beneficial impact across the board with no anticipated adverse impacts. The suboption of this element would add a preference to reallocate to catcher vessel cooperatives first, which could result in differential beneficial impacts to Kodiak.
- **Element 11, Clarify Regulations Regarding Accounting for Inseason Use Caps**: This element would clarify regulations to specify that any transfer of unused rockfish ICAs or catcher processor cooperative quota to catcher vessel cooperatives does not apply to catcher vessel ownership, cooperative, harvester cooperative quota, or shoreside processor cooperative quota use caps. This element would potentially result in more onshore landings, which would benefit Alaska coastal communities (as well as the owners and crews of vessels that would be involved with those landings). There would potentially be adverse impacts to catcher processor crew in the form of lost income opportunities from such transfers, as well as to communities associated with catcher processor ownership and activity, but presumably catcher processors could also receive value for leasing quota and if it were more advantageous for catcher processors to utilize the quota rather than having it transfer to others, they would do so.
- **Element 12, Change Cooperative Check-Ins from 48 Hours to 24 Hours in Advance of Fishing**: This element would align check-in requirements with changes in check-in reporting efficiency gains resulting from advances in technology and the ability to instantaneously distribute that notification. Assuming that a 48-hour lag time is no longer necessary, this change could reduce downtime and costs if plans for the checking in vessel change, with no reduction in regulatory oversight efficiency.
- **Element 13, Remove Catcher Processor Rockfish Program Sideboard Limits in the Western GOA Rockfish Fisheries**: The catcher processors that would no longer be subject to Rockfish Program sideboard limits under this element would still be subject to similar Amendment 80 caps, but it would allow more flexibility in when operations could take place. This could result in more catcher processor effort in July in the Western GOA, but it would not change overall harvest limits that would continue to be defined by Amendment 80 sideboard limitations. Historically, Western GOA catcher vessels have not participated in the relevant fisheries (Pacific ocean perch and Northern rockfish fisheries) during the summer, so sustained participation of the associated communities is not put at risk under this element, but implementation of this element would have the potential to impact the attractiveness, if not the viability, of future summer entry of catcher vessels into these fisheries in this area.
- **Element 14, Remove Three-Day Stand Down for Vessels Transiting from the BSAI to the GOA to Participate in the Rockfish Program**: As noted in EA/RIR, logically vessels could enter the Rockfish Program fishery immediately upon arrival from the BSAI without undue advantage over other vessels fishing in the GOA, since this type of protection is not needed in a LAPP program. Based on 2018 data, there were three vessels in the fleet (two with Kodiak ownership addresses and one with an Oregon ownership address) that fished in the BSAI one

week and entered the Rockfish Program fishery the following week. The Oregon ownership address vessel changed areas in the fall, while the two Kodiak ownership address vessels changed areas in the spring (around the start of the Rockfish Program fishery). If the stand-down requirement were eliminated for vessels going directly from the BSAI into the CGOA Rockfish Program fishery, however, absent other actions once a vessel entered the Rockfish Program fisheries it could then in theory move sooner rather than later into GOA non-rockfish fisheries as long as it checked-out of the Rockfish Program fishery first (i.e., vessels could potentially check-in to the Rockfish Program then quickly check-out as a way to avoid the three day stand-down and thereby disadvantage other fishery participants that the stand-down requirement was designed to protect). At the December 2019 Council meetings, however, industry noted that they have effective control over individual vessels in this instance through the cooperative check-in and check-out process and would thus be able to prevent early check-outs that could otherwise circumvent the Council's intent of these vessels not entering other GOA fisheries for at least three days following the BSAI-GOA transit.[47]

4.3.1 Kodiak

Among communities substantially engaged in, and/or substantially dependent on the CGOA rockfish fisheries managed under the Rockfish Program, Kodiak is the most centrally engaged in and dependent on the fishery as measured by multiple indices. Kodiak has experienced beneficial impacts across harvester, processor, and support services sectors because of the implementation of the Rockfish Program and has specifically benefitted from several community protection measures built into the program. Although not all individual operations have benefitted equally from the change in qualifying years between the Rockfish Pilot Program and the Rockfish Program, and therefore changes in the pattern of initial quota share allocations under the two programs, especially when compared to pre-Rockfish Pilot Program conditions no substantial adverse sector-level or community-level impacts resulting from the implementation of the Rockfish Program have been identified for the community of Kodiak.

4.3.1.1 Harvest Sector

In terms of CGOA rockfish trawl catcher vessel ownership as measured by ownership address, Kodiak has benefitted from an increase in the annual average number of CGOA rockfish trawl catcher vessels participating in the fishery with Kodiak ownership addresses between the Pre-Rockfish Pilot Program years (9.3 vessels) and the Rockfish Program years (12.9 vessels) (Table 1). Additionally, the trawl entry level fishery community protection feature of Rockfish Pilot Program was beneficial to Kodiak. All three catcher vessels that qualified for an initial allocation of quota under the Rockfish Program based on their participation in the Rockfish Pilot Program entry level trawl fishery were either Kodiak ownership address vessels at the time of that allocation or have become so in more recent years. Finally, Kodiak ownership address CGOA rockfish trawl catcher vessels further diversified their fishery portfolios under Rockfish Program conditions. This has included more summer salmon tendering opportunities with the continuing temporal separation of rockfish trawl-related and salmon-related peak processing efforts at local shore-based processors, as reported by processing management personnel.

In terms of CGOA trawl catcher vessel LLP license and quota ownership, Kodiak has benefitted from an increase in the annual average number of locally owned catcher vessel LLP licenses between the pre-Rockfish Pilot Program years (15.2 LLP licenses) and the Rockfish Program years (16.7 LLP licenses) (Table 42). The community also benefitted from an increase in the initial allocation percentage of Kodiak owned catcher vessel quota for Northern rockfish (+2.40 percent), Pacific ocean perch (+7.37 percent), and pelagic shelf/dusky rockfish (+7.50 percent) between the Rockfish Pilot Program years and the

[47] Industry also noted that cooperative contracts could also be modified to achieve the same ends.

Rockfish Program years (Table 10). This across-the-board increase was due in part to quota transfers that occurred during the Rockfish Pilot Program years and in part to changes in qualifying years for initial quota allocations between the two programs. Further, Kodiak specifically benefitted from the CGOA rockfish trawl quota transfer community protection feature of the Rockfish Pilot Program where quota could be transferred from the catcher processor sector to the catcher vessel sector, but not vice versa. These one-way inter-sector transfers resulted in an increase in quota shares associated with LLP licenses with Kodiak ownership addresses.

In terms of impacts to CGOA rockfish trawl catcher vessel crew, no pre-Rockfish Pilot Program quantitative data are available. However, given that the annual average number of Kodiak ownership address catcher vessels participating in the CGOA rockfish trawl fishery has increased (as have the number of catcher vessels overall) and the overall ex-vessel value of CGOA rockfish trawl-caught landings of those Kodiak-owned (and non-Kodiak-owned) vessels has also increased under the Rockfish Program, it is assumed that the number of crew positions and potentially payments to crew have similarly varied during this time. The impacts of quota leasing costs or program-associated vessel operating costs (such as cost recovery fees and co-op fees), if any, on crew compensation are unknown, as are the impacts on crew employment, if any, of the increased number of CGOA rockfish trawl fishing days per season. Similarly, the impacts of the reduction of vessel operating costs that may have been achieved as a result of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs), if any, on crew compensation are unknown.

In terms of CGOA rockfish longline catcher vessel local ownership, Kodiak has seen a decrease in annual average number of Kodiak ownership address GOA rockfish longline catcher vessels participating in the Federal open access rockfish fishery between the pre-Rockfish Pilot Program years (9.5 vessels) and the Rockfish Program years (4.3 vessels) (Table 35). However, all participation in this sector during the Rockfish Program in 2012-2016 was by Kodiak ownership address vessels and Kodiak vessels accounted for between 70 and 80 percent of all active vessels in the most recent two years for which data are available (2017 and 2018) (Table 35).

It is unlikely, however, that the increase in Kodiak longline catcher vessel sector engagement relative to other Alaska communities (if not the absolute increase in engagement) is directly related to the Rockfish Program. Under the Rockfish Program, participants in the entry level longline fishery are no longer required to register and they may deliver their harvest to any shore-based processing facility, including those affiliated with cooperatives, in any community in the GOA. Further, the entry level longline fishery was not subject to the cost recovery program implemented under the Rockfish Program because the fishery is managed under a sector allocation and is not a LAPP as defined in Section 303A of the Magnuson-Stevens Fishery Conservation and Management Act.

Under the Rockfish Program, the CGOA longline sector in the Federal open access fishery was transitioned from a percentage of TAC to a set number of metric tons allocation. Neither of these types of limits have constrained effort by vessels owned in any community to date, and under the Rockfish Program allocations to the longline fishery can be increased if the sector harvests 90 percent of their allocation the previous year (with caps varying by primary rockfish species).

4.3.1.2 Processing Sector

In terms of the shore-based processors operating in Kodiak that accepted CGOA trawl-caught rockfish landings, Kodiak did experience the ownership consolidation (by one) of shore-based processors that regularly accepted CGOA rockfish trawl-caught deliveries during Rockfish Program years through the purchase of one large, multi-species processing plant by the owner of another locally operating large, multi-species processing plant. The purchase took place during 2014, but both cooperatives have continued to operate, with Rockfish Program use caps effectively requiring an adjustment of vessels between cooperatives, which has successfully occurred. More recently, a different multi-species

processing plant discontinued operations in 2017 and the cooperative was disbanded in 2018, with the vessels that were members moving to other cooperatives.

There was a decrease in the annual average number of shore-based processors operating in Kodiak that accepted CGOA trawl-caught deliveries between the pre-Rockfish Pilot Program years (6.8 processors) and the Rockfish Program years (6.4 processors) (Table 30). However, at the transition from the Rockfish Pilot Program to the Rockfish Program, Kodiak experienced an increase (by two) of shore-based processors that were affiliated with CGOA rockfish cooperatives (Table 43), due primarily to the change in qualifying years between the two programs; one of the two cooperatives is still operating, despite the consolidation of its affiliated shore-based processor with another operating in Kodiak, while the other cooperative dissolved with the closure of its affiliated processing entity.

Kodiak and its shore-based processors have also specifically benefitted from CGOA rockfish trawl catcher vessel landings requirement community protection features that were initiated under the Rockfish Pilot Program. With the discontinuation of the CGOA rockfish entry level trawl fishery upon the implementation of the Rockfish Program, all trawl-caught catcher vessel landings of rockfish have been made exclusively in Kodiak.[48]

Further, Kodiak shore-based processors continue to directly benefit from the trawl CGOA rockfish fishery changing from an approximate three-week race to fish starting at the beginning of July, to a fishery that primarily occurs in May and June, with smaller harvest amounts occurring until November 15th; longline vessels may deliver until the end of the calendar year. This shift occurred at the transition from pre-Rockfish Pilot Program conditions to the Rockfish Pilot Program conditions and has been maintained under the Rockfish Program. According to processor management personnel, it has moved CGOA rockfish trawl-caught landings out of peak salmon processing time to what was a period of lower activity for the plants, increasing efficiency of operations and helping to attenuate some of the sharper seasonal peaks and valleys of processing labor demand, while making more local workers potentially available for peak salmon production demands beginning in June.

In terms of processing workers at Kodiak shore-based processors that accepted CGOA trawl-caught rockfish landings, quantitative data on employment of, or payments to, the processing workers employed at Kodiak shore-based processing plants that have accepted CGOA trawl-caught landings is not available for the pre-Rockfish Pilot Program years. Given that the number of Kodiak shore-based processors affiliated with rockfish cooperatives increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings in Kodiak also increased under the Rockfish Program, it is assumed that processing worker labor demand may have increased for at least some operations during this time and more hours would appear to be available for interested workers during the May/June period, but the net effect across all processors attributable specifically to the Rockfish Program, given physical plant consolidation in one instance, the closure of plant in another instance, and other operational changes (e.g., those associated with changes in technology) during this same time, is unknown. Based on EDR data, and using the distribution of labor person-hours and labor payments to workers housed and not housed by the processors as a proxy for non-local and local residents, respectively, in both May and June of 2018, approximately 1,000 groundfish processing employees were reported in five processing plants that accepted GOA trawl-caught deliveries. Within this group of employees, approximately 89 percent of all processing employee labor hours and approximately 88 percent of all processing employee labor payments went to processing workers assumed to primarily be local Kodiak residents (i.e., non-processor housed processing workers) (Table 46).

[48] It should be noted, however, that while the transition from the Rockfish Pilot Program to the Rockfish Program was generally beneficial for Kodiak shore-based processing plants as a sector, specific outcomes varied between processors operating in the community due to different processing histories accrued during the different sets of qualifying years used for initial allocations under the two programs, as described in some detail in the Rockfish Program Review SIA (Northern Economics 2017).

The impacts of the temporal shift in rockfish processing, which first occurred during the Rockfish Pilot Program, in combination with the increasing number of days fished per season in the CGOA rockfish trawl fishery that occurred during the Rockfish Program, on the average amount of processing personnel overtime compensation cannot be determined with available information. While Rockfish Program Review noted that one entity reported that they have "seen a little bit less overtime than we used to have," input from Kodiak shore-based processing management in general would suggest that overtime hours are typically a function of fishing conditions, with good fishing conditions (and general operational efficiency) favoring a plant running at a high capacity, which results in ongoing overtime opportunities for processing crew. Input from shore-based processing management also suggests that for at least some individual operations, the temporal shift in rockfish processing has increased the availability of work for local Kodiak resident processing workers during the May/June period, contributing to more workforce stability and decreased turnover.

In terms of the shore-based processors operating in Kodiak that accepted CGOA longline-caught rockfish landings, the annual average number of Kodiak shore-based processors accepting CGOA rockfish longline-caught deliveries decreased between pre-Rockfish Pilot Program years (5.5 processors) and the Rockfish Program years (4.9 processors) (Table 37). While ex-vessel values of those deliveries showed considerable year-to-year variability, they were consistently minor in relation to the overall scale of most Kodiak shore-based processors. Under the Rockfish Program any processor, including those affiliated with a CGOA rockfish trawl cooperative, can accept deliveries from the longline entry level fishery. Available data, however, would suggest that implementation of the Rockfish Program has not had a substantial impact on Kodiak shore-based processing engagement in the CGOA rockfish longline fishery.

4.3.1.3 Support Service Sector

In terms of the fishery support sector businesses operating in Kodiak, no systematically collected data on Kodiak fishery support service businesses in general or those linked to the CGOA rockfish fishery specifically are available. However, the number of locally owned CGOA rockfish trawl vessels has increased, and Kodiak became the exclusive port of landings for all trawl catcher vessels engaged in the fishery under the Rockfish Program. The number CGOA rockfish catcher vessel cooperatives has increased and increased revenues accruing to both harvesting and processing sectors has likely been accompanied by increased local spending by catcher vessel owners, catcher vessel crew, and shore-based processing workers, a substantial number of whom are Kodiak residents, but the level of impact on the local purchase of goods and services is unknown.

According to a recent study, seafood producers located in the city of Kodiak used approximately one-third of all electricity generated by the Kodiak Electrical Association and half of the water treated and collected by the City of Kodiak. Additional information developed for 2015-2018 through the shore-based processor EDR data collection has also recently become available on utility service demand specifically generated by the local shore-based processing sector entities. Demand for both water and electricity vary considerably by month and several changes in Kodiak shore-based processing took place in 2015 and 2017 that could make both years somewhat different for local operations than immediately preceding or following years. Overall, however, the shift in the rockfish season away from peak summer salmon processing resulting from the implementation of the Rockfish Program is considered to have been beneficial with respect to spreading out peak demand for utilities service, leading to increases in efficiency and predictability in meeting those demands.

4.3.1.4 Tax Revenues

In terms of public revenue impacts in Kodiak, the percentage of CGOA rockfish fishery landings related-revenues subject to taxes that directly benefit the city of Kodiak (and the KIB) remain modest compared to several other fisheries. However, the average annual ex-vessel value of landings in Kodiak when vessels are checked in to a rockfish cooperative (including bycatch) compared to annual average ex-vessel

value of all landings in Kodiak from all fisheries increased between the Rockfish Pilot Program years (3.5 percent) and the Rockfish Program years (5.1 percent) (Table 51). This is, of course, due in part to fluctuations in the value of both the rockfish and other fisheries that, in turn, depend on variable natural resource conditions and variable market conditions far removed from the Kodiak economy as well as on direct fishery management variables. The community protection feature of the Rockfish Program that ensures CGOA rockfish trawl catcher vessel landings will occur in Kodiak, however, builds an additional measure of stability into the public revenue stream compared to previous conditions.

4.3.2 Other Alaska Communities

In addition to Kodiak, another 25 Alaska communities were directly engaged in the CGOA rockfish federal open access rockfish longline and/or CGOA rockfish trawl fisheries 2003-2018 as measured by a variety of indices (Table 62). These indices include: catcher vessels with local ownership addresses participating in CGOA rockfish fishery in the hook-and-line or jig sectors; local operation of at least one shore-based processor that accepted longline-caught deliveries of CGOA rockfish; CGOA rockfish trawl catcher vessel LLP licenses with local ownership addresses; participation of CGOA rockfish trawl catcher processors with local ownership addresses; local operation of at least one shore-based processor that accepted trawl-caught caught deliveries of CGOA rockfish in any year 2003-2018; and/or residents who served as crew members aboard CGOA rockfish trawl catcher vessels and/or trawl catcher processors in 2015-2018 (the years for which these data are available). None of these communities were considered to have been substantially engaged in or substantially dependent upon the CGOA rockfish fishery at the time of the implementation of the Rockfish Program.

Ten of these 25 "other" Alaska communities were involved in the entry level longline fishery through having catcher vessels with local ownership addresses, including two in the hook-and-line fishery (Seldovia and Willow), seven in the jig fishery (Anchor Point, Anchorage, Chiniak, Old Harbor, Ouzinkie, Port Lions, and Wasilla), and one in both the hook-and-line and jig fisheries (Homer) (Table 34 and Table 35). All but two of the communities participating in these fisheries through local ownership of active longline vessels last participated in the fishery before or during the Rockfish Pilot Program. None participated during the last two years of the Rockfish Pilot Program or during any of the years of the Rockfish Program years (through 2018), except Homer (one vessel in 2017) and Wasilla (one vessel in 2017 and 2018).

4.3.2.1 Performance of the Federal Open Access Entry Level Fishery

In terms of the Council's specific request for information regarding a review of the performance of the Federal open access entry-level longline fishery and the step-up mechanism that increases the sector's apportionment (see Section 1.11 [Council Request for Additional Information] of the EA/RIR to which this SIA is appended for more detail on this request), it is important to note the declining diversity of Alaska community participation in the harvest sector of fishery and the complete decline of participation by vessels from communities outside of Alaska in the fishery. As shown in Table 34, there has been no participation in the hook-and-line portion of the Federal open access longline fishery by any community inside or outside of Alaska since 2006, the year before the implementation of the Rockfish Pilot Program. There has, however, been participation in the jig portion of the Federal open access longline fishery, but the number of communities participating in that portion of the fishery has declined over the 2003-2018 period, as shown in Table 35:

- During pre-Rockfish Pilot Program years 2003-2006, five Alaska communities outside of Kodiak participated in the jig portion of the longline fishery catcher vessel sector with a total of 10 vessel participation years over the four calendar years in the period.

- During the Rockfish Pilot Program years 2007-2011, five Alaska communities outside of Kodiak participated in the jig portion of the longline fishery catcher vessel sector with a total of eight vessel participation years over the five calendar years in the period.
- During the Rockfish Program years 2012-2018, two Alaska communities outside of Kodiak participated in the jig portion of longline fishery catcher vessel sector with a total of three vessel participation years, all of which occurred in the most recent two of the seven calendar years in the period.

Also as shown in Table 35, there was no participation in the jig portion of the longline catcher vessel fishery by vessels with ownership addresses outside of Alaska in any of the Rockfish Program years, although there had been 12 vessel participation years spread across nine communities in the pre-Rockfish Pilot Program years and there had been four vessel participation years spread across three communities in the Rockfish Pilot Program years.

It is unlikely, however, that this near lack of participation in the entry level fishery harvest sector outside of Kodiak ownership address vessels during the Rockfish Program years is directly attributable to the Rockfish Program itself, for at least five reasons:

- First, with the two exceptions already noted, community engagement in the fishery through participation of locally owned catcher vessels outside of Kodiak last occurred in 2009, with no landings occurring in the two years before the Rockfish Program was implemented.
- Second, as noted in the Kodiak summary, two key provisions changed under the Rockfish Program that potentially facilitate access to or flexibility in participating in the longline entry level fishery compared to provisions included in the earlier Rockfish Pilot Program:
    - Participants in the entry level longline fishery are no longer required to register, and
    - Landing restrictions have been eased such that they may deliver their harvest to any shore-based processing facility, including those affiliated with cooperatives, in any community in the GOA.
- Third, these vessels are not subject to fees related to the cost recovery program implemented under the Rockfish Program, such that there are no known increases in operational expenses to longline vessels attributable to the program.[49]
- Fourth, Rockfish Program catch limitations have not constrained the longline entry level fishery. As noted in the Kodiak summary, under the Rockfish Program, the CGOA longline sector in the Federal open access fishery was transitioned from a percentage of TAC to a set number of metric tons allocation. Neither of these types of limits have constrained effort by vessels owned in any community to date and under the Rockfish Program allocations to the longline fishery can be increased in a stepwise fashion if the sector harvests 90 percent of their allocation the previous year (with caps varying by primary rockfish species).
- Fifth, in the one instance that the step-up mechanism that increases the sector's apportionment was triggered, it was successfully employed before the fishery was constrained. As noted earlier, in 2016, 90 percent of the 30 mt allocation of dusky rockfish[50] was taken, resulting in an increased allocation of 50 mt in 2017. As of 2019, the entry level longline fishery has not taken 90 percent of the allocation of Northern rockfish or Pacific ocean perch and the entry level

[49] All longline catcher vessels in the CGOA rockfish entry level fishery are required to pay a 1.25 percent observer fee (which will increase to 1.65 in 2021), paid when their catch comes off the TAC (Federal and parallel fisheries). All vessels under 40 feet LOA are not required to carry observers, while vessels 40 feet and over LOA are placed in the random selection pool for observer coverage and, if selected, are required to carry an observer. These observer-related requirements, however, are not a part of the Rockfish Program itself, were implemented before the Rockfish Program, and are applicable to all non-LAPP Federal fisheries in the GOA.

[50] The "pelagic shelf" grouping was eliminated in 2012, so the combined term "pelagic shelf/dusky rockfish" is not applicable in the Rockfish Program years.

allocations remain at 5, 5, and 50 mt for Northern rockfish, Pacific ocean perch, and dusky rockfish, respectively.

It is important to note, however, that it is not possible to determine the cause of the decline in participation of Alaska communities other than Kodiak in the entry level longline fishery with existing data. Additional focused research would be needed to help establish the role of the Rockfish Pilot Program and/or the Rockfish Program, if any, in the decline of fishery participation by these vessels and the communities with which they are affiliated.

4.3.2.2 Harvesting Patterns of Vessels

An additional dimension of the Council's request to describe harvesting patterns of vessels in the Rockfish Program (beyond the patterns of community engagement shown in Table 1 for trawl catcher vessels, in Table 20 for trawl catcher processors, and Table 34 and Table 35 for longline catcher vessels (and patterns of community dependency shown in subsequent tables in each case), four of the 25 Alaska communities outside of Kodiak that were engaged CGOA rockfish fishery were engaged in the CGOA rockfish trawl fishery through ownership of LLP licenses that came to have initial allocations of quota under the Rockfish Pilot Program or the Rockfish Program (Figure 3). In three out of four of these cases (Anchorage, False Pass, and Sand Point), the LLP license left community ownership before the implementation of the Rockfish Program, either during the pre-Rockfish Pilot Program years or during the Rockfish Pilot Program years (specifically in 2004, 2007, and 2009, with latter being two years before the expiration of the Rockfish Pilot Program). In the fourth case (Homer), the LLP license first had a community ownership address in 2010 (during the Rockfish Pilot Program years) and has continued to have local ownership address during the Rockfish Program years.

From a community impact perspective, it is important to note that all of the LLP licenses that were used for CGOA rockfish in any year 2003-2018, whether or not they qualified for an initial allocation of cooperative quota share under the Rockfish Program, have remained in active use in other commercial fisheries if not in the rockfish fishery (and therefore have supported fishing employment and income opportunities, fishery related support service sector economic activities, and fishing related public revenue opportunities in fishing communities). Similarly, vessel and processor consolidation, which has been experienced in at least some other LAPP/catch share programs implemented in federal fisheries in Alaska, has not been experienced in the rockfish fishery, due to several factors, including the fact that the rockfish fishery is not the primary fishery for the vessels and processors involved, the non-severability of quota from LLP licenses, and the role of the rockfish fishery in the annual round of the vessels and processors involved in combination with the relatively modest scale of the fishery, among others.

4.3.2.3 The Rockfish Program and Larger Trends of Change in Small Alaska Communities

There is no known connection between the implementation of the Rockfish Program and the diminishment or discontinuation of active engagement in the CGOA rockfish longline fishery through vessel ownership and/or in the CGOA rockfish trawl fishery through LLP license ownership. The discontinuation of active engagement in the harvest sector this fishery is, however, in some cases consistent with what has been described in the literature as a trend of ongoing challenges in small, rural Alaska communities of sustaining fluid access to participation in a range of fisheries. These fisheries may vary in their commercial viability but not their cultural importance over time, with lack of flexibility in access resulting in a range of adverse cumulative impacts, as noted in the Rockfish Program Review SIA (Northern Economics 2017).

For many residents of these communities, fishing is not seen solely as a commercial venture, but rather as an integral part of self-identity. This relationship is compounded for those residents who come from families with multi-generational experience in commercial and/or subsistence fishing, particularly for those Alaska Native residents for whom fishing is part of a larger, integrated traditional subsistence and

economic sustenance practice rooted in thousands of years of history. Further, existing trends suggest that sustained participation in a range of commercial fisheries by residents of small communities in the region has become more challenging in recent years, with less inherent flexibility to adjust to both short- and long-term fluctuations in resource availability (as well as to changing markets for seafood products).

This flexibility is widely perceived in the communities as a key element in an overall adaptive strategy practiced in subsistence and commercial economic contexts in the region for generations. This strategy involves piecing together individual livings (and often local economies) with an employment and income plurality approach.[51] This plurality approach is particularly important given that the availability of non-fishing alternatives for income and employment are limited and, like the natural resources (and market factors) that underpin commercial fishing opportunities, tend to be subject to both short- and long-term fluctuations. This ongoing fluctuation in non-fishing opportunities further reinforces the importance of flexibility in the pursuit of a range of commercial fishing opportunities to provide individuals and communities the ability to successfully combine fishing and non-fishing as well as commercial and subsistence pursuits considered critical to long-term socioeconomic and sociocultural survival, if not stability. To the extent that the Rockfish Program functions to further restrain that flexibility, if at all, overall sustained participation in a range of local fisheries by residents of the smaller communities in particular would be made all the more challenging. Formulating a causal explanation of the discontinuation of direct participation of catcher vessels with ownership addresses in multiple small communities in the CGOA rockfish longline entry level fishery (and the indirect role, if any, of the Rockfish Program in that observed trend) would require additional focused research.

Crew employment, even in small numbers, aboard CGOA rockfish trawl catcher vessels and/or rockfish trawl catcher processors can be an important resource for small communities and especially valuable to communities with high poverty rates and limited employment and income opportunities. While it is known from EDR data that residents of 13 Alaska communities outside of Kodiak have served as crew members aboard CGOA rockfish trawl catcher vessels in 2015-2018 (Table 14 and Table 15), those are the only years for which data are available. Given the lack of data from earlier years, it is not possible to examine whatever changes in crew employment patterns may have occurred coincident with the implementation of the Rockfish Program.

4.3.3 The Seattle MSA

The Seattle MSA was substantially engaged in the CGOA rockfish trawl fishery in several ways over the period 2003-2018. While changes have occurred in several sectors, no substantial community-level impacts resulting from the implementation of the Rockfish Program have been identified.

The Seattle MSA experienced increases in annual average Seattle MSA ownership address CGOA rockfish trawl catcher vessel (Table 1) and catcher processor (Table 20) participation between the pre-Rockfish Pilot Program years and the Rockfish Program years. The Seattle MSA also experienced an increase in annual average Seattle MSA ownership address catcher vessel LLP licenses (Figure 3) and catcher processor LLP licenses (Figure 4) between the pre-Rockfish Pilot Program years and the Rockfish Program years.

The Seattle MSA benefitted from an increase in annual average Seattle MSA ownership address catcher vessel quota with the implementation of the Rockfish Program for Pacific ocean perch and pelagic shelf/dusky rockfish, but a decrease was seen for Northern rockfish (Table 10). Local ownership address

[51] Few data are available on the relative importance of fishing and non-fishing income to fishery participants from various employment and income opportunities. While some limited point-in-time information has been collected, such as for the 2014 AFSC GOA trawl fishery social survey, little in the way of time-series/historic information is available for GOA rockfish, GOA halibut, and/or GOA Chinook salmon vessel owners, skippers, or crew.

catcher processor quota increased between the Rockfish Pilot Program and the Rockfish Program for Northern rockfish but decreased for Pacific ocean perch and pelagic shelf/dusky rockfish (Table 25).

In terms of catcher vessel and catcher processor crew employment, as for other communities, quantitative data on employment of, or payments to, Seattle MSA crew members aboard CGOA rockfish trawl catcher vessels and/or catcher processors is not available for the pre-Rockfish Pilot Program years and is available for 2015-2018. Given that the number of catcher vessels in the CGOA rockfish trawl fishery with Seattle MSA ownership addresses has increased and the overall ex-vessel value of CGOA rockfish trawl-caught landings of those vessels has also increased under the Rockfish Program, it is assumed that the number of crew positions and potentially payments to crew have similarly varied during this time. However, the impacts of quota leasing costs or program associated vessel operating costs (such as cost recovery fees and co-op fees), if any, on crew compensation is unknown, as are the impacts on crew employment, if any, of the increased number of CGOA rockfish trawl fishing days per season. Similarly, the impacts of the reduction of vessel operating costs that may have been achieved as a result of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs), if any, on crew compensation are unknown. The increase in the number of catcher processors with Seattle MSA ownership addresses participating in the fishery during the Rockfish Program years is also assumed to have increased CGOA rockfish-related employment and potentially income opportunities for crew members in that sector but, again, data to quantify any such any changes are not readily available.

4.3.4 Lincoln County, Oregon

Lincoln county was substantially engaged in the CGOA rockfish trawl fishery primarily through catcher vessel ownership. While changes have occurred during the Rockfish Program years, no substantial community-level impacts resulting from the implementation of the Rockfish Program have been identified.

In terms of catcher vessel ownership, Lincoln county experienced an increase in annual average county ownership address CGOA rockfish trawl catcher vessel participation between the pre-Rockfish Pilot Program years and the Rockfish Program years (Table 1), however, it experienced a decrease in annual average county ownership address catcher vessel LLP licenses between the Rockfish Pilot Program years and the Rockfish Program years (Figure 3). Further, while the county benefitted from an increase in annual average catcher vessel quota with county ownership addresses with the implementation of the Rockfish Program for dusky rockfish, a decrease was seen for Pacific ocean perch and Northern rockfish (Table 10).

In terms of catcher vessel crew employment, quantitative data on employment of, or payments to, Lincoln county crew members aboard CGOA rockfish trawl catcher vessels are not available for the pre-Rockfish Pilot Program but are available for 2015-2019. Given that the number of Lincoln County ownership address catcher vessels in the CGOA rockfish trawl fishery has increased under the Rockfish Program, it is assumed that the number of crew positions have similarly varied during this time. Information on crew compensation, however, is not available for Lincoln County due to data confidentiality constraints.

4.4 Impacts of the Alternatives on Alaska Communities Substantially Engaged in and/or Dependent on Halibut and Chinook Salmon Fisheries

One of the goals of the Rockfish Program was to reduce/minimize halibut and Chinook salmon PSC. To the extent that the program has achieved those goals, indirect benefits should accrue over time to those communities substantially engaged in and/or substantially dependent upon the GOA halibut and/or Chinook salmon targeted commercial fisheries, sport charter fisheries, subsistence fisheries, and/or sport or personal use fisheries.

4.4.1.1 CGOA Rockfish Fishery Halibut and Chinook Salmon PSC

In terms CGOA rockfish fishery PSC, as noted in the EA/RIR to which this SIA is appended, the fishing plan established by shore-based cooperatives also included a system to discourage high halibut bycatch rates. An incentive for these internal bycatch controls is to ensure that the sector's PSC limit is not reached because it would result in the closure of all Rockfish Program fisheries. The bycatch controls include standards that are set and enforced by the cooperative members. These standards include the inter-cooperative red light, yellow light, green light system, which is based on the percentage of halibut PSC per ton of groundfish used in Rockfish Program target fisheries. The ratio of halibut to groundfish indicates whether the vessel may continue fishing, with caution or stop fishing to avoid high halibut bycatch (Alaska Groundfish Databank 2018). This plan, which was made possible in part if not in whole by Rockfish Program management conditions, has been considered effective in reducing halibut PSC.[52]

Similarly, and also noted in the EA/RIR, in an attempt to reduce Chinook salmon PSC, all shoreside cooperatives agreed to the Salmon Bycatch Avoidance Plan adopted in 2014, which includes: (1) a "slow start" to fishing to test the fishing grounds; (2) individual vessel Chinook salmon bycatch standards for the months of May, June, July, and August; (3) Chinook salmon hotspot reporting requirements; and (4) full retention of all bycaught Chinook salmon, which became a regulatory requirement starting on January 1, 2015 (Alaska Groundfish Databank 2018). This plan, which was also made possible by Rockfish Program management conditions in part if not in whole, has been considered effective in reducing Chinook salmon PSC.[53]

Under the Rockfish Program, catcher processors are assigned 74.1 mt of halibut PSC for use in Rockfish Program cooperatives, which has never been fully taken.[54] Chinook salmon PSC used by the trawl catcher processor sector in the CGOA has shown considerable variability with relatively large catches reported from 2007 through 2013. Chinook salmon catches before the Pilot Program was implemented and after 2013 are similar and always less than half of the long-term average.

[52] As noted in the EA/RIR to which this SIA is appended, the catcher vessel fleet had never taken more than 52 percent of its 117.3 mt halibut PSC limit since the Rockfish Program was implemented in 2012 and most years less than 33 percent of the limit was taken.

[53] As noted in the EA/RIR to which this SIA is appended, since the Chinook salmon PSC limit was implemented for the Rockfish Program the catcher vessel sector has been well under their 1,200 fish limit, except for 2015. During 2015, catcher vessels exceeded their limit of 1,200 fish, but were well under their limit until November. In May and June, an estimated 684 and 91 Chinook salmon were taken, respectively. The remaining 1,034 Chinook salmon were taken during the last week of fishing in November. High PSC rates reported for the last week fishing occurred in November were attributed to the fleet, in part, based on the basket samples taken from one vessel. All other years the limit was in place the fleet harvested 32 percent of the sector's PSC limit or less.

[54] As noted in the EA/RIR to which this SIA is appended, the closest approach to the limit was in 2015, when 21 mt of halibut mortality still remained after the cooperative members finished fishing for the year.

4.4.1.2 Halibut and Chinook Salmon Community Impacts of the Alternatives

The communities involved in the relevant directed salmon and halibut fisheries would potentially benefit relative to the degree that ongoing PSC reductions efforts would continue to benefit the GOA halibut and/or Chinook salmon stocks under Alternative 2. These types of indirect beneficial social impacts of halibut and/or Chinook PSC reductions, and the communities to which those beneficial would most likely accrue, have been recently described in the GOA trawl bycatch management analysis SIA (Northern Economics 2016a). That comprehensive description is not recapitulated here.

However, as noted in Section 2.3.3 of the EA/RIR to which this SIA is appended, the declines in halibut bycatch have also resulted from using more pelagic trawl gear in addition to implementing measures to communicate where high bycatch rates are occurring and requiring catcher vessels to stop fishing in that location if the rates are too high. Therefore, it is anticipated that selecting the No Action alternative would result in greater halibut mortality in the CGOA rockfish target fishery than selecting any combination elements under Alternative 2.

Under either the No Action alternative or Alternative 2 it is expected that Chinook salmon bycatch will be difficult to consistently avoid. However, Alternative 2 is expected to continue the structures that have been developed to communicate areas and times of higher Chinook salmon catch rates and agreements to stop fishing when rates are too high. These structures are expected to result in bycatch rates that are lower than would otherwise be the case. Under the No Action alternative, the potential increase in the number of participants and a return to race-for-fish conditions make it less likely those bycatch avoidance measures will be adhered to by the entire fleet.

4.5 Risks to Fishing Community Sustained Participation in the CGOA Rockfish Trawl or Longline Fisheries

Council selected a Preliminary Preferred Alternative at its December 2019 meeting and a Preferred Alternative at its January/February 2020 meeting. The Preferred Alternative consists of Alternative 2 with the following elements and options: Element 1, Option 1; Element 2; Element 3; Element 4; Element 5; Element 6; Element 8; Element 9; Element 10, including its suboption; Element 11; Element 12, Element 13, and Element 14.[55]

No issues were identified for the Preferred Alternative that would put the sustained participation of any fishing communities (i.e., those substantially engaged in or substantially dependent upon the CGOA rockfish trawl or longline fisheries) at risk.

Implementing the Preferred Alternative would not change any of the community protection measures built into the Rockfish Program and previously found to be functioning as intended. The Rockfish Program is likely to have continued beneficial impacts on fishing communities. As a result of the Rockfish Program, it is generally understood that rockfish communities have enjoyed increased efficiency. Quality of rockfish landings and products has improved as participants in both harvesting and processing sectors have maximized production of harvest quota shares. Patterns of community participation in the Central GOA rockfish fisheries are unlikely to change with implementation of the Preferred Alternative. Kodiak has historically been home to processors that have processed almost all of the Central GOA rockfish landings and under the Preferred Alternative, the Rockfish Program Kodiak landings requirement would be maintained, helping provide predictability and stability in employment, income, and economic opportunities as well as in tax revenues accruing to the community.

[55] These the elements and options are described in the introduction to Section 4.3; Element 7 is not a part of the Preferred Alternative because the need for that action was subsumed within revised Element 6.

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6 List of Persons Consulted

Julie Bonney – Alaska Groundfish Data Bank, Kodiak
Shannon Carroll – Trident Seafoods, Seattle
Mark Fina – United States Seafoods, Seattle
Stephanie Warpinski – NMFS Alaska Regional Office

7 SIA Attachment 1: Unavailable Information

Certain data and information would have been useful if it could have been included as part of this SIA component of the CGOA Rockfish Program Reauthorization EA/RIR. Unavailable information is described in this section. The analysts do not advocate implementing data collection programs to collect all of the unavailable data. A discussion of the information that is unavailable, its potential uses, and any issues associated with collecting the data are presented Table 56.

Table 56. Information that was Unavailable when Conducting CGOA Rockfish Program Review SIA

Information	Uses	Issues
Time series data on crew employment.	Determine impacts to crew and communities from changes in regulatory structures.	This information is currently being collected through the GOA trawl EDR. The issue is that only four years of data are currently available (2015-2018). It will not be possible to collect additional historical data.
Fishery-specific time series data on catcher vessel crew compensation.	Determine impacts to catcher vessel crew compensation from changes in regulatory structures.	The impacts of quota leasing costs or program-associated vessel operating costs (such as cost recovery fees and co-op fees) on crew compensation is unknown, as are the impacts on crew employment of the increased number of CGOA rockfish trawl fishing days per season. Similarly, the impacts of the reduction of vessel operating costs that may have been achieved as a result of changed fishing conditions under the Rockfish Program (such as owner-reported reductions in fuel consumption and gear repair costs) on crew compensation are unknown. These data could be collected from catcher vessel owners or catcher vessel cooperatives, but it would not be possible to collect historical data.

Fishery-specific time series data on processor crew compensation.	Determine impacts to shore-based processor crew compensation from changes in regulatory structures.	Information on total processor crew compensation by month is currently being collected through the GOA trawl EDR and is available 2015-2018. However, the data are not fishery-specific, nor are changes in overtime compensation reported. It is not known whether processors could provide fishery-specific data due to the integrated nature of processing operations. It will not be possible to collect additional historical data.
Analysis of CGOA rockfish longline catcher vessel participation.	Determine why, with two exceptions in 2017 and 2018, all catcher vessel participation in the longline entry level fishery in the Rockfish Program years has been limited to vessels with Kodiak ownership addresses.	It is not possible to determine the cause of the apparent decline in and ultimate discontinuation of participation of multiple Alaska and Pacific Northwest communities with existing data. Additional focused research would help establish the role of the Rockfish Program, if any, in the decline of fishery participation by vessels with ownership addresses outside of Kodiak.
Expenditures by harvesters and processors by location for vendors, suppliers, and support service businesses.	Determine economic impacts of purchases of goods and services by the fleets and processors in specific communities.	This information could be collected from harvesters and processors. It is difficult to assign purchases to specific fisheries and specific locations where purchases are made, but this information is important for understanding the local multiplier effect of fishery management changes. Collecting this information from vendors is problematic because of the recordkeeping that would be required.

8 SIA Attachment 2: Fishing Community Vulnerability, Fishery Dependency, and Types of Social Impacts Associated with other Quota Share Management Programs in Alaska

Community engagement (participation) in the CGOA rockfish trawl fishery was detailed in terms of the distribution of sectors across communities in Section 2 and by sectors within the context of individual communities in Section 3.[56] The content of these descriptions was structured to address the vulnerability of the communities to potential fishery changes and the dependency of the communities on the fishery.

- Vulnerability of communities to adverse community-level impacts from the CGOA Rockfish Program is in part a function of dependence of the community on the potentially affected CGOA rockfish trawl fishery and the economic resiliency and diversity of the community.

- Dependency is influenced by the relative importance of CGOA rockfish trawl fishery to vessels participating directly in that fishery in comparison to all area, species, and gear fisheries in which those same vessels participate (community CGOA rockfish trawl sector vessel diversity); the relative importance of the CGOA rockfish trawl fishery to all locally owned commercial fishing vessels participating in all area, species, and gear fisheries combined (community fleet diversity); the relative importance of CGOA rockfish trawl-caught deliveries to shore-based processors participating directly in the CGOA rockfish trawl fisheries in comparison to all area, species, and gear fisheries in which those same processors participate (community CGOA rockfish trawl sector shore-based processor diversity); the relative importance of CGOA rockfish trawl-caught deliveries to all shore-based processors operating in the community participating in all area, species, and gear fisheries combined (community shore-based processor diversity); and the relative importance of the overall community fishery sector(s) within the larger community economic base both in terms of private sector business activity and public revenues (community economic diversity).

- Also important to beneficial or adverse community-level impact outcomes is the specific nature of local engagement in the potentially affected CGOA rockfish trawl fishery, related support sectors, and alternative employment, income, business, and public revenue opportunities available within the community because of the location, scale, and relative economic diversity of the community.

Among Alaska communities, engagement in and dependency upon the CGOA rockfish trawl fishery is highly concentrated in the city of Kodiak as measured by multiple indices. Engagement in the CGOA rockfish longline fishery has become more concentrated in Kodiak in the Rockfish Program years than was the case in the pre-Rockfish Pilot Program or Rockfish Pilot Program years.

Experience with history-based quota share-type of management programs that have been implemented other in North Pacific fisheries suggest a range of types of social impacts that could potentially be anticipated to occur under other quota-share programs. These impacts have been often

[56] The analysis in this section of the document focuses primarily on the CGOA rockfish trawl fishery as it was the sector most directly influenced by the Rockfish Program. A discussion of community engagement in the CGOA rockfish longline fishery is, however, provided in the Kodiak and Other Alaska Communities discussions in the same section of the document.

traced to several specific types of changes that have occurred in the individual fisheries following implementation of the various other programs. These "lessons learned" were then considered in the current analysis within the limits of data availability as well as their relevance to the specific structure of the Rockfish Program.

While recognizing that each fishery and each management program is different, the following list includes different general types of changes that have been seen or repeatedly expressed in public testimony as social impact issues of general concern associated other programs implemented in Alaska. These include, but are not limited to:

- Consolidation of catcher vessels
    - Among many factors influencing the decisions that result in consolidation are:
        - Common ownership of multiple vessels.
        - An initial allocation of quota below "critical mass" that makes either fishing initial allocation quota alone or leasing or buying quota to supplement the initially allocated quota unattractive.
        - Vessel characteristics and how the fishery fits into the annual round/fishing portfolio of the vessel.
        - Overall economic viability of the operation.
        - Cooperative-specific considerations.
        - Vessel owner retirement/exit strategy.
    - The degree of consolidation that would occur ultimately depends on the sum of individual business decisions that cannot be predicted with certainty, but the maximum amount of consolidation that could occur would be determined by ownership and/or vessel use caps.
    - When local vessels exited other fisheries due to consolidation, the nature and level of impacts associated with that vessel within the community have typically been shaped by whether the vessel continues to participate in other commercial fisheries (and at what level) or exits commercial fishing entirely.

- Redistribution of LLPs and quota ownership between communities
    - Movement of LLP ownership and quota ownership toward fewer and larger communities over time has been seen in other programs.
    - Amount of movement depends on the sum of individual business decisions, overall consolidation factors noted above, and efficacy of community protection measures designed to retain quota in specific regions or communities.

- Redistribution of vessel activities
    - Changes in location of vessel activities under some other programs has been influenced by where catcher vessels ended up in cooperatives.
    - Changes in patterns of landings have also been influenced/minimized by community protection measures.

- Changes in vessel/participation costs
    - Changes in costs have been seen in other programs with increases in observer coverage and program management costs.
    - Additional costs have also been incurred in other programs through quota leasing and/or bycatch leasing.
    - Additional costs to operate vessels/participate in the fishery, in turn, impact compensation to skippers and crew.

- Changes in harvester and processor relationships
    - Changes have been seen in these relationships under other programs, but those changes have varied widely by program, based on attributes of the program and the nature of the specific fishery (e.g., the halibut individual fishing quota [IFQ] fishery, where the program is built around harvesters, and the BSAI crab fishery, where processor quota shares and an arbitration system is a part of the program).
    - Changes under other programs, or that occurred in anticipation of other programs, have also included changes in patterns of patterns of vertical integration of harvesting and processing capacity.

- Changes in crew employment
    - Reduction of crew positions have mirrored the overall consolidation of vessels in other programs.
    - Changes in crew working conditions under other programs have included changes in seasonality/days at sea and compensation, including the impact of quota leasing and program costs, such as increased observer, cooperative, and cost recovery expenses, that may have the effect of reducing crew compensation, all other things being equal.

- Changes economics of fishery entry
    - The expense of obtaining quota has been seen as an additional financial barrier to entry to the fishery in other programs.
    - This has, in turn, been viewed as making the career transition from deck to wheelhouse more challenging, as well as the career transition from successful ownership of smaller vessels and permits in other fisheries that is used to capitalize ownership of a vessel and permits in the already capital-intensive fishery that is the subject of the new management program.

- Consolidation of shore-based processing
    - Among many factors influencing the decision to consolidate, several are similar to the factors that influence vessel consolidation:
        - Common ownership of multiple shore-based or shoreside processing facilities; in the BSAI crab fishery, for example, where there was common ownership of shore-based processing facilities and inshore floating processors at the time of program implementation, the use of inshore floating processors has been reduced over time.
        - Facility characteristics and how specific fishery landings fit into the processing portfolio of the facility.
        - Number and characteristics of shore-based processors in a given community; where a single, high-volume, multi-species processor accepting a relatively high volume of the managed species is present in a community, consolidation of processing away from that community been less likely than processing consolidation within a community with multiple shore-based processors.
        - The long-term strategy of individual processing firms.
    - The degree of consolidation that has occurred in other quota share managed fisheries in Alaska has ultimately depended on the sum of individual business decisions that cannot be predicted with certainty, but the maximum amount of consolidation that could occur would be determined by ownership and/or facility use caps.

- Changes in processor employment
    - Peak demand for processing workers may decrease.
    - Overtime hours, often an important part of total compensation, may decrease.

- Changes in demand for support services
    - The demand for local support services under other quota share programs has driven by many of the factors listed above that would result in:
        - Changes in local catcher vessel ownership that could lessen service demand.
        - Changes in the number of catcher vessels making local landings.
        - Changes in catcher vessel demand for shipwright, welding, electrical, mechanical, hydraulic, and electronics services; vessel provisioning and resupply services; fuel services; gear storage; vessel watch services; and public harbor/infrastructure related services such as moorage, among others.

- Changes in public revenues
    - Changes in patterns of landings may decrease tax revenues.
    - Changes in activity patterns may decrease fees collected for harbor and other public services.

The CGOA Rockfish Program is different from other history-based quota allocation programs in Alaska in several ways, but perhaps first among them is that in most other fisheries managed under roughly similar programs, the fishery being managed is typically the dominant fishery those vessels pursue. In the case of the rockfish fishery, however, that fishery is most often a comparatively modest component in a portfolio that typically includes a much larger GOA groundfish component. As a result, many of the engaged vessels are inherently less dependent on the fishery than is the case with several other quota share programs in Alaska. Another important distinction is that unlike some other programs, the Rockfish Program was not implemented to avoid widespread, adverse economic consequences in a fishery that was considered overcapitalized to the point of being unsustainable and the program did not have an accompanying reduction of overcapitalization as one of its explicit or inherent goals. Additionally, in general, patterns of CGOA trawl-caught rockfish landings by community are less fluid than in some other fisheries managed under other quota share type programs in the region, such as the halibut fishery, where processors can relatively easily accept sporadic deliveries of varying scale; the ability to accept CGOA trawl-caught rockfish landings is less fluid due to volume and value considerations, along with line start-up, shut-down, and labor logistics in addition to cost considerations. Finally, like the BSAI crab fishery, but unlike some other quota share managed fisheries, the CGOA rockfish trawl fishery is seen as a relatively capital-intensive fishery that is frequently not considered an entry-level ownership fishery, but one that is typically aspired to over the course of a career that includes ownership of vessels in other fisheries.

9 SIA Attachment 3: Selected CGOA Rockfish Trawl Catcher Processor Crew EDR Data: 2017 and 2018

Table 57. Catcher Processor Crew Community of Residence from EDR for Trawl Catcher Processors that Participated in the CGOA Rockfish Program Fishery, 2017 and 2018

2017						2018					
Number of States and Territories	Number of Unique Communities	Number of Communities by State or Territory	Name of State or Territory and Community	Number of Crew	Pecent of All Crew	Number of States and Territories	Number of Unique Communities	Number of Communities by State or Territory	Name of State or Territory and Community	Number of Crew	Pecent of All Crew
1			**Alaska**	15	10.95%	1			**Alaska**	5	5.10%
	1	1	Anchorage	5	3.65%		--	--	Anchorage	0	0.00%
	2	2	Dutch Harbor	9	6.57%		1	1	Dutch Harbor	4	4.08%
	3	3	Wasilla	1	0.73%		2	2	Wasilla	1	1.02%
2			**Arizona**	5	3.65%	2			**Arizona**	3	3.06%
	4	1	Gilbert	1	0.73%		--	--	Gilbert	0	0.00%
	5	2	Goodyear	1	0.73%		--	--	Goodyear	0	0.00%
	6	3	San Tan Valley	1	0.73%		--	--	San Tan Valley	0	0.00%
	7	4	Scottsdale	1	0.73%		--	--	Scottsdale	0	0.00%
	8	5	Tucson	1	0.73%		3	1	Tucson	2	2.04%
	--	--	Vail	0	0.00%		4	2	Vail	1	1.02%
3			**California**	7	5.11%	3			**California**	4	4.08%
	9	1	Modesto	1	0.73%		--	--	Modesto	0	0.00%
	10	2	Moreno Valley	1	0.73%		--	--	Moreno Valley	0	0.00%
	--	--	Murietta	0	0.00%		5	1	Murrieta	1	1.02%
	11	3	Rialto	1	0.73%		--	--	Rialto	0	0.00%
	12	4	San Diego	2	1.46%		--	--	San Diego	0	0.00%
	13	5	Stockton	2	1.46%		6	2	Stockton	3	3.06%
4			**Idaho**	1	0.73%	4			**Idaho**	1	1.02%
	--	--	Nampa	0	0.00%		7	1	Nampa	1	1.02%
	14	1	Postfalls	1	0.73%		--	--	Postfalls	0	0.00%
5			**Massachusetts**	2	1.46%	5			**Massachusetts**	2	2.04%
	15	1	Bedford	1	0.73%		--	--	Bedford	0	0.00%
	16	2	Halifax	1	0.73%		8	1	Halifax	1	1.02%
	--	--	Phillipston	0	0.00%		9	2	Phillipston	1	1.02%
6			**Oregon**	5	3.65%	6			**Oregon**	5	5.10%
	--	--	Bend	0	0.00%		10	1	Bend	1	1.02%
	17	1	Gresham	1	0.73%		11	2	Gresham	1	1.02%
	18	2	Portland	3	2.19%		12	3	Portland	2	2.04%
	19	3	Salem	1	0.73%		--	--	Salem	0	0.00%
	--	--	White City	0	0.00%		13	4	White City	1	1.02%
7			**Pennsylvania**	2	1.46%	--			**Pennsylvania**	0	0.00%
	20	1	Allentown	1	0.73%		--	--	Allentown	0	0.00%
	21	2	Teonesta	1	0.73%		--	--	Teonesta	0	0.00%
8			**Washington**	81	59.12%	7			**Washington**	70	71.43%
	--	--	Algona	0	0.00%		14	1	Algona	1	1.02%
	--	--	Anacortes	0	0.00%		15	2	Anacortes	2	2.04%
	22	1	Auburn	1	0.73%		--	--	Auburn	0	0.00%
	23	2	Bellingham	1	0.73%		--	--	Bellingham	0	0.00%
	24	3	Carrolls	1	0.73%		--	--	Carrolls	0	0.00%
	25	4	Centralia	1	0.73%		--	--	Centralia	0	0.00%
	26	5	Chelan	1	0.73%		16	3	Chelan	2	2.04%
	27	6	Clinton	1	0.73%		17	4	Clinton	1	1.02%
	28	7	Coupeville	1	0.73%		18	5	Coupeville	1	1.02%
	29	8	Eagle Point	1	0.73%		--	--	Eagle Point	0	0.00%
	30	9	East Wenatchee	1	0.73%		19	6	East Wenatchee	1	1.02%
	31	10	Everett	2	1.46%		20	7	Everett	1	1.02%
	32	11	Federal Way	3	2.19%		21	8	Federal Way	3	3.06%
	33	12	Ferndale	1	0.73%		22	9	Ferndale	1	1.02%
	34	13	Gig Harbor	1	0.73%		23	10	Gig Harbor	1	1.02%

2017 (continued)						2018 (continued_					
Number of States and Territories	Number of Unique Communities	Number of Communities by State or Territory	Name of State or Territory and Community	Number of Crew	Pecent of All Crew	Number of States and Territories	Number of Unique Communities	Number of Communities by State or Territory	Name of State or Territory and Community	Number of Crew	Pecent of All Crew
	35	14	Kennewick	1	0.73%		--	--	Kennewick	0	0.00%
	36	15	Kent	1	0.73%		--	--	Kent	0	0.00%
	37	16	Kirkland	9	6.57%		24	11	Kirkland	1	1.02%
	38	17	Lacey	1	0.73%		--	--	Lacey	0	0.00%
	39	18	Lake Stevens	1	0.73%		25	12	Lake Stevens	2	2.04%
	40	19	Langley	1	0.73%		--	--	Langley	0	0.00%
	41	20	Longview	1	0.73%		--	--	Longview	0	0.00%
	42	21	Lynden	1	0.73%		26	13	Lynden	2	2.04%
	--	--	Lynnwood	0	0.00%		27	14	Lynnwood	2	2.04%
	43	22	Milton	1	0.73%		--	--	Milton	0	0.00%
	44	23	Monroe	3	2.19%		28	15	Monroe	1	1.02%
	45	24	Mount Vernon	2	1.46%		--	--	Mount Vernon	0	0.00%
	46	25	Nampa	1	0.73%		--	--	Nampa	0	0.00%
	47	26	Oak Harbor	2	1.46%		29	16	Oak Harbor	3	3.06%
	48	27	Olympia	2	1.46%		--	--	Olympia	0	0.00%
	49	28	Pacific	1	0.73%		--	--	Pacific	0	0.00%
	--	--	Pasco	0	0.00%		30	17	Pasco	1	1.02%
	50	29	Port Orchard	1	0.73%		--	--	Port Orchard	0	0.00%
	51	30	Poulsbo	1	0.73%		31	18	Poulsbo	1	1.02%
	52	31	Puyallup	2	1.46%		32	19	Puyallup	1	1.02%
	53	32	Renton	1	0.73%		--	--	Renton	0	0.00%
	54	33	Richland	1	0.73%		--	--	Richland	0	0.00%
	55	34	Seatac	2	1.46%		--	--	Seatac	0	0.00%
	56	35	Seattle	23	16.79%		33	20	Seattle	34	34.69%
	--	--	Sedro Woolley	0	0.00%		34	21	Sedro Woolley	1	1.02%
	57	36	Spanaway	1	0.73%		35	22	Spanaway	1	1.02%
	58	37	Spokane	1	0.73%		36	23	Spokane	1	1.02%
	59	38	Tacoma	3	2.19%		37	24	Tacoma	4	4.08%
	--	--	Tukwila	0	0.00%		38	25	Tukwila	1	1.02%
	60	39	Yakima	1	0.73%		--	--	Yakima	0	0.00%
9			**Hawaii**	1	0.73%	--			**Hawaii**	0	0.00%
	61	1	Paia	1	0.73%		--	--	Paia	0	0.00%
10			**Illinois**	1	0.73%	8			**Illinois**	1	1.02%
	62	1	Lovington	1	0.73%		39	1	Lovington	1	1.02%
--			**Louisiana**	0	0.00%	9			**Louisiana**	1	1.02%
	--	--	Benton	0	0.00%		40	1	Benton	1	1.02%
--			**Maine**	0	0.00%	10			**Maine**	1	1.02%
	--	--	Old Town	0	0.00%		41	1	Old Town	1	1.02%
--			**Mississippi**	0	0.00%	11			**Mississippi**	1	1.02%
	--	--	Lumberton	0	0.00%		42	1	Lumberton	1	1.02%
--			**New Hampshire**	0	0.00%	12			**New Hampshire**	1	1.02%
	--	--	Westmoreland	0	0.00%		43	1	Westmoreland	1	1.02%
11			**Ohio**	1	0.73%	--			**Ohio**	0	0.00%
	63	1	Beloit	1	0.73%		--	--	Beloit	0	0.00%
--			**Texas**	0	0.00%	13			**Texas**	1	1.02%
	--	--	Pharr	0	0.00%		44	1	Pharr	1	1.02%
12			**Virginia**	1	0.73%	--			**Virginia**	0	0.00%
	64	1	Virginia Beach	1	0.73%		--	--	Virginia Beach	0	0.00%
13			**American Samoa**	1	0.73%	--			**American Samoa**	0	0.00%
	65	1	Fagatogo Pago Pago	1	0.73%		--	--	Fagatogo Pago Pa	0	0.00%
--			**Unknown**	14	10.22%	--			**Unknown**	2	2.04%
	--	--	(blank)	14	10.22%		--	--	(blank)	2	2.04%
13	**65**	**--**	**GRAND TOTAL**	**137**	**100.00%**	**13**	**44**	**--**	**GRAND TOTAL**	**98**	**100.00%**

Source: EDR data.

10 SIA Attachment 4: Responses to Selected Questions, AFSC GOA Trawl Social Survey, 2014

Kodiak GOA Trawl Catcher Vessel Owner and Crew Responses

Table 58. Kodiak Catcher Vessel Owner and Crew Responses to Selected Questions, AFSC GOA Trawl Fishery Social Survey, 2014

Question	Responses	Number of Responses	Percent of Surveys Taken (n=93)	Percent of Those Who Answered the Question
What is your gender?	Male	91	97.8%	98.9%
	Female	1	1.1%	1.1%
	No Answer	1	1.1%	--
What is your race?	White/Caucasian	79	84.9%	89.8%
	Black/African American	0	0.0%	0.0%
	Asian	0	0.0%	0.0%
	American Indian or Alaska Native	1	1.1%	1.1%
	Native Hawaiian or Other Pacific Islander	3	3.2%	3.4%
	Some Other Race or Two or More Races	5	5.4%	5.7%
	No Answer	5	5.4%	--
Are you Hispanic or Latino	Yes	3	3.2%	3.7%
	No	78	83.9%	96.3%
	No Answer	12	12.9%	--
What percentage of your combined family income comes from your participation in fishing activities?	0-9%	0	0.0%	0.0%
	10-25%	0	0.0%	0.0%
	26-50%	0	0.0%	0.0%
	51-75%	3	3.2%	3.4%
	76-100%	84	90.3%	96.6%
	No Answer	6	6.5%	--

Question	Responses	Number of Responses	Average	Standard Deviation
How old are you?	Age	91	45.3	13.2
	No Answer	2	--	--

Source: National Oceanic and Atmospheric Administration 2015

Table 58. Kodiak Catcher Vessel Owner and Crew Responses to Selected Questions, AFSC GOA Trawl Fishery Social Survey, 2014 (continued)

Question	Responses	Number of Responses	Percent of Surveys Taken (n=93)	Percent of Those Who Answered the Question
Has your family historically participated in any commercial fishing or processing activities?	Yes	54	58.1%	58.7%
	No	38	40.9%	41.3%
	No Answer	1	1.1%	--
Do you maintain a job outside the commercial fishing or processing industry?	Yes	10	10.8%	11.1%
	No	80	86.0%	88.9%
	No Answer	3	3.2%	--
Rate: Job Satisfaction	Poor	0	0.0%	0.0%
	Fair	6	6.5%	6.7%
	Good	46	49.5%	51.1%
	Excellent	38	40.9%	42.2%
	No Answer	3	3.2%	--
Rate: Amount of Compensation/Pay	Poor	1	1.1%	1.1%
	Fair	14	15.1%	15.6%
	Good	45	48.4%	50.0%
	Excellent	30	32.3%	33.3%
	No Answer	3	3.2%	--
Rate: Method of Compensation/Pay	Poor	3	3.2%	3.3%
	Fair	7	7.5%	7.8%
	Good	40	43.0%	44.4%
	Excellent	40	43.0%	44.4%
	No Answer	3	3.2%	--
Rate: Job Stability	Poor	6	6.5%	6.7%
	Fair	16	17.2%	17.8%
	Good	40	43.0%	44.4%
	Excellent	28	30.1%	31.1%
	No Answer	3	3.2%	--
Rate: Standard of Living	Poor	3	3.2%	3.3%
	Fair	8	8.6%	8.9%
	Good	54	58.1%	60.0%
	Excellent	25	26.9%	27.8%
	No Answer	3	3.2%	--
Rate: Relationship with Co-workers	Poor	0	0.0%	0.0%
	Fair	3	3.2%	3.3%
	Good	50	53.8%	55.6%
	Excellent	37	39.8%	41.1%
	No Answer	3	3.2%	--

Question	Responses	Number of Responses	Average	Standard Deviation
For how many generations has your family participated in any commercial fishing or processing activities?	Number	57	3.5	5.6
	No Answer	36	--	--
How old were you when you started to work in any commercial fishing or processing activities?	Number	88	18.5	7.6
	No Answer	5	--	--
How many total years have you worked in the Gulf of Alaska groundfish trawl fishery?	Number	87	16.5	11.5
	No Answer	6	--	--

Source: National Oceanic and Atmospheric Administration 2015

Table 58. Kodiak Catcher Vessel Owner and Crew Responses to Selected Questions, AFSC GOA Trawl Fishery Social Survey, 2014 (continued)

Question	Responses	Number of Responses	Percent of Surveys Taken (n=93)	Percent of Those Who Answered the Question
Which fisheries do you participate in on a regular basis?	North Pacific Fisheries - GOA groundfish - trawl	83	89.2%	96.5%
	North Pacific Fisheries - GOA groundfish - fixed gear	8	8.6%	9.3%
	North Pacific Fisheries - CGOA rockfish program	44	47.3%	51.2%
	North Pacific Fisheries - Other GOA rockfish	10	10.8%	11.6%
	North Pacific Fisheries - Sablefish/halibut IFQ	17	18.3%	19.8%
	North Pacific Fisheries - Salmon	13	14.0%	15.1%
	North Pacific Fisheries - GOA Tanner crab	10	10.8%	11.6%
	North Pacific Fisheries - Dungeness crab	6	6.5%	7.0%
	North Pacific Fisheries - BSAI King and Tanner crab	4	4.3%	4.7%
	North Pacific Fisheries - BSAI pollock	35	37.6%	40.7%
	North Pacific Fisheries - BSAI non-pollock Groundfish	21	22.6%	24.4%
	North Pacific Fisheries - Scallop	4	4.3%	4.7%
	North Pacific Fisheries - Other	6	6.5%	7.0%
	Pacific Coast Fisheries - Pacific whiting	25	26.9%	29.1%
	Pacific Coast Fisheries - Non-whiting groundfish - trawl	12	12.9%	14.0%
	Pacific Coast Fisheries - Non-sablefish groundfish - fixed gear	4	4.3%	4.7%
	Pacific Coast Fisheries - Sablefish	7	7.5%	8.1%
	Pacific Coast Fisheries - Salmon	5	5.4%	5.8%
	Pacific Coast Fisheries - Pacific halibut	4	4.3%	4.7%
	Pacific Coast Fisheries - Dungeness crab	7	7.5%	8.1%
	Pacific Coast Fisheries - Shrimp	6	6.5%	7.0%
	Pacific Coast Fisheries - Highly Migratory Species	4	4.3%	4.7%
	Pacific Coast Fisheries - Coastal Pelagic Species	3	3.2%	3.5%
	Pacific Coast Fisheries - Other	0	0.0%	0.0%
	No Answer	7	7.5%	--

Question	Responses	Number of Responses	Percent of Surveys Taken (n=93)	Percent of Those Who Answered the Question
What are the most common species you have commercially fished in the last 5 years?*	Shallow flatfish/Rock sole	75	80.6%	82.4%
	Yellowfin sole	15	16.1%	16.5%
	Arrowtooth flounder	67	72.0%	73.6%
	Kamchatka flounder	1	1.1%	1.1%
	Rex sole	74	79.6%	81.3%
	Flathead sole	71	76.3%	78.0%
	Alaska plaice	9	9.7%	9.9%
	Greenland turbot	3	3.2%	3.3%
	Deep flatfish	51	54.8%	56.0%
	Halibut	15	16.1%	16.5%
	Other flatfish	21	22.6%	23.1%
	Big skates	69	74.2%	75.8%
	Longnose skates	66	71.0%	72.5%
	Other skates	11	11.8%	12.1%
	Spiny dogfish	1	1.1%	1.1%
	Pacific ocean perch	73	78.5%	80.2%
	Dusky rockfish	64	68.8%	70.3%
	Northern rockfish	60	64.5%	65.9%
	Shortraker/rougheye rockfish	35	37.6%	38.5%
	Thornyhead rockfish	45	48.4%	49.5%
	Other rockfish	15	16.1%	16.5%
	King crab	2	2.2%	2.2%
	Snow (opilio) crab	1	1.1%	1.1%
	Tanner (bairdi) crab	13	14.0%	14.3%
	Dungeness crab	9	9.7%	9.9%
	Scallops	1	1.1%	1.1%
	Shrimp	3	3.2%	3.3%
	Squid	5	5.4%	5.5%
	Octopus	5	5.4%	5.5%
	Pollock	91	97.8%	100.0%
	Pacific cod	85	91.4%	93.4%
	Sablefish	61	65.6%	67.0%
	Atka mackerel	5	5.4%	5.5%
	Pacific whiting	21	22.6%	23.1%
	Lingcod	19	20.4%	20.9%
	Tuna	3	3.2%	3.3%
	Pacific coast trawl non-whiting groundfish	5	5.4%	5.5%
	Salmon	15	16.1%	16.5%
	Herring	2	2.2%	2.2%

Question	Responses	Number of Responses	Percent of Surveys Taken (n=93)	Percent of Those Who Answered the Question
	Other	2	2.2%	2.2%
	No Answer	2	2.2%	--
What gear have you fished with in the last 5 years?*	Pelagic trawl	88	94.6%	97.8%
	Non-pelagic trawl	75	80.6%	83.3%
	Longline	23	24.7%	25.6%
	Pot gear	23	24.7%	25.6%
	Diving gear	2	2.2%	2.2%
	Dredge	1	1.1%	1.1%
	Mechanical jig	9	9.7%	10.0%
	Drift gillnet	3	3.2%	3.3%
	Set gillnet	3	3.2%	3.3%
	Hand line/jig/troll	3	3.2%	3.3%
	Beach seine	0	0.0%	0.0%
	Purse seine	9	9.7%	10.0%
	Herring gillnet	1	1.1%	1.1%
	Other	1	1.1%	1.1%
	No Answer	3	3.2%	--

*multiple responses allowed
Source: National Oceanic and Atmospheric Administration 2015

Kodiak Shore-Based Processor Employee Responses

Table 59. Kodiak Shore-Based Processor Employee Responses to Selected Questions, AFSC GOA Trawl Fishery Social Survey, 2014

Question	Responses	Number of Responses	Percent of Number of Surveys Taken (n=1169)	Percent of Those Who Answered the Question
What is your gender?	Male	731	62.5%	64.3%
	Female	405	34.6%	35.7%
	No Answer	33	2.8%	--
What is your race?	White/Caucasian	59	5.0%	6.0%
	Black/African American	61	5.2%	6.2%
	Asian	781	66.8%	79.0%
	American Indian or Alaska Native	9	0.8%	0.9%
	Native Hawaiian or Other Pacific Islander	9	0.8%	0.9%
	Some Other Race or Two or More Races	69	5.9%	7.0%
	No Answer	181	15.5%	--
Are you Hispanic or Latino	Yes	178	15.2%	19.1%
	No	754	64.5%	80.9%
	No Answer	237	20.3%	--
What percentage of your combined family income comes from your participation in processing activities?	0-9%	78	6.7%	16.2%
	10-25%	61	5.2%	12.7%
	26-50%	62	5.3%	12.9%
	51-75%	68	5.8%	14.1%
	76-100%	212	18.1%	44.1%
	No Answer	688	58.9%	--

Question	Responses	Number of Responses	Average	Standard Deviation
How old are you?	Age	1,060	46.8	14.0
	No Answer	109	--	--

Source: National Oceanic and Atmospheric Administration 2015

Table 59. Kodiak Shore-Based Processor Employee Responses to Selected Questions, AFSC GOA Trawl Fishery Social Survey, 2014 (continued)

Question	Responses	Number of Responses	Percent of Number of Surveys Taken (n=1158)	Percent of Those Who Answered the Question
Are you a U.S. citizen?	Yes	444	38.3%	51.6%
	No	382	33.0%	44.4%
	Currently undergoing the naturalization process	35	3.0%	4.1%
	No Answer	297	25.6%	--
Does your immediate family live in the U.S.?	Yes	599	51.7%	74.6%
	No	204	17.6%	25.4%
	No Answer	355	30.7%	--
How did you get your current job as a processing employee?	I saw the job advertised and applied for it.	210	18.1%	26.3%
	I was living in the United States and was recruited by a family member or friend that worked in the processing plant.	377	32.6%	47.3%
	I was recruited by the processing plant.	109	9.4%	13.7%
	I was living in another country and was recruited by my family member that worked in the processing plant.	30	2.6%	3.8%
	Other	71	6.1%	8.9%
	No Answer	361	31.2%	--
How many months a year do you work as a processing employee?	0-3 months	77	6.6%	9.0%
	4-6 months	89	7.7%	10.5%
	7-9 months	254	21.9%	29.8%
	10-12 months	431	37.2%	50.6%
	No Answer	307	26.5%	--
If your processing plant was no longer able to employ you for all of the months you currently work, which of the following options would you consider?*	Seek employment in another processing plant for the months your current job is not available.	275	23.7%	35.9%
	Seek employment at another processing plant permanently.	157	13.6%	20.5%
	Seek employment in another role in the fishing industry.	38	3.3%	5.0%
	Seek employment outside of the fishing industry	82	7.1%	10.7%
	Leave Alaska and return to your home state.	63	5.4%	8.2%
	Leave Alaska and return to your home country.	22	1.9%	2.9%
	Leave Alaska and move to another state in the U.S. where you did not live before.	30	2.6%	3.9%

Question	Responses	Number of Responses	Percent of Number of Surveys Taken (n=1158)	Percent of Those Who Answered the Question
	Move to another city or town in Alaska.	44	3.8%	5.8%
	Retire.	46	4.0%	6.0%
	I would not be affected.	33	2.8%	4.3%
	I do not know.	132	11.4%	17.3%
	Other	40	3.5%	5.2%
	No Answer	393	33.9%	--
What type of work do you do during the months that you are not working at your current processor?*	Unemployed	463	40.0%	56.5%
	Employee at a different processor	152	13.1%	18.5%
	Crew of a fishing vessel	9	0.8%	1.1%
	Skipper of a fishing vessel	3	0.3%	0.4%
	Other	97	8.4%	11.8%
	Not applicable	115	9.9%	14.0%
	No Answer	338	29.2%	--

Question	Responses	Number of Responses	Average	Standard Deviation
How many members of your household work as processing employees?	Number	649	2.7	2.2
	No Answer	509	--	--

*multiple responses allowed

Source: National Oceanic and Atmospheric Administration 2015

Table 59. Kodiak Shore-Based Processor Employee Responses to Selected Questions, AFSC GOA Trawl Fishery Social Survey, 2014 (continued)

Question	Responses	Number of Responses	Percent of Number of Surveys Taken (n=1158)	Percent of Those Who Answered the Question
What percentage of your salary do you send to family members living in the United States?	0%	173	14.9%	26.1%
	1-25%	181	15.6%	27.3%
	26-50%	137	11.8%	20.6%
	51-75%	103	8.9%	15.5%
	76-100%	70	6.0%	10.5%
	No Answer	494	42.7%	--
What percentage of your salary do you send to family members that currently live in another country?	0%	157	13.6%	21.9%
	1-25%	246	21.2%	34.3%
	26-50%	176	15.2%	24.5%
	51-75%	100	8.6%	13.9%
	76-100%	38	3.3%	5.3%
	No Answer	441	38.1%	--

Question	Responses	Number of Responses	Average	Standard Deviation
How many people do you support financially with the money you earn as a processing employee?	Number	786	3.7	2.8
	No Answer	372	--	--

Source: National Oceanic and Atmospheric Administration 2015

11 SIA Attachment 5: 2016 Profiles of Shore-Based Processors Accepting GOA Trawl-Caught Deliveries

The following Kodiak and Seward shore-based processor profiles were prepared by Northern Economics as part of the "Preliminary Social Impact Assessment: GOA Trawl Bycatch Management Analysis." That document was presented to the NPFMC at the December 2016 meetings in Anchorage as Appendix 5 to the "Gulf of Alaska Trawl Bycatch Preliminary Analysis" (Agenda Item C-10: Preliminary Economic Analysis [RIR]).[57] While these profiles are now becoming dated, they still represent the most current operational descriptions of these plants, and the role of the CGOA rockfish fishery in those operations.[58]

Kodiak Shore-Based Processor Profiles

Kodiak's shoreplants have played an important role in the history of the community, influencing its economic and demographic patterns over the years. Even among the major contemporary processing plants, there is a considerable amount of diversity in the size, volume, and species processed. Locally based processors vary in product output and specialization, ranging from large quantity canning of salmon, to fresh and fresh-frozen products, as well as niche markets servicing the sport-fishing industry (AECOM 2010).

From 2003 through 2014, the annual number of active Kodiak shore-based processors varied from 10 (in 2014) to 14 (in 2005-2007), with an annual average of 12.6 shore-based processors operating over this time span. Based on a count of intent to operate codes, a total of 28 unique shore-based processing entities operated in Kodiak during this period.[59]

The annual first wholesale gross revenues for these processors ranged from $134 million (in 2003) to $197 million (in 2011), with an annual average of $161 million in first wholesale gross revenues over this period. In 2014, the most recent year for which data are available, Kodiak's 10 active shore-based processors had $144 million in first wholesale gross revenues.

Kodiak has historically been, and remains, the center of seafood processing for the CGOA region. As of 2016, six relatively large, multi-species shore-based processors in Kodiak were accepting substantial volumes of GOA trawl-caught deliveries on a regular basis. These include:

[57] Available at https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/GOAtrawlSIA.pdf.

[58] As noted in the processing sector discussion in Section 3.2.1.4, the Trident Seafoods Kodiak operations profile has benefitted from a limited update based on information provided by the firm in January 2020.

[59] The number of intent to operate codes may or may not closely correspond with physical processing plants in any given community, for several reasons. For example, a processing entity may use the physical plant of another processing entity to have its product custom processed or, as another example, one processing entity may purchase another in whole or in part and continue to retain two distinct intent to operate codes based on the retention/creation of different units within the corporate organization of the successor entity. In other cases, it is not apparent why what looks to be the same entity would have more than one intent to operate code. In the case of Kodiak, it would appear that there is more double counting of processing entities than is the case for the other communities described in this document, with the most extreme example being one of the companies that has a physical plant in the community appears in the data under five different intent to operate codes. This potential analytic challenge is addressed through the description of the processing operations that both have physical plants in the community accepted GOA trawl-caught deliveries during the period 2003-2014.

- Alaska Pacific Seafoods
- Global Seafoods
- International Seafoods of Alaska
- Ocean Beauty Seafoods
- Pacific Seafoods
- Trident Seafoods

The operations of each of these plants are characterized below. These plants were profiled in 2010 for other NPFMC social impact assessment analyses, and some were profiled for earlier analyses as well. Where relevant, summary information from these earlier descriptions is incorporated into the current characterizations to show trends of change that have occurred over the intervening years. Other changes that have occurred in the Kodiak processing sector over the last several years include consolidation of processing into fewer plants, with the purchase of the local Alaska Fresh Seafoods and Western Alaska Fisheries plants by another locally operating processor, as described below. Western Alaska Fisheries was a large, multi-species plant within which GOA trawl-caught fish were an important part of the annual round of operations; in contrast, the processing of GOA trawl-caught deliveries was not a central focus of operations at Alaska Fresh Seafoods, although the plant did accept at least some GOA trawl-caught deliveries most years 2003-2014.

Additionally, two smaller Kodiak shore-based processors, Kodiak Island WildSource and Alaska Seafood Systems, are shown in the database as having accepted as least some GOA trawl-caught deliveries 2003-2014; these entities are briefly described in the "Other Kodiak Processors" discussion at the end of this section.[60] Further, at the time of preliminary fieldwork for this analysis (June 2016), a processing firm operating in multiple other locations in Alaska was pursuing the acquisition of a range of local assets that would potentially allow it to become a new entrant to the local processing sector as also noted in the "Other Kodiak Processors" discussion at the end of this section.

Alaska Pacific Seafoods

Alaska Pacific Seafoods, a division of North Pacific Seafoods, was the first American plant to produce surimi. The surimi operation was started through a National Oceanic and Atmospheric Administration grant in 1985 and made surimi every year until 2003, before discontinuing surimi production due to market forces. Processing has become diversified over the years, and now (2016) includes salmon; groundfish, including pollock, cod, and flatfish; rockfish; halibut; black cod; herring; and crab, including both Bering Sea/Aleutian Islands (BSAI) crab and local Tanner crab, although the latter has not been open on a continuous basis recent years.

According to local plant management in 2010, Alaska Pacific Seafoods used to have a nonstop workflow with very few peaks and valleys but maintaining this pattern had become more difficult since the late 1990s. While Alaska Pacific Seafoods used to commonly bring in employees from outside the community in the 1980s and early 1990s, when four cannery lines were in operation, the plant subsequently discontinued canning in favor of exclusively producing fresh and frozen product. Concurrent with the change in product form focus, in 2010 the plant reportedly had not used bunkhouses since the late 1990s, having moved to a workforce exclusively, or nearly exclusively, consisting of Kodiak residents. Use of local residents brought with it greater flexibility with respect to processing labor capacity/access and, as a result, Alaska Pacific Seafoods was processing more niche species, which enabled the plant to maintain a constant crew, better support the delivering fleet, and better control overhead.

[60] While not showing up in the 2003-2014 dataset used for this analysis, during presentation of this Preliminary SIA to the NPFMC, a Council member from Kodiak suggested that another small/specialty shore-based processing entity in Kodiak, Pickled Willy's, has directly or indirectly obtained GOA trawl-caught fish for their operation in recent years. Given that further work on this action has been postponed indefinitely, follow-up on this new information has not yet taken place.

In terms of an annual round, production as of 2010 closely followed the pattern described in the several earlier plant characterizations. January through March was characterized as a busy period as cod, pollock, sole, and some crab were processed. April saw sole and herring processing but was somewhat less busy, and May was a slow month. June picked up with rockfish, but the pattern had changed in then-recent years with the rockfish rationalization pilot program (implemented in May 2007), and July through August were peak activity months, due primarily to salmon being run in combination with rockfish and pollock. September and October featured mostly cod and pollock processing, and some crab processing has occurred toward the end of the year.

The current (2016) annual round at the plant is largely similar, although Tanner crab processing is not presently occurring due to fishery closures and, with the adoption of the CGOA Rockfish Program in 2010 to replace the expiring pilot program (with fishing under the new program beginning in 2012), May and June are now busy months with the rockfish/Pacific Ocean perch processing. Additionally, cod and sole processing in November and December has brought more activity to that time of the year. BSAI crab that has been run at the plant in recent years has largely been a combination of crab for which the plant has its own processor quota shares under the BSAI crab rationalization program and the use of processor quota shares controlled by the Kodiak Fisheries Development Association that have been obtained some years through an annual bid process, along with some "B" shares that are not linked to a specific processor.

In 2010, Alaska Pacific Seafoods was characterized as maintaining a core labor force of approximately 110 Kodiak residents. This stability reportedly benefitted the employees as well as the plant, as with steady employment came increased benefits, such as insurance. During the busy seasons, the crew increased to between 190 and 200 people, and the plant ran two shifts per day during the peak times. During slow periods, the number of crew on-site varied, depending on availability and volume of niche species, such as sole and herring. The trough of plant employment typically occurred in November and December when the plant maintained a small crew of six to eight people at 40 hours a week, as well as others to perform maintenance and cleanup for a few days per week, but this was somewhat variable with changes brought about by BSAI crab rationalization. At that time, Alaska Pacific Seafoods did not typically supply processing employee housing, but it did maintain a small bunkhouse that was often used as a transitional housing source for those new to the community or for peak housing demand, such as immediately after the completion of the Bristol Bay salmon season when 20 or 25 workers transitioned to Kodiak from other Alaska Pacific Seafoods facilities.

At present (2016), employment is characterized as holding steady throughout the year at approximately 240-250 employees from the Kodiak resident labor pool, roughly half of whom have been employed at the plant for 10 or more years, but with some fluctuation in hours worked seen during peak seasons. The plant typically runs two shifts per day throughout the year, with each 12-hour shift including about 10.5 hours of actual processing for most employees, once breaks and clean-up time is considered; foremen, key supervisors, quality assurance, and maintenance staff often will work somewhat longer shifts to have overlap between the shifts for continuity and efficiency of information transfer. The overall on-site workforce does diminish in late November and during December, as many employees will take annual leave during this time, typically to be with family elsewhere during the holiday period. During this time, annual maintenance and larger renovation projects typically occur, but this activity is segregated from the processing that continues to occur at the plant even during this relatively slow period.

While Alaska Pacific Seafoods still employs a Kodiak resident workforce at present, it does make a limited amount of company-owned housing available to employees in response to an ongoing shortage of affordable housing in the community. In addition to bunkhouse-type quarters at the plant itself, Alaska Pacific Seafoods relatively recently acquired an apartment-style bunkhouse a short distance away from the plant, neither of which are used on a regular basis for temporary/transient worker housing. For occasional temporary spikes in labor demand that may exceed trained local labor pool supply, Alaska Pacific Seafoods can share employees between seven different North Pacific Seafoods plants within

Alaska, bringing workers to Kodiak (or sending workers from Kodiak to other facilities in the state) without needing to make new hires or invest relatively large amounts of time in training. The need to bring workers to Kodiak under these conditions, however, is characterized as minor.

In 2010, the plant was characterized as taking deliveries from approximately 160 vessels during a typical year, but there were about 20 "core" versatile vessels that delivered salmon and participated in a range of other fisheries. According to plant management, there were another 20 or so multispecies vessels that are mid-range and relatively steady in their delivery volumes, with the balance of the delivering vessels supplying a smaller volume of landings to the plant. With regard to groundfish, at that time Alaska Pacific Seafoods maintained steady delivery relationships with six trawl catcher vessels and eight fixed gear pot and longline vessels. All but two of these had individual fishing quotas (IFQs) for halibut and black cod.

As of 2016, management characterized the fleet delivering to the plant as relatively stable, and similar to what was described in 2010. At present, the plant takes deliveries from approximately160-180 vessels annually, with about 20-25 of those being characterized as a core of multi-species, combination vessels. With respect to trawl catcher vessels specifically, five or six vessels make deliveries to the plant on a regular basis. Given its diversity of species processed, the Alaska Pacific Seafoods Kodiak facility is by nature not a single-gear type of facility, and every pound of fish is characterized as important to some component of the annual cycle of the plant; the balance between species in terms of relative economic importance to the plant varies somewhat from year to year based on fluctuations in the different fisheries and their respective markets. While earlier plant profiles had described the fresh halibut market as shifting toward Homer, in more recent years Kodiak and Homer have both contended for top halibut port in state, and fresh halibut (as well as salmon and cod) is regularly shipped from Kodiak to market by several different means, including via air freight from the local airport and via ferry on the Alaska Marine Highway system, among others.

Global Seafoods

Global Seafoods opened its doors in 1999 and operated for two years as a groundfish processing plant. Not financially solvent, Global was then shut down for two years and reopened in January 2003. Upon reopening, the plant diversified into other fisheries beyond groundfish, with plant management reporting a tripling of production between 2003 and 2004 through a combination of salmon and groundfish processing and marketing relatively underdeveloped species such as skate and arrowtooth flounder. In 2010, the Global management characterized the Kodiak facility as primarily a groundfish/flatfish plant, but with an additional strong emphasis on salmon; the plant did not run halibut or crab. There was also a continuing marketing effort for different groundfish products, such as livers, stomachs, and codheads, as well as several species that came into the plant as bycatch, such as grenadiers.

At present (2016), Global management reports that while the primary focus of the plant has remained on groundfish, and on marketing a range of groundfish products as in the past (although not livers recently), the role of salmon at the plant has varied in recent years. After several years during which salmon processing was limited to relatively low volumes of custom processing, Global returned to processing higher volumes of salmon in 2015 and plans to have a strong seasonal focus on salmon again in 2016. With several operational changes, the plant has gone from operating five months per year in recent years to operating eight months per year at present (2016), with a goal of operating 10 months per year in the future.

The fleet delivering to Global Seafoods in 2010 was reported to be similar to the delivering fleet described in 2004, which included three trawlers, 25 to 40 longline vessels, 10 to 15 jiggers/salmon seiners, and two pot boats. A particular niche of the delivering fleet that Global noted as having developed was among Russian-speaking longline captains and owners, as the owner and local manager of Global was also fluent in Russian.

In more recent years, some components of the fleet delivering to Global have changed substantially. While currently (2016) three trawlers and two pot cod boats still deliver to the plant, as did four salmon seiners in 2015 (and it is planned that at least that many will deliver to the plant in 2016), the plant no longer includes longline or jig vessels in its delivery fleet. According to plant management, deliveries from longline vessels were discontinued after a strike year followed by a year of particularly poor longline fishing conditions; deliveries from jig vessels were discontinued around 2011/2012 with a shift in focus at the plant toward fish tendered from pot vessels.

In terms of an annual cycle as reported in 2010, January through April was a peak period for groundfish (about a month longer than reported in 2004), while the plant was typically closed to deliveries for most of May and into June. Around June 15, cod deliveries would resume, starting a busy period that reached a peak during July and August when salmon fisheries were in full swing, along with pollock and flatfish. During that time of year, production of other species would vary by the volume of salmon being processed, with Global characterized by management as small and agile enough to start and stop lines relatively efficiently for even small amounts of product as immediate needs dictate throughout the year. September and October were again busy months for groundfish, with things slowing to a stop during part of November and all of December. A then-relatively recent change that had occurred in the annual cycle was brought about by the Gulf of Alaska rockfish rationalization pilot program. Global did not qualify for participation in this program, although reportedly rockfish and particularly a couple of rockfish fishery bycatch species, Pacific Ocean perch and black cod, were considered relatively important to the plant.

The current (2016) annual cycle for the plant is similar to that described in 2010. In January, the plant typically focuses on pot cod before shifting to trawl cod and pollock in February. Cod and pollock continue to dominate into March, with pollock extending into April. May brings a focus on other groundfish, including rockfish and flats, with a particular emphasis on arrowtooth, including shallow- and deep-water complexes, in addition to cod and pollock. Toward the end of May, the plant will shut down for a couple of weeks for clean-up, before a shift to focus on salmon from June through August. In a variation from earlier described annual rounds, no flatfish are run in July and August during the peak of salmon production. Following salmon production, the plant will shut down for another two-week clean-up period before shifting to cod, pollock, and flatfish during the months of September and October and into the first week or two of November. The plant will then shut down for an extended period for clean-up and annual maintenance, with re-opening for production occurring either in late December or early January, depending on fishing conditions.

In 2010, Global Seafoods management reported employing about 120 people during peak seasons (down from the approximately 150 and 200 reported for peaks in 2008 and 2004, respectively), working two 12-hour shifts. Hires were typically drawn from the local labor pool, with individuals in the core crew reportedly either working at Global or, when seasonal layoffs occur, drawing unemployment benefits but remaining in the community. Approximately 20 to 40 extra workers from outside the community were, at that time, typically added during the summer salmon seasons, with these jobs being filled in then-recent years by foreign students (primarily from Turkey and the Ukraine). At that time, Global had for several years been using a formal agreement with an agency to facilitate those hires, while in other years formal agreements were not utilized. In the years without formal agreements, a number of former student workers returned on their own, however, so this overseas labor pool had continued to be a source of seasonal help. Local management reports that if salmon got "particularly crazy" they would place job service postings, but typically did not need to do so, as individuals leaving other processors were sometimes available (and preferred not to do so if recruiting proved necessary, as the overseas student hires had reportedly typically proven to work out better than job service referrals). Global did not provide worker housing but would help outside hires find local housing. During off-seasons, employment at the plant dropped to 12 to 15 individuals, with a minimum of 6 to 8 maintenance workers and helpers present when production at the plant was completely stopped.

More recently, the level of employment at the Global Seafoods plant during peak seasons has declined, while the use of the local labor pool has increased. Global management reports that at present (2016), the plant employs about 35-40 employees per shift for eight months out of the year. The while quality control personnel and foremen typically work 13-hour shifts to facility information transfer with overlapping half-hours at the beginning and end of shifts, other production employees work 12-hour shifts, which include 10 hours of processing, one hour of breaks, and one hour of clean-up. During periods when the plant is closed, employment composition and levels remain the same as described for 2010. Global management reports that as of 2016, all employees are drawn from the local labor pool, with no outside workers brought in for peak seasons, nor have they been for "the last couple of years." Reportedly, this shift to exclusively local employment has helped with plant efficiency, by reducing the need to train new workers, and has produced a better work environment with longer-term employees feeling a greater personal investment in the community in general and the plant and their jobs in particular.

International Seafoods of Alaska, Inc.

International Seafoods of Alaska, Inc. (ISA) (formerly known as True World – International Seafoods) local plant management reports that although there have been several fluctuations in the meantime, their mix of processing species and products and levels of employment are currently (2016) generally similar to what was reported in 2010 (which, in turn, largely mirrored conditions reported in 2004 and 2008), with a number of exceptions as noted below.

According to plant management at the time, in 2010 during its busy period of January through March, the local ISA workforce was composed of approximately 200 people, while in the busy period of June through July, the total workforce could be somewhat larger. This contrasts with the 150 workers reported for both winter and summer peaks in 2008 but, according to plant management, changes in specific product demand can influence employment numbers in any season. For example, in a then-recent year the plant produced pink salmon fillets, adding between 60 and 80 staff over the course of that production period. In the interim slow seasons, around 40 to 50 employees worked at the plant, but labor demand was noted as being difficult to predict on a day-to-day basis as sometimes 16-hour days were followed by several days off between deliveries. During the quietest periods, when production was not occurring at the plant, approximately two dozen maintenance and dock workers were on-site. In general, ISA in 2010 had a smaller workforce than was utilized before the plant was shut down for about 6 months in 2002, during which time it changed hands and operations were reorganized. ISA utilized a local workforce in 2010, although they did maintain group quarters in the form a single bunkhouse, left over from several years ago when peak employment demands at the plant were higher, which they rented to workers.

Currently (2016), the patterns of busy and slow periods, and accompanying fluctuation in labor demand, are generally similar what was described for 2010, with some marked variations. At present, the plant experiences a peak of activity from January through March and into early April with trawl and pot/fixed gear cod fisheries and pollock activity that typically runs through mid-March, but that can also extend into early April, depending on fishing conditions. While trawling is still occurring in deep water, and jigging can extend into May, the plant typically experiences a lull during much of April. With the adoption of the CGOA Rockfish Program in 2010 to replace the expiring pilot program (with fishing under the new program beginning in 2012), May has become a busier month due to rockfish processing, which can also extend into June. From the beginning of June through approximately August 25, the plant exclusively focuses on salmon production, with the exception of rockfish and flatfish trawl deliveries as they can be fit in around salmon operations; a number of the vessels that deliver trawl-caught species to the plant during other times of the year typically switch over to salmon tendering for the plant during this period. Starting in the first week of September and running through early November, the focus of processing operations turns toward cod and pollock. From mid-November through the end of the year annual maintenance and plant improvement projects are undertaken, but processing continues to occur if at lower levels of activity, unless the projects involve the plant's freezing capability, which will cause processing to be suspended entirely. Processing levels are variable during this part of the year, based in

part on how much trawl cod rolls over to provide additional opportunities for late-year pot/longline activity, which can extend well into December.

In terms of present (2016) annual workforce fluctuations, during the busy periods of January through May, July through August, and September through mid-November, the plant typically utilizes approximately 150 people on a 12-hour day shift and approximately 110-120 on a 12-hour night shift. Beginning in mid-July, approximately 50 additional personnel are added for the balance of the peak salmon season. Processing personnel are typically hired from the Kodiak residential labor pool, although ISA does maintain bunkhouse capacity that can accommodate off-Island workers. This includes the Eagle Lodge bunkhouse at ISA Plant 1, which can house 35 to 37 people, and a Larch Street four-plex that can house 19 to 22 people. This picture will likely change at least somewhat in the foreseeable future as ISA Plant 1 parcel, which has not been the site of production activities in recent years, and includes the Eagle Lodge bunkhouse, is currently (2016) part of a group of ISA-owned assets that are pending potential sale to another processing firm (Silver Bay Seafoods); these assets also include the ISA-owned Russian Heritage Inn in downtown Kodiak.

In 2010, ISA was characterized as producing a variety of products. From pollock, the plant produced fillet, head and gut, and fish in the round. Regarding salmon, ISA produced head and gut, fillets, and salmon rolls; for cod, products included fillet, head and gut, and round. As of 2010 the plant was not running any crab, nor had they done so since the early 1990s. Further, ISA was not canning any products in Kodiak, although the plant was originally designed to can approximately 50 percent of its output. Plant management reported in 2010 that the product mix had changed in then-recent years due to market demands, including a greater demand for head and gut going mostly to China, while the overall demand for surimi had diminished as surimi production competition had increased supply. Fresh halibut had been produced in several then-recent years, but at the time was not a steady product for the plant.

At present (2016) the range of production has been characterized by plant management as being similar to that described in 2010, except salmon products are now fresh and frozen headed and gutted fish as well as fillets; surimi is no longer being produced at the plant; and in 2016 the plant was refocusing on halibut as a regular component of processing operations after several years of not doing so. Further, rockfish and black cod are also now important species for the plant.

In 2008, the fleet associated with the plant was described as consisting of 30 to 40 vessels, including a number of smaller jig and pot boats, four or five trawlers, and 15 to 20 longliners. Typically, around 15 salmon boats delivered to the plant. As described by plant management in 2010, the fleet had subsequently increased slightly due to favorable market conditions, but it was somewhat fluid based on economic demand. According to management interviews at the time, the plant had the capacity to accommodate a larger fleet when and if it made sense to do so. In 2010 some vessels that otherwise delivered to ISA also harvested Dungeness and local Tanner crab, which the ISA plant did not take; for those vessels ISA had secured a market at the adjacent Western Alaska plant for crab deliveries. Reportedly, at least some of those vessels felt that it was important to keep fishing for local Tanner although it may not have made immediate economic sense to do so, because they were more interested in building catch history in anticipation of a potential rationalization of that fishery than they were in immediate financial returns.

At present (2016), the regular ISA delivery fleet has consistently included four trawl catcher vessels in recent years (although one of the four is relatively new to ISA, having replaced another vessel that left the ISA delivery fleet). Approximately eight pot boats typically deliver to the plant, with this number being more variable by year based on price consideration than is the case for the trawlers that deliver to the plant. The plant typically takes deliveries from approximately 26 salmon vessels, mostly seiners, about half of which also jig for cod that is also delivered to the plant. The plant also takes normally takes deliveries from 10 to 12 longliners in the Russian fleet, which has had on ongoing informal affiliation with the plant for many years, dating back to when ISA provided seed money to that fleet in its early days

of fishing. According to ISA management, few transient vessels deliver to the plant, aside from a few vessels that may deliver an occasional load of halibut or black cod.

Ocean Beauty Seafoods

Ocean Beauty Seafoods is a major producer of fresh, frozen, and canned salmon and participates in a range of other fisheries as well, including cod, pollock, flatfish, rockfish, Pacific ocean perch, halibut, and herring, along with Dungeness and local Tanner crab, although the latter has not been open on a consistent basis in recent years. Ocean Beauty management reports that the plant essentially runs all available commercial species. Production is year-round, except for a down period from mid-November through the end of the year. While in years past, plant management characterized about half of their business as related to salmon processing while groundfish made up almost all the remaining other half, there is considerable year-to-year variation, but most commonly neither salmon nor groundfish is below 40 nor above 60 percent of the business in any given year. With regard to groundfish, cod is the most economically important to the plant, with pollock, rockfish, and flatfish following. The importance of halibut has increased in recent years, while Dungeness has tended to decrease in relative importance in recent years.

According to plant management at the time, in 2010 Ocean Beauty was one of the few shoreplants that still engaged in canning operations. It canned pink salmon, while all other species were sold frozen or fresh. Its busy seasons were January through March, when pollock and cod were processed; June through August during the salmon runs; and then again during the fall pollock and cod seasons in September and October. On-site employment peaked at around 225 during the January–March and June–August busy seasons, when employees could average 60- to 70-hour workweeks. Ocean Beauty's workers were drawn from the local residential workforce, except for a few machinists who were brought in for the summer busy season, but who were otherwise employed in the company's Pacific Northwest operations, and temporary processing hires that augmented the regular workforce during the highest peaks. The plant maintained about 20 to 25 people working 40-hour workweeks when processing was not occurring.

The current (2016) annual round at the plant is characterized by Ocean Beauty management as largely similar, with several exceptions. The busy season early in the year now extends into the first week of May with the processing of cod and flatfish; May sees some increased activity with rockfish/Pacific ocean perch processing; and the salmon processing busy period now often extends into the first or second week of September. Further, in 2016, pollock processing was down due to poor fishing conditions.

Employment levels also vary from those described for 2010. At present (2016), about 450 workers are on site from January through March before dropping to around 250 during from April through June, with people tending to take vacation in May, when plant employment can temporarily dip into the 125-150 range. With salmon processing, employment again ramps up to about 450 from the first week in July through the third week in August, before returning to the 250-300 persons range in September, October, and through the first half of November. From approximately November 15 through the end of the year, the plant is down to its skeleton crew of less than 100 when annual maintenance and various non-production projects are undertaken. A 24-hour per day operation, the plant runs two 12-hour shifts per day throughout the year except during summer salmon peaks when 16-18-hour shifts are not uncommon. All production workers at the plant are Kodiak residents, except for up to 40 workers who are lodged in the company bunkhouse facility near the plant. This facility is used exclusively for workers who are not residents of the community or are new workers who, having just moved to the community, and are in the process of transitioning to other housing.

In 2010, Ocean Beauty management characterized the plant as maintaining an ongoing and relatively steady relationship with the same delivering fleet every year, with the 2010 fleet reported to be very similar to the ones characterized in 2004 and again in 2008, although Ocean Beauty neither owned any vessels nor had formal contracts with delivering vessels. For groundfish, the 2010 fleet included four trawlers, 25 fixed gear vessels, a small number of pot gear vessels, and occasional deliveries from

transient vessels. For salmon, approximately 55 seine vessels and 30 set gillnet site fishermen delivered to the plant at that time. Ocean Beauty also operated a seasonal plant at Alitak, near the village of Akhiok at the southern end of Kodiak Island. Open from April 15 until sometime in the latter half of September, this plant processed salmon delivered from 25 seiners and 30 set gillnet sites, along with halibut, black cod, and herring. It also typically received some incidental deliveries of state water cod when readying for the salmon season.

At present (2016), Ocean Beauty management characterizes the non-salmon delivery fleet as typically consisting of six trawl catcher vessels, 14 pot vessels, three cod longliners, and between 10 and 32 halibut and black cod longliners, while salmon is provided to the Kodiak plant from approximately 70 seine vessels and between 19 and 25 set-net sites. The Alitak plant obtains salmon from 16 seiners it manages (which also deliver to the Kodiak plant; these 16 are a subset of the 70 seiners that deliver to that plant) as well as 30 set-net sites (which do not overlap with the set-net sites that provide salmon to the Kodiak plant). The Alitak plant does not process herring at present, but it does process Pacific cod; otherwise, the 2010 description of activities at that facility is still accurate for current activities.

As noted in the 2010 characterization of the plant, because Ocean Beauty's Kodiak shoreplant is geared for canning and freezing salmon, as well as processing groundfish and other niche species, it allows plant management the flexibility to "try and buy as much as we can, of anything we can, as long as it makes economic sense" to keep the facility running efficiently, which continues to be the case. This variability and diversity are typical of the mid-size plants, and some larger plants, on Kodiak. According to plant management in earlier years, whereas in the late 1970s, each plant seemed to have a special niche, because the profit margin is smaller now than in the past, there is a greater need to run a variety of fish to cover overhead. Plant personnel in 2010 reported that two changes had occurred in the then-recent past: through diversification, running both salmon and groundfish, Ocean Beauty was better able to spread the risk and lessen the potential of losing a particular market; and the demand for value-added processing, including fillet and portioning as well as then-relatively new products such as freezer pouches and pop-tops, had grown exponentially. At present (2016), additional Ocean Beauty specialty products include vacuum packed sockeye and halibut, pink salmon block products for specialty markets, cod portions specialty products. The Ocean Beauty plant is now the only plant in the City of Kodiak that cans salmon, and is only one of three such plants on Kodiak Island, with the other two being Ocean Beauty's Alitak plant and an Icicle Seafoods plant in Larsen Bay.

Pacific Seafoods

The plant now operating as Pacific Seafoods, initially known as Island Seafoods, has been in Kodiak since 1995. It did not, however, operate in 1998, changed ownership in 1999, and was acquired by its current owner, Pacific Seafood Group, in 2003. While Pacific Seafoods is the smallest commercial fisheries processor in Kodiak, according to plant management, Pacific Seafood Group is a vertically integrated firm that owns processing and distribution facilities, is one of North America's largest seafood companies, and continues to grow locally as well. Pacific Seafoods commercially processes Pacific cod, skates, and rockfish; halibut; black cod; Pacific ocean perch, and salmon.

According to plant management in 2010, the delivery fleet had changed in the previous few years. An overall strategy, particularly in the first few years following the ownership change, was to work primarily with vessels that are not serviced by the larger Kodiak processors, including a relatively large number of small-volume, entry-level jig vessels. The number of these small vessels delivering to the plant had, however, subsequently declined sharply, to perhaps a quarter in 2008 of what was seen in 2004. The plant also took deliveries from longliners and pot boats as well as a couple of trawlers at that time, and there had been an increase in the deliveries from larger vessels at the plant in the then-most recent years. In an interview for a 2008 operation profile, plant management reported that overall tonnage through the plant has increased by perhaps 40 percent in the period 2004–2008. In 2010, plant management reported that tonnage had continued to grow each year since that period. Part of the strategy in this fleet mix was to be

well-positioned as a sustainable fishery participant in anticipation of future fishery management changes. In 2010, Pacific Seafoods was obtaining its salmon from multiple set-net site owners, which had markedly increased in number in the preceding years, and from two salmon vessels (an increase of one over what was reported in 2008).

At present (2016), the fleet delivering to Pacific Seafoods includes one trawl catcher vessel and five pot vessels that deliver on a regular basis, with trawl-caught deliveries limited to Pacific ocean perch/rockfish only, along with another approximately 20 jig vessels and 20 longline vessels. The plant obtains its salmon from deliveries by eight seine vessels as well as from eight set-net sites.

In addition to being of a smaller scale, Pacific Seafoods plant differentiates itself from other local processing businesses by being diversified into other business activities through its Island Seafoods subdivision, which includes retail sales and catering to the sport charter fishing industry by processing and shipping sport-caught fish for the visitor trade. The Island Seafoods component of Pacific Seafoods also prepares corporate gift packs and sells its products via a website. Related ventures include operating as a Federal Express facility. These various ventures, while initially a core part of the business have more recently been characterized by plant management primarily as "add-on sales." In terms of the relative dependency on different business components, Pacific Seafoods management in 2010 estimated that less than 10 percent of its local total gross sales came from the Island Seafoods sportfishing-related and retail side of the business, while over 90 percent remained in commercial seafood production. This relative dependency split was confirmed by plant management as being unchanged as of 2016.

Like other processors, Pacific Seafoods has a distinct annual cycle, but with different historical roots. The company (then Island Seafoods) began processing sportfishing products only, and, as time went on, it filled in the remaining portions of the year with commercial production, until that became the dominant aspect of the plant production. According to plant management at the time, in 2010 the plant maintained a core workforce of 60 full-time employees (an increase of 15 employees over the level reported in 2008, which itself was over twice the number reported in 2004) from January through November, with the workforce increasing to about 90 employees during peak salmon season from July through mid-September (about a one-third increase over the peak number reported in 2008, which itself was about a one-third increase over the 2004 reported number). As is the case with other plants, December was a dead period with only a skeleton crew performing maintenance and cleanup tasks. Pacific Seafoods segregates its Island Seafoods sportfish processing operation from its regular Pacific Seafoods commercial operation not only in terms of physical processing but also in terms of its workforce; in 2010, eight of nine of the summer peak season employees work solely with sportfish processing.

At present (2016), Pacific cod is run at the plant primarily from January through April, along with accompanying skates and rockfish, while halibut and black cod are commonly run from March through November. Trawl-caught Pacific ocean perch are typically run in May only, while salmon is run from June through August and into September. The slowest period at the plant occurs in December and January, with the plant typically shutting down for two weeks during this period. Fresh and frozen products are produced at the plant, and include headed and gutted, round, fillet, and block product forms.

Also at present (2016), Pacific Seafoods employs a base crew of 40-50 individuals year-round, with the plant running two 12-hour shifts per day, starting at 7:00 a.m. and 7:00 p.m., although the plant closed down night crew work for approximately one month in April 2016 due to poor fishing conditions that resulted in less input than normal being delivered to the plant. In the summer, approximately 200 people are typically employed at the plant from June 1 through September 1 for the peak processing demand created by salmon production. These workers are drawn from the local (Kodiak) labor pool with few exceptions; in 2016 it is estimated that about 15 people will be flown into Kodiak from outside to top off the plant's summer workforce. In part, the use of outside workers is limited by a lack of affordable housing in the community, temporary or otherwise. Pacific Seafoods does maintain company housing that accommodates up to 20 Kodiak non-residents among three separate facilities (housing 10, six, and four

people, respectively). The company does not maintain housing for its Kodiak resident workers. The Island Seafoods subdivision of the plant, which includes sportfish processing and retail sales, employs two persons year-round. During the summer sportfishing peak, Island Seafoods adds another three or four seasonal employees, with the summer crew rounded out with another two or three employees temporarily transferred/loaned to Island Seafoods from the Pacific Seafoods commercial processing side of the house.

Trident Seafoods

In 2010, Trident Seafoods was characterized as processing a range of groundfish species, including pollock, Pacific cod, and flatfish, as well as rockfish, halibut, and salmon at its Kodiak facility, with salmon, at that time, being a new addition to the plant's processing portfolio. Trident had purchased salmon from other processing facilities in Kodiak in 2007, 2008, and 2009 at times when those other plants exceeded their efficient functional capacity, but 2010 was the first year the plant began purchasing its own salmon. In another change from operations in earlier times described in the 2010 profile, Trident installed a crab line in the mid-2000s and was running Dungeness crab in the summer and local Tanner crab in the winter.

Trident was described in 2010 as seeking to differentiate itself through the production of top-grade surimi and value-added products through their own packaging. Most their products were frozen, such as H&G, fillets (frozen, shatter pack, block), and surimi, although fresh fillets were also produced. Trident's peak periods were reported to have changed in then-recent years, and overall processing was characterized as steadier throughout the year than in the past. This leveling of processing effort seen by 2010 was reportedly facilitated to a substantial degree by the rockfish pilot rationalization program that began in May 2007 and shifted rockfish from a summer peak fishery to primarily a May through June fishery. Busier periods, if not as dramatic as in the past, were still seen around pollock and Pacific cod openings. The plant also processed halibut and black cod, but these were characterized as not representing peak fisheries.

At present (2019[61]), the processing focus of the plant has remained largely consistent with that described for 2010, with a notable exception being the growing importance of salmon in the plant's processing portfolio, having now become a core element of operations at the plant. Peaks in activity still occur around pollock and cod season openers, as well as during summer salmon seasons. With the adoption of the CGOA Rockfish Program in 2010 to replace the expiring pilot program (and fishing under the new program beginning in 2012), May and June have remained busy months for rockfish processing. The plant also processes GOA Tanner and Dungeness crab, as well as relatively modest amounts of BSAI red king crab, having obtained BSAI crab rationalization program processor quota shares formerly owned by Alaska Fresh Seafoods and, in some years, obtaining the use of processor quota shares controlled by the Kodiak Fisheries Development Association on an annual bid process basis.

The largest changes in local Trident Seafoods operations, however, include the construction of the new Kodiak Near Island (KNI) plant that became operational in the summer of 2015, and the acquisition of the former Alaska Fresh Seafoods and Western Alaska Fisheries plants in 2014 and 2015, respectively. Trident operated the former Alaska Fresh Seafoods physical plant for about a year after its acquisition before razing the structure, which was adjacent to existing Trident facilities, to allow the construction of the KNI plant. Around that same time, both the Alaska Fresh Seafoods and Western Alaska Fisheries operations (and their respective processing portfolios) and their respective personnel were folded into Trident operations in general and into the new KNI plant when it started production in the summer of 2015. In the last few years Alaska Fresh Seafoods was operating as an independent processor, operations were largely focused on custom processing product for a single key client; Trident has continued this custom processing with largely the same workforce as at the former Alaska Fresh Seafoods facility.

[61] As noted earlier, the Trident Seafoods Kodiak operations profile has benefitted from a limited update based on information provided by the firm in January 2020.

According to Trident staff, the delivering fleets of both the former Alaska Fresh Seafoods and Western Alaska Fisheries facilities have also been utilized and supported at the KNI plant.

The KNI plant was constructed in large part due to desired expansion of capacity in pollock processing and an increased focus on the salmon fishery, along with the desire to increase the energy efficiency of processing operations while meeting demand for frozen product. KNI plant operations are built primarily around production of pan frozen headed and gutted fish, with that production largely focused on cod, pollock, and salmon.

The former Western Alaska Fisheries plant underwent renovations that included upgrading the ammonia system and installing a new salmon processing line. While processing at the former Western Alaska Fisheries facility focuses exclusively on value added processing of salmon, it is also used for other, non-processing support activities as well, such as providing gear storage, bait, and ice to the catcher vessel fleet.

In 2010, local Trident management staff reported a relatively stable workforce throughout the year of about 250 individuals, of whom about 200 were Kodiak residents on-call and approximately 50 of whom were brought to the community on a 6-month contract basis. The latter group was recruited out of Trident offices in Seattle and lived in Trident bunkhouse facilities (which then had a capacity of 75 individuals) during their stay in Kodiak (while the Kodiak resident processing workers did not stay in company housing). The specific number of workers on-site on any given day was described as a function of how fish deliveries came into the plant. This is quite a different pattern than was described by plant management in 2004, when workers were shifted between Trident plants in Kodiak and elsewhere to balance workforce requirements across plants in different communities that had different peak demand cycles. In 2010, an additional 20 to 30 workers would at times be brought into Kodiak on a temporary basis during particularly busy times, but this was not a regular occurrence. During the peak periods, there were typically two 12-hour shifts run, although shifts could last up to 16 hours.

At present (2019), the Trident Kodiak resident workforce, as measured by the number of individuals appearing as current Kodiak resident employees in the Trident human resources system, is characterized as including roughly 250 employees total, of which about 115 are regular, full-time workers. Peak periods of employment at Trident's Kodiak processing facilities (and the species that drive peak employment demand) occur from February through April (primarily pollock), July and August (primarily salmon), and September and October (primarily pollock). During these peak periods, total employment reaches approximately 550 individuals.

At present, Trident can house approximately 300 persons at the plant between facilities on the Star of Kodiak, a bunkhouse structure on the dock, and the Kodiak Plaza/Kashevaroff Apartment complex. The apartment complex, which it acquired in 2014, contains 66 apartments and multiple office spaces. It also provides housing capacity and other personnel services, including a dining facility. Trident uses this housing to help provide affordable housing for key local workers as well as accommodations for temporary workers that are needed during times of peak production.

In 2010, the Trident Kodiak plant was characterized as having for quite a few years maintained a steady relationship with the same dozen pollock, cod, and rockfish vessels, some of which also participated in hake fishery in the Pacific Northwest. At present (2019), the fleet delivering to Trident Seafoods in Kodiak has been characterized by Trident management as consisting of a core group of about 70 trawl, seine, and fixed gear vessels that deliver to the plant on a steady basis.

Other Kodiak Processors

Kodiak Island WildSource, a part of Sun'aq Tribal Enterprises, is a relatively small processor currently (2016) operating out of a portion of the former East Point processing facility in Kodiak. Started as an independent mail order direct-to-consumer operation in 2005, WildSource was purchased by the Sun'aq Tribe in 2010 and, according to management, the business now consists of roughly 25 percent direct-to-

consumer sales and 75 percent wholesale direct sales to a variety of enterprises, including restaurants, microbreweries, and health food stores. While products include cod and rockfish, WildSource does not normally take GOA trawl-caught deliveries, instead typically taking deliveries of these species from jig boats. In general, however, salmon is the main focus of WildSource and, also in general, it caters to the local small boat fleet, offering custom processing and the ability to brand per the wishes of the small boat fishermen. At the time of preliminary fieldwork (June 2016), WildSource was in the process of relocating and expanding its operations, having obtained the Ursin property, a waterfront parcel close to several other processors and fishery support businesses, for the construction of new facilities to include icehouse as well as processing capacity. Currently (2016) operating year-round with approximately six employees, according to management the relocation was driven in part by a need to have better control of dock space (with the entirety of East Point facility being of too large a scale to suit the needs of WildSource) and the opportunity for expansion being facilitated to a degree by the exit of Alaska Fresh Seafoods from the local marketplace, as that processor also had a focus on serving the local small boat fleet (although WildSource does obtain fish from other local processors [which may include at least some GOA trawl-caught fish] as well as direct from small boat fishermen).

A second relatively small processor, Alaska Seafood Systems, is also currently (2016) operating out of a portion of the former East Point processing facility in Kodiak. Alaska Seafood Systems, reportedly largely focused on specialty processing for the Korean market, has accepted delivery of GOA trawl-caught fish the majority of the years it is shown being operational in the 2003-2014 dataset.

As noted in the detailed processor descriptions above, Silver Bay Seafoods, which has plants elsewhere in Alaska, may be a new entrant into the Kodiak shore-based processing sector as they are currently (2016) pursuing the purchase of a range of assets from a currently locally operating processor. At the time of preliminary fieldwork (June 2016), this sale was pending and Silver Bay's potential operational plans for a Kodiak facility are unknown.[62]

Seward Shore-Based Processor Profiles

From 2003 through 2014, the annual number of active Seward shore-based processors varied from three (in 2003 and 2008) to five (in 2004, 2005, 2011, 2012, and 2014), with an annual average of 4.3 shore-based processors operating over this time span. Based on a count of intent to operate codes, a total of 10 unique shore-based processing entities operated in Seward during this period.[63]

During the period 2003-2014, first wholesale gross revenues for Seward shore-based processors are confidential for two years: 2003 and 2008. For the remaining (non-confidential) years during this period (2004-2007 and 2009-2014), the annual first wholesale gross revenues for these processors ranged from

[62] At the December 2016 NPFMC meetings, a representative of Silver Bay Seafoods confirmed in public testimony that Silver Bay had made substantial investments in Kodiak following the June 2016 NPFMC meetings and is planning to process salmon and whitefish at a shore-based processing facility in the community. According to this same public testimony, this facility would represent Silver Bay's first foray into whitefish, having otherwise focused on salmon to date, and the inability of Silver Bay to form co-ops under Alternative 2 (based on a lack of a history of participation in the fishery) during a 2-year period would put Silver Bay (or any other potential new entrant) at an extreme competitive disadvantage.

[63] The number of intent to operate codes may or may not closely correspond with physical processing plants in any given community, for several reasons. For example, a processing entity may use the physical plant of another processing entity to have its product custom processed or, as another example, one processing entity may purchase another in whole or in part and continue to retain two distinct intent to operate codes based on the retention/creation of different units within the corporate organization of the successor entity. In other cases, it is not apparent why what looks to be the same entity would have more than one intent to operate code. In the case of Seward, it would appear that there is double counting of one entity during the period of 2003-2014, and there are several entities included in the community count that do not have physical plants in the community, but there are no such issues with the specific entities that accepted GOA trawl-caught deliveries during this period, each of which has a unique physical plant in the community.

$51 million (in 2014) to $100 million (in 2011), with an annual average of $70 million first wholesale gross revenues for the non-confidential years during this period. In 2014, the most recent year for which data are available, Seward had five active shore-based processors, with $51 million in first wholesale gross revenues.

Seward has historically been, and remains, a node of seafood processing for the Central GOA region, although not as well known for a focus on GOA groundfish engagement as is Kodiak. As of 2016, two relatively large, multi-species shore-based processors operating in Seward had accepted GOA trawl-caught deliveries in multiple recent years. These were:

- Icicle Seafoods
- Polar Seafoods

The operations of each of these plants are characterized below.

Icicle Seafoods

Portions of the facility currently (2016) operating as Icicle Seafoods predate the Good Friday earthquake of 1964. The contemporary plant represents the consolidation of several formerly free-standing structures and a series of expansions and operational reconfigurations that have occurred in more recent years. Icicle as a firm has also experienced ownership changes in recent years.

According to plant management, activities and employment levels at the Icicle's Seward facility vary substantially throughout the year, with the busiest period occurring during the summer salmon fisheries. Other peaks of activity occur with cod processing early in the year (January through April) followed by a focus on black cod (which is busiest in April and May) before salmon kicks in (starting in May). Halibut processing occurs throughout most of the year (March through November) and black cod is also processed throughout much of the year (March through November) before and after its primary peak. Sockeye and pink salmon, with peak activity occurring in June and July, and July and August, respectively, represent the highest volume species that go through the plant. According to plant management, there has also been a renewed focus on GOA groundfish in recent years. While gray cod was not processed at the facility for quite a few years following a period of activity in the late 1980s, since 2010 the plant has again been accepting cod deliveries from the longline fleet.

Processing employment ebbs and flows in response to the peaks and valleys of seasonal fishery processing activity at the plant. According the plant management, the following estimates of employees present on site represent a typical recent year at the Icicle plant in Seward:

Date	**Number of Employees**
January 20	45
February 10	80
May 15	120
June 15	200
July 4	400
August 25	150
September 10	80
October 15	60
November 15	15

There are approximately 15-20 year-round Icicle employees in Seward, including maintenance and supervisory staff who may be present on site when processing is not occurring at the plant. Icicle houses its seasonal employees in a variety of on-site housing options that include permanent indoor housing units that can accommodate 88 persons, including 50 persons in a bunkhouse facility; modular converted container-based units that can accommodate 144 persons; campers that can accommodate 30 persons; and a large number of tents on its approximately nine-acre site that can used during summer season to accommodate the balance of salmon season workers. Additionally, an estimated 30 permanent and seasonal hires live in standard housing in the community away from the processing site. Seasonal employees are recruited nationwide as well as locally.

Data used for this GOA trawl bycatch management analysis suggest that within the 2003-2014 period covered by the dataset, GOA trawl-caught deliveries were accepted and processed at the plant annually during 2010-2012, with deliveries accepted from three catcher vessels, two of which made deliveries in two years each, and one making deliveries in one of the years. Plant management reports that while most GOA trawl-caught deliveries have been made within pre-arranged agreements, more opportunistic deliveries have also occurred. Plant management also related that GOA trawl-caught groundfish processing occurred at the plant before 2003 (i.e., in years not recent enough to be covered by the dataset). The plant also participated in the GOA Rockfish Pilot Program, purchasing Pacific ocean perch in two or three years during that program but, according to plant management, it was only available in July, the busiest month for the plant, which made it difficult to work in due to capacity constraints. A combination of capacity limitations and regulatory changes have caused the plant to stop being engaged in Pacific ocean perch processing although, according to plant management, if it were available earlier (February through June) or later (September through October) times of the year, they would be exploring the opportunity to again become engaged in that fishery.

According to plant management, while the Icicle Seward shore-based processing facility is at present (2016) not configured with the right type of processing equipment and freezing capacity to efficiently process substantial volumes of GOA trawl-caught groundfish, Icicle as a firm has heavily invested in its participation in the pollock fishery and the ability to retain viable access to GOA trawl-caught groundfish is an important component or option of a long-term, diversified operational portfolio for its Seward plant. This access has also been noted as important for the community of Seward itself, with the city currently seeking to bolster its fisheries support infrastructure and grow the commercial fisheries sector of the local economy to better take advantage of a number of its relatively advantageous attributes, like a well-developed transportation center, meaning, for example, that it is easy to get vessel crews in and out of the community, as well as having immediate access to the Alaska highway system, with road connections to Anchorage (and the lower 48 beyond).

Polar Seafoods

The plant currently (2016) operating as Polar Seafoods has undergone several operational changes in recent years. Formerly operating as Cook Inlet Processors, the plant was leased by another entity on a for several years in the early 2000s, according to Polar management. Data used for this GOA trawl bycatch management analysis suggest that GOA trawl-caught deliveries were accepted and processed under the name of the leasee in at least two years during that period. At the end of the lease term, according to Polar management, the plant owner resumed direct operation of the facility, but under the Polar Seafoods name, as the former leasee retained the rights to the Cook Inlet name. Since resuming direct operation of the plant, Polar has added a tunnel freezer to the facility to better accommodate groundfish processing.

According to plant management, until quite recently, the first activity of the year at the Polar facility was typically processing gray cod delivered by a longline fleet that has more recently shifted its deliveries to Kodiak. At present (2016) the first pulse of activity at the plant is typically driven by the January 20th pollock opening, with pollock being the main focus of activity at the plant until the quota is reached or the involved catcher vessels move on. In recent years, the ending date for pollock processing at the plant has varied between the end of February and mid-March, with the processing season length being determined

by multiple factors. While pollock is still the major focus of activity at the plant during this time, and a reportedly a key component of the annual cycle of the plant, according to plant management pollock played an even bigger role in plant operations before the implementation of Steller sea lion protection measures in the early 2000s closed substantial areas that had previously been productive pollock grounds for the catcher vessels delivering to the plant. Trawl, longline, and pot-caught deliveries of cod also occur early in the year and are described by plant management as being variable year to year depending on what the catcher vessels and other processors in Seward are doing in any given year, but typically winds down in late March or early April. The data used for this analysis show a total of five catcher vessels making GOA trawl-caught groundfish deliveries to Polar Seafoods in the years covered in the baseline (2003-2014), with four of those vessels making deliveries in one year each, and the other vessel making deliveries in three of the most recent four years covered by the data. According to plant management, most GOA trawl-caught deliveries at the plant result from previously arranged agreements, but some more opportunistic deliveries also occur.

Approximately 60 processors are hired for the winter processing season, including an estimated 10 to 15 local residents, with hires from out of town housed in rooms rented by Polar at the Marina Motel, which has excess capacity during the tourism off-season. As Polar is located across the bay from the main part of Seward, where the Marina Motel is situated, shuttle service between the motel and the plant is provided by Polar. As the winter processing season winds down, Polar informally networks with other processors in town to try and place good processing workers at other local plants to help retain a core of processing labor in the community that can be accessed during the next peak demand period.

After winter pollock and cod processing concludes, the plant, now down to about a dozen workers on site, reconfigures for salmon processing. In recent years, toward the end of June pinks out of Valdez have been the first salmon through the plant, in contrast to earlier years when it was common for the season to begin with processing chums and reds in May. Approximately 45 processing workers, including an estimated 10 to 15 local residents, are hired for the summer processing season, which in recent years has most often concluded in the first part of September, but with year-to-year variability being common. During the summer, seasonal workers are housed in on-site seasonal/temporary accommodations. A galley providing food service on site is open during both the winter and summer seasons. During the peak seasons, a single, long shift is run per day, which can last 14-16 hours at times due to a combination of variables, with breaks that include meals or snacks occurring every three hours. Following the summer season, plant staffing returns to the five or six year-round core maintenance and management personnel level for the balance of the year.

While halibut and black cod have been run in the past at the plant, which filled at least in part the processing calendar in the fall, it is no longer common accept landings of these species at the plant, due to a combination of factors, including relatively volatile economic conditions in those fisheries, according to plant management. Plant management reports that other changes in the annual processing round have occurred due to implementation of the Rockfish Pilot Program as, while the plant formerly processed rockfish, its fleet did not have adequate recent history in the fishery to ensure viable participation in the program. Plant management reports that uncertainty with respect to future GOA groundfish management has made it difficult to plan further expansion or upgrading of GOA groundfish processing capacity at the plant. In the past, the owner/operator of Polar Seafoods also owned and operated facilities at Gibson Cove [City of Kodiak], Nikiski [Kenai Peninsula Borough], and Uganic [Kodiak Island Borough], but subsequent divestitures of the first two facilities and the processing equipment from the third has resulted in active Polar Seafoods operations being limited to the plant in Seward at present (2016).

12 SIA Attachment 6: Investment in Kodiak's Utility Infrastructure

The following discussion was prepared by Darrell Brannan and Sam Cunningham for inclusion in the June 2016 version of the Gulf of Alaska Trawl Bycatch Management Paper, which was presented at the NPFMC meetings in Kodiak that same month.

The city of Kodiak, Alaska and the Kodiak Island Borough are integrally linked to the GOA trawl fishery. In 2006, five of the top 10 principal employers in the city of Kodiak were fish processing plants.[64] The vast majority of Central GOA groundfish trawl catch is landed at Kodiak shoreside processors, which employ a high proportion of resident workers relative to other Alaska plants. The following subsections provide a first cut of information that characterizes the community's investment in infrastructure that supports the industry. With assistance from the City of Kodiak and the Kodiak Electric Association, Inc. (KEA), future iterations of this analysis could breakdown the following data further to delineate the utility consumption of the Kodiak shore-based processing plants as a subset of the commercial and industrial users in the area. As is, the information provided here illustrates that the Borough and municipality have invested in production capabilities that are driven by the demands of peak fish processing during the heights of the groundfish season and, to a lesser extent, the directed salmon fishing season.[65] Some finer resolution of detail is available for fish processing usage of electricity via a report by the Alaska Groundfish Data Bank (see Figure 10).

Electricity

KEA has provided annual sales data through 2012, and monthly data through 2013. Figure 9 shows the positive relationship between KEA electricity sales and the months that are known to be peak processing times in the GOA trawl fishery. Figure 11 shows that annual electricity sales track with the amount of fish that moves through Kodiak processing plants.[66] Figure 10 shows that Kodiak shore-based plants' monthly electricity consumption peaks between 5 and 6 million kWh in the spring and fall, which means that together they consume around 40% to 45% of total electricity production at peak, and around 20% to 30% during the shoulder-seasons. Kodiak's high-consumption months generally correspond to production of pollock, Pacific cod, and pink salmon.

According to the Alaska Groundfish Data Bank (AGDB), total electricity consumption by Kodiak shore-based processors has increased during the 2011 through 2015 period, from around 40 million kWh to around 44 million kWh.[67] This increase matches the increase in the total volume of fish deliveries. However, the rate of electricity consumption to biomass (kWh/lb.) has decreased gradually, and somewhat more sharply between 2014 and 2015. AGDB attributes this rate reduction to several factors:

[64] Source: City of Kodiak Comprehensive Annual Financial Report for Fiscal Year 2015, available at: http://www.city.kodiak.ak.us/sites/default/files/fileattachments/finance/page/352/city_of_kodiak_cafr_fy_2015.pdf. Specific employer information is no longer available, due to a change in Alaska statute.

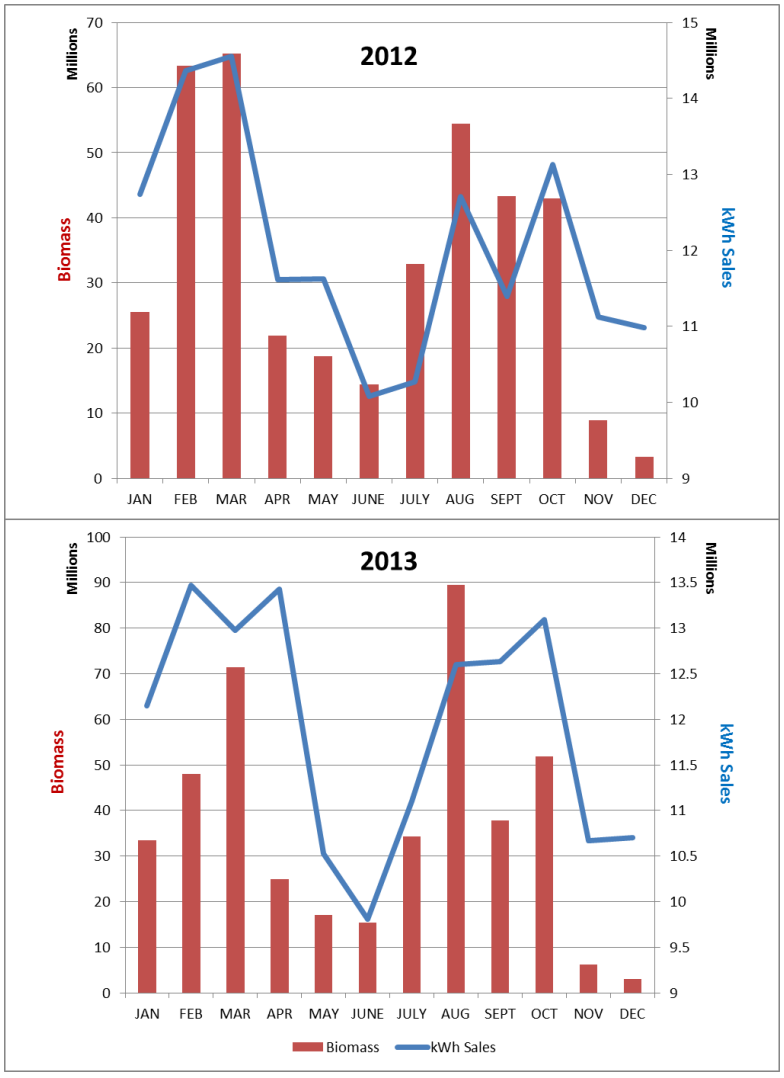
[65] Information on electricity usage provided by Darron Scott (KEA) via Rebecca Skinner (Kodiak Island Borough Assembly). Information on water usage provided by Mark Kozak and Kelly Mayes (City of Kodiak).

[66] Note that "biomass" in both Figure 9 and Figure 11 includes all fisheries and gear types, but the well-known seasonal distribution of volume by fishery/gear allows the analysts to be confident that the local peaks are largely driven by the groundfish trawl sector. The "kWh sales" total represents sales to *all* KEA customers, including residential users and commercial/industrial users that are not fish processors.

[67] Alaska Groundfish Data Bank, Inc. 2015. "Historical Kodiak Fishery Performance and Fishery Outlook", AGDB special report produced for Kodiak Electrical Association,1614 Mill Bay Rd. Kodiak, AK 99615.

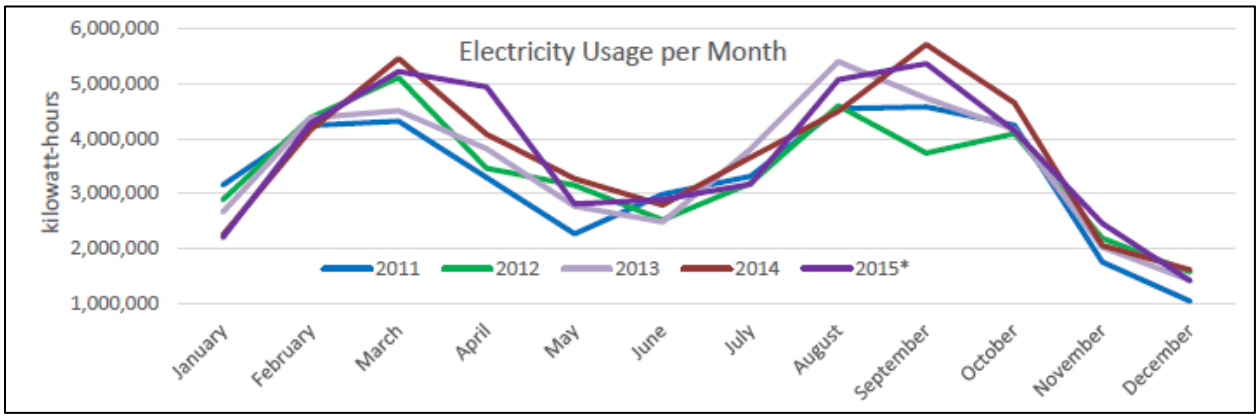
the plants' focus on energy efficiency as a means to reduce processing and freezing costs; higher delivery volumes that allow plants to operate closer to peak efficiency without as much time spent ramping production up and down; and the replacement of an older plant with a new Trident Seafoods plant-expansion that was designed specifically for high-volume freezer operations.

Figure 9. Fish processed at plants in the city of Kodiak (million lbs.) and total KEA electricity sales (kWh), by month for 2012 and 2013



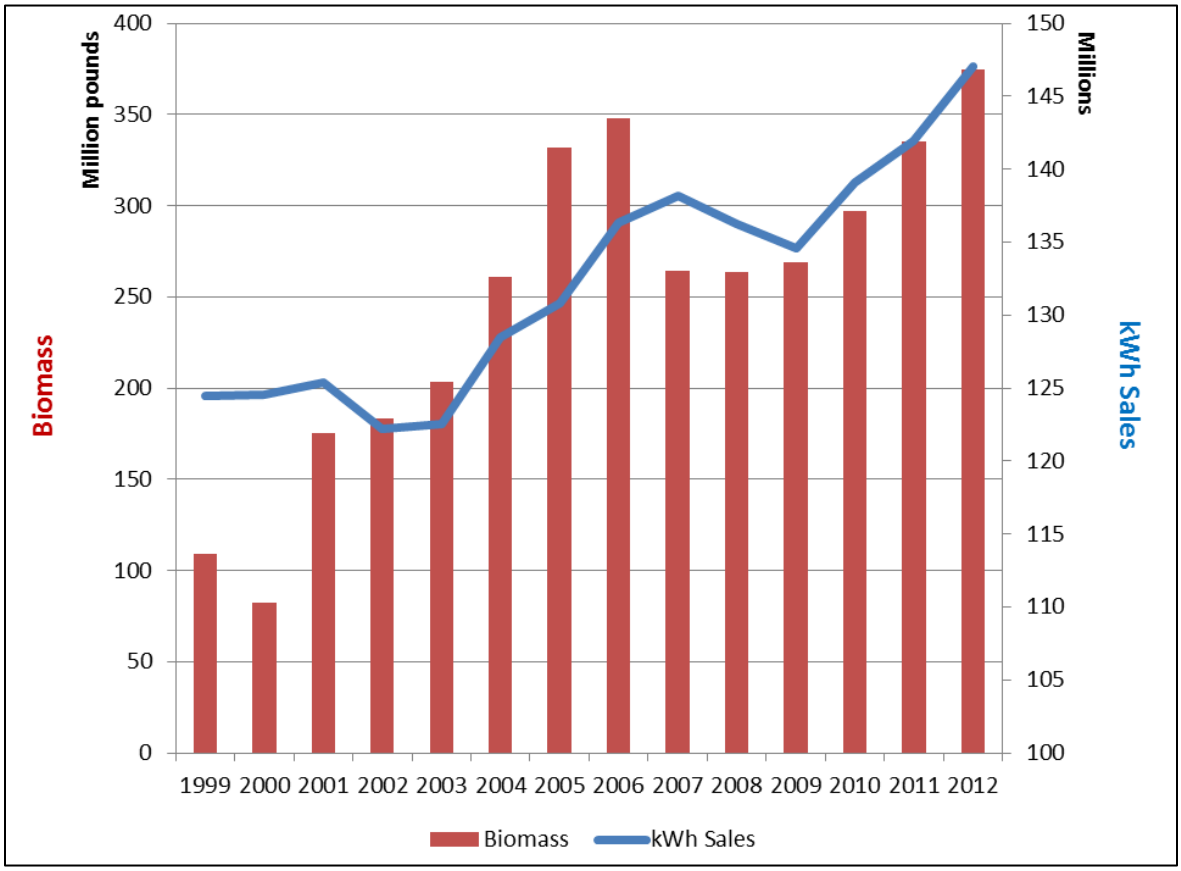
Source: Biomass data provided by Alaska Groundfish Data Bank, taken from NMFS reports; Electricity usage data provided by Kodiak Electric Association.

Figure 10. Kodiak shore-based processor electricity usage by month, 2011 through 2015 (Dec. 2015 estimated)



Source: Alaska Groundfish Data Bank, 2015.

Figure 11. Annual shore-based processing at plants in the city of Kodiak (million lbs.) and total KEA electricity sales (kWh), 1999 through 2012



Source: Biomass data from COAR; Electricity usage data provided by Kodiak Electric Association.

Water

Employees with the City of Kodiak have informed the analysts that the municipality's water system is sized to meet the peak flows that occur during times of high-volume processing, and that the peaks are more closely associated with groundfish seasons (pollock and Pacific cod) that with salmon. Peak days can require 8.5 to 9.5 million gallons per day (MGD). Anecdotally, recent years have included fewer "extreme peak" days (more than 9.5 MGD), but an overall greater number of high flow days. In summary, city managers stated that the water operating system is built greatly out of proportion to the community's population, in order to meet processing needs.[68]

Figure 12 summarizes water usage over the 2005 through 2015 time period. The years are broken into three sets in order to compare the time prior to the Central GOA Rockfish Program (pre-2007) and years since the Council embarked on the development of the GOA Trawl program (post-2012). The monthly pattern of usage appears consistent across time periods. The figure shows total water consumption by all municipal users, the amount of that total that was used by industrial/commercial users, and the proportion of the total use that the industrial/commercial group accounted for. The industrial/commercial subset includes the fish processing plants, but also includes others. If the Council finds this information to be useful, the city could provide a more refined break-out of the plants' use for a future analysis. Over the entire time period, the industrial/commercial sector accounted for roughly 55% of water usage (~990 MG out of 1.8 billion gallons). During the months when the industrial/commercial sector accounts for a high proportion of use, it consumed around 60% to 80% of the total.

[68] Mark Kozak. City of Kodiak. Personal communication, April 2015.

Figure 12. City of Kodiak's total average monthly water usage and average percent used by the commercial/industrial sector, 2005 through 2015 (Source: City of Kodiak)