APPENDIX 1

DRAFT SOCIAL IMPACT ASSESSMENT: CENTRAL GULF OF ALASKA ROCKFISH PROGRAM REVIEW

Prepared for:

North Pacific Fishery Management Council

Prepared by:

Northern Economics, Inc.
880 H Street, Suite 210
Anchorage, Alaska 99501
Mike Downs, Ph.D.
with
Darrell Brannan, Brannan & Associates

September 2017

Acknowledgements

Darrell Brannan (Brannan & Associates), the primary preparer of the main program review document to which this SIA is appended, prepared the AKFIN and NOAA data for presentation in tabular format in this document, and supplied program description and program review general findings text for inclusion in this document. Darrell was also a consistent source of advice and a frequent contributor of ideas during the analytic process. Logan Blair (NEI) prepared the maps used in Section 1. Gary Eaton (NEI) prepared several of the community economic and demographic discussions in Section 5 and, with Michelle Humphrey (NEI), assisted in multiple aspects of document production.

Table of Contents

LIST OF FIGURES

Figure **Page**

LIST OF TABLES

Table **Page**

Acronyms and Abbreviations

ADFG	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AKFIN	Alaska Fisheries Information Network
BSAI	Bering Sea/Aleutian Islands
CDQ	Community Development Quota
CEQ	Council on Environmental Quality
CFA	Community Fishing Association
CFR	Code of Federal Regulations
CFEC	Alaska Commercial Fisheries Entry Commission
CGOA	Central Gulf of Alaska
CP	catcher processor
CV	catcher vessel
EDR	Economic Data Report
EO	Executive Order
FFP	Federal Fisheries Permit
FMP	Fishery Management Plan
FR	Federal Register
GOA	Gulf of Alaska
IFQ	individual fishing quota
IPHC	International Pacific Halibut Commission
ISA	International Seafoods of Alaska
KIB	Kodiak Island Borough
KNI	Kodiak Near Island
LAPP	Limited Access Privilege Program
LLP	License Limitation Program
LOA	length overall
MSA	Metropolitan Statistical Area
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
PSC	prohibited species catch
RIR	Regulatory Impact Review

SBPR	Shore-Based Processor
SIA	Social Impact Assessment
TAC	total allowable catch

1 Overview

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 pelagic shelf rockfish in the CGOA. The Rockfish Program was developed to replace the Rockfish Pilot Program (Pilot Program) that was implemented on November 20, 2006 and expired on December 31, 2011.

The 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 has been in place for 5-years, a detailed review of the Rockfish Program is required. This Social Impact Assessment (SIA) has been developed to provide the information for the section of the review related to community impacts.

In concert with Council Staff and other contractors, this analysis was developed to evaluate the community and social impacts of the CGOA rockfish fishery during three distinct time periods:

- 2003 through 2006 (pre-Rockfish Pilot Program)
- 2007 through 2011 (Rockfish Pilot Program)
- 2012 through 2016 (Rockfish Program)

This analysis is 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 processors, impacts on harvesters, impacts on employment, impacts on taxes received by Kodiak, and other relevant information. Other communities have been considered, but those discussions have been primarily focused on catcher vessel ownership, catcher/processor ownership, and crew employment.

2 Regulatory Context

This community-level impact assessment component of Rockfish Program review 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.

2.1 Magnuson-Stevens Act National Standard 8

National Standard 8 (50 CFR 600.345) specifies that conservation and management measures shall, consistent with the conservation requirements of the Magnuson-Stevens Act, consider the importance of fishery resources to fishing communities by utilizing economic and social data that are based on the best scientific information available 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.

2.2 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 main Rockfish Program review document to which this SIA is appended, while social effects (and community-level economic effects) are examined primarily in this document. While it is understood that NEPA is not a driver of this program review, this SIA is structured for consistency and comparability with earlier NEPA socioeconomic analyses of CGOA rockfish management actions and in anticipation of the utility of this information for the NEPA analysis that will likely be needed for a program renewal action before the current program's expiration in 2021.

2.3 EO 12898 Environmental Justice

EO 12898 (59 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[1] beyond a more general consideration of potential disproportionately high and adverse impacts to minority populations (Council for Environmental Equality 1997). This SIA identifies minority populations and low-income populations potentially subject to high and adverse environmental effects, if any, of the Rockfish Program and identifies potential changes to patterns of subsistence resource use, if any, among minority populations and low-income populations that may have resulted from implementation of the program.

[1] 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 proposed action alternatives.

3 Introduction and Methodology

For the purposes of this community assessment, a two-pronged approach to analyzing the community changes associated with the implementation of the CGOA Rockfish Program was utilized. First, tables based on existing quantitative fishery information were developed to identify patterns of participation in the various components of the relevant fisheries. Summary tables, typically including data on an annual basis from 2003 through 2016, are presented in Section 4.0, 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 main program review document to which this SIA is appended.[2]

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 owned by residents of the Pacific Northwest 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 North Pacific Fishery Management Council (NPFMC) fishery management plan (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 NPFMC 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 a single processor or the location of ownership of a single catcher vessel, or even two or three processors or catcher vessels.[3]

[2] The only tables in this SIA using nominal dollars are the Kodiak tax revenue tables presented in Section 5.2.1.

[3] The number of data points that need to be lumped to comply with data confidentiality restrictions varies by data source. The CFEC requires aggregation of four data points to permit reporting of what would otherwise be confidential data, while virtually all other data sources require the aggregation of three data points to permit

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 the CGOA Rockfish Program. In short, the frame of reference or unit of analysis for the discussion in this section is the individual sector,[4] 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 engaged in the relevant CGOA rockfish fisheries 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 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, 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.

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) and a recognition that communities with multi-sector activity would likely be most vulnerable to potential adverse impacts related to the Rockfish Program-related changes. 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 (2003-2016). Specifically, they were those communities that had at least one resident-owned catcher vessel that made at least one CGOA rockfish trawl-caught delivery in more than one year over the period 2003-2016 and/or had an average of 0.5 or more shore-based processors that accepted CGOA

disclosure. In this section, because several data sources draw at least in part on CFEC data, volume and value data are presented only when four or more data points are aggregated.

[4] 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 2003-2016, although these multi-gear vessels are few. 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).

trawl-caught rockfish deliveries operating in the community annually over any of the periods 2003-2006, 2007-2011, or 2012-2016 (i.e., the community had, on average, shore-based processing in at least half of the years during the pre-Pilot Program period, the 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).

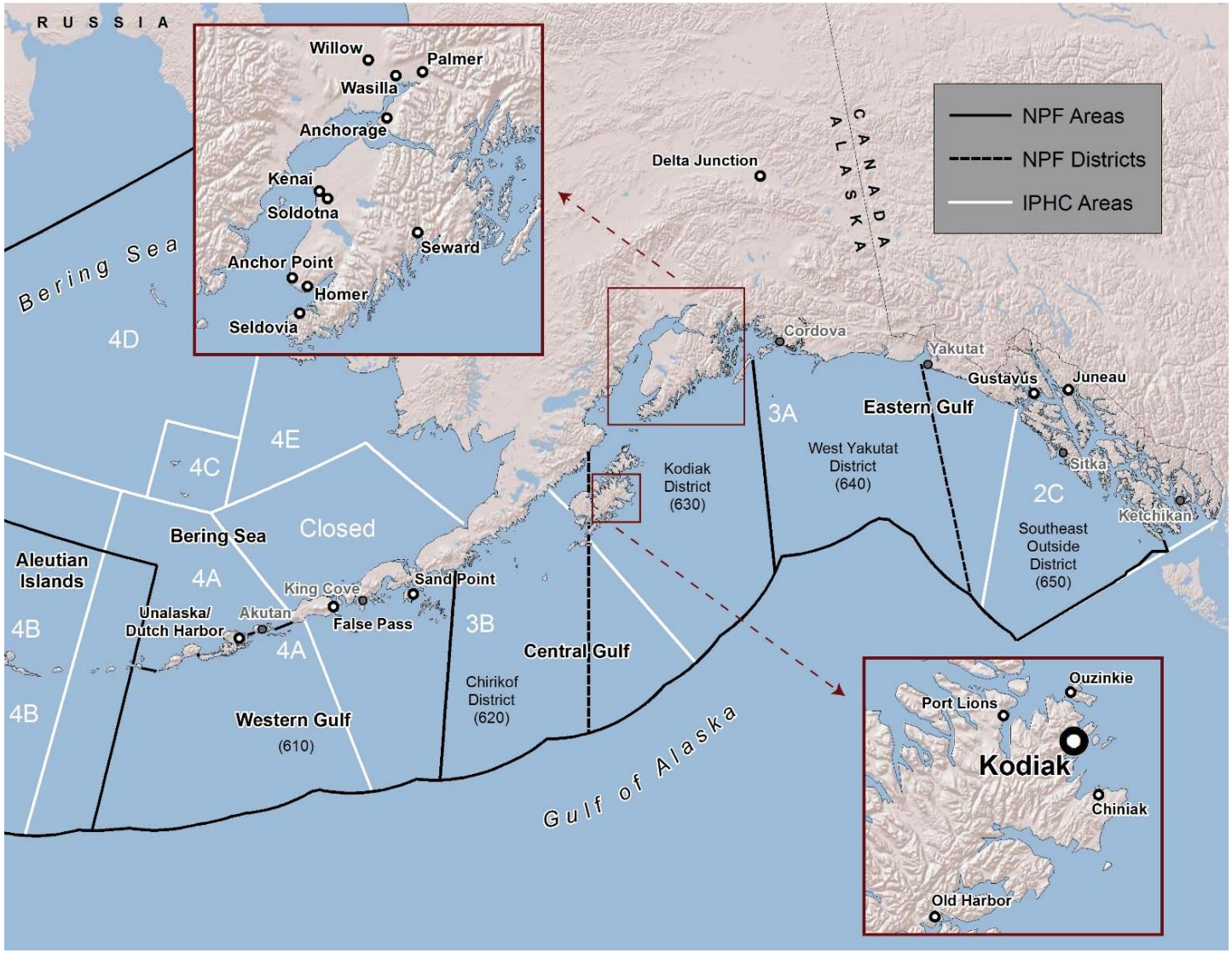
Using these criteria, Kodiak was selected for characterization as the only Alaska community substantially engaged in, and potentially dependent on, the CGOA rockfish trawl fisheries potentially affected by the Rockfish Program. Additionally, two Pacific Northwest communities or groupings of communities 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[5]) and Lincoln County, Oregon (based on substantial multi-sector engagement in the former and substantial resident-owner 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.[6] The location of the Seattle MSA and Lincoln County, Oregon may be seen in Figure 2.[7]

[5] 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.

[6] 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 2003-2016 through: (1) resident ownership 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); (2) 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); (3) local ownership of CGOA rockfish trawl catcher processors (Unalaska/Dutch Harbor); and/or (4) the local operation of a shore-based processor accepting CGOA trawl-caught rockfish deliveries (Seward). Also shown are those communities linked to the CGOA rockfish trawl fishery through 2015 and/or 2016 catcher vessel or catcher processor crewmember residence that would not have been otherwise included on the map (Delta Junction, Gustavus, Juneau, Kenai, Palmer, and Soldotna). Finally, several other communities are shown in grey font for general geographic orientation purposes (Akutan, King Cove, Cordova, Yakutat, Sitka, and Ketchikan).

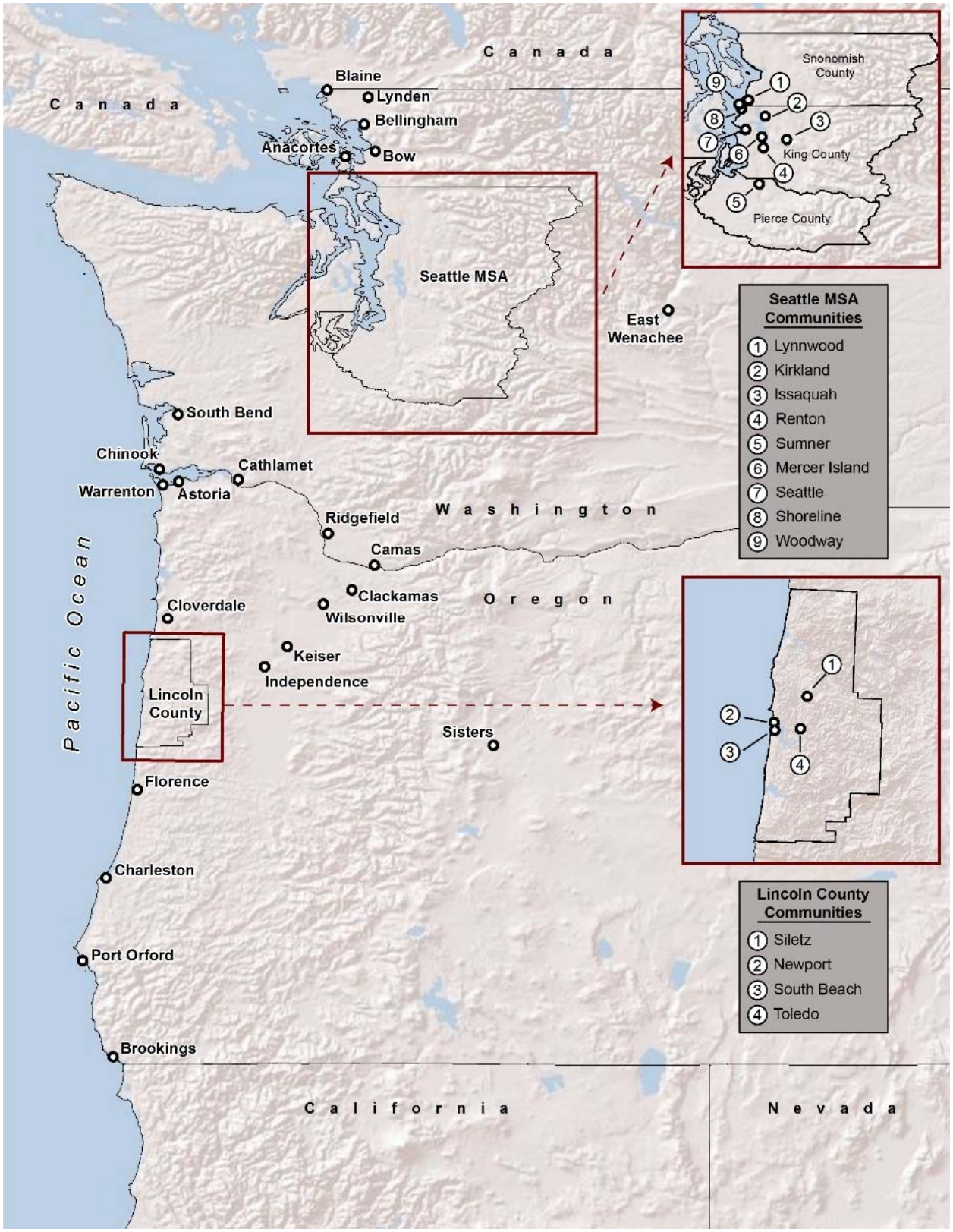
[7] This figure also includes other Washington and Oregon communities at least minimally directly engaged in the CGOA rockfish fishery through resident ownership of participating hook-and-line catcher vessels (Linden WA) and/or jig catcher vessels (Bellingham, Blaine, Bow, Cathlamet, and Ridgefield, Washington; Brookings, Newport, and Warrenton, Oregon) during the period 2003-2016. 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).

Figure 1. Selected Alaska Communities and Adjacent North Pacific Federal and International Pacific Halibut Commission Fisheries Regulatory Areas



Source: ESRI, ADF&G, IPHC, and ADNR.

Figure 2. Map of Selected Washington and Oregon Communities



Source: ESRI and Washington DOT.

Summary characterizations of each of these communities or aggregations of communities, including data relevant to the analysis of community effects of the Rockfish Program for each of these communities or aggregations of communities, are presented in Section 5.0. 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 main program review document to which this SIA is an appendix.[8] 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 changes in that fishery.

Section 6.0 provides an overall comparative summary of community impacts previously described in NPFMC documents as associated with the Rockfish Pilot Program and those identified as associated with Rockfish Program. This section also provides conclusions about environmental justice concerns, if any related to the Rockfish Program and the risks to sustained community participation in the fishery, if any, associated with the Rockfish Program.

With respect to environmental justice analysis presented by community in Section 6.0, if it is determined that high and adverse environmental and/or public health/safety impacts are present, for a minority population to be identified as one of potential concern, the proportion of minority residents in the geography being analyzed would need to be meaningfully greater than that of the general population and/or greater than 50 percent of the total population in the geography being analyzed. For a low-income population to be identified as of potential concern with respect to environmental justice analysis, the proportion of low-income residents in the geography being analyzed would need to be meaningfully greater than that of the general population. For Kodiak, the general population used as a benchmark is that of the state of Alaska itself.

- Census figures from 2010 show that 66.5 percent of the residents of Alaska identified themselves as White, 14.1 percent as American Indian or Alaska Native, 3.5 percent as Black/African American, 5.6 percent as Asian, 1.1 percent as Pacific Islander, and 9.2 percent as "some other race" or "two or more races." Finally, 6.2 percent of the residents of any race in Alaska identified themselves as Hispanic. Based on race and ethnicity combined, 37.1 percent of Alaska's total population was composed of minority residents (that is, all residents other than those identified as White/non-Hispanic [race/ethnicity]) (U.S. Census Bureau 2011).

- The latest employment estimate based on the 2011-2015 U.S. Census American Community Survey suggests that 351,108 were employed in the state of Alaska with an unemployment rate

[8] 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 SIA Attachment 1.

of 8.2 percent. Per capita income for people in Alaska was estimated at $33,413, median household income was $72,515, and median family income was $84,232. An estimated 10.2 percent of Alaska's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2017).

For analysis of the Seattle MSA, where the demographics of individual sectors are known, the general population used as a benchmark is that of the state of Washington itself.

- Census figures from 2010 show that 77.3 percent of the residents of Washington identified themselves as White, 1.5 percent as American Indian or Alaska Native, 3.6 percent as Black/African American, 7.2 percent as Asian, 0.6 percent as Pacific Islander, and 9.9 percent as "some other race" or "two or more races." Finally, 11.2 percent of the residents of any race in Washington identified themselves as Hispanic. Based on race and ethnicity combined, 27.5 percent of Washington's total population was composed of minority residents (that is, all residents other than those identified as White/non-Hispanic [race/ethnicity]) (U.S. Census Bureau 2011).

- The latest employment estimate based on the 2011-2015 U.S. Census American Community Survey suggests that 3,259,877 were employed in the state of Washington with an unemployment rate of 7.9 percent. Per capita income for people in Washington was estimated at $31,762, median household income was $61,062, and median family income was $74,025. An estimated 13.3 percent of Washington's residents were considered low-income, defined as those individuals living below the poverty level threshold (US Census Bureau 2017).

Similarly, for analysis of Lincoln County, Oregon, where the demographics of individual sectors are known, the general population used as a benchmark is that of the state of Oregon itself.

- Census figures from 2010 show that 83.6 percent of the residents of Oregon identified themselves as White, 1.4 percent as American Indian or Alaska Native, 1.8 percent as Black/African American, 3.7 percent as Asian, 0.3 percent as Pacific Islander, and 9.1 percent as "some other race" or "two or more races." Finally, 11.7 percent of the residents of any race in Oregon identified themselves as Hispanic. Based on race and ethnicity combined, 21.5 percent of Oregon's total population was composed of minority residents (that is, all residents other than those identified as White/non-Hispanic [race/ethnicity]) (US Census Bureau 2011).

- The latest employment estimate based on the 2011-2015 U.S. Census American Community Survey suggests that 1,789,807 were employed in the state of Oregon with an unemployment rate of 9.3 percent. Per capita income for people in Oregon was estimated at $27,684, median household income was $51,243, and median family income was $62,964. An estimated 16.5 percent of Oregon's residents were considered low-income, defined as those individuals living below the poverty level threshold (US Census Bureau 2017).

4 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 4.1), along with their participation in the CGOA rockfish hook-and-line and jig fisheries where relevant (Sections 4.2 and 4.3, respectively). This information is summarized, on a community-by-community basis, in the community characterizations in a later section of this document.

4.1 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
- CGOA Rockfish Trawl Catcher Processors
- Shore-Based Processors Accepting CGOA Rockfish Trawl-Caught Deliveries

4.1.1 CGOA Rockfish Trawl Catcher Vessels

Table 1 provides a count, by community of ownership and year (2003-2016), 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 (2003-2016) 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 2012-2016 only[9]).

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

[9] 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.

Program) period compared to all other areas, gear types, and species fished by those vessels owned by residents of that same community during that same time period to the extent possible given data confidentiality restrictions. As shown, CGOA trawl-caught rockfish accounted for roughly 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.

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 owned by residents of that 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 2012-2016 (Rockfish Program) period. As shown, CGOA rockfish trawl ex-vessel gross revenues were approximately 12 percent of all ex-vessel revenues for Kodiak-owned CGOA rockfish trawl catcher vessels on an annual average basis, about 13 percent for all Washington-owned CGOA rockfish trawl catcher vessels (although some internal variability by subarea is evident[10]), and about 10 percent of all ex-vessel revenues for Oregon and Idaho-owned CGOA rockfish trawl catcher vessels combined.

[10] 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.

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 2012-2016 (Rockfish Program) period compared to all other areas, gear types, and species fished by those vessels owned by residents of that 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 Lincoln County and all other 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, inclusion of vessels in one or more of these classes 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 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 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 LLPs 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 LLPs owned in Alaska communities outside of Kodiak that qualified for initial allocations under either program, no Homer-owned LLP qualified an initial allocation under the Rockfish Pilot Program, but one did so under the Rockfish Program. One Sand Point-owned LLP, on the other hand, qualified for an initial qualification under the Rockfish Pilot Program, but none did so under the Rockfish Program.

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 5.2.1.

Figure 3 provides information on patterns of community of ownership over the years 2003-2016 of the 55 GOA trawl-endorsed catcher vessel LLPs that have obtained quota shares under the CGOA Rockfish Program. As shown, Alaska ownership is highly concentrated in Kodiak and over the years three LLPs that previously had “Other Oregon” ownership and two LLPs 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 LLPs that had Kodiak ownership for at least some years later came to have "Other Oregon" and "Other States" ownership.

Also, as shown in Figure 3, Alaska ownership of relevant catcher vessel LLPs outside of Kodiak during 2003-2016 was limited to four communities: Anchorage, False Pass, Homer, and Sand Point. Anchorage appears in the data as an ownership address for one LLP in 2003 and 2004 (and ownership of that LLP is shown as Seattle for 2005-2016). This LLP 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 for 2003-2009, while Homer appears as the ownership address for that same LLP for 2010-2016 (making this the only LLP shown as continuously having Alaska ownership for the entire 2003-2016 period outside of Kodiak, albeit in 2 different communities). This LLP 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 in 2006 and 2007 (and ownership of that LLP is shown as Bellingham WA for 2003-2005 and 2008-2013, and Kodiak for 2014-2016). This LLP 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 11 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 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 LLPs 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 was utilized in the fishery in all subsequent years.

Table 12 provides information the number of days fished annually by CGOA rockfish trawl catcher vessels 2003-2016, as measured by the number of days hauls were recorded. Breakouts are provided by open access 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 13 shows the relationship of the community of CGOA rockfish trawl catcher vessel ownership and the communities crew members on those vessels reside, utilizing data from the Annual 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, only two years of data is available, the available data have not been verified and audited (as audits typically rely on multiple years of data to identify outliers), and some data are missing (have not

yet been submitted). They do, however, represent the best available data and provide insight into overall community patterns of crew membership. For additional detail on EDR CGOA rockfish trawl catcher vessel crew data by community for 2015 and 2016, please see Table 71 and Table 72 in SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016.

Table 14 shows annual payments for captains and crew of CGOA rockfish trawl catcher vessels by community of vessel ownership for 2015 using EDR data. Table 15 provides the same information for 2016. 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 two tables and the preceding table on crew residence.[11] They do, however, do provide insights into patterns of total crew payments on these vessels across ownership geographies.

[11] 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 1. Individual CGOA Rockfish Trawl Catcher Vessels by Community of Vessel Owner, 2003-2016 (number of vessels)

Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annual Average 2003-2016 (number of vessels)	Annual Average 2003-2016 (percent of all vessels)	Total Unique CVs 2003-2016 (number of vessels)
Kodiak, Alaska	10	9	8	10	11	12	12	14	12	12	14	13	12	13	11.6	44.0%	19
Issaquah*	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0.5	1.9%	1
Lynnwood*	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.1	0.5%	1
Seattle*	2	3	3	3	3	3	3	2	2	5	5	7	6	5	3.7	14.1%	8
Seattle MSA Subtotal	3	4	3	3	4	4	4	4	4	5	5	7	6	5	4.4	16.6%	9
Anacortes	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.4%	1
Camas	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0.6	2.2%	1
East Wenatchee	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.0	3.8%	1
South Bend	2	2	1	1	1	1	1	1	1	2	2	2	2	2	1.5	5.7%	2
Other WA Subtotal	3	4	3	3	3	3	3	3	3	4	4	4	4	4	3.4	13.0%	5
Washington Total	6	8	6	6	7	7	7	7	7	9	9	11	10	9	7.8	29.6%	14
Newport**	3	1	1	1	3	1	1	1	1	1	3	2	3	2	1.7	6.5%	6
Siletz**	2	1	1	0	0	1	2	1	1	1	1	1	2	1	1.1	4.1%	4
South Beach**	0	1	0	0	0	1	0	1	1	1	0	0	0	0	0.4	1.4%	1
Lincoln County OR Subtotal	5	3	2	1	3	3	3	3	3	3	4	3	5	3	3.1	12.0%	9
Clackamas	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0.5	1.9%	1
Florence	1	1	1	1	1	1	2	1	1	2	1	0	0	0	0.9	3.5%	2
Independence	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0.2	0.8%	1
Keizer	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	0.3%	1
Port Orford	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0.7	2.7%	1
Sisters	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.6%	1
Warrenton	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0.4	1.4%	1
Wilsonville	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0.1	0.5%	1
Other OR Subtotal	4	5	5	5	5	4	4	3	3	4	2	1	1	1	3.4	12.8%	7
Oregon Total	9	8	7	6	8	7	7	6	6	7	6	4	6	4	6.5	24.7%	14
Fruitland, Idaho	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0.4	1.6%	1
Grand Total	26	26	22	23	27	27	26	27	25	28	29	28	28	26	26.3	100.0%	38

*Denotes community within the Seattle MSA, Washington

**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 2017a

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, 2003-2016

Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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
Seattle MSA	*	$0.39	*	*	**	**	**	**	**	$1.18	$0.80	$0.95	$0.86	$1.13
Other Washington	*	$0.41	*	*	*	*	*	*	*	$1.15	$0.71	$0.89	$0.75	$0.97
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
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
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

*Suppressed due to data confidentiality.
**Suppressed to protect confidential data in other cells.
Source: AKFIN 2017a

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	14.5%
Seattle MSA	3.3	*	*	*
Other Washington	3.3	*	*	*
Washington Subtotal	6.5	$0.89	$6.34	14.0%
Oregon and Idaho Subtotal	8.5	$1.48	$9.92	14.9%
Grand Total	24.3	$3.70	$25.49	14.5%

*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	1.6%
Seattle MSA	3.3	208.5	*	*	*
Other Washington	3.3	131.8	*	*	*
Washington Subtotal	6.5	340.3	$0.89	$382.92	0.2%
Oregon and Idaho Subtotal	8.5	88.5	$1.48	$79.78	1.9%
Grand Total	24.3	2,142.5**	$3.70	$808.24**	0.5%

*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	8.1%
Seattle MSA	4.0	**	**	**
Other Washington	3.0	*	*	*
Washington Subtotal	7.0	$1.16	$9.55	12.1%
Oregon and Idaho Subtotal	7.2	$1.02	$11.58	8.8%
Grand Total	26.4	$3.42	$36.35	9.4%

*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	1.2%
Seattle MSA	4.0	184.6	**	**	**
Other Washington	3.0	125.8	*	*	*
Washington Subtotal	7.0	310.4	$1.16	$406.05	0.3%
Oregon and Idaho Subtotal	7.2	74.0	$1.02	$79.13	1.3%
Grand Total	26.4	2,197.0***	$3.42	$922.06***	0.4%

*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, 2012-2016 (Rockfish Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2012-2016	CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2012-2016 ($ millions)	CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2012-2016 ($ millions)	CGOA Rockfish Trawl CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2012-2016
Kodiak, Alaska	12.8	$2.46	$19.92	12.4%
Seattle MSA	5.6	$0.98	$9.61	10.2%
Other Washington	4.0	$0.90	$4.63	19.3%
Washington Subtotal	9.6	$1.88	$14.23	13.2%
Oregon and Idaho Subtotal	5.4	$0.96	$10.30	9.3%
Grand Total	27.8	$5.30	$44.45	11.9%

Source: AKFIN 2017b

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, 2012-2016 (Rockfish Program Years)

Geography	Annual Average Number of CGOA Rockfish Trawl CVs 2012-2016	Annual Average Number of All Commercial Fishing CVs 2012-2015*	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only 2012-2016 ($ millions)	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries 2012-2015* ($ millions)	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value Annual Average 2012-2016 as a Percentage of Total Ex-Vessel Gross Revenue Annual Average 2012-2015*
Kodiak, Alaska	12.8	215.5	$2.46	$95.80	2.6%
Seattle MSA	5.6	181.8	$0.98	$333.15	0.3%
Other Washington	4.0	113.0	$0.90	$62.65	1.4%
Washington Subtotal	9.6	294.8	$1.88	$395.80	0.5%
Oregon and Idaho Subtotal	5.4	67.5	$0.96	$68.60	1.4%
Grand Total	27.8	2,227.5**	$5.30	$876.12**	0.6%

*2015 data for this indicator not available at time of analysis.

**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 9. CGOA Rockfish Trawl Catcher Vessels AFA Program Designation by Community of Vessel Owner, Annual Average 2003-2016

	Annual Average 2003-2016 (number of CGOA Rockfish Trawl Vessels)			Annual Average 2003-2016 (percent of CGOA Rockfish Trawl Vessels)		
		AFA			AFA	
Geography	Total Vessels	Yes	No	Total Vessels	Yes	No
Kodiak, Alaska	11.6	4.6	6.9	100.0%	40.1%	59.9%
Seattle MSA	5.3	3.6	1.6	100.0%	68.9%	31.1%
All Other Washington	3.4	0.0	3.4	100.0%	0.0%	100.0%
Washington Total	8.7	3.6	5.1	100.0%	41.8%	58.2%
Lincoln County Oregon	4.8	1.8	3.0	100.0%	37.0%	63.0%
All Other Oregon	2.9	2.5	0.4	100.0%	85.4%	14.6%
Oregon Total	7.7	4.3	3.4	100.0%	55.3%	44.7%
All Other States	0.1	0.0	0.1	100.0%	0.0%	100.0%
Total	28.1	12.4	15.7	100.0%	44.2%	55.8%

Source: AKFIN 2017a

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 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	GRAND TOTAL	61.36%	59.17%	-2.18%	49.61%	59.97%	10.35%	45.30%	61.57%	16.27%

Source: https://alaskafisheries.noaa.gov/sites/default/files/reports/initialqsowners.csv. Adapted from Table 5-5 in the main program review document to which this SIA is appended.

Figure 3. GOA Catcher Vessel LLP Licenses with Trawl Endorsements and CGOA Rockfish Program Quota Shares, by Community of Ownership, 2003-2016

LLP Count	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	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
3	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
5	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
7	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
9	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
11	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
13	Anacortes	Anacortes	Anacortes	Anacortes	Anacortes	Anacortes	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
14	Bellingham	Bellingham	Bellingham	Sand Point	Sand Point	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Kodiak	Kodiak	Kodiak
15	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Sisters	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak
16	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Kodiak	Kodiak	Kodiak	Kodiak
17	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Florence	Kodiak	Kodiak	Kodiak
18	False Pass	False Pass	False Pass	False Pass	False Pass	False Pass	False Pass	Homer	Homer	Homer	Homer	Homer	Homer	Homer
19	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
20	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
21	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
23	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
25	Seattle	Seattle	Seattle	Seattle	Sumner	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
26	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Issaquah	Seattle	Seattle	Seattle	Seattle	Seattle
27	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Issaquah	Issaquah	Seattle	Seattle	Seattle	Seattle
27	Shoreline	Shoreline	Shoreline	Shoreline	Seattle	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Shoreline	Seattle	Seattle
28	Kodiak	Kodiak	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
30	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Seattle	Seattle	Seattle	Seattle	Seattle
31	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Kodiak	Seattle	Seattle	Seattle
32	Anchorage	Anchorage	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
33	Siletz	Siletz	Siletz	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
34	Newport	Newport	Toledo	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
35	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
36	Cloverdale	Cloverdale	Cloverdale	Cloverdale	Cloverdale	Toledo	Toledo	Toledo	Toledo	Seattle	Seattle	Seattle	Seattle	Seattle
37	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Port Orford	Seattle	Seattle	Seattle	Seattle	Seattle
38	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham
39	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
40	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
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
42	Camas	Fruitland ID	Fruitland ID	Fruitland ID	Fruitland ID	Camas	Camas	Camas	Camas	Camas	Camas	Camas	Camas	Camas
43	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Ridgefield	Ridgefield	Ridgefield	Ridgefield	Ridgefield
44	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
45	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
47	Newport	Newport	Newport	Newport	Newport	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz
48	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Siletz	Siletz	Siletz	Siletz	Siletz
49	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport	Newport
50	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Siletz	Newport	Newport	Newport	Newport	Newport	Newport
51	Wilsonville	Wilsonville	Wilsonville	Clackamas	Clackamas	Clackamas	Clackamas	Clackamas	Clackamas	Clackamas	Newport	Newport	Newport	Newport
52	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Astoria	Astoria	Astoria	Astoria	Astoria
53	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Lynden	Astoria	Astoria	Astoria	Astoria	Astoria
54	Warrenton	Warrenton	Warrenton	Warrenton	Warrenton	Kodiak	Kodiak	Kodiak	Kodiak	Charleston	Charleston	Charleston	Charleston	Charleston
55	Kodiak	Kodiak	Kodiak	Roland OK	Kodiak	Kodiak	Kodiak	Kodiak	Roland OK	Roland OK	Roland OK	Roland OK	Roland OK	Roland OK

KEY	Kodiak, Alaska	Other Alaska	Seattle MSA, Washington	Other Washington	Lincoln County, Oregon	Other Oregon	Other States

Source: NOAA Fisheries 2017a

Table 11. Correspondence of CGOA Rockfish Catcher Vessel Ownership Community with GOA Trawl Endorsed Groundfish LLP License Ownership Community Used in the CGOA Rockfish Fishery, Selected Time Intervals, 2003-2016

	2003-2006 (Pre-Rockfish Pilot Program)				2007-2011 (Rockfish Pilot Program)				2012-2016 (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	
Community	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	12.8	16	18	0
Anchorage*	0.0	0	1	0	0.0	0	0	0	0.0	0	0	0
False Pass*	0.0	0	1	0	0.0	0	1	0	0.0	0	0	0
Homer*	0.0	0	0	0	0.0	0	1	0	0.0	0	1	0
Sand Point*	0.0	0	1	0	0.0	0	1	0	0.0	0	0	0
Seattle MSA	3.3	4	15	0	4.0	5	16	0	5.6	7	19	0
Other Washington	3.3	4	9	0	3.0	4	9	0	4.0	4	8	0
Lincoln Co. Oregon	2.8	6	10	0	3.0	4	9	0	3.6	6	8	0
Other Oregon	4.8	5	7	0	3.8	6	5	0	1.8	5	7	0
Other States	1.0	1	1	0	0.4	1	1	0	0.0	0	1	0
Total	24.3	30	55	0	26.4	32	55	0	27.8	33	55	0

* 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 2005-2016). 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 2010-2016 (making this the only LLP shown as continuously having Alaska ownership for the entire 2003-2016 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 2014-2016).
Source: AKFIN 2017a, NOAA Fisheries 2017a.

Table 12. Number of Catcher Vessel Days Fished (days when hauls were recorded) in the CGOA Rockfish Trawl Fishery, 2003-2016

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program					Annual Average Pre-RPP Years	Annual Average RPP Years	Annual Average RP Years
CGOA Rockfish Fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
Open Access Fishery*	48	62	35	32	15	7	8	7	4	--	--	--	--	--	44.3	8.2	0.0
RPP and RP Fisheries	--	--	--	--	152	141	134	150	142	193	174	176	192	198	0.0	143.8	186.6
Total Days Fished	48	62	35	32	167	148	142	157	146	193	174	176	192	198	44.3	152.0	186.6
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					--	5.4%	--

*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. Adapted from Tables 17-1 and 17-2 in the main program review document to which this SIA is appended.

Table 13. Correspondence of CGOA Rockfish Trawl Catcher Vessel Ownership Community and Crew Residence Community, 2015 and 2016

Community of Catcher Vessel Crew Residence	Number of Crew Positions (ADFG Crew License Holders and CFEC Gear Operator Permit Combined)											
	Catcher Vessel Owner Community 2015						Catcher Vessel Owner Community 2016					
	Kodiak	Seattle MSA	Other WA	Lincoln Co OR	Other Oregon	2015 Total	Kodiak	Seattle MSA	Other WA	Lincoln Co OR	Other Oregon	2016 Total
Kodiak	44	11	10	12	2	79	58	21	12	19	2	112
Anchor Point	2	--	--	--	--	2	1	--	2	--	--	3
Anchorage	3	--	--	--	1	4	1	1	--	1	1	4
Chiniak	2	--	--	--	--	2	--	--	--	--	--	0
Gustavus	1	--	--	--	--	1	--	--	--	--	--	0
Juneau	1	--	--	--	--	1	--	--	--	1	--	1
Kenai	--	--	--	--	--	0	--	1	--	--	--	1
Old Harbor	1	--	--	--	--	1	1	--	--	--	--	1
Palmer	1	1	--	1	1	4	1	1	1	--	--	3
Soldotna	--	--	--	--	--	0	1	--	--	--	--	1
Wasilla	--	--	--	--	--	0	1	--	--	3	--	4
Seattle MSA	1	4	--	--	--	5	1	4	--	2	--	7
Other Washington	4	5	4	--	--	13	4	5	4	2	--	15
Lincoln County Oregon	3	3	1	14	4	25	3	2	--	13	3	21
Other Oregon	6	3	1	6	0	16	9	4	--	13	0	26
Other States	4	2	--	1	1	8	4	3	1	5	2	15
Unknown	8	3	5	5	--	21	15	1	--	4	1	21
TOTAL	81	32	21	39	9	182	100	43	20	63	9	235

Source: NOAA Fisheries 2016a, 2017b.

Table 14. 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	Total Captain and Crew Labor Payments	Percent of Grand Total
Kodiak, Alaska	12	80	$2,227,936	$3,461,191	$5,689,127	45.6%
Seattle MSA	6	41	$755,268	$1,133,794	$1,889,062	15.1%
Other Washington*	4	32	$691,039	$947,448	$1,638,487	13.1%
Washington Subtotal	10	73	$1,446,307	$2,081,242	$3,527,549	28.2%
Oregon**	5	41	$1,313,820	$1,956,562	$3,270,382	26.2%
Grand Total	27	194	$4,988,063	$7,498,995	$12,487,058	100.0%

* Other Washington includes: Camas (1 CV/12 crew); East Wenatchee (1 CV/5 crew); and South Bend (2 CVs/15 crew).
**Oregon includes: Independence (1 CV/9 crew); Newport (2 CVs/20 crew); and Siletz (2 CVs/12 crew).
Source: NOAA Fisheries 2016a.

Table 15. 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	Total Captain and Crew Labor Payments	Percent of Grand Total
Kodiak, Alaska	13	87	$2,514,539	$4,721,864	$7,236,403	56.7%
Seattle MSA	6	37	$494,879	$681,544	$1,176,423	9.2%
Other Washington*	4	15	$610,342	$799,205	$1,409,547	11.1%
Washington Subtotal	10	52	$1,105,221	$1,480,749	$2,585,970	20.3%
Oregon**	6	58	$1,032,428	$1,898,858	$2,931,286	23.0%
Grand Total	29	197	$4,652,188	$8,101,471	$12,753,659	100.0%

* Other Washington includes: Camas (1 CV/4 crew); East Wenatchee (1 CV/3 crew); and South Bend (2 CVs/8 crew).
**Oregon includes: Keiser (1 CV/9 crew); Newport (3 CVs/28 crew); and Siletz (2 CVs/21 crew).
Source: NOAA Fisheries 2017b.

4.1.2 CGOA Rockfish Trawl Catcher Processors

Table 16 provides a count, by community and year (2003-2016), of CGOA rockfish trawl catcher processors by community of ownership. As shown, the largest component of fleet ownership in every year during this period is the in the Seattle MSA. Alaska resident-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 resident CGOA rockfish trawl catcher processor ownership outside of the Seattle MSA was limited to Bellingham and two years during the rockfish pilot program period (2009 and 2010). No Oregon resident-owned CGOA rockfish trawl catcher processors are shown in the data for any year 2003 through 2016.Table 17 provides CGOA rockfish trawl catcher processor first wholesale gross revenue information for CGOA rockfish only by community and year (2003-2016) to the extent possible within data confidentiality restrictions. As shown, no data at the individual community level can be disclosed.

Table 18 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 (the row in the table labeled "CGOA Rockfish Trawl Catcher Processors Only"). This same table also provides information on overall community catcher processor fleet dependency on CGOA trawl-caught rockfish (all community resident-owned catcher processors, not just catcher processors that participate in the CGOA rockfish trawl fishery) compared to all other areas, gear types, and species fished by those vessels for communities with at least one resident-owned CGOA rockfish trawl catcher processor (the row in the table labeled "All Trawl Catcher Processors"). Importantly, this table is derived from a different data source than the preceding table, 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 are about 7 percent of CGOA rockfish trawl catcher processor first wholesale gross revenues and about 1 percent of overall community trawl catcher processor fleet first wholesale gross revenues. Table 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).

The "Initial Allocations of Primary Species to CP LLP Licenses" discussion in the main Central GOA Rockfish Program review document to which this SIA is an appendix provides information on initial allocation of primary species to catcher processor LLPs under the Rockfish Pilot Program and the Rockfish Program. As noted in that discussion, there was a decrease in initial allocation of Pacific ocean perch to the catcher processor sector under the Rockfish Program compared to the Rockfish Pilot Program due to 10.35 percent more of the combined quota pool being allocated to the catcher vessel sector. Similarly, the catcher processor sector experienced a reduced allocation of 6.27 percent of the

pelagic shelf rockfish/dusty rockfish quota share, but did experience an increased allocation of 2.18 percent of the northern rockfish quota share because of shifts between the two sectors moving from the Rockfish Pilot Program to the Rockfish Program.

Table 20 provides information on initial allocation of primary species to catcher processor LLP licenses, by community of LLP 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 LLPs 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.

Figure 4 provides information on patterns of community of ownership over the years 2003-2016 of the 16 GOA trawl-endorsed catcher processor LLPs 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 LLPs that previously had Bellingham, Washington ownership later came to have Seattle MSA ownership. Within the Seattle MSA, all the relevant LLPs were tied to a Seattle address until 2011, when the ownership address of three of the LLPs changed from Seattle to Renton, Washington, where they remained through 2016, the most recent year covered by the data. From 2007 through 2016, 14 of the 16 LLPs were Seattle MSA-owned, except for 2008 and 2009 when 15 of the 16 were Seattle MSA-owned.

Table 21 provides information the number of days fished annually by CGOA rockfish trawl catcher processors 2003-2016, 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 22 provides summary information on the number of positions and number of employees onboard CGOA rockfish trawl catcher processors in 2015, the first year for which these data are available. Table 23 provides parallel information for 2016. Information on fishery specific numbers of positions and employees onboard is not available. For additional detail on EDR CGOA rockfish trawl catcher processor crew data in 2015 and 2016, including the community of residence of crew members, please see Table 73 and Table 74 in SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016.

Table 24 provides summary information on the number of fishing days and labor expenses for CGOA rockfish trawl catcher processors in 2015. Table 25 provides parallel information for 2016. Information on fishery specific fishing days and labor expenses is not available.

Table 16. Individual Active CGOA Rockfish Trawl Catcher Processors by Community of Vessel Owner, 2003-2016 (number of vessels)

Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annual Average 2003-2016 (number of vessels)	Annual Average 2003-2016 (percent of all vessels)	Total Unique CPs 2003-2016 (number of vessels)
Unalaska/Dutch Harbor AK	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0.4	7.8%	1
Bellingham WA	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0.2	3.9%	2
Kirkland WA	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2.0	36.4%	2
Renton WA	0	2	2	2	0	2	2	2	2	0	0	2	1	2	1.9	34.5%	2
Seattle WA	5	3	1	0	1	1	1	1	1	3	4	1	1	2	1.9	35.0%	8
Seattle MSA Subtotal	5	5	5	4	3	5	5	5	5	5	6	5	4	6	4.9	88.3%	8
Washington Subtotal	5	5	5	4	3	5	7	6	5	5	6	5	4	6	5.1	92.2%	8
Grand Total	5	6	6	4	4	6	8	7	5	5	6	5	4	6	5.5	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 2017a

Table 17. CGOA Rockfish Trawl Catcher Processor First Wholesale Gross Revenues (in millions of 2009 dollars), CGOA Rockfish Only, by Community of Vessel Owner, 2003-2016

Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average 2003-2015	Average 2003-2015 (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	na	$9.00	100.0%

Notes: 2016 data not available at time of data analysis; na = not available.
Source: AKFIN 2017a

Table 18. CGOA Rockfish Trawl Catcher Processor First Wholesale Gross Revenue Diversification (in 2009 dollars), All Communities of Ownership Combined, 2003-2016

Catcher Processor Type	Annual Average Number of Trawl CPs 2003-2016	Annual Average First Wholesale Gross Revenues from CGOA Trawl-Caught Rockfish Target Fisheries Only 2003-2015 ($ millions)	Annual Average Total First Wholesale Gross Revenues from All Areas, Gears, and Species Fisheries 2003-2016 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenue as a Percentage of Total First Wholesale Gross Revenue Annual Average 2003-2016
CGOA Rockfish Trawl Catcher Processors Only	5.5	$8.04	$113.13	7.1%
All Trawl Catcher Processors*	37.9	$8.04	$899.59	0.9%

Note: Includes all trawl CPs with ownership in Unalaska/Dutch Harbor, Bellingham, and the Seattle MSA. 2016 data specific to CGOA rockfish revenues not available at time of data analysis.
Source: AKFIN 2017b

Table 19. CGOA Rockfish Trawl Catcher Processors Amendment 80 and AFA Program Designations by Community of Vessel Owner, Annual Average 2003-2016

	Annual Average 2003-2016 (number of CGOA Rockfish Trawl CPs)					Annual Average 2003-2016 (percent of CGOA Rockfish Trawl CPs)				
		Amendment 80		AFA			Amendment 80		AFA	
	Total Vessels	Yes	No	Yes	No	Total Vessels	Yes	No	Yes	No
Unalaska/Dutch Harbor AK	0.5	0.5	0	0	0.5	100.0%	100.0%	0.0%	0.0%	100.0%
Bellingham WA	0.2	0.2	0	0	0.2	100.0%	100.0%	0.0%	0.0%	100.0%
Kirkland WA	0.7	0.7	0	0	0.7	100.0%	100.0%	0.0%	0.0%	100.0%
Renton WA	0.6	0.6	0	0	0.6	100.0%	100.0%	0.0%	0.0%	100.0%
Seattle WA	4.1	4.1	0	0	4.1	100.0%	100.0%	0.0%	0.0%	100.0%
Seattle MSA Subtotal	5.4	5.4	0	0	5.4	100.0%	100.0%	0.0%	0.0%	100.0%
Washington Subtotal	5.6	5.6	0	0	5.6	100.0%	100.0%	0.0%	0.0%	100.0%
Grand Total	6.1	6.1	0	0	6.1	100.0%	100.0%	0.0%	0.0%	100.0%

Source: AKFIN 2017a

Table 20. 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 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%
GRAND TOTAL		38.64%	40.83%	2.18%	50.39%	40.03%	-10.35%	54.70%	38.43%	-16.27%

Source: https://alaskafisheries.noaa.gov/sites/default/files/reports/initialqsowners.csv. Adapted from Table 5-6 in the main program review document to which this SIA is appended.

Figure 4. GOA Catcher Processor LLP Licenses with Trawl Endorsements and CGOA Rockfish Program Quota Shares, by Community of Ownership, 2003-2016

LLP Count	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1	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
3	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
5	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
7	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Renton	Renton	Renton	Renton	Renton	Renton
8	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Renton	Renton	Renton	Renton	Renton	Renton
9	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Renton	Renton	Renton	Renton	Renton	Renton
10	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland
11	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Kirkland	Kirkland	Kirkland	Kirkland	Kirkland
12	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
13	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
14	Bellingham	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle	Seattle
15	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
16	Bellingham	Bellingham	Bellingham	Bellingham	Seattle	Seattle	Seattle	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME	Rockland ME

KEY	Seattle MSA, Washington	Other Washington	Other States

Source: NOAA Fisheries 2017a

Table 21. Number of Catcher Processor Days Fished (days when hauls were recorded) in the CGOA Rockfish Trawl Fishery, 2003-2016

	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program					Annual Average Pre-RPP Years	Annual Average RPP Years	Annual Average RP Years
Fishery	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
CGOA Rockfish Trawl	89	68	67	71	50	71	61	72	68	102	87	119	124	144	73.8	64.4	115.2

Source: NMFS in-season management data. Adapted from Table 17-3 in the main program review document to which this SIA is appended.

Table 22. Summary Number of Positions and Employees Onboard CGOA Rockfish Trawl Catcher Processors, 2015

Geography	Community	Number of CPs*	Average Number of Positions Onboard				Number of Employees Onboard			
			Fishing (Deck Crew)	Processing	All Other **	Total	Fishing (Deck Crew)	Processing	All Other **	Total
Seattle MSA	Kirkland	2	***	***	***	***	***	***	***	***
Seattle MSA	Renton	1	***	***	***	***	***	***	***	***
Seattle MSA	Seattle	1	***	***	***	***	***	***	***	***
Grand Total		4	27	104	26	157	92	259	66	417

* 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 2015, 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.

*** Value suppressed due to data confidentiality considerations.

Source: NOAA Fisheries 2016b.

Table 23. Summary Number of Positions and Employees Onboard CGOA Rockfish Trawl Catcher Processors, 2016

Geography	Community	Number of CPs*	Average Number of Positions Onboard				Number of Employees Onboard			
			Fishing (Deck Crew)	Processing	All Other **	Total	Fishing (Deck Crew)	Processing	All Other **	Total
Seattle MSA	Kirkland	2	***	***	***	***	***	***	***	***
Seattle MSA	Renton	2	***	***	***	***	***	***	***	***
Seattle MSA	Seattle	2	***	***	***	***	***	***	***	***
Grand Total		6	37	151	43	231	163	376	123	662

* 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 2016, 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.

*** Value suppressed due to data confidentiality considerations.

Source: NOAA Fisheries 2017c.

Table 24. Summary Number of Fishing Days and Labor Expenses for CGOA Rockfish Trawl Catcher Processors, 2015

Geography	Community	Number of CPs*	Number of Days Fishing by Fishery				Labor Expenses****			
			A80 (BSAI)	GOA	Other	Total	Fishing (Deck Crew)	Processing	All Other **	Total
Seattle MSA	Kirkland	2	***	***	***	***	***	***	***	***
Seattle MSA	Renton	1	***	***	***	***	***	***	***	***
Seattle MSA	Seattle	1	***	***	***	***	***	***	***	***
Grand Total		4	717	233	0	950	$3,350,241	$9,334,333	$6,024,615	$18,709,189

* 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 2015, 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.
*** Value suppressed due to data confidentiality considerations.
****Includes bonuses and payroll taxes, but excludes benefits and insurance.
Source: NOAA Fisheries 2016b.

Table 25. Summary Number of Fishing Days and Labor Expenses for CGOA Rockfish Trawl Catcher Processors, 2016

Geography	Community	Number of CPs*	Number of Days Fishing by Fishery				Labor Expenses****			
			A80 (BSAI)	GOA	Other	Total	Fishing (Deck Crew)	Processing	All Other **	Total
Seattle MSA	Kirkland	2	***	***	***	***	***	***	***	***
Seattle MSA	Renton	2	***	***	***	***	***	***	***	***
Seattle MSA	Seattle	2	***	***	***	***	***	***	***	***
Grand Total		6	1,146	309	4	1,459	$5,006,492	$14,874,834	$9,938,840	$29,820,166

* 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 2016, 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.
*** Value suppressed due to data confidentiality considerations.
****Includes bonuses and payroll taxes, but excludes benefits and insurance.
Source: NOAA Fisheries 2017c.

4.1.3 Shore-Based Processors Accepting Trawl-Caught CGOA Rockfish Deliveries

Table 26 shows provides information on the distribution of shore-based processors that accepted trawl-caught CGOA rockfish deliveries in the period 2003-2016. 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[12]). 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.[13]

Table 27 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 2012-2015; in 2011, data from Kodiak and Seward are combined

Table 28 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 (Pre-Rockfish Pilot 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 percent of the total first wholesale gross revenues generated by landings at the processors were associated with CGOA trawl-caught rockfish over that period. Table 29 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 (Pre-Rockfish Pilot Program) period,

[12] 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.

[13] 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 several of the rockfish program years (2012, 2015, and 2016) 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.

within the constraints of confidentiality restrictions. 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, for 2003-2006, the distribution pattern and total value of CGOA trawl-caught rockfish ex-vessel gross revenues for all community processors was like that of just those processors accepting CGOA trawl-caught rockfish deliveries over these same years. For all Kodiak shore-based processors as a group, about 12 percent of all first wholesale gross revenues were associated with CGOA trawl-caught rockfish deliveries during that period.

Table 30 provides information on average annual GOA trawl shore-based processor dependency on CGOA trawl-caught rockfish compared to all area and species fisheries landings processed by those same processors for the 2007-2011 (Rockfish Pilot Program) period. As shown, in the case of Kodiak CGOA trawl-caught rockfish processors, about nine percent of the total first wholesale gross revenues generated by landings at the processors were associated with CGOA trawl-caught rockfish over that period.

Table 31 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 2007-2011 (Rockfish Pilot Program) period, within the constraints of confidentiality restrictions. As shown, for 2007-2011, the distribution pattern and total value of CGOA trawl-caught rockfish ex-vessel gross revenues for all community processors was like that of just those processors accepting CGOA trawl-caught rockfish deliveries over these same years. For all Kodiak shore-based processors as a group, about nine percent of all first wholesale gross revenues were associated with CGOA trawl-caught rockfish deliveries during that period.

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 2012-2016 (Rockfish Program) period. As shown, in the case of Kodiak CGOA trawl-caught rockfish processors, about 11 percent of the total first wholesale gross revenues generated by landings at the processors were associated with CGOA trawl-caught rockfish over that period.

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 2012-2016 (Rockfish Program) period, within the constraints of confidentiality restrictions. As shown, for 2012-2016, the distribution pattern and total value of CGOA trawl-caught rockfish ex-vessel gross revenues for all community processors like that of just those processors accepting CGOA trawl-caught rockfish deliveries over these same years. For all Kodiak shore-based processors as a group, about 11 percent of all first wholesale gross revenues were associated with CGOA trawl-caught rockfish deliveries during that period.

Table 26. Shore-Based Processors Accepting CGOA Rockfish Trawl-Caught Deliveries by Community, 2003-2016 (number)

Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average 2003-2016 (number)	Average 2003-2016 (percent)	Unique SBPRs 2003-2016 (number)
Kodiak AK	5	7	7	8	8	6	6	8	8	7	7	7	6	6	6.9	95.0%	12
Seward AK	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0.1	1.0%	1
Seattle WA	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	1.0%	1
Other/Unknown	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0.2	3.0%	1
Grand Total	6	7	7	8	8	6	6	8	9	8	7	7	7	7	7.2	100.0%	15

Source: AKFIN 2017a

Table 27. First Wholesale Gross Revenues (in millions of 2009 dollars) from CGOA Rockfish Trawl-Caught Deliveries to Shore-Based Processors by Community, 2003-2015

Geography	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annual Average 2003-2015
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	n/a	$12.76

Note: Landings took place in Seward in 2011 only.
Source: AKFIN 2017a

Table 28. Shore-Based Processors in Alaska Accepting CGOA Trawl-Caught Rockfish Deliveries First Wholesale Gross Revenues Diversity (in 2009 dollars), by Community, 2003-2006 (Pre-Rockfish Pilot Program Years)

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish 2003-2006	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average 2003-2006 ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average 2003-2006 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average 2003-2006
Kodiak, Alaska	6.8	$11.87	$101.15	11.7%

Source: AKFIN 2017b

Table 29. 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), 2003-2006 (Pre-Rockfish Pilot Program Years)

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish 2003-2006	Annual Average Number of Total Processors 2003-2006	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average 2003-2006 ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average 2003-2006 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average 2003-2006
Kodiak, Alaska	6.8	8.0	$11.87	$101.87	11.7%

Source: AKFIN 2017b

Table 30. Shore-Based Processors in Alaska Accepting CGOA Trawl-Caught Rockfish Deliveries First Wholesale Gross Revenues Diversity (in 2009 dollars), by Community, 2007-2011 (Rockfish Pilot Program Years)

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish 2007-2011	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average 2007-2011 ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average 2007-2011 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average 2007-2011
Kodiak and Seward* AK	7.4	$12.20	$133.48	9.1%

Note: Landings took place in Seward in 2011 only.
Source: AKFIN 2017b

Table 31. 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), 2007-2011 (Rockfish Pilot Program Years)

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish 2007-2011	Annual Average Number of Total Processors 2007-2011	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average 2007-2011 ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average 2007-2011 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average 2007-2011
Kodiak and Seward* AK	7.4	10.0	$12.20	$133.66	9.1%

Note: Landings took place in Seward in 2011 only.
Source: AKFIN 2017b

Table 32. Shore-Based Processors in Alaska Accepting CGOA Trawl-Caught Rockfish Deliveries First Wholesale Gross Revenues Diversity (in 2009 dollars), by Community, 2012-2016 (Rockfish Program Years)

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish 2012-2016	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average 2012-2016 ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average 2012-2016 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average 2012-2016
Kodiak, Alaska	7.2	$15.16	$136.89	11.1%

Source: AKFIN 2017b

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), 2012-2016 (Rockfish Program Years)

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish 2012-2016	Annual Average Number of Total Processors 2012-2016	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues Annual Average 2012-2016 ($ millions)	Total (All Areas and Species) First Wholesale Gross Revenues Annual Average 2012-2016 ($ millions)	CGOA Trawl-Caught Rockfish First Wholesale Gross Revenues as a Percentage of Total First Wholesale Gross Revenues Annual Average 2012-2016
Kodiak, Alaska	7.2	10.8	$15.16	$137.46	11.0%

Source: AKFIN 2017b

4.2 CGOA Rockfish Longline Fishery Indicators

As noted in the main program review document to which this SIA is an appendix, 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 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.[14] 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 exempted from 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 amount 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[15]).

As noted in the main program review document to which this SIA is appended, however, diesel prices are an important component in determining whether it is profitable for jig vessels to target rockfish and appear to have acted as a constraining factor on participation in the CGOA rockfish fishery for these vessels. As noted in Section 5.2.1 of that document, during years when diesel prices were lower, jig vessels have tended to have more directed rockfish catch. Prior to 2006 and after 2014 diesel prices were relatively low and those years tended to have the greatest reported catch of rockfish species. The analysis in that document concludes, based on these trends, and assuming rockfish prices do not decrease dramatically, that more engagement of vessels will be seen and allocations to the longline sector are most likely to be under pressure to increase when diesel prices are in the $3/gallon range or less.

[14] 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.

[15] As described in the main program review document to which this SIA is appended, 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 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 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 rockfish.

4.2.1 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 2003-2016. 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 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, 2003-2016 (number of vessels)

Community	2003	2004	2005	2006	Total Unique CVs
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, Washington	0	0	1	0	1
Unknown	1	1	1	0	1
Grand Total	4	3	2	1	8

Source: AKFIN 2017a

4.2.2 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 2003-2016. 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 53 of 62 (85 percent) of the unique vessels that participated in the fishery and 95 of 112 (85 percent) of the participating vessel years over this period.

Among Alaska-owned vessels, only those owned in Kodiak participated in every year 2003-2016, and they were the only vessels that participated in any of the Rockfish Program years. A total of 40 unique Kodiak-owned vessels have participated in the fishery over this time, accounting for 75 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). Two other Alaska communities had one locally owned vessel participate in the fishery in two years each: Ouzinkie (2003 and 2004) with two unique vessels and Wasilla (2007 and 2009) with one unique vessel. 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). A total of five unique Homer-owned vessels participated in the fishery with no individual vessel active in more than one year: two were active in 2004, with three different vessels active one year each in 2006, 2007, and 2009.

No vessels owned outside of Alaska participated in the 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 three unique Oregon-owned vessels from three different communities accounted for a total of four 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, 2003-2016 (number of vessels)

Community	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total Unique CVs
Anchor Point	--	--	--	--	--	--	1	--	--	--	--	--	--	--	1
Anchorage	1	2	1	1	1	1	--	--	--	--	--	--	--	--	3
Chiniak	--	1	--	--	--	--	--	--	--	--	--	--	--	--	1
Homer	--	2	--	1	1	--	1	--	--	--	--	--	--	--	5
Kodiak	7	12	11	8	5	5	4	1	1	2	4	3	5	7	40
Old Harbor	--	--	--	--	--	1	--	--	--	--	--	--	--	--	1
Ouzinkie	1	1	--	--	--	--	--	--	--	--	--	--	--	--	2
Port Lions	--	--	--	1	--	--	--	--	--	--	--	--	--	--	1
Wasilla	--	--	--	--	1	--	1	--	--	--	--	--	--	--	1
Alaska Subtotal	9	18	12	11	8	7	7	1	1	2	4	3	5	7	53
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	--	--	--	--	--	3
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	62

Source: AKFIN 2017a

Table 36. Ex-Vessel Gross Revenues (in 2009 dollars), CGOA Rockfish Jig Catcher Vessels by Community of Vessel Owner, Federal Open Access Fishery, 2003-2016

Community	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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
Grand Total	$4,237	$28,016	$11,749	$4,802	$3,291	**	**	*	*	*	$5,473	*	$5,549	$25,203

*Denotes suppressed confidential data.
**Denotes values suppressed to protect confidential data in other cells.
Source: AKFIN 2017a

4.2.3 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 2003-2016. As shown, in Alaska, shore-based processing of longline-caught CGOA rockfish occurred in eight different communities over this period, while shore-based processing activity was also reported as associated with four different Washington communities in the data (likely due to catcher vessel deliveries made to Washington-owned inshore floating processors where good operating location information was not available and/or catch associated with Washington-owned catcher processors operating in Alaska state waters). This relatively wide distribution of community engagement in the CGOA longline rockfish fishery through ongoing shore-based processing effort is, however, likely more apparent than real, even among Alaska communities, due to the relatively infrequent, small volume deliveries behind these processor counts.

Table 38 provides information on the ex-vessel value of longline-caught CGOA rockfish deliveries by community and year (2003-2016) to the extent possible within data confidentiality constraints. As shown, the only community for which values can be shown for all 14 years is Kodiak, and the only other community for which any values can be disclosed is Seward (eight out of 14 years). Considering only values that can be disclosed for individual years (which underreports Seward's actual total to some degree), Seward accounted for about 43 percent and Kodiak accounted for about 40 percent of the total ex-vessel values of all CGOA longline-caught rockfish landings during 2003-2016.

In terms of understanding the relative level of engagement of communities in this sector, of the 358 processor years represented in the table, aggregated ex-value of CGOA longline-caught rockfish associated with 153 of those years can be disclosed (125 in Kodiak and 28 in Seward). For a substantial number of the suppressed value years, landings were recorded but had an ex-vessel value of zero dollars (i.e., where CGOA rockfish landings were made in amounts too small to be considered commercially viable to process). Among all communities, only Seward, Anchorage, and Homer had three or more calendar years during this period where the suppressed ex-vessel value of CGOA longline-caught landings at all locally operating shore-based processors combined were greater than zero. Together, these three communities accounted for the large majority of the grand total (all communities and years combined) of the suppressed ex-vessel value of CGOA longline-caught rockfish landings. Among all communities other than Kodiak, Seward, Anchorage, 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. Three of these "other" communities had no calendar years where the ex-vessel value of CGOA longline-caught rockfish landings was greater than zero, five had a single calendar year where the ex-vessel value landings was greater than zero, and one had two calendar years where the ex-vessel value landings were greater than zero.

Table 37. Number of Shore-Based Processors Accepting Longline-Caught CGOA Rockfish from the Federal Open Access Fishery, by Community of Operation, 2003-2016

Community	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Grand Total Unique SBPRs*
Kodiak	5	6	8	8	10	9	9	10	10	10	10	9	10	11	16
Seward	1	1	2	3	3	3	3	4	4	4	4	4	4	4	4
Anchorage	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
Cordova	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Homer	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4
Kenai	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Sand Point	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Unalaska/ Dutch Harbor	0	0	0	1	2	1	1	3	2	1	1	1	1	1	3
Everett WA	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1
Kirkland WA	0	0	2	1	1	0	1	2	2	2	2	2	2	2	2
Renton WA	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
Seattle WA	0	0	0	0	0	0	0	0	1	1	3	3	3	3	3
Total	14	16	22	23	25	22	24	29	29	28	30	31	32	33	41

*Note: counts are based on unique shore-based processor intent to operate codes in the data.
Source: AKFIN 2017a

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, 2003-2016

Community	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Grand Total	Percent of Grand Total
Kodiak	$0	$0	$0	$907	$6,836	$848	$1,833	$1,895	$5,673	$2,077	$10,228	$4,357	$11,917	$35,671	$82,242	39.6%
Seward	*	*	*	*	*	*	*	$879	$1,505	$15,688	$10,266	$6,095	$34,655	$19,786	$88,874**	42.8%**
Anchorage	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--
Cordova	--	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--
Homer	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--
Kenai	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--
Sand Point	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--
Unalaska/ Dutch Harbor	--	--	--	*	*	*	*	*	*	*	*	*	*	*	*	--
Everett WA	*	*	*	*	--	--	*	*	*	*	*	*	*	*	*	--
Kirkland WA	--	--	*	*	*	--	*	*	*	*	*	*	*	*	*	--
Renton WA	--	--	--	--	--	--	--	--	--	--	--	*	*	*	*	--
Seattle WA	--	--	--	--	--	--	--	--	*	*	*	*	*	*	*	--
Subtotal, Suppressed Values	$0	$0	$0	$483	$1,077	$2,115	$3,573	$0	$243	$908	$5,692	$2,651	$5,966	$8,194	$30,901	14.9%
Grand Total	$0	$0	$0	$1,390	$7,913	$2,963	$5,406	$2,773	$7,421	$18,674	$26,185	$13,103	$52,538	$63,650	$207,742	100.0%

*Values suppressed due to data confidentiality at the community level (less than four shore-based processors in the community received relevant landings in that year).
**Includes only non-suppressed values.
Source: AKFIN 2017a

5 Community Context of the CGOA Rockfish Fishery

5.1 Overview

This section contains a set of characterizations of communities that were most substantially engaged in and/or dependent upon the CGOA rockfish trawl fishery over the period 2003-2016, 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 resident catcher vessel ownership, 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 resident-owner 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 the fishery and, therefore, the likelihood that these communities have experienced community-level social impacts, whether beneficial or adverse, because of the implementation of the Rockfish Pilot Program or the Rockfish Program. The detailed 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 trawl fishery.

5.2 Alaska Communities

5.2.1 Kodiak

5.2.1.1 Introduction, Location, and History

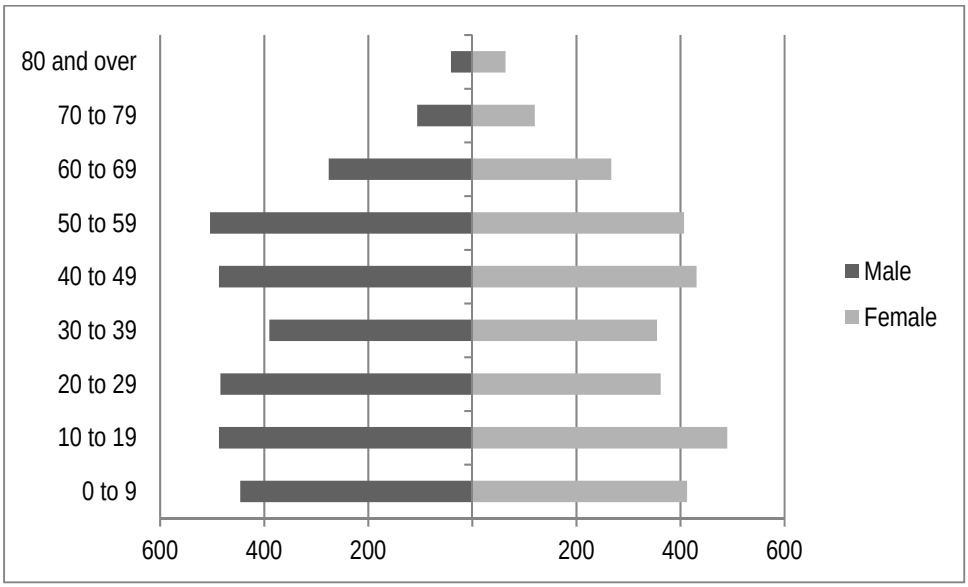
The city of Kodiak, located on a northeastern shore of Kodiak Island and bridge-connected Near Island in the Gulf of Alaska, is approximately 250 miles southwest of Anchorage. Kodiak is incorporated as a Home Rule City within the Kodiak Island Borough (KIB). Kodiak Island is only reachable by air and 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.

Kodiak Island 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).

5.2.1.2 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).

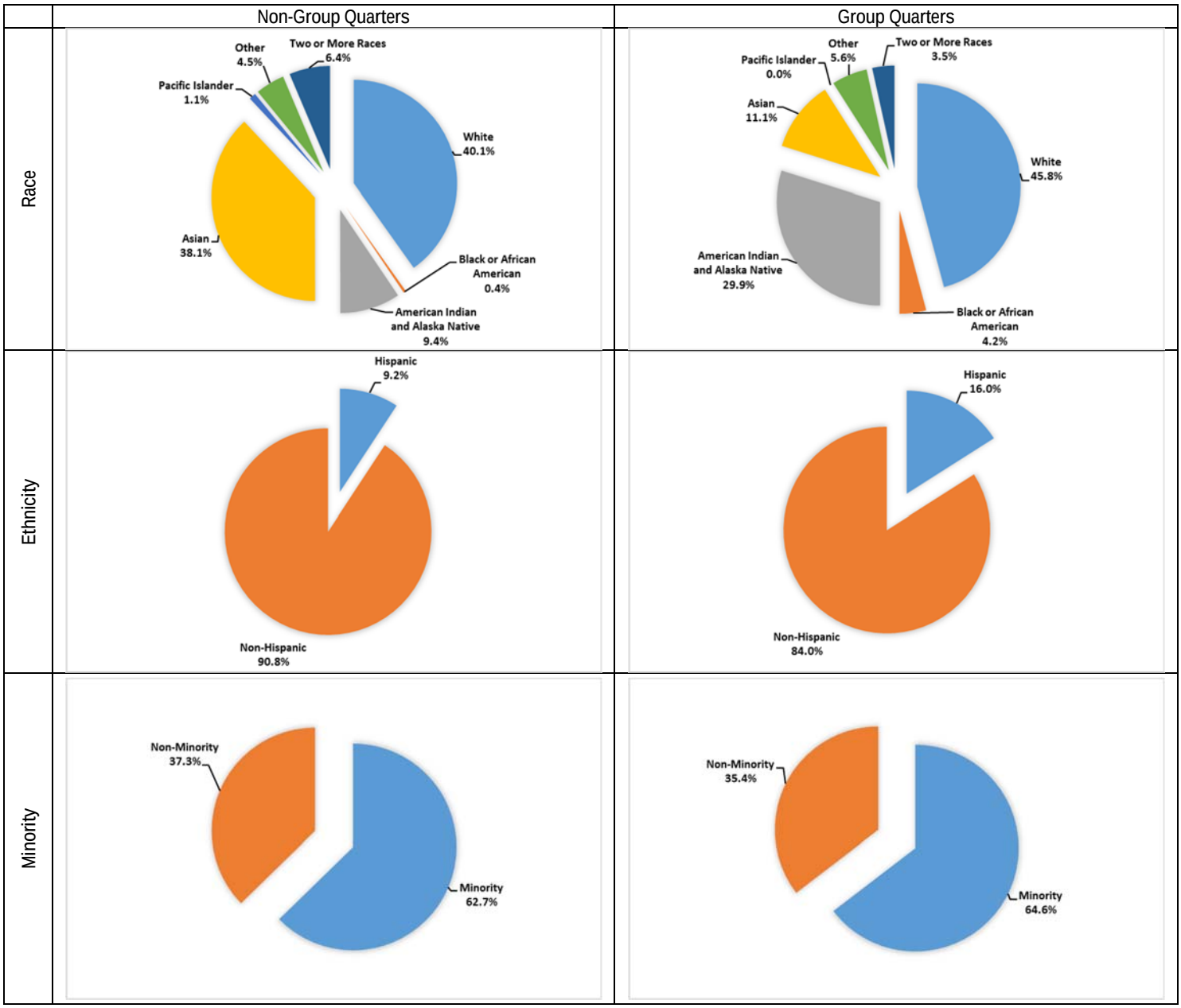
Table 39. Kodiak 2010 Housing Information

Category	Number	Percent
Total Population	6,130	100%
Living in Non-Group Quarters	5,986	97.7%
Living in Group Quarters	144	2.3%
Total Housing Units	2,178	100%
Occupied Housing (Households)	2,039	93.6%
Vacant Housing	139	6.4%
Family Households	1,342	65.8%
Average Household Size	2.94	na

na = not applicable
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

5.2.1.3 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 2011-2015 U.S. Census American Community Survey suggest that 3,625 people were employed in Kodiak, with an unemployment rate of 4.3 percent. Per capita income for people in Kodiak was estimated at $28,624, median household income was $62,934, and median family income was $72,750. An estimated 11.8 percent of Kodiak's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2017). Table 40 displays the top five occupations in Kodiak.

Table 40. Kodiak Top Five Occupations, 2015

Rank	Occupations
1	Meat, Poultry, and Fish Cutters and Trimmers
2	Cashiers
3	Janitors and Cleaners
4	Personal Care Aides
5	Sales and Related Workers

Source: Alaska Department of Labor and Workforce Development 2017

5.2.1.4 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).

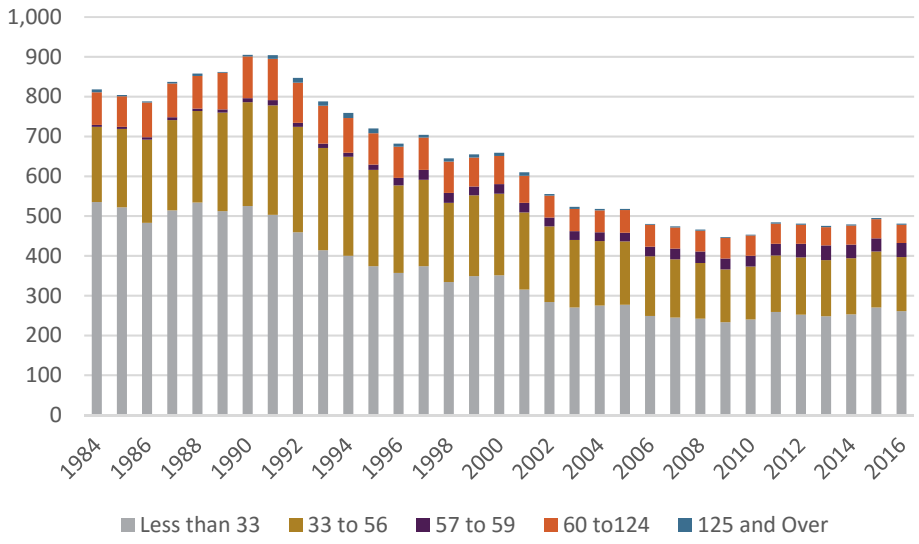
Harvest Sector

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 2016. 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 resident-owned registered commercial fishing vessels 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 trawl specific-focused discussion has been expanded below.

Figure 7. Number of Commercial Fishing Vessels Owned by Kodiak Residents, by Length Category, 1984-2016.



Source: Commercial Fisheries Entry Commission 2016

As shown in Table 41 from 2003 through 2015, the annual number of Kodiak resident-owned commercial fishing vessels actively participating in all fisheries, using all gear types in all areas combined (i.e., the community commercial fishing fleet), varied from 203 (in 2007) to 291 (in 2011). Over this time, an annual average of 212 vessels and a total of 393 unique vessels owned by Kodiak residents were active in commercial fisheries. As expressed in 2009 dollars, the annual ex-vessel gross revenues for these vessels ranged from $80.3 million (in 2004) to $126 million (in 2011), with an annual average of $95.6 million and a total of $1.24 billion ex-vessel gross revenues over this period.

Table 41. All Kodiak-Owned Commercial Catcher Vessels (all fisheries using all gear types in all areas combined), Number of Vessels and Ex-Vessel Gross Revenue (millions of 2009 dollars), 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Avg. 2003-2015	Total Unique CVs and Ex-Vessel Gross Revenues 2003-2015
Number of CVs	209	208	209	209	203	206	206	218	233	229	212	211	210	212	393
Ex-Vessel Gross Revenue	80.5	80.3	82.2	92.1	99.8	116	81.9	101	126	114	91.2	89.2	88.4	95.6	$1,242

Note:2016 data not available at time of analysis.
Source: AKFIN 2017b

CGOA Rockfish Trawl Catcher Vessels

As shown in Table 42, a total of 19 unique Kodiak resident-owned CGOA rockfish trawl catcher vessels participated in the fishery over the years 2003-2016, averaging approximately 11.6 vessels participating per year, ranging between eight vessels (2005) and 14 vessels (2010 and 2013) participating in the fishery under Kodiak resident ownership in any given year. These vessels accrued a total of 162 vessel participation years under Kodiak ownership over this 14-year span, with the participation of individual vessels under Kodiak resident ownership ranging from one to 14 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 (2012-2016) years were 12.2 vessels and 12.8 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 12*, *Kodiak CV 13*, and *Kodiak CV 16* in Table 42). 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 2010-2016 (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 2013-2016, while the other shows as Anacortes, Washington owned 2003-2008 and Kodiak owned 2010-2016 (and as not active in the fishery in 2009).[16]

[16] 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 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); Kodiak (2014); and having no FFP/not active in federal fisheries (2015). In addition having changing ownership and ownership locations during this time, it was also renamed during the 2003-2016 period.

Table 42. Kodiak-Owned Catcher Vessel Participation in the CGOA Rockfish Trawl Fishery, by Year, 2003-2016

CGOA Rockfish Trawl CV	LOA	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program					Kodiak Ownership Years Active in CGOA RF 2003-2016	Other Ownership Years Active in CGOA RF 2003-2016	Total Years Active in CGOA RF 2003-2016	Total Years Not Active in CGOA RF 2003-2016
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016				
Kodiak CV 1	94	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14	0
Kodiak CV 2	93	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14	0
Kodiak CV 3	92	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14	0
Kodiak CV 4	86	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14	0
Kodiak CV 5	79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14	0
Kodiak CV 6	99	1	1		1	1	1	1	1	1	1	1	1	1	1	13	0	13	1
Kodiak CV 7	90	1			1	1	1	1	1	1	1	1	1	1	1	12	0	12	2
Kodiak CV 8	86	1	1	1	1	1	1	1	1	1	1	1	1			12	0	12	2
Kodiak CV 9	97	1	1	1	1	1	1	1	1	1	1	1				11	3	14	0
Kodiak CV 10	92							1	1	1	1	1	1	1	1	8	6	14	0
Kodiak CV 11	107	1	1	1	1	1	1	1	1							8	4	12	2
Kodiak CV 12	58						1	1	1		1	1	1	1	1	8	0	8	6
Kodiak CV 13	87								1	1	1	1	1	1	1	7	5	12	2
Kodiak CV 14	86												1	1	1	3	11	14	0
Kodiak CV 15	71						1		1	1						3	5	8	6
Kodiak CV 16	70											1	1		1	3	2	5	9
Kodiak CV 17	78													1	1	2	0	2	12
Kodiak CV 18	58					1										1	0	1	13
Kodiak CV 19	57											1				1	0	1	13
Total	--	10	9	8	10	11	12	12	14	12	12	14	13	12	13	162	36	198	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 2017a

As shown in Table 2, CGOA trawl-caught rockfish ex-vessel gross revenues for Kodiak resident-owned CGOA rockfish trawl catcher vessels averaged approximately $1.70 million annually over the period 2003-2016, ranging from approximately $0.81 million (2009) to approximately $2.83 million (2012) in any given year. Information on 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, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 43. As shown, relative dependency has varied between roughly eight and 15 percent, as the annual average gross revenues of CGOA rockfish decreased between the first and second periods, but increased between the second and third periods, while ex-vessel gross revenues for all species increased between both the first and second and second and third periods.

Information on relative dependence of all Kodiak-owned 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, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 44. As shown, relative dependency has varied between roughly one and three percent, as the annual average gross revenues of CGOA rockfish decreased between the first and second periods, but increased between the second and third periods, while ex-vessel gross revenues for all species/gear type/area fisheries combined increased between the first and second periods and decreased between the second and third periods.

Interview data would suggest 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 resident-owned (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 rockfish trawl race-for-fish conditions.

As shown in Table 9, of that annual average number of CGOA rockfish trawl vessels with Kodiak resident ownership that fished 2003-2016, an average of 4.6 (40.1 percent) were AFA vessels and 6.9 percent (59.9 percent) were not. 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 resident-owned 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, which 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.

Table 43. Kodiak-Owned CGOA Rockfish Trawl Catcher Vessels Ex-Vessel Gross Revenue Annual Average Diversification (in millions of 2009 dollars), Selected Periods, 2003-2016

Period	Annual Average Number of CGOA Rockfish Trawl CVs	CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only	CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries	CGOA Rockfish Trawl CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
2003-2006 (pre-RPP)	9.3	$1.33	$9.23	14.5%
2007-2011 (RPP)	12.2	$1.24	$15.22	8.1%
2012-2016 (RP)	12.8	$2.46	$19.92	12.4%

Source: AKFIN 2017b

Table 44. Kodiak-Owned CGOA Rockfish Trawl Catcher Vessel and All Kodiak-Owned Catcher Vessel (all species, all gear types, all areas combined) Ex-Vessel Gross Revenue Annual Average Diversification (in millions of 2009 dollars), Selected Periods, 2003-2016

Period	Annual Average Number of CGOA Rockfish Trawl CVs	Annual Average Number of All Commercial Fishing CVs	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
2003-2006 (pre-RPP)	9.3	208.8	$1.33	$83.76	1.6%
2007-2011 (RPP)	12.2	213.2	$1.24	$104.84	1.2%
2012-2016 (RP)	12.8	215.5*	$2.46	$95.80*	2.6%**

*2015 data for this indicator not available at time of analysis. Value shown is 2012-2015 annual average.

**2015 data for denominator of indicator not available at time of analysis. Percentage shown is 2012-2016 annual average CGOA rockfish value over 2012-2015 annual average value all species, all gear, all area fisheries.

Source: AKFIN 2017b

CGOA Rockfish Trawl Catcher Vessel Quota and LLP Licenses

As shown in Table 10 Kodiak resident-owned LLPs 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 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.

As shown in Table 45 a total of 22 unique Kodiak resident-owned CGOA rockfish trawl catcher vessel LLPs were utilized in the fishery over the years 2003-2016, averaging approximately 16 LLPs per year, ranging between 14 (2006) and 17 LLPs (2009, 2010 and 2014-2016) active in the fishery under Kodiak resident ownership in any given year. These LLPs accrued a total of 224 active LLP years under Kodiak ownership over this 14-year span, with the activity of individual LLPs under Kodiak resident ownership ranging from two to 14 years.

Ten of the 22 listed "Kodiak" LLPs were active in the fishery for some portion of the 2003-2016 period under other community ownership. One of the 10 LLPs 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 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 (2014-2016).

A total of four CGOA trawl catcher LLPs 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 LLPs obtained allocations. All three of the LLPs that received quota shares have Kodiak ownership connections (shown as *Kodiak LLP 1*, *Kodiak LLP 11*, and *Kodiak LLP 18* in Table 45. Two of the LLPs had a Kodiak ownership addressed all 14 years 2003-2016, but the other had a Kodiak ownership address for 2013-2016 only (after having had a Florence, Oregon ownership address for 2003-2012).

Table 45. Kodiak-Owned Catcher Vessel LLP Activity in the CGOA Rockfish Trawl Fishery, by Year, 2003-2016

CGOA Rockfish Trawl CV LLP	Pre-Rockfish Pilot Program				Rockfish Pilot Program					Rockfish Program					Kodiak Ownership Years Active in CGOA RF 2003-2016	Other Ownership Years Active in CGOA RF 2003-2016	Total Years Active in CGOA RF 2003-2016
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
Kodiak LLP 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	0	14
Kodiak LLP 13	1	1	1	1	1	1	1	1	1	1	1				11	3	14
Kodiak LLP 14	1	1	1	1	1	1	1	1	1						9	5	14
Kodiak LLP 15							1	1	1	1	1	1	1	1	8	6	14
Kodiak LLP 16	1	1	1		1	1	1	1							7	7	14
Kodiak LLP 17										1	1	1	1	1	5	9	14
Kodiak LLP 18											1	1	1	1	4	10	14
Kodiak LLP 19						1	1	1	1						4	10	14
Kodiak LLP 20												1	1	1	3	11	14
Kodiak LLP 21												1	1	1	3	11	14
Kodiak LLP 22	1	1													2	12	14
Total	16	16	15	14	15	16	17	17	16	15	16	17	17	17	224	84	308

Note: A numeral "1" in a data cell in a year column indicates the LLP had a Kodiak ownership address that year.
Source: NOAA Fisheries 2017a.

CGOA Rockfish Trawl Catcher Vessel Crew

Quantitative data on employment of, or payments to, Kodiak crew members aboard CGOA rockfish trawl vessels is not available for the pre-Rockfish Pilot Program or the Rockfish Pilot Program years, and is available for only the most recent two of the five Rockfish Program years covered by this review. 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 and 2016[17] and Alaska Fisheries Science Center (AFSC) GOA trawl fishery social survey data that were collected in 2014. Both are summarized in this section, but neither constitute a time series of data that spans the pre-Rockfish Pilot Program, Rockfish Pilot Program, and/or the Rockfish Program years, so they are limited in their contribution in the analysis of social impacts that have resulted from the program.

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 payments to crew have similarly increased during this time. However, the impacts of quota leasing costs or changes to vessel operating costs, 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.

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 187 in 2012-2016 (Rockfish Program) as shown in Table 12.

2015 and 2016 EDR CGOA Rockfish Trawl Catcher Vessel Crew Data

Crew Positions Held by Kodiak Residents on all CGOA Rockfish Trawl Catcher Vessels

- EDR data indicate that in 2015, a total of 79 unique Kodiak residents held crew positions on CGOA rockfish trawl catcher vessels, including 34 individuals who held Alaska Commercial Fisheries Entry Commission (CFEC) gear operator permits and 45 individuals who held Alaska Department of Fish and Game (ADFG) crew licenses.

[17] As noted elsewhere, multiple caveats apply to catcher vessel EDR data, including: 2015 was the first year EDR catcher vessel crew data were collected; only two years of data are available; the available data have not been verified and audited (as audits typically rely on multiple years of data to identify outliers); and some data are missing. Specific to community level analysis, residence community information is not available for 21 unique individual crew members for 2015 (all were ADFG crew license holders) and 21 for 2016 (1 CFEC gear operator permit holder and 20 ADFG crew license holders). Nevertheless, these data are the best available and are presented here as an indication of relative if not exact crew employment.

- In 2015, these 79 Kodiak resident crew members served on CGOA rockfish trawl catcher vessels owned by residents of 7 different communities, 6 of which were in the Pacific Northwest. These included:
  - 44 (55.7%) on vessels owned by Kodiak residents (21 CFEC gear operator permit holders and 23 ADFG crew license holders).
  - 11 (13.9%) on vessels owned by Seattle MSA community residents (Seattle; 5 CFEC gear operator permit holders and 6 ADFG crew license holders).
  - 10 (12.7%) on vessels owned by Washington residents of communities outside of the Seattle MSA (Camas and East Wenatchee; 2 CFEC gear operator permit holders and 8 ADFG crew license holders).
  - 12 (15.2%) on vessels owned by Lincoln County, Oregon residents (Newport and Siletz; 4 CFEC gear operator permit holders and 7 ADFG crew license holders).
  - 2 (2.6%) on vessels owned by Oregon residents of communities outside of Lincoln County (Independence; 2 CFEC gear operator permit holders).

- EDR data indicate that in 2016, a total of 112 unique Kodiak residents held crew positions on CGOA rockfish trawl catcher vessels, including 34 individuals who held CFEC gear operator permits and 78 individuals who held ADFG crew licenses.
  - In 2016, these 112 Kodiak resident crew members served on CGOA rockfish trawl catcher vessels owned by residents of 8 different communities, 7 of which were in the Pacific Northwest. These included:
    - 58 (51.8%) on vessels owned by Kodiak residents (16 CFEC gear operator permit holders and 42 ADFG crew license holders).
    - 21 (18.7%) on vessels owned by Seattle MSA community residents (Seattle; 6 CFEC gear operator permit holders and 15 ADFG crew license holders).
    - 12 (10.7%) on vessels owned by Washington residents of communities outside of the Seattle MSA (Camas, East Wenatchee, and South Bend; 2 CFEC gear operator permit holders and 10 ADFG crew license holders).
    - 19 (17.0%) on vessels owned by Lincoln County, Oregon residents (Newport and Siletz; 10 CFEC gear operator permit holders and 9 ADFG crew license holders).
    - 2 (1.8%) on vessels owned by Oregon residents of communities outside of Lincoln County (Keiser; 1 CFEC gear operator permit holder and 1 ADFG crew license holder).

Crew Positions on Kodiak Resident-Owned CGOA Rockfish Trawl Catcher Vessels

- EDR data indicate that in 2015, there were a total of 81 crew positions on Kodiak resident-owned CGOA rockfish trawl catcher vessels, including 28 positions whose occupant held a CFEC gear operator permit and 53 positions whose occupant held an ADFG crew license. Of these positions:
    - 44 (54.3%) were held by Kodiak residents (21 CFEC gear operator permit holders and 23 ADFG crew license holders).
    - 11 (13.6%) were held by residents of other Alaska communities, including Anchor Point, Anchorage, Chiniak, Gustavus, Juneau, Old Harbor, and Palmer (3 CFEC gear operator permit holders and 8 ADFG crew license holders).
    - 1 (1.2%) was held by a resident of the Seattle MSA [Puyallup] (no CFEC gear operator permit holders and 1 ADFG crew license holder).
    - 4 (4.9%) were held by residents of Washington communities outside of the Seattle MSA, including Chehalis, Sedro Woolley, and Sequim (no CFEC gear operator permit holders and 4 ADFG crew license holders).
    - 3 (3.7%) were held by residents of Lincoln County, Oregon, including Newport, Siletz, and Waldport (1 CFEC gear operator permit holder and 2 ADFG crew license holders).
    - 6 (7.4%) were held by residents of Oregon communities outside of Lincoln County, including Albany, Beaverton, Lebanon, Port Orford, Redmond, and Seaside (2 CFEC gear operator permit holders and 4 ADFG crew license holders).
    - 4 (4.9%) were held by residents of other states, including California, Illinois, Massachusetts, and Texas (1 CFEC gear operator permit holder and 3 ADFG crew license holders).
    - 8 (9.9%) were held by individuals whose residence location was unknown (no CFEC gear operator permit holders and 8 ADFG crew license holders).
- EDR data indicate that in 2016, there were a total of 100 crew positions on Kodiak resident-owned CGOA rockfish trawl catcher vessels, including 24 positions whose occupant held a CFEC gear operator permit and 76 positions whose occupant held an ADFG crew license. Of these positions:
    - 58 (58.0%) were held by Kodiak residents (16 CFEC gear operator permit holders and 42 ADFG crew license holders).
    - 6 (6.0%) were held by residents of other Alaska communities, including Anchor Point, Anchorage, Old Harbor, Palmer, Soldotna, and Wasilla (1 CFEC gear operator permit holder and 5 ADFG crew license holders).

- 1 (1.0%) was held by a resident of the Seattle MSA [Puyallup] (no CFEC gear operator permit holders and 1 ADFG crew license holder).
- 4 (4.0%) were held by residents of Washington communities outside of the Seattle MSA, including Chehalis, Sedro Woolley, and Sequim (no CFEC gear operator permit holders and 4 ADFG crew license holders).
- 3 (3.0%) were held by residents of Lincoln County, Oregon, including Newport and Waldport (2 CFEC gear operator permit holder and 1 ADFG crew license holder).
- 9 (9.0%) were held by residents of Oregon communities outside of Lincoln County, including Albany, Beaverton, Florence, Lebanon, Port Orford, Portland, and Seaside (3 CFEC gear operator permit holders and 6 ADFG crew license holders).
- 4 (4.0%) were held by residents of other states, including California, Florida, and Illinois (1 CFEC gear operator permit holder and 3 ADFG crew license holders).
- 15 (15.0%) were held by individuals whose residence location was unknown (1 CFEC gear operator permit holder and 14 ADFG crew license holders).

For additional detail on EDR CGOA rockfish trawl catcher vessel crew data, please see Table 71 and Table 72 in SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016.

Crew Positions and Payments to Labor on Kodiak Resident-Owned CGOA Rockfish Trawl Catcher Vessels

Table 46 provides information on payments to captains and crew on Kodiak resident-owned CGOA rockfish trawl vessels for 2015 and 2016 based on EDR data. This represents payments to captains and crew that includes all fisheries pursued by these vessels during course of the year, not just the CGOA rockfish fishery. A rough order-of-magnitude estimate of proportion of payments to crew attributable to the CGOA rockfish trawl fishery itself could be derived from the average annual dependency of these vessels on CGOA rockfish trawl fishery as measured by contribution to annual average total gross ex-vessel value of landings, which was about 12 percent for the period 2012-2016.

Table 46. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, Kodiak Resident-Owned Vessels, 2015 and 2016

Year	Number of Catcher Vessels	Combined Number of Captains and Crew*	Total Captain Labor Payments	Total Crew Labor Payments	Total Captain and Crew Labor Payments
2015	12	80	$2,227,936	$3,461,191	$5,689,127
2016	13	87	$2,514,539	$4,721,864	$7,236,403

* The combined number of captains and crew in this table is less than the total crew positions reported for Kodiak-owned CGOA rockfish trawl catcher vessels in the bulleted discussions above (81 in 2015 and 100 in 2016), which are also based on EDR data, which suggests that payment data was not obtained for all positions.
Source: NOAA Fisheries 2016c, NOAA Fisheries 2017d.

AFSC 2014 Social Survey GOA Trawl Catcher Vessel Crew Data

Table 47 provides information on the number of Kodiak resident-owned CGOA rockfish trawl catcher vessels 2003-2016 and the number of Kodiak resident-owned GOA trawl catcher vessels 2003-2014, specifically including those that in 2014 were the target of the AFSC 2014 GOA trawl fishery social survey. As shown, in most years, including 2014, Kodiak resident-owned CGOA rockfish trawl catcher vessels were a relatively large subset of the Kodiak resident-owned GOA trawl catcher vessels. For the AFSC survey, however, 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 owned by Kodiak residents.

Table 47. Comparison of Kodiak Resident-Owned CGOA Rockfish Trawl Catcher Vessels to all Kodiak Resident-Owned GOA Trawl Catcher Vessels, 2003-2014

Type of CV	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CGOA Rockfish Trawl CVs	10	9	8	10	11	12	12	14	12	12	14	13	12	13
GOA Trawl CVs*	18	15	14	13	12	15	14	15	14	15	15	18	--	--
CGOA Rockfish Trawl CVs as Percent of GOA Trawl CVs	55.6%	60.0%	57.1%	76.9%	91.7%	80.0%	85.7%	93.3%	85.7%	80.0%	93.3%	72.2%	--	--

*Northern Economics, 2016a.
Source: AKFIN 2017a unless otherwise noted.

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).
- 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 Table 75 in SIA Attachment 3: Responses to Selected Questions, AFSC GOA Trawl Social Survey, 2014.

CGOA Rockfish Longline Catcher Vessels

Kodiak-resident owned CGOA rockfish longline vessels participated in the 2003-2016 years of the Federal open access fishery exclusively using jig gear. 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.

Table 48 provides information the number of Kodiak resident-owned CGOA rockfish longline catcher vessels participating in the Federal open access fishery by year 2003-2016. As shown, a total of 40 unique Kodiak-owned vessels participated in the fishery over this time, accounting for 75 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 Alaska-owned jig catcher vessels participating in the fishery, only those owned in Kodiak participated in every year 2003-2016, and they were the only vessels that participated in any of the Rockfish Program years (2012-2016). Also shown in the table are the ex-vessel gross revenues from landings by Kodiak resident-owned vessels in that fishery.

Table 48. Number of Kodiak-Owned CGOA Rockfish Longline Catcher Vessels Fishing in the Federal Open Access Fishery and Ex-Vessel Value (in 2009 dollars) of their Landings, 2003-2016

Number or Value	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Grand Total Unique CVs and Revenues
Number of CVs	7	12	11	8	5	5	4	1	1	2	4	3	5	7	40
Ex-Vessel Value of Landings	$3,797	$16,069	$5,275	$1,568	$2,208	$20	$3,293	*	*	*	$5,473	*	$5,549	$25,182	$6,843**

*Values suppressed due to data confidentiality constraints.
**Includes non-suppressed values only.
Source: AKFIN 2017a

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 49 from 2003 through 2016, the annual number of active Kodiak shore-based processors varied from 10 (in 2003, 2004, and 2014) to 14 (in 2007 and 2011), with an annual average of 11.9 shore-based processors operating over this time span. Based on a count of intent to operate codes, a total of 29 unique shore-based processing entities operated in Kodiak during this period.[18]

The annual first wholesale gross revenues for these processors ranged from $94 million (in 2003) to $171 million (in 2011), with an annual average of $128 million in first wholesale gross revenues over this period.

[18] 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 physical processing entities than is the case for the other communities described in this document, with the most extreme example being a physical plant in the community that 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 have physical plants in the community that accepted CGOA trawl-caught rockfish deliveries during the period 2003-2016.

Table 49. Number of Shore-Based Processors in Kodiak, 2003-2016, and First Wholesale Gross Revenues (in millions of 2009 dollars) All Deliveries (All Species, All Gear Type, All Area Fisheries) to Shore-Based Processors in Kodiak, 2003-2015

Indicator	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annual Average 2003-2016 or 2003-2015	Unique SBPRs 2003-2016 (number)
Number of Processors	10	10	12	13	14	13	13	12	14	12	12	10	12	10	11.9	29
First Wholesale Gross Revenues	$93.9	$101.1	$109.7	$123.4	$133.2	$150.4	$111.7	$130.0	$170.5	$162.8	$147.3	$132.0	$131.1	$96.4	$128.1	--

Source: AKFIN 2017a

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:

- Alaska Pacific Seafoods
- Global Seafoods
- International Seafoods of Alaska
- Ocean Beauty Seafoods
- Pacific Seafoods
- Trident Seafoods

Profiles of each of these six Kodiak shore-based processors, 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 in SIA Attachment 4: 2016 Profiles of Shore-Based Processors Accepting GOA Trawl-Caught Deliveries. Among these plants, four (Alaska Pacific Seafoods, International Seafoods of Alaska, Ocean Beauty Seafoods, and Trident Seafoods) were part of cooperatives formed under the Rockfish Pilot program.

CGOA Trawl-Caught Rockfish Shore-Based Processors

Table 50 shows provides information Kodiak shore-based processors that accepted trawl-caught CGOA rockfish deliveries in the period 2003-2016, 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[19]). 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 this table.[20] As shown, between five and eight shore-based processors in each year, and a total of 12 unique shore-based processors in Kodiak accepted CGOA rockfish trawl-caught deliveries over the years 2003-2016. First wholesale gross revenues from CGOA rockfish trawl-caught deliveries for Kodiak shore-based processors averaged approximately $13 million annually over the period 2003-2016, ranging from approximately $9.8 million (2004 and 2008) to approximately $19 million (2012) in any given year.

[19] 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.

[20] Additionally, "Other/Unknown" location shore-based processing activity shown in Table 26 as occurring during several of the rockfish program years (2012, 2015, and 2016) 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 and thus is not included in this table.

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 51. As shown, relative dependency has varied between roughly nine and 12 percent, decreasing between the first and second periods and increasing between the second and third periods, as the annual average first wholesale gross revenues attributable to CGOA rockfish and 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 52. 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.

Table 50. Number of Shore-Based Processors in Kodiak Accepting CGOA Rockfish Trawl-Caught Deliveries, 2003-2016, and First Wholesale Gross Revenues (in millions of 2009 dollars) from CGOA Rockfish Trawl-Caught Deliveries to Shore-Based Processors in Kodiak, 2003-2015

Indicator	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Annual Average 2003-2016 or 2003-2015	Unique SBPRs 2003-2016 (number)
Number of Processors	5	7	7	8	8	6	6	8	8	7	7	7	6	6	6.9	12
First Wholesale Gross Revenues	$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	n/a	$12.76	--

*Note: Includes first wholesale gross revenues associated with landings in Seward (2011 only).
Source: AKFIN 2017a

Table 51. Shore-Based Processors in Kodiak Accepting CGOA Trawl-Caught Rockfish Deliveries Average Annual First Wholesale Gross Revenues Diversity (in 2009 dollars), Selected Periods, 2003-2016

Geography	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
2003-2006 (pre-RPP)	6.8	$11.87	$101.15	11.7%
2007-2011 (RPP)*	7.4	$12.20	$133.48	9.1%
2012-2016 (RP)	7.2	$15.16	$136.89	11.1%

*Note: Includes data associated with landings in Seward (2011 only).
Source: AKFIN 2017b

Table 52. All Areas and Species First Wholesale Gross Revenues Annual Average Diversity (in 2009 dollars) for All Shore-Based Processors in Kodiak, Selected Periods, 2003-2016

Geography	Annual Average Number of Processors Processing CGOA Trawl-Caught Rockfish	Annual 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
2003-2006 (pre-RPP)	6.8	8.0	$11.87	$101.87	11.7%
2007-2011 (RPP)*	7.4	10.0	$12.20	$133.66	9.1%
2012-2016 (RP)	7.2	10.8	$15.16	$137.46	11.0%

*Note: Includes data associated with landings in Seward (2011 only).
Source: AKFIN 2017b

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. 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. Western Alaska Fisheries was a part of a cooperative formed under the 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 currently (2017) 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)

Table 53 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 2007-2017. 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 53 is the simultaneous consolidation that occurred that occurred among catcher processor cooperatives. 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 53. Number of Catcher Vessel LLP Licenses (Number of Catcher Vessels) Assigned to CGOA Rockfish Cooperatives, 2007-2017

	Rockfish Pilot Program Year					Rockfish Program Year					
Catcher Vessel Cooperative	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
I.S.A. Rockfish Cooperative	9(9)	9(9)	9(9)	10(10)	10(10)	6(6)	6(6)	6(6)	5(5)	6(5)	6(6)
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)
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)
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)
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)
Global Rockfish Cooperative	--	--	--	--	--	3(3)	2(2)	3(3)	3(3)	3(3)	3(3)
Pacific Rockfish Cooperative	--	--	--	--	--	2(2)	2(2)	2(2)	2(2)	2(2)	2(2)
Total Catcher Vessel Cooperatives	44(43)	45(44)	45(44)	46(45)	46(45)	46(43)	46(43)	46(43)	46(43)	46(42)	46(43)

Source: NMFS RAM Division Cooperative Data. Adapted from Table 4-1 in the main program review document to which this SIA is appended.

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, this has helped with workforce stability by providing the opportunity for more reliable/steady processing employment opportunity during the May/June period, helping with worker retention, while making more local workers potentially available for peak salmon production demands in June. The reduced conflicts with salmon fisheries has 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. 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 were 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, and are available for only the most recent two of the five Rockfish Program years covered by this review.

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 positions may have increased for at least some operations during the Rockfish Program years 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 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 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. 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.

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 for 2015 and 2016[21] and AFSC GOA trawl fishery social survey data that were collected in 2014. Both are summarized in this section.

[21] 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 two years of data are available; and the available data are unaudited.

2015 and 2016 EDR Shoreside Processors Accepting CGOA Trawl-Caught Rockfish Deliveries Employee Data

Data collected through the EDR program are available 2015 and 2016 for both processing and non-processing employees at shoreside[22] processors in Kodiak and elsewhere. Several changes in Kodiak shore-based processing took place in 2015 that could make 2015 somewhat different for local operations than immediately preceding for following years, including the new Trident Seafoods Kodiak Near Island (KNI) plant becoming operational in the summer of 2015 and operations at the former Western Alaska Fisheries facility changing with the acquisition of that plant by another processor during that same year.

Table 54 provides labor payment information for processing workers at shoreside processors in Kodiak that accepted CGOA trawl-caught rockfish deliveries in 2015 and 2016. Table 55 provides annual wage and salary information for non-processing workers at shoreside processors in Kodiak that accepted GOA trawl-caught deliveries in 2015 and 2016.

[22] 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 54. 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	Housed	Not Housed
2015						
January	7	1,422	34,440	182,484	$326,052	$2,165,849
February	7	1,645	127,474	214,655	$1,339,541	$2,659,635
March	7	1,686	126,612	315,540	$2,390,093	$3,958,886
April	7	1,567	82,725	213,604	$954,102	$2,785,893
May	7	1,136	25,805	160,411	$286,175	$1,874,488
June	7	1,123	18,898	119,953	$225,211	$1,478,947
July	7	533	6,714	83,271	$82,558	$1,024,004
August	7	532	6,903	78,400	$97,876	$952,292
September	7	1,447	98,001	264,578	$1,095,659	$3,411,559
October	7	1,403	107,747	244,705	$1,272,712	$3,172,959
November	7	1,108	28,320	100,738	$340,911	$1,286,226
December	7	407	4,768	46,271	$68,512	$579,133
Total	--	--	668,407	2,024,610	$8,479,402	$25,349,871
2016						
January	6	1,416	40,983	141,787	$414,063	$1,762,917
February	6	1,739	104,791	423,371	$1,123,608	$4,317,818
March	6	1,711	108,898	508,516	$1,162,563	$6,383,753
April	6	1,550	35,152	289,338	$376,939	$3,679,383
May	6	1,240	23,670	274,940	$260,548	$3,502,565
June	6	1,174	22,016	194,014	$241,854	$2,446,436
July	6	541	4,065	57,916	$47,077	$715,933
August	6	1,061	35,626	206,916	$361,258	$2,540,827
September	6	1,395	41,109	282,793	$430,362	$3,568,261
October	6	1,411	68,606	374,406	$748,545	$4,774,549
November	6	1,129	8,330	113,185	$93,893	$1,486,277
December	6	583	995	43,941	$10,838	$564,543
Total	--	--	494,241	2,911,123	$5,271,548	$35,743,262

Source: NOAA Fisheries 2016c, NOAA Fisheries 2017d.

Table 55. Annual Wages and Salaries for Non-Processing Employees, Kodiak Shoreside Processors that Accepted CGOA Trawl-Caught Rockfish Deliveries, 2015 and 2016

Year	Number of Non-Processing Employees	Total Wages and Salaries
2015	105	$6,046,418
2016	102	$5,886,819

Source: NOAA Fisheries 2016c, NOAA Fisheries 2017d.

AFSC 2014 Social Survey Processing Worker Data

Of the processing workers at Kodiak shore-based processors that accepted GOA trawl-caught deliveries[23] 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:

- 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.

[23] All of the shoreside processing plants in Kodiak that participated in the 2014 AFSC social survey accepted CGOA trawl-caught rockfish deliveries that year.

For additional detail on selected AFSC survey questions and responses, please see Table 76 in SIA Attachment 3: Responses to Selected Questions, AFSC GOA Trawl Social Survey, 2014.

CGOA Longline-Caught Rockfish Shore-Based Processing

Table 56 provides information the number of shore-based processors in Kodiak accepting CGOA rockfish longline-caught deliveries from the Federal open access fishery. Also provided in the table are the ex-vessel gross revenues from those deliveries. As shown, the number of Kodiak shore-based processors accepting CGOA rockfish longline-caught deliveries was relatively flat between the Rockfish Pilot Program and the Rockfish Program. While ex-vessel values of those deliveries showed considerable year-to-year variability, they are consistently minor in relation to the overall scale of most Kodiak shore-based processors.

Table 56. Number of Shore-Based Processors in Kodiak Accepting CGOA Rockfish Longline-Caught Deliveries from the Federal Open Access Fishery and Ex-Vessel Value (in 2009 dollars) of Landings, 2003-2016

Number or Value	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Grand Total Unique SBPRs* and Revenues
Number of SBPRs	5	6	8	8	10	9	9	10	10	10	10	9	10	11	16
Ex-Vessel Value of Landings	$0	$0	$0	$907	$6,836	$848	$1,833	$1,895	$5,673	$2,077	$10,228	$4,357	$11,917	$35,671	$82,242

*Note: unique count based on shore-based processor intent to operate codes.
Source: AKFIN 2017a

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.

5.2.1.5 Support Services Sector

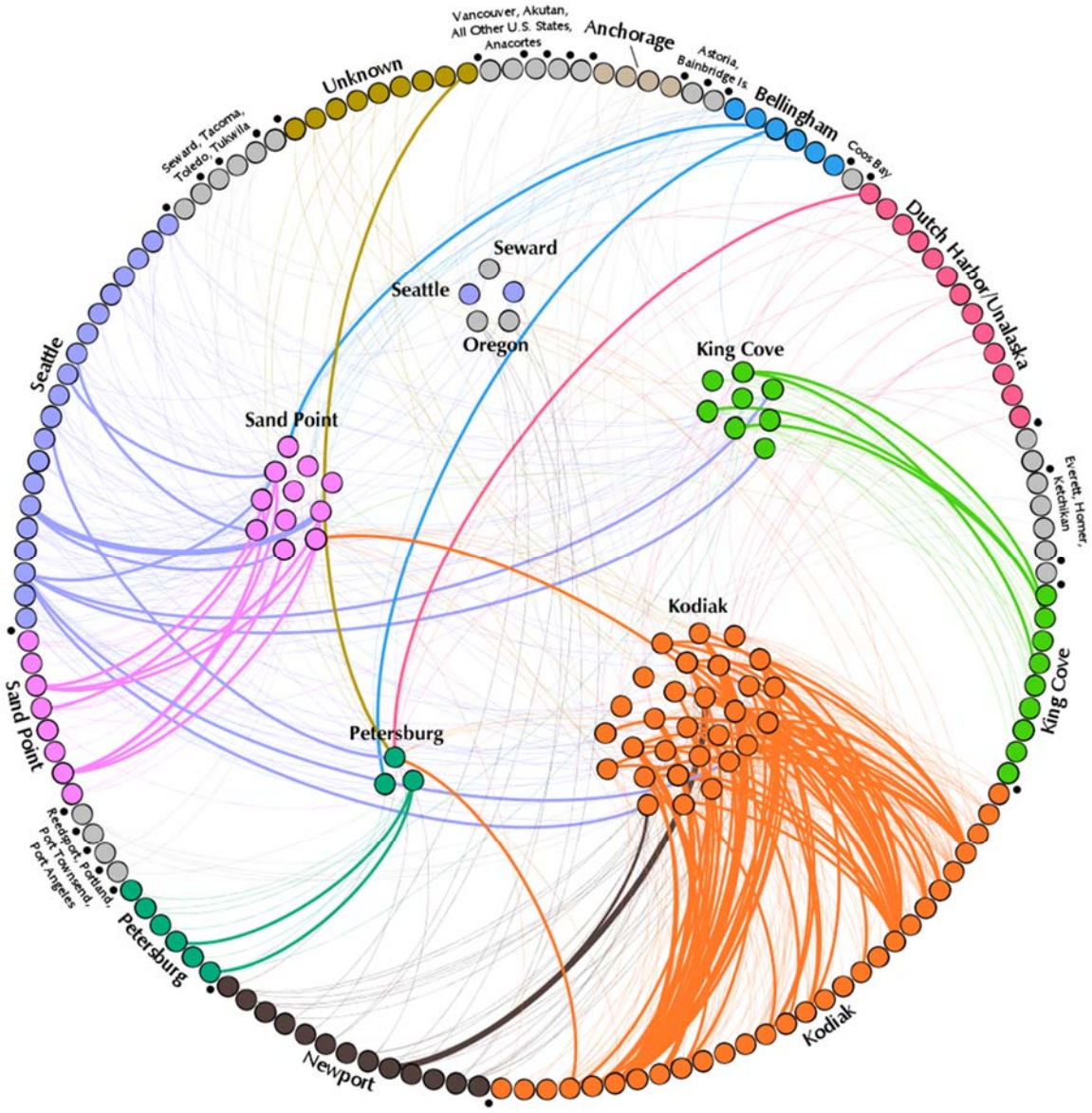
Beyond the magnitude of its direct harvesting and processing engagement in a wide range of fisheries, the community of Kodiak is distinguished from most other Alaskan fishing ports by the number and range of support service businesses that cater in whole or in part to the commercial fishing industry. 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 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 vessel owners and/or crew, but the impact on the local purchase of fishery specific 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," has been included as SIA Attachment 5: Investment in Kodiak's Utility Infrastructure to this document.

Additional information developed for 2015 and 2016 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 57 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. As shown, demand for both water and electricity varies considerably by month. It should be noted, however, that some caution should be exercised in the interpretation of these data as a time series is not available.[24] Further, several changes in local shore-based processing took place in 2015 that could make 2015 somewhat different than immediately preceding for following years. These included operations at the former Western Alaska Fisheries facility changing with the acquisition of that plant by another processor during 2015 and the new Trident Seafoods KNI plant becoming operational in the summer of that same year.

[24] 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 two years of data are available; and the available data are unaudited.

Table 57. Kodiak Shore-Based Processor Utility Consumption and Cost, by Month, 2015

Month	Number of Federal Processor Permits	Water		Electricity	
		Gallons	Cost	Kilowatt Hours	Cost
2015					
January	7	41,627,474	$84,715	1,931,880	$322,885
February	7	91,487,974	$156,397	3,691,719	$586,592
March	7	123,356,473	$209,867	4,462,765	$683,605
April	7	92,980,469	$159,655	4,233,005	$656,635
May	7	45,452,867	$82,655	2,449,247	$412,534
June	7	41,219,398	$75,371	2,419,315	$396,793
July	7	61,040,266	$115,242	2,479,839	$411,298
August	7	93,461,196	$173,716	4,084,302	$650,630
September	7	137,343,909	$251,818	5,001,116	$775,570
October	7	88,878,626	$164,013	4,154,224	$647,818
November	7	43,819,324	$83,531	2,262,488	$389,970
December	7	19,909,980	$39,793	1,068,910	$132,365
2015 Total	7	880,577,956	$1,596,773	38,238,810	$6,066,695
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: NOAA Fisheries 2016c, NOAA Fisheries 2017c.

5.2.1.6 Public Revenues

Table 58 provides information on selected fisheries related revenues accruing to the City of Kodiak 2003-2016. As shown, shared fisheries tax revenues typically range between roughly six and eight percent of total general fund revenues in any given year, 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 59 provides information on ex-vessel value of landings in Kodiak, which are the primary bases of shared fishery tax revenues that accrue to the city, broken out by major species group by year 2003-2016. To place CGOA trawl-caught rockfish landings into this context, Table 60 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 (2012-2016), from 1.8 percent to 3.4 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 2007-2016, with annual average percentages increasing between the Rockfish Pilot Program years and the Rockfish Program years (2012-2016), from 3.6 percent to 5.0 percent.

Overall, 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 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 58. Selected Fisheries Related Revenues (nominal dollars), City of Kodiak, 2003-2016

Year	General Fund Revenue						Boat Harbor Revenue
	Shared Fisheries Tax Revenue						
	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	
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

*Includes revitalization aid.
Source: DCCED 2017

Table 59. Ex-Vessel Value of Landings in Kodiak (nominal dollars), by Major Species Group, 2003-2016

Year	Groundfish	Halibut	Herring	Salmon	Crab	Other	Total
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	$60,029,493	$33,109,643	$1,342,910	$27,283,481	$9,367,838	$421,044	$131,554,408
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	$17,483,730	$324,265	$39,721,858	$4,984,758	$1,350,202	$143,636,908
2015	$77,572,722	$18,287,448	$83,311	$38,269,623	$8,981,104	$1,026,324	$144,220,532
2016	$61,440,562	$18,467,902	$22,115	$18,927,466	$7,830,096	$799,394	$107,487,535
Grand Total	$842,875,417	$382,293,463	$14,537,336	$456,441,048	$104,497,288	$11,267,483	$1,811,912,036

Source: AKFIN 2017b

Table 60. Ex-Vessel Value of Landings in Kodiak (nominal dollars), CGOA Rockfish and CGOA Rockfish Vessels when Checked in to Cooperative, 2003-2016

Year	CGOA Rockfish Trawl Landings	CGOA 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)	Total Value of Catch 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	$131,554,408	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	$143,636,908	2.9%	$6,836,163	4.8%
2015	$4,481,751	$11,917	$4,493,668	$144,220,532	3.1%	$6,674,220	4.6%
2016	$5,535,558	$31,848	$5,567,406	$107,487,535	5.2%	$7,229,291	6.7%
Grand Total	$43,228,253	$64,418	$43,292,670	$1,811,912,036	2.4%	$61,194,921	3.4%

*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 2017b

5.2.2 Other Alaska Communities

In addition to Kodiak, another 20 Alaska communities were directly engaged in the CGOA rockfish federal open access rockfish longline and/or CGOA rockfish trawl fisheries 2003-2016 as measured by a variety of indices. These include: resident ownership of catcher vessels in CGOA rockfish longline in the hook-and-line or jig sectors, local operation of shore-based processors that accepted longline caught deliveries of CGOA rockfish; resident ownership of CGOA rockfish trawl catcher vessel LLP licenses, resident ownership of CGOA rockfish trawl catcher processors, and local operation of shore-based processors that accepted trawl-caught caught deliveries of CGOA rockfish in any year 2003-2016, and residents who served as crew members aboard CGOA rockfish trawl catcher vessels and/or trawl catcher processors in 2015 or 2016 (the only years for which these data are available). These include:

Anchor Point	Homer	Sand Point
Anchorage[25]	Juneau	Seldovia
Chiniak	Kenai	Seward
Cordova	Old Harbor	Soldotna
Delta Junction	Ouzinkie	Wasilla
False Pass	Palmer	Willow
Gustavus	Port Lions	

The following sections briefly characterize the nature of engagement of these communities in the relevant CGOA rockfish fisheries. None of these communities are considered to have been substantially engaged or substantially dependent upon the CGOA rockfish fishery at the time of the implementation of the Rockfish Program.

5.2.2.1 CGOA Rockfish Longline Federal Open Access Fishery

- Alaska resident ownership of CGOA rockfish longline vessels utilizing hook-and-line gear to participate in the Federal open access fishery 2003-2016 included three communities: Homer, Seldovia, and Willow.
    - 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 resident ownership (outside of Kodiak) of CGOA rockfish longline vessels utilizing jig gear to participate in the Federal open access fishery 2003-2016 included eight communities: Anchor Point, Anchorage, Chiniak, Homer, Old Harbor, Ouzinkie, Port Lions, and Wasilla.
    - All activity took place 2003-2009.

[25] Includes Girdwood (which appears as a separate location some of the quantitative indicator data).

- Four communities had one vessel fish in one year: Anchor Point (2009), Chiniak (2004), Old Harbor (2008), and Port Lions (2006).
- Two communities had one vessel in two years: Ouzinkie (2003 and 2004) with two unique vessels and Wasilla (2007 and 2009) with one unique vessel.

- Anchorage-owned 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).

- A total of five unique Homer-owned vessels participated in the fishery with no individual vessel active in more than one year: two were active in 2004, with three different vessels active one year each in 2006, 2007, and 2009.

- Shore-based processors operating in Alaska (outside of Kodiak) that accepted Federal open access fishery CGOA rockfish longline-caught deliveries 2003-2016 were located in seven communities: Anchorage, Cordova, Homer, Kenai, Sand Point, Seward, and Unalaska/Dutch Harbor.
  - Activity occurred in each year 2003-2016 in every community except Unalaska/Dutch Harbor (which did not show activity 2003-2005). 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.[26]
  - Seward had a higher total of ex-vessel value of landings in this fishery 2003-2016 than did Kodiak.
  - Kodiak and Seward together accounted for the large majority of the grand total (all communities and years combined) ex-vessel value of CGOA longline-caught rockfish landings, with Anchorage and Homer together accounting for the large majority of the remainder.
  - Among all communities other than Kodiak, Seward, Anchorage, 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.

5.2.2.2 CGOA Rockfish Trawl Fishery

- Alaska resident ownership of CGOA rockfish trawl catcher vessels was limited to Kodiak.
- Alaska resident ownership (outside of Kodiak) of relevant CGOA rockfish trawl catcher vessel LLPs during 2003-2016 included four communities: Anchorage, False Pass, Homer, and Sand Point.

[26] As noted elsewhere, these include a substantial number of instances where landings were recorded but had an ex-vessel value of zero dollars (i.e., where CGOA rockfish landings were made in amounts too small to be considered commercially viable to process).

- With one exception (Homer) all LLP ownership in these communities occurred 2003-2009.
- Anchorage appears in the data as an ownership address for one LLP in 2003 and 2004 (with ownership shown as Seattle 2005-2016).
    - This LLP 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 for 2003-2009, while Homer appears as the ownership address for that same LLP for 2010-2016 (making this the only LLP shown as continuously having Alaska ownership for the entire 2003-2016 period outside of Kodiak, albeit in 2 different communities).
    - This LLP did not receive a Rockfish Pilot Program or Rockfish Program initial allocation under its False Pass ownership address.
    - This LLP 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 in 2006 and 2007 (with ownership of that LLP shown as Bellingham WA for 2003-2005 and 2008-2013, and Kodiak for 2014-2016).
    - This LLP 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 and/or catcher processors in 2015 and/or 2016 (the only years for which crew data are available).
    - Residents of 10 Alaska communities outside of Kodiak served as crew aboard CGOA rockfish trawl catcher vessels in 2015 and/or 2016: Anchor Point, Anchorage, Chiniak, Gustavus, Juneau, Kenai, Old Harbor, Palmer, Soldotna, and Wasilla.
        - In 2015, a total of 15 residents of Anchor Point (2), Anchorage (4), Chiniak (2), Gustavus (1), Juneau (1), Old Harbor (1), and Palmer (4) held catcher vessel crew positions. Of these positions:
            - 11 (73.3 percent) were aboard Kodiak resident-owned vessels.
            - 1 (6.7 percent) was aboard a Seattle MSA resident-owned vessel.
            - 1 (6.7 percent) was aboard a Lincoln County, Oregon resident-owned vessel.
            - 2 (13.3 percent) were aboard other Oregon resident-owned vessels.
        - In 2016, a total of 18 residents of Anchor Point (3), Anchorage (4), Juneau (1), Kenai (1), Old Harbor (1), Palmer (3), Soldotna (1), and Wasilla (4) held catcher vessel crew positions. Of these positions:
            - 6 (33.3 percent) were aboard Kodiak resident-owned vessels.

- 3 (16.7 percent) were aboard Seattle MSA resident-owned vessels.
- 3 (16.7 percent) were aboard other Washington resident-owned vessels.
- 5 (27.8 percent) were aboard Lincoln County, Oregon resident-owned vessels.
- 1 (5.6 percent) was aboard a vessel owned by a resident of an Oregon community outside of Lincoln County.

- Alaska resident ownership of CGOA rockfish trawl catcher processors during 2003-2016 occurred in Unalaska/Dutch Harbor.
  - All resident ownership occurred between 2004 and 2010.
  - Ownership included a single unique one catcher processor during the years 2004-2005 and 2007-2010.
- Residents of six Alaska communities outside of Kodiak served as crew aboard CGOA rockfish trawl catcher processors in 2015 and/or 2016: Anchorage, Delta Junction, Kenai, Seldovia, Unalaska/Dutch Harbor, and Wasilla.
    - In 2015, a total of 13 residents of Anchorage (3), Kenai (1), Seldovia (1), Unalaska/Dutch Harbor (7), and Wasilla (1) held catcher processor crew positions. All were aboard Seattle MSA resident-owned catcher processors.
    - In 2015, a total of 24 residents of Anchorage (7), Delta Junction (1), Kenai (1), Unalaska/Dutch Harbor (14), and Wasilla (1) held catcher processor crew positions. All were aboard Seattle MSA resident-owned catcher processors.
- Shore-based processors operating in Alaska (outside of Kodiak) that accepted CGOA rockfish trawl-caught deliveries 2003-2016 were limited to Seward.
  - 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).

5.2.2.3 Summary of Other Alaska Community Engagement

Table 61 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 more than one sector of the fishery as reflected through multiple indicators.

Table 62 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 resident ownership and homeport community, using CFEC data for homeport designation, for 2016. 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 eight 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 owned by residents of other communities, as seven out of 19 (37 percent) of the vessels reporting Kodiak as their homeport are owned by residents of Washington communities. Conversely, only one out of 13 (eight percent) of vessels owned by Kodiak residents is not shown as being homeported in Kodiak as well.

Table 61. Selected Measures of CGOA Rockfish Fishery Participation, Alaska Communities Other than Kodiak, 2003-2016

			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 Took CGOA Rock-fish LL Deliv's Most 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 2016 (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, Number Active in Specified Year *		Local SBPR Accepting CGOA Trawl-Caught Rockfish Years (number of SBPRs active in specified year) [total number of unique SBPRs all years]
								Number of Crew Active by Type of License 2015		Number of Crew Active by Type of License 2016					
Region of Alaska	Borough	Community	Hook-and-Line	Jig				ADFG Crew	CFEC Gear Operator	ADFG Crew	CFEC Gear Operator		2015	2016	
Kodiak	Kodiak Island	Chiniak	--	2004(1)[1]	--	--	--	2	0	0	0	--	--	--	--
Kodiak	Kodiak Island	Old Harbor	--	2008(1)[1]	--	--	--	1	0	1	0	--	--	--	--
Kodiak	Kodiak Island	Ouzinkie	--	2003(1) 2004(1)[2]	--	--	--	--	--	--	--	--	--	--	--
Kodiak	Kodiak Island	Port Lions	--	2006(1)[1]	--	--	--	--	--	--	--	--	--	--	--
South Central	Anchorage	Anchorage	--	2003(1) 2004(2) 2005(1) 2006(1) 2007(1) 2008(1)[3]	X	2003-2004(1)[1]	--	3	1	3	1	--	3	7	--
South Central	Kenai Peninsula	Anchor Point	--	2009(1)	--	--	--	1	1	3	0	--	--	--	--
South Central	Kenai Peninsula	Homer	2003(2) 2004(1) 2006(1)[4]	2004(2) 2006(1) 2007(1) 2009(1)[5]	X	2010-2016(1)[1]	--	--	--	--	--	--	--	--	--
South Central	Kenai Peninsula	Kenai	--	--	X	--	--	0	0	1	0	--	1	1	--
South Central	Kenai Peninsula	Seldovia	2003(1)[1]	--	--	--	--	--	--	--	--	--	1	0	--
South Central	Kenai Peninsula	Seward	--	--	X	--	--	--	--	--	--	--	--	--	2011(1)

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 Took CGOA Rock-fish LL Deliv's Most 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 2016 (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, Number Active in Specified Year *		Local SBPR Accepting CGOA Trawl-Caught Rockfish Years (number of SBPRs active in specified year) [total number of unique SBPRs all years]
								Number of Crew Active by Type of License 2015		Number of Crew Active by Type of License 2016					
			Hook-and-Line	Jig				ADFG Crew	CFEC Gear Operator	ADFG Crew	CFEC Gear Operator		2015	2016	
South Central	Kenai Peninsula	Soldotna	--	--	--	--	--	0	0	1	0	--	--	--	--
South Central	Matanuska-Susitna	Palmer	--	--	--	--	--	4	0	3	0	--	--	--	--
South Central	Matanuska-Susitna	Wasilla	--	2007(1) 2009(1)[1]	--	--	--	0	0	4	0	--	1	1	--
South Central	Matanuska-Susitna	Willow	2004(1)[1]	--	--	--	--	--	--	--	--	--	--	--	--
South Central	Unorganized**	Cordova	--	--	X	--	--	--	--	--	--	--	--	--	--
Aleutian/Pribilof	Aleutians East	False Pass	--	--	--	2003-2009(1)[1]	--	--	--	--	--	--	--	--	--
Aleutian/Pribilof	Aleutians East	Sand Point	--	--	X	2006-2007(1)[1]	--	--	--	--	--	--	--	--	--
Aleutian/Pribilof	Unorganized**	Unalaska/ Dutch Harbor	--	--	X	--	--	--	--	--	--	2004-2005(1) 2007-2010(1)[1]	7	14	--
Southeast	City and Borough of Juneau	Juneau	--	--	--	--	2***	0	1	1	0	--	--	--	--
Southeast	Unorganized**	Gustavus	--	--	--	--	--	1	0	0	0	--	--	--	--
Interior	Unorganized**	Delta Junction	--	--	--	--	--	--	--	--	--	--	0	1	--

*Crew data are only available for 2015 and 2016.

**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 Census Area.

***Of the two CGOA rockfish trawl catcher vessels homeported in Juneau in 2016 (the only year for which homeport data are shown), one was owned by a Kodiak resident and one was owned by a South Bend, Washington resident.

Source: AKFIN 2017a, NOAA Fisheries 2016a, NOAA Fisheries 2017a, NOAA Fisheries 2017b.

Table 62. Correspondence of Community of Ownership and Community of Homeport of Catcher Vessels Making CGOA Rockfish Trawl-Caught Deliveries, 2016

Community		CGOA Trawl Catcher Vessels by Location of Homeport														Total
		Kodiak	Other AK	Seattle	Other Seattle MSA	Camas, WA	East Wenatchee, WA	South Bend, WA	Other Washington	Newport	Siletz, Oregon	Other Lincoln Co. OR	Keiser, Oregon	Other Oregon	Other States	
CGOA Trawl Catcher Vessels by Location of Ownership	Kodiak	12	1*	--	--	--	--	--	--	--	--	--	--	--	--	13
	Other Alaska	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
	Seattle	5	--	--	--	--	--	--	--	--	--	--	--	--	--	5
	Other Seattle MSA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
	Camas, WA	--	--	--	--	--	--	--	--	1	--	--	--	--	--	1
	East Wenatchee, WA	1	--	--	--	--	--	--	--	--	--	--	--	--	--	1
	South Bend, WA	1	1*	--	--	--	--	--	--	--	--	--	--	--	--	2
	Other Washington	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
	Newport	--	--	--	--	--	--	--	--	2	--	--	--	--	--	2
	Siletz, Oregon	--	--	--	--	--	--	--	--	1	--	--	--	--	--	1
	Other Lincoln Co. OR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
	Keiser, Oregon	--	--	--	--	--	--	--	--	--	--	--	--	1**	--	1
	Other Oregon	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
	Other States	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0
Total		19	2	0	0	0	0	0	0	4	0	0	0	1	0	26

*Homeport of noted vessels is Juneau, Alaska.
** Homeport of noted vessel is Portland, Oregon.
Source: AKFIN 2017a

5.3 Pacific Northwest Communities

5.3.1 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] and the GOA Trawl Bycatch Management Analysis [Northern Economics 2016a]). 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 (2003-2016), 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 resident-ownership outside of the Seattle MSA 2003-2016, only two communities had an annual average of one or more resident-owned vessel 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). 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.

5.3.1.1 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.[27] 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.

Traditionally, the Puget Sound area was the home of the Duwamish and Suquamish Native American groups. 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

[27] 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 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).

5.3.1.2 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 (2011-2015), 1,812,408 were employed in the Seattle MSA with an unemployment rate of 7.2 percent. Per capita income for people in the Seattle MSA was estimated at $36,860, median household income was $70,475, and median family income was $86,471. An estimated 11.3 percent of Seattle MSA's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2017).

As of 2016, major industries in the Seattle MSA included educational services, health care, and social assistance (20.6 percent); professional, scientific, management, and administrative services (15.1 percent); retail trade (12.0 percent); and manufacturing (11.0 percent). Natural resource jobs including agriculture, forestry, fishing, hunting, and mining represented 0.6 percent of local employment (U.S. Census Bureau 2017). 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).

5.3.1.3 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 North Pacific Fishery Management Council. 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 2003-2016, 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 63, from 2003 through 2016, the annual number of Seattle MSA resident-owned commercial fishing vessels participating in all fisheries, using all gear types in all areas combined (i.e., the community commercial fishing fleet), ranged from 354 (in 2003) to 286 (in 2016), with an annual average of 314 resident-owned commercial fishing vessels and 563 unique vessels over this time span. The annual ex-vessel gross revenues for these vessels ranged from $335 million (in 2009) to $475 million (in 2012), with an annual average of $395 million ex-vessel gross revenues and $5.54 billion in total ex-vessel gross revenues over this period.

Table 63. All Washington-Owned Commercial Catcher Vessels (all fisheries using all gear types in all areas combined), Number of Vessels and Ex-Vessel Gross Revenue (millions of 2009 dollars), 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Avg. 2003-2015	Total Unique CVs and Ex-Vessel Gross Revenues 2003-2015
Number of CVs	354	345	337	325	314	314	316	301	307	304	293	296	286	314	563
Ex-Vessel Gross Revenue	375	352	396	407	407	463	335	352	471	475	380	369	358	395	$5,540

Note:2016 data not available at time of analysis.
Source: AKFIN 2017b

CGOA Rockfish Trawl Catcher Vessels

Table 1 shows information on Washington community participation in the CGOA rockfish trawl fishery, as indicated by the number of resident-owned catcher vessels engaged in the fishery by year, 2003-2016.

- Within the Seattle MSA, three individual communities were the location of resident ownership of CGOA rockfish trawl catcher vessels in at least one year during the period 2003-2016. As a whole, the Seattle MSA averaged 4.4 vessels participating per year, with the city of Seattle averaging 3.7 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 resident-owned catcher vessels participated in the CGOA rockfish trawl fishery during the 2003-2016 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 2003-2016 through resident 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 (1.5 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 2003-2016: South Bend had two unique vessels do so, while Anacortes, Camas, and East Wenatchee had one unique resident-owned catcher vessels participating in the CGOA rockfish trawl fishery over this period.

In percentage terms, Washington resident-owned CGOA rockfish trawl catcher vessels accounted for about 30 percent of all catcher vessels in the fishery on an annual average basis over the period 2003-2016, with Seattle MSA resident ownership accounting for about 17 percent of the fishery total and other Washington resident ownership accounting for about 13 percent of the fishery total.

Over this same period, Washington resident-owned 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 owned by residents of the Seattle MSA and other Washington communities cannot be presented due to confidentiality restrictions, except for the years 2012-2016. During that period, Seattle MSA resident-owned vessels accounted for an annual average of approximately 19 percent of average annual catcher vessel ex-vessel gross revenues in the fishery, while vessels owned by residents of other Washington communities accounted for about 17 percent of the total, with all Washington resident-owned vessels accounting for roughly 36 percent of the total.

Information on relative dependency of Washington resident-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, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 64. As shown, relative dependency has varied between roughly 12 and 14 percent, 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 resident-owned 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, is provided in Table 65. As shown, relative dependency has varied between roughly two-tenths of a percent and one-half of a percent, 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 increased between the first and second periods, but decreased between second and third periods.

Table 64. Washington Resident-Owned CGOA Rockfish Trawl Catcher Vessels Ex-Vessel Gross Revenue Annual Average Diversification (in millions of 2009 dollars), Selected Periods, 2003-2016

Period	Annual Average Number of CGOA Rockfish Trawl CVs	CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only	CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries	CGOA Rockfish Trawl CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
2003-2006 (pre-RPP)	6.5	$0.89	$6.34	14.0%
2007-2011 (RPP)	7.0	$1.16	$9.55	12.1%
2012-2016 (RP)	9.6	$1.88	$14.23	13.2%

Source: AKFIN 2017b

Table 65. Washington Resident-Owned CGOA Rockfish Trawl Catcher Vessel and All Washington-Owned Catcher Vessel (all species, all gear types, all areas combined) Ex-Vessel Gross Revenue Annual Average Diversification (in millions of 2009 dollars), Selected Periods, 2003-2016

Period	Annual Average Number of CGOA Rockfish Trawl CVs	Annual Average Number of All Commercial Fishing CVs	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
2003-2006 (pre-RPP)	6.5	340.3	$0.89	$382.92	0.2%
2007-2011 (RPP)	7.0	310.4	$1.16	$406.05	0.3%
2012-2016 (RP)	9.6	294.8*	$1.88	$395.80*	0.5%**

*2015 data for this indicator not available at time of analysis. Value shown is 2012-2015 annual average.

**2015 data for denominator of indicator not available at time of analysis. Percentage shown is 2012-2016 annual average CGOA rockfish value over 2012-2015 annual average value all species, all gear, all area fisheries.

Source: AKFIN 2017b

CGOA Rockfish Trawl Catcher Vessel Quota and LLP Licenses

As shown in Table 10 Seattle MSA resident-owned LLPs 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 Rockfish

- Rockfish Pilot Program: 8.03 percent
- Rockfish Program: 10.05 percent
- ***Change: +2.02 percent***

CGOA Rockfish Trawl Catcher Vessel Crew

CGOA rockfish trawl catcher vessel crew data are available from one primary source: EDR data that were collected for 2015 and 2016[28] and are summarized in this section.

Crew Positions Held by Seattle MSA Residents on all CGOA Rockfish Trawl Catcher Vessels

- EDR data indicate that in 2015, a total of five unique Seattle MSA residents held crew positions on CGOA rockfish trawl catcher vessels, including one individual who held a CFEC gear operator permit and four individuals who held an ADFG crew licenses.
    - In 2015, these 5 Seattle MSA resident crew members served on CGOA rockfish trawl catcher vessels owned by residents of 2 different communities, 1 of which was in Alaska. These included:
        - 1 (20.0%) on a vessel owned by a Kodiak resident (1 ADFG crew license holder).
        - 4 (80.0%) on vessels owned by Seattle MSA community residents (Seattle, 3 ADFG crew license holders and 1 CFEC gear operator permit holder).

[28] As noted elsewhere, multiple caveats apply to catcher vessel EDR data, including: 2015 was the first year EDR catcher vessel crew data were collected; only two years of data is available; the available data have not been verified and audited (as audits typically rely on multiple years of data to identify outliers). Nevertheless, these data are the best available and are presented here as an indication of relative if not exact crew employment.

- EDR data indicate that in 2016, a total of seven unique Seattle MSA residents held crew positions on CGOA rockfish trawl catcher vessels, including one individual who held a CFEC gear operator permits and six individuals who held ADFG crew licenses.
    - In 2016, these 7 Seattle MSA resident crew members served on CGOA rockfish trawl catcher vessels owned by residents of 6 different communities, 1 of which was in the Alaska. These included:
        - 1 (14.3%) on a vessel owned by a Kodiak resident (1 ADFG crew license holder).
        - 4 (57.1%) on vessels owned by Seattle MSA community residents (Seattle; 4 ADFG crew license holders).
        - 2 (28.6%) on vessels owned by Lincoln County, Oregon residents (Newport; 1 CFEC gear operator permit holder and 1 ADFG crew license holder).

Crew Positions on Seattle MSA Resident-Owned CGOA Rockfish Trawl Catcher Vessels

- EDR data indicate that in 2015, there were a total of 32 crew positions on Seattle MSA resident-owned CGOA rockfish trawl catcher vessels, including 8 positions whose occupant held a CFEC gear operator permit and 24 positions whose occupant held an ADFG crew license. Of these positions:
    - 11 (34.3%) were held by Kodiak residents (5 CFEC gear operator permit holders and 6 ADFG crew license holders).
    - 1 (3.1%) was held by a resident of another Alaska community (Palmer; 1 ADFG crew license holder).
    - 4 (12.5%) were held by residents of the Seattle MSA, including Bothell, Maple Valley, and Seattle (1 CFEC gear operator permit holder and 3 ADFG crew license holders).
    - 5 (15.6%) were held by residents of Washington communities outside of the Seattle MSA, including Anacortes, Belfair, Bellingham, Oak Harbor, and Sedro Woolley (5 ADFG crew license holders).
    - 3 (9.4%) were held by residents of Lincoln County, Oregon, including Newport, Siletz, and Toledo (1 CFEC gear operator permit holder and 2 ADFG crew license holders).
    - 3 (9.4%) were held by residents of Oregon communities outside of Lincoln County, including Bend and West Linn (3 ADFG crew license holder).
    - 2 (6.3%) were held by residents of other states, including Florida and Montana (1 CFEC gear operator permit holder and 1 ADFG crew license holder).

- 3 (9.4%) were held by individuals whose residence location was unknown (3 ADFG crew license holders).

- EDR data indicate that in 2016, there were a total of 43 crew positions on Seattle MSA resident-owned CGOA rockfish trawl catcher vessels, including 10 positions whose occupant held a CFEC gear operator permit and 32 positions whose occupant held an ADFG crew license.[29] Of these positions:

  - 21 (48.8%) were held by Kodiak residents (6 CFEC gear operator permit holders and 15 ADFG crew license holders).

  - 3 (7.0%) were held by residents of other Alaska communities, including Anchorage, Kenai, and Palmer (3 ADFG crew license holders).

  - 4 (9.3%) were held by residents of the Seattle MSA, including Redmond, Seattle, and Tacoma (4 ADFG crew license holders).

  - 5 (11.6%) were held by residents of Washington communities outside of the Seattle MSA, including Anacortes, Belfair, Bellingham, and Sedro Woolley (2 CFEC gear operator permit holders and 3 ADFG crew license holder).

  - 2 (4.7%) were held by residents of Lincoln County, Oregon, including Siletz and Toledo (1 CFEC gear operator permit holder and 1 ADFG crew license holder).

  - 4 (9.3%) were held by residents of Oregon communities outside of Lincoln County, including Aumsville, Bend, and West Linn (1 CFEC gear operator permit holder and 2 ADFG crew license holders).

  - 3 (7.0%) were held by residents of other states, including Florida and Hawaii (3 ADFG crew license holders).

  - 1 (2.3%) was held by an individual whose residence location was unknown (1 ADFG crew license holder).

For additional detail on EDR CGOA rockfish trawl catcher vessel crew data, please see Table 71 and Table 72 in SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016.

[29] There is a discrepancy of in the ADFG crew license number count in 2016 between Table 71 (number of unique vessel crew members by community of residence) and Table 72 (number of crew positions aboard vessels by community of vessel owner residence) with the ADFG crew licenses undercounted one in the latter (177 versus 176). The difference appears to be among crew license holding residents of Oregon communities outside of Lincoln County.

Crew Positions and Payments to Labor on Seattle MSA Resident-Owned CGOA Rockfish Trawl Catcher Vessels

Table 66 provides information on payments to captains and crew on Seattle MSA resident-owned CGOA rockfish trawl vessels for 2015 and 2016 based on EDR data. This represents payments to captains and crew that includes all fisheries pursued by these vessels during course of the year, not just the CGOA rockfish fishery.

Table 66. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, Seattle MSA Resident-Owned Vessels, 2015 and 2016

Year	Number of Catcher Vessels	Combined Number of Captains and Crew*	Total Captain Labor Payments	Total Crew Labor Payments	Total Captain and Crew Labor Payments
2015	6	41	$755,268	$1,133,794	$1,889,062
2016	6	37	$494,879	$681,544	$1,176,423

* The combined number of captains and crew in this table is less than the total crew positions reported for Seattle MSA-owned CGOA rockfish trawl catcher vessels in the bulleted discussions above (81 in 2015 and 100 in 2016), which are also based on EDR data, which suggests that payment data was not obtained for all positions.
Source: NOAA Fisheries 2016c, NOAA Fisheries 2017c.

Catcher Processor Sector

In the years covered by the 2003-2016 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 88 percent of the participating catcher processors had ownership addresses in the Seattle MSA. Washington as a whole averaged about 92 percent of the participating catcher processors on an annual average basis over this same period as measured by ownership location information. 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 had ownership of a CGOA rockfish trawl catcher processor during this period.

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 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 main program review document 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 and 2016[30] 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 processors have ownership addresses in the Seattle MSA, crew data for the entire sector are described in this section.

Crew Positions on all CGOA Rockfish Trawl Catcher Processors

- 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 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.

    - 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 2016 data include:

        - 2 community states or territories: American Samoa, Montana, and Nevada.
        - 1 community states: Alabama, Florida, Massachusetts, Michigan, Missouri, North Carolina, and Pennsylvania.

    - A total of 22 states and 1 U.S. territory are represented in the 2015 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

[30] 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 verified and audited (as audits typically rely on multiple years of data to identify outliers); and the scope of the information reported varied by firm.

- 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.

Crew Positions and Payments to Labor onboard CGOA Rockfish Trawl Catcher Processors

All of the CGOA rockfish trawl catcher processors for which EDR data are available are associated with the Seattle MSA. As these data are presented in Section 4.2.1 they are not recapitulated here. Table 22 provides summary information on the number of positions and number of employees onboard CGOA rockfish trawl catcher processors in 2015, the first year for which these data are available. Table 18 provides parallel information for 2016. Information on fishery specific numbers of positions and employees onboard is not available. For additional detail on EDR CGOA rockfish trawl catcher processor crew data in 2015 and 2016, including the community of residence of crew members, please see Table 73 and Table 74 in SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016.

Table 24 provides summary information on the number of fishing days and labor expenses for CGOA rockfish trawl catcher processors in 2015. Table 25 provides parallel information for 2016. 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 2003-2014. 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.

5.3.2 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 200302016 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 resident-ownership outside of Lincoln County 2003-2016, all had an annual average of less than one resident-owned vessel participating in the fishery over this period. 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.

5.3.2.1 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 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.

Traditionally, ancestors of the Siletz people inhabited the coastal areas that include Tillamook, Lincoln, and Lane counties. 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).

5.3.2.2 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 2011-2015 U.S. Census American Community Survey suggests that 19,454 were employed in Lincoln County, Oregon, with an unemployment rate of 7.9 percent. Per capita income for people in Lincoln County was estimated at $25,124, median household income was $42,101, and median family income was $51,461. An estimated 16.9 percent of Lincoln County's residents were considered low-income, defined as those individuals living below the poverty level threshold (U.S. Census Bureau 2017).

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 2016, major industries in Newport included arts, entertainment, recreation, accommodation, and food services (19.1 percent); educational services, health care, and social assistance (18.3 percent); and retail trade (13.0 percent). Natural resource jobs including agriculture, forestry, fishing, hunting, and mining represented 4.6 percent of local employment (U.S. Census Bureau 2017). 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 (Economix Development Alliance 2016).

5.3.2.3 Commercial Fisheries Engagement

Overview

Newport, and the nearby Lincoln County communities of South Beach and Toledo, like the Seattle MSA, is substantially engaged in multiple federal fisheries off Alaska managed by the North Pacific Fishery Management Council. All three 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 67, from 2003 through 2016, the annual combined number of Oregon and Idaho resident-owned commercial fishing vessels participating in all fisheries, using all gear types in all areas combined (i.e., the aggregated Oregon and Idaho commercial fishing fleet), ranged from 65 (in 2014) to 100 (in 2003), with an annual average of 76 resident-owned commercial fishing vessels and 168 unique vessels over this time span. The annual ex-vessel gross revenues for these vessels ranged from $54.3 million (in 2015) to $91.9 million (in 2011), with an annual average of $76.1 million ex-vessel gross revenues and $1.07 billion in total ex-vessel gross revenues over this period.

Table 67. All Oregon and Idaho-Owned Commercial Catcher Vessels (all fisheries using all gear types in all areas combined), Number of Vessels and Ex-Vessel Gross Revenue (millions of 2009 dollars), 2003-2015

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Avg. 2003-2015	Total Unique CVs and Ex-Vessel Gross Revenues 2003-2015
Number of CVs	100	93	85	76	74	75	74	71	73	70	69	65	66	76	168
Ex-Vessel Gross Revenue	79.0	74.1	83.3	82.7	85.1	89.9	57.3	71.4	91.9	89.5	69.1	61.5	54.3	76.1	$1,065

Note:2016 data not available at time of analysis.
Source: AKFIN 2017b

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 resident-owned catcher vessels engaged in the fishery by year, 2003-2016.

- Within Lincoln County, three individual communities were the location of resident ownership of CGOA rockfish trawl catcher vessels in at least five years during the period 2003-2016. 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 0.4 vessels per year, respectively. A total of six unique city of Newport resident-owned catcher vessels participated in the CGOA rockfish trawl fishery during the 2003-2016 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 2003-2016 through resident ownership of 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 resident-owned CGOA rockfish trawl catcher vessels accounted for about 13 percent of all catcher vessels in the fishery on an annual average basis over the period 2003-2016, with Lincoln County resident ownership accounting for about 12 percent of the fishery total and other Oregon resident ownership accounting for about 13 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 resident-owned vessel that participated in the fishery for a total of six years 2003-2008. Over the 2003-2016 period, Oregon and Idaho resident-owned CGOA rockfish trawl catcher vessels accounted for an annual average of approximately 27 percent of average annual catcher vessel ex-vessel gross revenues in the fishery. Separate ex-vessel gross revenues for vessels owned by residents of the Lincoln County and other Oregon communities cannot be presented due to confidentiality restrictions.

Information on relative dependency of Oregon and Idaho resident-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, for the pre-Rockfish Pilot Program, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 68. As shown, relative dependency has varied between roughly nine and 15 percent, 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 resident-owned 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, Rockfish Pilot Program, and Rockfish Program periods, is provided in Table 69. As shown, relative dependency has varied between roughly one percent and two percent, 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 decreased between second and third periods.

Table 68. Oregon and Idaho Resident-Owned CGOA Rockfish Trawl Catcher Vessels Ex-Vessel Gross Revenue Annual Average Diversification (in millions of 2009 dollars), Selected Periods, 2003-2016

Period	Annual Average Number of CGOA Rockfish Trawl CVs	CGOA Rockfish Trawl CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only	CGOA Rockfish Trawl CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries	CGOA Rockfish Trawl CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
2003-2006 (pre-RPP)	8.5	$1.48	$9.92	14.9%
2007-2011 (RPP)	7.2	$1.02	$11.58	8.8%
2012-2016 (RP)	5.4	$0.96	$10.30	9.3%

Source: AKFIN 2017b

Table 69. Oregon and Idaho Resident-Owned CGOA Rockfish Trawl Catcher Vessel and All Oregon and Idaho-Owned Catcher Vessel (all species, all gear types, all areas combined) Ex-Vessel Gross Revenue Annual Average Diversification (in millions of 2009 dollars), Selected Periods, 2003-2016

Period	Annual Average Number of CGOA Rockfish Trawl CVs	Annual Average Number of All Commercial Fishing CVs	All Commercial Fishing CVs Annual Average Ex-Vessel Gross Revenues from CGOA Trawl-Caught Rockfish Only	All Commercial Fishing CVs Annual Average Total Ex-Vessel Gross Revenues from All Areas, Gears, and Species Fisheries	All Commercial Fishing CVs CGOA Trawl-Caught Rockfish Ex-Vessel Value as a Percentage of Total Ex-Vessel Gross Revenue Annual Average
2003-2006 (pre-RPP)	8.5	88.5	$1.48	$79.78	1.9%
2007-2011 (RPP)	7.2	74.0	$1.02	$79.13	1.3%
2012-2016 (RP)	5.4	67.5*	$0.96	$68.60*	1.4%**

*2015 data for this indicator not available at time of analysis. Value shown is 2012-2015 annual average.

**2015 data for denominator of indicator not available at time of analysis. Percentage shown is 2012-2016 annual average CGOA rockfish value over 2012-2015 annual average value all species, all gear, all area fisheries.

Source: AKFIN 2017b

CGOA Rockfish Trawl Catcher Vessel Quota and LLP Licenses

As shown in Table 10, Lincoln County resident-owned LLPs 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 Rockfish

- Rockfish Pilot Program: 6.04 percent
- Rockfish Program: 7.32 percent
- ***Change: +1.28 percent***

CGOA Rockfish Trawl Catcher Vessel Crew

CGOA rockfish trawl catcher vessel crew data are available from one primary source: EDR data that were collected for 2015 and 2016[31] and are summarized in this section.

Crew Positions Held by Lincoln County Residents on all CGOA Rockfish Trawl Catcher Vessels

- EDR data indicate that in 2015, a total of 25 unique Lincoln County residents held crew positions on CGOA rockfish trawl catcher vessels, including 8 individuals who held CFEC gear operator permits and 17 individuals who held an ADFG crew licenses.
    - In 2015, these 25 Lincoln County resident crew members served on CGOA rockfish trawl catcher vessels owned by residents of 7 different communities, 1 of which was in Alaska. These included:
        - 3 (11.1%) on vessels owned by Kodiak residents (1 CFEC gear operator permit holder and 2 ADFG crew license holders).
        - 3 (11.1%) on vessels owned by Seattle MSA community residents (Seattle; 1 CFEC gear operator permit holder and 2 ADFG crew license holders).

[31] As noted elsewhere, multiple caveats apply to catcher vessel EDR data, including: 2015 was the first year EDR catcher vessel crew data were collected; only two years of data is available; the available data have not been verified and audited (as audits typically rely on multiple years of data to identify outliers). Nevertheless, these data are the best available and are presented here as an indication of relative if not exact crew employment.

- 1 (3.7%) on a vessel owned by a Washington resident of a community outside of the Seattle MSA (Camas; 1 ADFG crew license holder).
- 14 (51.9%) on vessels owned by Lincoln County, Oregon residents (Newport, Siletz, South Beach, Toledo, and Yachats; 5 CFEC gear operator permit holders and 9 ADFG crew license holders).
- 4 (14.8%) on vessels owned by Oregon residents of communities outside of Lincoln County (Independence; 1 CFEC gear operator permit holder and 3 ADFG crew license holders).

- EDR data indicate that in 2016, a total of 21 unique Lincoln County residents held crew positions on CGOA rockfish trawl catcher vessels, including 9 individuals who held CFEC gear operator permits and 12 individuals who held ADFG crew licenses.
  - In 2016, these 21 Lincoln County resident crew members served on CGOA rockfish trawl catcher vessels owned by residents of 7 different communities, 1 of which was in Alaska. These included:
    - 3 (12.0%) on vessels owned by Kodiak residents (2 CFEC gear operator permit holders and 1 ADFG crew license holder).
    - 2 (8.0%) on vessels owned by Seattle MSA community residents (Seattle; 1 CFEC gear operator permit holder and 1 ADFG crew license holder).
    - No (0.0%) on vessels owned by Washington residents of communities outside of the Seattle MSA.
    - 13 (52.0%) on vessels owned by Lincoln County, Oregon residents (Newport, Siletz, South Beach, Toledo, and Yachats; 5 CFEC gear operator permit holders and 8 ADFG crew license holders).
    - 3 (12.0%) on vessels owned by Oregon residents of communities outside of Lincoln County (Keiser; 1 CFEC gear operator permit holder and 2 ADFG crew license holders).

Crew Positions on Lincoln County Resident-Owned CGOA Rockfish Trawl Catcher Vessels

- EDR data indicate that in 2015, there were a total of 39 crew positions on Lincoln County resident-owned CGOA rockfish trawl catcher vessels, including 10 positions whose occupant held a CFEC gear operator permit and 29 positions whose occupant held an ADFG crew license. Of these positions:
  - 12 (30.8%) were held by Kodiak residents (4 CFEC gear operator permit holders and 8 ADFG crew license holders).

- 1 (2.6%) was held by a resident of another Alaska community (Palmer; 1 ADFG crew license holder).
- None (0.0%) were held by residents of the Seattle MSA.
- None (0.0%) were held by residents of Washington communities outside of the Seattle MSA.
- 14 (35.9%) were held by residents of Lincoln County, Oregon, including Newport, Siletz, South Beach, Toledo, and Yachats (5 CFEC gear operator permit holders and 9 ADFG crew license holders).
- 6 (15.4%) were held by residents of Oregon communities outside of Lincoln County, including Coos Bay, Dallas, Eugene, and Portland (1 CFEC gear operator permit holder and 5 ADFG crew license holders).
- 1 (2.6%) was held by a resident of another state, Florida (1 ADFG crew license holder).
- 5 (12.8%) were held by individuals whose residence location was unknown (3 ADFG crew license holders).

- EDR data indicate that in 2016, there were a total of 63 crew positions on Seattle MSA resident-owned CGOA rockfish trawl catcher vessels, including 17 positions whose occupant held a CFEC gear operator permit and 46 positions whose occupant held an ADFG crew license. Of these positions:
  - 19 (30.2%) were held by Kodiak residents (9 CFEC gear operator permit holders and 10 ADFG crew license holders).
  - 5 (7.9%) were held by residents of other Alaska communities, including Anchorage, Juneau, and Wasilla (5 ADFG crew license holders).
  - 2 (3.2%) were held by residents of the Seattle MSA, including Federal Way and Seattle (1 CFEC gear operator permit holder and 1 ADFG crew license holder).
  - 2 (3.2%) were held by residents of Washington communities outside of the Seattle MSA, including Anacortes and La Conner (2 ADFG crew license holders).
  - 13 (20.6%) were held by residents of Lincoln County, Oregon, including Newport, Siletz, South Beach, Toledo, and Yachats (5 CFEC gear operator permit holders and 8 ADFG crew license holders).
  - 13 (20.6%) were held by residents of Oregon communities outside of Lincoln County, including Beaverton, Coos Bay, Dallas, Depoe Bay, Eugene, Klamath Falls, Portland, and Tualatin (2 CFEC gear operator permit holder and 11 ADFG crew license holders).

- 5 (7.9%) were held by residents of other states, including Colorado, Florida, Hawaii, and Ohio (5 ADFG crew license holders).

- 4 (6.3%) were held by individuals whose residence location was unknown (4 ADFG crew license holder).

For additional detail on EDR CGOA rockfish trawl catcher vessel crew data, please see Table 71 and Table 72 in SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016.

Crew Positions and Payments to Labor on Oregon Resident-Owned CGOA Rockfish Trawl Catcher Vessels

Table 70 provides information on payments to captains and crew on Oregon resident-owned CGOA rockfish trawl vessels for 2015 and 2016 based on EDR data. This represents payments to captains and crew that includes all fisheries pursued by these vessels during course of the year, not just the CGOA rockfish fishery.

Table 70. CGOA Rockfish Trawl Catcher Vessels, Annual Payments to Captains and Crew, Oregon Resident-Owned Vessels, 2015 and 2016

Year	Number of Catcher Vessels	Combined Number of Captains and Crew*	Total Captain Labor Payments	Total Crew Labor Payments	Total Captain and Crew Labor Payments
2015	5	41	$1,313,820	$1,956,562	$3,270,382
2016	6	58	$1,032,428	$1,898,858	$2,931,286

* The combined number of captains and crew in this table is less than the total crew positions reported for Oregon-owned CGOA rockfish trawl catcher vessels in the bulleted discussions above (81 in 2015 and 100 in 2016), which are also based on EDR data, which suggests that payment data was not obtained for all positions.
Source: NOAA Fisheries 2016c, NOAA Fisheries 2017c.

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 between 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.

6 Summary and Conclusions

6.1 Overview

This section provides an overall comparative summary of community impacts previously described in NPFMC documents as associated with the Rockfish Pilot Program and those identified in this document as associated with Rockfish Program. Conclusions are also drawn regarding the presence or absence of environmental justice concerns and/or risks to the sustained participation of fishing communities associated since fishery began to be managed under the Rockfish Program.

6.2 Community Impacts of the Rockfish Pilot Program as Documented in Earlier Council Reports

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 Managment Plan, Central Gulf of Alaska Rockfish Program* (NPFMC 2011).

6.2.1 Gulf of Alaska Rockfish Pilot Program Review (2008)

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

- Finding 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.
    - The original language from the document is as follows: *A large portion of the catcher processor cooperative allocations was transferred to catcher vessel cooperatives. Under the program, catcher processor cooperatives are not permitted to receive quota transfers from catcher vessels cooperatives. This 'one-way door' is 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. The catcher processor cooperative with an affiliated shore-based processor accounted for a large share of these transfers, yet the transfers*

were distributed among several catcher vessel cooperatives. The second catcher processor cooperative transferred a portion of its allocation to catcher vessel cooperatives, in part, to avoid potential constraints of its allocation. With only a single vessel fishing for a single cooperative in the catcher processor sector, it was perceived that the potential for an overage, outweighed any benefit from attempting to fish the entire allocation (NPFMC 2008).

- Finding 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.

    - The original language from the document is as follows: *Little information is available concerning the effects of the program on captains and crew. The distribution of catch across vessels suggests that captain and crew fishing activity has changed little in the first year of the program. This consistency in distribution also suggests that leasing of quota and royalties may have little effect on crew in the fisheries. The leasing of catcher processor quota to catcher vessel cooperatives likely had a distributive effect of revenues between crews in the different sectors, with some royalty removed prior to payment of crews. On the catcher processor side, the vessels that made these transfers likely were deployed elsewhere, mitigating the effect of the transfer on their crews. On the catcher vessel side, these transfers likely had the predictable effect of increasing the total payments to crew harvesting the additional allocation, but at a decreased share basis from fishing quota owned by the vessel (NPFMC 2008).*

    - *Crews also are affected by the slowing of fishing under the program. With secure allocations, vessels have slowed the rate of fishing, no longer needing to race for a share of the TAC. Although this may mean more time on the grounds for crews, they likely benefit from less rigorous fishing practices (NPFMC 2008).*

- Finding 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.

    - The original language from the document is as follows: *Historically, Kodiak has been the base for operations in the shore-based sector of the Central Gulf rockfish fisheries. Almost all processing in the fisheries took place in Kodiak leading up to implementation of the program. Since the program establishes a cooperative system with strong cooperative associations with historic processors and a limited access fishery that requires deliveries to processors meeting historic processing qualifications, deliveries in the main program have continued to be made to Kodiak processors. In addition, only Kodiak processors have participated in the entry level fishery by providing markets for entry level catcher vessels. As a result, all deliveries in the fishery have continued to be made to Kodiak under the pilot program. So, the*

community effects arising from implementation of the program have arisen from the changes in the Kodiak based activity (NPFMC 2008).

- Finding 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, but data to quantify these impacts were not available.

    - The original language from the document is as follows: *Under the program, landings from the rockfish fishery are distributed over a substantially longer period of time than under the previous limited access management. This redistribution not only allows greater stability in landings from the Central Gulf rockfish fishery (limiting queuing by vessels), but has also allowed processors to coordinate rockfish landings with landings from other fisheries. Reducing these conflicts may benefit processing workers by limiting times they are without work, but may cost those workers some overtime pay. The slower pace of the rockfish fishery and the redistribution of landings may also benefit the community by having vessels and crews in Kodiak for longer periods of time during the year. 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. The extent of this effect on the use of local services is not known (NPFMC 2008).*

- Finding 5: The transfer of quota from the catcher processor to the catcher vessel sector benefitted Kodiak through increased local vessel activity.

    - The original language from the document is as follows: *In addition to benefits from the redistribution of landings over time, the community benefited from additional landings that were received as a result of the transfer of catcher processor quota to the catcher vessel sector. This increased both vessel activity based in Kodiak and deliveries to Kodiak shore plants (NPFMC 2008).*

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[32]) suggests that this has not occurred.

6.2.2 Central Gulf of Alaska Rockfish Program RIR/FEA/IRFA (2011)

The *Regulatory Impact Review, Final Environmental Assessment, and Initial Regulatory Flexibility Analysis for proposed Amendment 88 to the Gulf of Alaska Fishery Managment Plan, Central Gulf of Alaska Rockfish Program* (NPFMC 2011), completed after the fourth year of fishery management under the pilot program, included three main community impact related findings.

Findings 1 and 2: Same as Findings 4 and 5 from the 2008 rockfish pilot program review.

- The original language text descriptions of these two findings in the 2011 rockfish program document are virtually identical to those of the Findings 4 and 5 from the 2008 pilot program review presented in Section 6.2.1 immediately above.[33]

Finding 3: Community effects of the Rockfish Pilot Program were limited to changes in Kodiak-based activity.

- The original language from the document is as follows: *Since the Pilot Program establishes a cooperative system, with strong cooperative associations with historical processors and a limited access fishery that requires deliveries to processors meeting historical processing qualifications, deliveries in the main program have continued to be made to Kodiak processors. In addition, only Kodiak processors have participated in the entry level fishery, by providing markets for entry level catcher vessels. As a result, all deliveries in the fishery have continued to be made to Kodiak under the Pilot Program. So, the community effects arising from implementation of the program have arisen from the changes in the Kodiak based activity* (NPFMC 2011).

The 2011 document also characterized community impacts that were then-anticipated to occur with the implementation of the Rockfish Program as follows:

- *Implementing the Rockfish Program alternatives is likely to have continued positive impacts on fishing communities. As a result of the CGOA Rockfish Pilot Program, it is generally understood that rockfish communities have enjoyed increased efficiency. Quality of CGOA rockfish landings and products has improved as participants in both sectors have maximized production of harvest quota shares. Community participation in the fisheries is unlikely to change under the Rockfish Program alternatives. Kodiak has historically been home to*

[32] Personal communication 8/21/2017.

[33] 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).

processors that have processed almost all of the rockfish landings. Under the Rockfish Program alternatives, this should continue (NPFMC 2011).

6.3 Community Impacts of the Rockfish Program

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.[34]

- Among the community protection measures included in the Rockfish Pilot Program were the following:
    - Kodiak-specific measures:
        - Catcher vessels were allowed to form cooperatives only in association with shoreside processors located in Kodiak.
        - 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 program that could otherwise increase flexibility of where catch was landed and processed.
    - General measures:
        - Entry level fisheries were established for both trawl and longline harvests of Central GOA 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 included:
    - Kodiak-specific measures:
        - The Pilot Program 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 Kodiak-based cooperative of their choice, regardless of where they had delivered rockfish in the past. 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.
        - To address concerns raised by processors that the Rockfish Program would provide harvesters an undue competitive advantage and that they could use

[34] The following summaries of program features and community protection measures are taken or adapted from the main program review document to which this SIA is appended.

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.

- General measures:
  - 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 are 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 in other catch share programs implemented in Alaska. These include:
  - 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 means that a person would need to sell the entire LLP license to sell the quota. Selling the LLP license would result in a vessel operator giving up all the other endorsements 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 Pilot Program or Rockfish Program relative the limited access years.
  - 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, processors and crew, participate in the CGOA rockfish fishery now as before the Pilot Program was implemented. Cooperative quota transfers can occur within the cooperative, but consolidation has not been reported as an issue, in part because of the use caps.
  - For the Pilot Program, 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 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

[35] Trawl vessels that took advantage of the entry level fishery during 2007, 2008, or 2009 were allocated quota shares.

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 4 and 5 are summarized in this section for Kodiak, other Alaska communities, the Seattle MSA, and Lincoln County, Oregon.

6.3.1 Impacts to Communities Engaged in the CGOA Rockfish Fishery

6.3.1.1 Kodiak

Kodiak is, by far, the community most substantially engaged in, and the most substantially dependent on, the CGOA rockfish fisheries managed under the Rockfish Program. 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, 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.

In terms of CGOA rockfish trawl catcher vessel ownership, 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 Rockfish Pilot Program years and the Rockfish Program years.
- The trawl entry level fishery community protection feature of Rockfish Pilot program. 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 resident-owned at the time of that allocation or have become so in more recent years.
- Kodiak resident-owned CGOA rockfish trawl catcher vessels further diversifying 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 LLPs between the Rockfish Pilot Program years and the Rockfish Program years.
- An increase in annual average percentage of Kodiak resident-owned catcher vessel quota for northern rockfish, Pacific ocean perch, and pelagic shelf rockfish 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.
- 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 LLPs.

In terms of impacts to CGOA rockfish trawl catcher vessel crew:

- Quantitative data on employment of, or payments to, Kodiak crew members aboard CGOA rockfish trawl vessels is not available for the pre-Rockfish Pilot Program or the Rockfish Pilot Program years, and is available for only the most recent two of the five Rockfish Program years covered by this review.
- 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 payments to crew have similarly increased during this time. However, the impacts of quota leasing costs or changes to vessel operating costs, 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.

In terms of CGOA rockfish longline catcher vessel ownership, Kodiak has seen:

- An increase in annual average number of Kodiak resident-owned GOA rockfish longline catcher vessels participating in the Federal open access rockfish fishery between the Rockfish Pilot Program years and the Rockfish Program years. All participation in this sector during the Rockfish Program years was by Kodiak resident-owned vessels, after transitioning from a wider Alaska community ownership participation base during the pre-Rockfish Pilot Program years and the Rockfish Pilot Program years.

- It is unlikely, however, that this proportional and absolute increase in Kodiak longline catcher vessel sector engagement is 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 exempted from the cost recovery program implemented under the Rockfish Program. As noted in Section 4.2 of the main program review document to which this SIA is appended, diesel prices were likely a primary constraining factor for CGOA rockfish jig effort between 2006

and 2014, largely accounting for the drop in annual average effort across all communities between the pre-Rockfish Pilot Program years and the Pilot Program years, as well as the rebound in effort by Kodiak vessels seen part-way through the Rockfish Program years.

- 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).

In terms of the shore-based processors operating in Kodiak that accepted CGOA trawl-caught rockfish landings:

- Kodiak did experience the consolidation (by one) of shore-based processors that regularly accepted CGOA rockfish trawl-caught deliveries during 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 CGOA rockfish cooperatives, due primarily to the change in qualifying years between the two programs.

- Kodiak, and its shore-based processors, specifically benefitted from the CGOA rockfish trawl catcher vessel landings requirement community protection feature of 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 were made exclusively in Kodiak.

- Kodiak shore-based processors continue to directly benefit from the shift in peak CGOA rockfish trawl vessel effort to from July to May/June. 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, this has help with workforce stability by providing the opportunity for more reliable/steady processing employment opportunity during the May/June period, helping with worker retention, while making more local workers potentially available for peak salmon production demands in June.

- 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.

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 or the Rockfish Pilot Program years, and is available for only the most recent two of the five Rockfish Program years covered by this review.

- 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 positions 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 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 information.

    - While 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 number of Kodiak shore-based processors accepting CGOA rockfish longline-caught deliveries was relatively flat between the Rockfish Pilot Program and the Rockfish Program. 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.

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 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 vessel owners and/or crew, but the impact on the local purchase of fishery specific goods and services is unknown.

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 percent attributable to the fishery has increased under the Rockfish Program compared to other years. This is, of course, due in part to fluctuations in the value of both the rockfish[36] 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.

6.3.1.2 Other Alaska Communities

In addition to Kodiak, another 20 Alaska communities were directly engaged in the CGOA rockfish federal open access rockfish longline and/or CGOA rockfish trawl fisheries 2003-2016 as measured by a variety of indices. These include: resident ownership of catcher vessels in CGOA rockfish longline in the hook-and-line or jig sectors, local operation of shore-based processors that accepted longline caught deliveries of CGOA rockfish; resident ownership of CGOA rockfish trawl catcher vessel LLP licenses, resident ownership of CGOA rockfish trawl catcher processors, and local operation of shore-based processors that accepted trawl-caught caught deliveries of CGOA rockfish in any year 2003-2016, and residents who served as crew members aboard CGOA rockfish trawl catcher vessels and/or trawl catcher processors in 2015 or 2016 (the only years for which these data are available). None of these communities are considered to have been substantially engaged or substantially dependent upon the CGOA rockfish fishery at the time of the implementation of the Rockfish Program.

[36] As noted in the main program review document to which this SIA is appended, the ex-vessel value of catcher vessel landings has increased under the Pilot Program and Rockfish Program. From 2006 to 2016 the real ex-vessel value of Pacific Ocean perch increased by 247 percent. Much of the increase was due to the increased landings, since the real ex-vessel price only increased about 6 percent. The dusky rockfish real ex-vessel value increased by about 100 percent over the same period, but the real ex-vessel price declined slightly. Northern rockfish real ex-vessel value was the same in 2006 and 2016.

- 10 of these communities were involved in the entry level longline fishery, including two in the hook-and-line fishery, seven in the jig fishery, and one in both the hook-and-line and jig fisheries.

    - All 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 after the implementation of the Rockfish Program.

    - It is unlikely, however, that this lack of participation is related to the Rockfish Program. As noted in the Kodiak summary, 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 exempted from fees related to the cost recovery program implemented under the Rockfish Program. As noted in Section 4.2 of the main program review document to which this SIA is appended, diesel prices were likely a primary constraining factor for CGOA rockfish jig effort between 2006 and 2014, largely accounting for the drop in annual average effort across all communities between the pre-Rockfish Pilot Program years and the Pilot Program years, as well as the rebound in effort by Kodiak vessels seen part-way through the Rockfish Program years. Overall, that analysis concludes that the entry level fishery has provided an opportunity for longline gear vessel to continue to develop markets for rockfish and harvest rockfish in both the State and Federal waters of the Central GOA.

    - Also, 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 if the sector harvests 90 percent of their allocation the previous year (with caps varying by primary rockfish species).

- Four of these communities 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, the LLP left community ownership during the pre-Rockfish Pilot Program years or the Rockfish Pilot Program years. The later implementation of the Rockfish Program did not influence the movement of these LLPs.

    - In the fourth case, the LLP came into community ownership during the Rockfish Pilot Program years and has remained in local resident ownership during the Rockfish Program years.

- While the discontinuation of active engagement in the CGOA rockfish longline fishery through vessel ownership or in the CGOA rockfish trawl fishery through LLP ownership is not

attributable to the implementation of the Rockfish Program, it is, 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 (see SIA Attachment 6: Potential Cumulative Small/Rural Community and Cultural Context Issues).

- Crew employment, even in small numbers, aboard CGOA rockfish trawl catcher vessels and/or rockfish trawl catcher processors may be an important resource for small communities, but there are no data available to quantify crew participation in any but the two most recent years.

6.3.1.3 The Seattle MSA

The Seattle MSA was substantially engaged in the CGOA rockfish trawl fishery in several ways over the period 2003-2016. While changes have occurred in several sectors, no substantial community-level impacts resulting from the implementation of the Rockfish Program have been identified.

In terms catcher vessel and catcher processor ownership, the Seattle MSA:

- Experienced an increase in annual average Seattle MSA resident-owned CGOA rockfish trawl catcher vessel participation between the Rockfish Pilot Program years and the Rockfish Program years.

- Experienced an increase in the annual average Seattle MSA-owned resident-owned CGOA rockfish trawl catcher processor participation between the Rockfish Pilot Program years and the Rockfish Program years.

In terms of LLP license and quota share ownership, the Seattle MSA:

- Experienced an increase in annual average Seattle MSA resident-owned catcher vessel LLPs between the Rockfish Pilot Program years and the Rockfish Program years.

- Number of resident-owned catcher processor LLPs has remained steady since 2010, two years before the implementation of the Rockfish Program.

- Also benefitted from an increase in annual average Seattle MSA resident-owned catcher vessel quota with the implementation of the Rockfish Program for Pacific ocean perch and pelagic shelf rockfish, but a decrease was seen for northern rockfish.

- Resident-owned 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 rockfish.

In terms of catcher vessel and catcher processor crew employment:

- 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 or the Rockfish Pilot Program years, and is available for only the most recent two of the five Rockfish Program years covered by this review.

- 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 payments to crew have similarly increased during this time. However, the impacts of quota leasing costs or changes to vessel operating costs, 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. 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 income opportunities for crew members in that sector.

6.3.1.4 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 the catcher vessel ownership, Lincoln county:

- Experienced an increase in annual average county resident-owned CGOA rockfish trawl catcher vessel participation between the Rockfish Pilot Program years and the Rockfish Program years.

In terms of LLP and quota ownership, Lincoln county:

- Experienced a minor decrease in annual average county resident-owned catcher vessel LLPs between the Rockfish Pilot Program years and the Rockfish Program years.
- Benefitted from an increase in annual average county resident-owned catcher vessel quota with the implementation of the Rockfish Program for pelagic shelf rockfish, but 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 is not available for the pre-Rockfish Pilot Program or the Rockfish Pilot Program years, and is available for only the most recent two of the five Rockfish Program years covered by this review.

- 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 increased during this time. Information on crew compensation is not available for Lincoln County due to data confidentiality constraints.

6.3.2 Impacts to Alaska Communities Substantially Engaged in and/or Dependent on Halibut and Chinook Salmon Fisheries

One of the goals of the Rockfish Program is 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.[37] The communities involved would potentially benefit relative to the degree that PSC reductions would benefit the GOA halibut and/or Chinook salmon stocks (and, in the case of commercial or charter halibut fisheries, the effective redistribution of overall allocations of between sectors). 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.

6.3.3 Environmental Justice Concerns

No high and adverse impacts resulting from the implementation of the Rockfish Program have been identified for any Alaska or Pacific Northwest communities. No issues of environmental justice concern have been identified.

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

No issues identified with the implementation of the Rockfish Program put the sustained participation of any communities substantially engaged in or substantially dependent upon the CGOA rockfish trawl or longline fisheries at risk.

[37] As noted in the main program review document to which this SIA is appended, the catcher vessel and catcher/processor sectors have reduced their halibut mortality in the Central GOA rockfish fishery. Halibut mortality rates in the Central GOA Pilot Program and Rockfish Program have decreased about 90 percent in the catcher vessel sector when compared to 2003 through 2006 levels. The catcher/processor sector also realized reductions in amounts and rates. Chinook salmon bycatch amounts remain variable from year-to-year.

7 References

AECOM. 2013. Final Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexible Anlaysis to Reduce Gulf of Alaska Halibut Prohibited Species Catch Limits, Amendment 85 to the Fishery Management Plan for Groundfish of the Gulf of Alaska Appendix 7 Social Impact Assessment. Prepared for the North Pacific Fishery Management Council. Available online at https://alaskafisheries.noaa.gov/analyses/amd95/goa95earir.pdf.

AECOM. 2010. Five-Year Review of Crab Rationalization Management Program for Bering Sea and Aleutian Islands Crab Fisheries- Appendix A: Social Impact Assessment. Available online at http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/Crab/5YearRev1210_AppxA.pdf

AKFIN. 2017a. Alaska Regional Catch Accounting System, Data Compiled by AKFIN in Comprehensive_BLEND_CA. Prepared for Northern Economics, Inc. for CGOA Rockfish Program Review. June 2017.

AKFIN. 2017b. AKFIN Summaries of Fish Ticket Data. Prepared for Northern Economics, Inc. for CCOA Rockfish Program Review. June 2017.

Alaska Department of Commerce, Community, and Economic Development (DCCED). 2017. Financial Documents Delivery System. Available online at https://www.commerce.alaska.gov/dcra/dcrarepoext/pages/financialdocumentslibrary.aspx. Accessed September 7, 2017.

Alaska Department of Labor and Workforce Development. 2017. Research and Analysis, Alaska Local and Regional Information. Available online at http://live.laborstats.alaska.gov/alari/. Accessed September 7, 2017.

Alaska Groundfish Data Bank. 2017. Personal communication. E-mail from Julie Bonney to Darrell Brannan and Mike Downs.

Carothers, Courtney. 2015. Fisheries Privatization, Social Transitions, and Well-Being in Kodiak, Alaska. Marine Policy 61: Elsevier: 313-22. doi: 10.1016/j.marpol.2014.11.019.

Carothers, Courtney. 2013. A Survey of U.S. Halibut IFQ Holders: Market Participation, Attitudes, and Impacts. Marine Policy 38: 515-22.

Carothers, Courtney, Daniel K. Lew, and Jennifer Sepez. 2010. Fishing Rights and Small Communities: Alaska Halibut IFQ Transfer Patterns. Ocean and Coastal Management 53 (9).

Commercial Fisheries Entry Commission (CFEC). 2016. CFEC Public Search Application. Available online at https://www.cfec.state.ak.us/plook/#downloads. Accessed September 7, 2017.

Council on Environmental Quality. 1997. Environmental Justice Guidance Under the National Environmental Policy Act. Available online at https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-EJGuidance.pdf. Accessed September 6, 2017.

Dillman, Terry. 2013. Oregon Ports Stimulate Coastal, State Economy. Fisherman's News, May 1, 2013. Available at http://www.fishermensnews.com/story/2013/05/01/features/oregon-ports-stimulate-coastal-state-economy/171.html. Accessed on September 6, 2017.

Donkersloot, Rachel, and Courtney Carothers. 2016. The Graying of the Alaskan Fishing Fleet. Environment: Science and Policy for Sustainable Development 58 (3): 30-42. Doi:10.1080/00139157.2016.1162011.

Economic Development Alliance. 2016. Largest Employers in Lincoln County. Available online at http://www.coastbusiness.info/largest_employers.htm. Accessed September 6, 2017.

Economic Development Council. 2016. King County Economy. Available online at http://www.edc-seaking.org/service/economic-data/economic-basics. Accessed September 6, 2017.

EDAW. 2005. Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska Final Report. Available online at http://www.fakr.noaa.gov/npfmc/PDFdocuments/catch_shares/AKCommunityProfilesVol1.pdf.

Fall, James A., Nicole S Braem, Caroline L. Brown, Lisa B. Hutchinson-Scarborough, David S Koster, and Theodore M Krieg. 2013. Continuity and Change in Subsistence Harvests in Five Bering Sea Communities: Akutan, Emmonak, Savoonga, St. Paul, and Togiak. Deep-Sea Research II 94: 274-91.

Haynie, Alan C and Henry P Huntington. 2016. Strong Connections, Loose Coupling: The Influence of the Bering Sea Ecosystem on Commercial Fisheries and Subsistence Harvests in Alaska. Ecology and Society 21(4).

Himes-Cornell, Amber, and Kristin Hoelting. 2015. Resilience Strategies in the Face of Short-and-Long-Term Change: Out-Migration and Fisheries Regulation in Alaskan Fishing Communities. Ecology and Society 20 (2). doi:10.5751/ES-07074-200209.

Loring, Phillip A. 2012. Alternative Perspectives on the Sustainability of Alaska's Commercial Fisheries. Conservation Biology 27(1): 55-63.

Lyons, Courtney, Benjamin Blount, Courtney Carothers, Meredith Marchioni, Reade Davis, and Philip Loring. 2016. Considering Communities in Fisheries Management. Marine Policy. Elsevier, 1-4. Doi:10.1016/j.marpol.2016.05.006.

McDowell Group. 2016. Economic Impact of the Seafood Industry on the Kodiak Island Borough. Prepared for the Kodiak Island Borough and City of Kodiak.

National Marine Fishery Service. 2017. RAM Groundfish LLP License Database. Available online at https://alaskafisheries.noaa.gov/permits-licenses?field_fishery_pm_value=License+Limitation+Program+%28LLP%29. Accessed September 7, 2017.

National Oceanic and Atmospheric Administration (NOAA). 2017a. Annual Trawl Catcher Vessel EDR data provided by AFSC.

National Oceanic and Atmospheric Administration (NOAA). 2017b. Annual Trawl Catcher Processor EDR data provided by AFSC.

National Oceanic and Atmospheric Administration (NOAA). 2017c. Annual Shoreside Processor EDR data provided by AFSC.

National Oceanic and Atmospheric Administration (NOAA). 2016a. Annual Trawl Catcher Vessel EDR data provided by AFSC.

National Oceanic and Atmospheric Administration (NOAA). 2016b. Annual Trawl Catcher Processor EDR data provided by AFSC.

National Oceanic and Atmospheric Administration (NOAA). 2016c. Annual Shoreside Processor EDR data provided by AFSC.

National Oceanic and Atmospheric Administration (NOAA). 2015. Gulf of Alaska Groundfish Trawl Fishery Social Survey: Results of the 2014 Social Survey. Original data used in the production of this summary report provided for use in the CGOA rockfish program review by AFSC. Summary report available online at https://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-306.pdf. Accessed September 6, 2017.

National Oceanic and Atmospheric Administration (NOAA). 2013. Community Profiles for North Pacific Fisheries- Alaska. Technical Memorandum NMFS-AFSC-259. Seattle: Alaska Fishery Science Center.

National Oceanic and Atmospheric Administration (NOAA). 2007. Community Profiles for West Coast and North Pacific Fisheries- Washington, Oregon, California, and Other U.S. States. Technical Memorandum NMFS-NWFSC-85. Prepared for Alaska Fisheries Science Center.

North Pacific Fishery Management Council (NPFMC). 2011. Regulatory Impact Review, Final Environmental Assessment, and Initial Regulatory Flexibility Analysis for proposed Amendment 88 to the Gulf of Alaska Fishery Managment Plan, Central Gulf of Alaska Rockfish Program. Anchorage: NPFMC.

North Pacific Fishery Management Council (NPFMC). 2008. Gulf Of Alaska Rockfish Pilot Program Review. Anchorage: NPFMC.

North Pacific Fishery Management Council (NPFMC). 2006. Regulatory Impact Review and Final Enviornmental Assessment for Proposed Amendment 68 to the Gulf of Alaska Fishery Management Plan: Central Gulf of Alaska Rockfish Demonstration Program. Anchorage: NPFMC and NMFS AKR.

Northern Economics. 2016a. Preliminary Social Impact Assessment: GOA Trawl Bycatch Management Analysis. Prepared for the North Pacific Fishery Management Council. Available online at https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/GOAtrawlSIA.pdf.

Northern Economics. 2016b. Ten-Year Review of the Crab Rationalization Management Program for Bering Sea and Aleutian Islands Crab Fisheries- Appendix A: Social Impact Assessment. Prepared for the North Pacific Management Council. Available online at https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/Crab/AppendixA-SocialimpactAssessment.pdf

Northwest Seaport Alliance. 2016. Facilities Guide: North and South Harbors, Seattle-Tacoma, USA. Available online at https://www.nwseaportalliance.com/sites/default/files/nwsa_mapbrochure_5-2016_web.pdf.

Oliver, Chris. 2015. Bycatch, Community Protection, and Catch Shares in a Regional Multispecies Fishery- Addressing the Gulf of Alaska. University of Washington. doi:10.1017/CBO9781107415324.004.

Port of Seattle. 2016. Commercial Fishing and Workboats, Services. Available online at https://www.portseattle.org/Commercial-Marine/Fishermens-Terminal/Pages/Commercial-Fishing-and-Work-Boats.aspx. Accessed September 6, 2017.

Port of Newport. 2016. Commercial Marina. Available online at http://portofnewport.com/commercial-marina/index.php. Accessed September 6, 2017.

Reedy, Katherine. 2015. Social Impact Assessment of the Western Gulf of Alaska Trawl Bycatch Management Plan.

Reedy, Katherine, and H Maschner. 2014. Traditional Foods, Corporate Controls: Networks of Household Access to Key Marine Species in Southern Bering Sea Villages. Polar Record 50: 364-78.

Reedy-Maschner. 2010. Aleut Identities: Tradition and Modernity in an Indigenous Fishery. Montreal: McGill-Queen's University Press.

Reedy-Maschner, Katherine L, and Herbert Maschner. 2012. Subsistence Study for the North Aleutian Basin.

Richmond, Laurie. 2013. Incorporating Indigenous Rights and Environmental Justice into Fishery Management: Comparing Policy Challenges and Potentials from Alaska and Hawaii. Environmental Management 52: 1071-84.

Springer, Emilie. 2007. Through a Cod's Eye: Exploring the Social Context of Alaska's Bering Sea Groundfish Industry. University of Washington.

Swanton, John R. 1909. Tlingit Myths and Texts. Bureau of American Ethnology. Bulletin 39. Washington D.C.: US Government Printing Offices.

U.S. Census Bureau. 2011. Summary File 2010 100% Data. Available online at http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t. Accessed September 6, 2017.

U.S. Census Bureau. 2017. 2011-2015 American Community Survey 5-Year Estimates. Available online at https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml. Accessed September 6, 2017.

8 List of Persons Consulted

Persons consulted for this analysis, including those who responded to requests for information and provided input on the processor operational profiles in SIA Attachment 4: 2016 Profiles of Shore-Based Processors Accepting GOA Trawl-Caught Deliveries, include:

Rey Blanco – Pacific Seafood, Kodiak
Julie Bonney – Alaska Groundfish Databank, Kodiak
Bill Fejes – Polar Seafoods, Seward
Mark Fina – United States Seafoods, Seattle
Sune Forsman – International Seafoods of Alaska, Kodiak
Jessica Gardner – Pacific Seafoods, Kodiak
Pat Hardina – Icicle Seafoods, Seattle
Mitch Kilborn – International Seafoods of Alaska, Kodiak
Nicole Kimball – Pacific Seafood Processors Association
Paul Lumsden – Trident Seafoods, Kodiak
Charles McEldowney – Icicle Seafoods, Seward
Matt Moir – North Pacific Seafoods/Alaska Pacific Seafoods, Kodiak
Stefanie Moreland – Trident Seafoods, Seattle
Nik Morozov – Global Seafoods, Kodiak
Kris Norosz – Icicle Seafoods, Petersburg
Mike Okoniewski – Pacific Seafood, Clackamas
Joe Plesha – Trident Seafoods, Seattle
Chris Sannito – WildSource, Kodiak
James Turner – Ocean Beauty Seafoods, Kodiak

SIA Attachment 1: 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 4.0 and by sectors within the context of individual communities in Section 5.0.[38] 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 community resident-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

[38] 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.

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 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 taken into account 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 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. Additionally, in general, patterns of CGOA trawl-caught rockfish landings by community are less fluid than in some other fisheries managed under other North Pacific quota share type programs, 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.

SIA Attachment 2: Selected CGOA Rockfish Trawl Catcher Vessel and Catcher Processor Crew EDR Data, 2015 and 2016

Table 71. Number of Unique CGOA Rockfish Trawl Catcher Vessel Crew Members, by Community of Residence, 2015 and 2016

Community	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total 2016
Alaska						
Anchor Point	1	1	2	3	0	3
Anchorage (incl. Girdwood)	3	1	4	3	1	4
Chiniak	2	0	2	0	0	0
Gustavus	1	0	1	0	0	0
Juneau	0	1	1	1	0	1
Kenai	0	0	0	1	0	1
Kodiak	45	34	79	78	34	112
Old Harbor	1	0	1	1	0	1
Palmer	4	0	4	3	0	3
Soldotna	0	0	0	1	0	1
Wasilla	0	0	0	4	0	4
Alaska Subtotal	57	37	94	95	35	130
Washington						
Anacortes	1	0	1	2	1	3
Belfair	1	0	1	0	1	1
Bellingham	1	0	1	1	0	1
Bothell*	0	1	1	0	0	0
Camas	0	1	1	0	1	1
Chehalis	1	0	1	1	0	1
Everett*	0	0	0	1	0	1
Federal Way*	0	0	0	1	0	1
La Conner	0	0	0	1	0	1
Maple Valley*	1	0	1	0	0	0
Oak Harbor	1	0	1	0	0	0
Puyallup*	1	0	1	1	0	1
Redmond*	0	0	0	1	0	1
Seattle*	2	0	2	2	1	3
Sedro Woolley	3	0	3	2	0	2
Sequim	2	0	2	2	0	2
South Bend	0	2	2	0	2	2

Community	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total 2016
Tacoma*	0	0	0	1	0	1
Washington Subtotal	14	4	18	16	6	22
Oregon						
Albany	0	1	1	0	1	1
Aumsville	0	0	0	1	0	1
Beaverton	0	1	1	0	2	2
Bend	2	0	2	0	1	1
Coos Bay	2	0	2	2	0	2
Dallas	1	0	1	1	0	1
Depoe Bay**	0	0	0	1	0	1
Eugene	1	0	1	2	0	2
Florence	0	0	0	2	0	2
Klamath Falls	0	0	0	1	0	1
Lebanon	1	0	1	1	0	1
Mill City	0	0	0	1	0	1
Newport**	9	3	12	9	3	12
Port Orford	1	0	1	1	0	1
Portland	0	1	1	1	2	3
Redmond	2	0	2	0	0	0
Seaside	0	0	0	1	0	1
Siletz**	3	4	7	0	3	3
South Beach**	3	0	3	1	1	2
Toledo**	3	1	4	3	2	5
Tualatin	0	0	0	1	0	1
Waldport**	1	0	1	1	0	1
West Linn	1	0	1	1	0	1
Yachats**	0	0	0	1	0	1
Oregon Subtotal	30	11	41	32	15	47
Other States						
CA - Heber	1	0	1	0	0	0
CA – Los Angeles	1	0	1	0	0	0
CA - Oroville	0	0	0	2	0	2
CO - Fountain	0	0	0	1	0	1
CO - Loveland	0	0	0	1	0	1
DE - Newark	0	0	0	1	0	1
FL - Bradenton	0	0	0	1	0	1
FL - Clermont	0	0	0	1	0	1
FL – New Port Richey	0	0	0	1	0	1

Community	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total 2016
FL - Palatka	1	0	1	1	0	1
GA – Fort Valley	0	0	0	1	0	1
HI - Kihei	0	0	0	1	0	1
HI – Pearl City	0	0	0	1	0	1
IL - Bolingbrook	0	1	1	0	1	1
MA - Fairhaven	1	0	1	0	0	0
MI – Lake Odessa	1	0	1	1	0	1
MT – Bigfork	0	1	1	0	0	0
OH - Springfield	0	0	0	1	0	1
TX - Georgetown	1	0	1	0	0	0
Other States Subtotal	6	2	8	14	1	15
Unknown						
Unknown Subtotal	21	0	21	20	1	21
GRAND TOTAL	128	54	182	177	58	235

* Denotes communities within the Seattle MSA
** Denotes communities within Lincoln County, OR
Source: NOAA Fisheries 2016a, 2017b.

Table 72. Number of CGOA Rockfish Trawl Catcher Vessel Crew Positions, by Community of Residence Vessel Owner and Community of Residence of Crew Member, 2015 and 2016

Community of Catcher Vessel Owner Residence	State of Crew Member Residence	Community of Crew Member Residence	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total Crew Positions 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total Crew Positions 2016
Alaska								
Kodiak	Alaska	Anchor Point	1	1	2	1	0	1
	Alaska	Anchorage (inc. Girdwood)	2	1	3	0	1	1
	Alaska	Chiniak	2	0	2	0	0	0
	Alaska	Gustavus	1	0	1	0	0	0
	Alaska	Juneau	0	1	1	0	0	0
	Alaska	Kodiak	23	21	44	42	16	58
	Alaska	Old Harbor	1	0	1	1	0	1
	Alaska	Palmer	1	0	1	1	0	1
	Alaska	Soldotna	0	0	0	1	0	1
	Alaska	Wasilla	0	0	0	1	0	1
	Washington	Chehalis	1	0	1	1	0	1
	Washington	Puyallup*	1	0	1	1	0	1
	Washington	Sedro Woolley	1	0	1	1	0	1
	Washington	Sequim	2	0	2	2	0	2
	Oregon	Albany	0	1	1	0	1	1
	Oregon	Beaverton	0	1	1	0	1	1
	Oregon	Florence	0	0	0	2	0	2
	Oregon	Lebanon	1	0	1	1	0	1
	Oregon	Newport**	0	1	1	0	2	2
	Oregon	Port Orford	1	0	1	1	0	1
	Oregon	Portland	0	0	0	1	1	2

Community of Catcher Vessel Owner Residence	State of Crew Member Residence	Community of Crew Member Residence	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total Crew Positions 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total Crew Positions 2016
	Oregon	Redmond	2	0	2	0	0	0
	Oregon	Seaside	0	0	0	1	0	1
	Oregon	Siletz**	1	0	1	0	0	0
	Oregon	Waldport**	1	0	1	1	0	1
	California	Heber	1	0	1	0	0	0
	California	Oroville	0	0	0	2	0	2
	Florida	New Port Richie	0	0	0	1	0	1
	Illinois	Bolingbrook	0	1	1	0	1	1
	Massachusetts	Fairhaven	1	0	1	0	0	0
	Texas	Georgetown	1	0	1	0	0	0
	Unknown	Unknown	8	0	8	14	1	15
	Kodiak Subtotal		*53*	*28*	*81*	*76*	*24*	*100*
Alaska Subtotal			53	28	81	76	24	100
Washington								
Camas	Alaska	Kodiak	6	1	7	3	1	4
	Alaska	Palmer	0	0	0	1	0	1
	Washington	Camas	0	1	1	0	1	1
	Washington	Sedro Woolley	1	0	1	0	0	0
	Oregon	Coos Bay	1	0	1	0	0	0
	Oregon	South Beach**	1	0	1	0	0	0
	Unknown	Unknown	3	0	3	0	0	0
	Camas Subtotal		*12*	*2*	*14*	*4*	*2*	*6*
East Wenatchee	Alaska	Kodiak	2	1	3	3	1	4
	Unknown	Unknown	2	0	2	0	0	0

Community of Catcher Vessel Owner Residence	State of Crew Member Residence	Community of Crew Member Residence	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total Crew Positions 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total Crew Positions 2016
	East Wenatchee Subtotal		*4*	*1*	*5*	*3*	*1*	*4*
*Seattle**	Alaska	Anchorage	0	0	0	1	0	1
	Alaska	Kenai	0	0	0	1	0	1
	Alaska	Kodiak	6	5	11	15	6	21
	Alaska	Palmer	1	0	1	1	0	1
	Washington	Anacortes	1	0	1	1	1	2
	Washington	Belfair	1	0	1	0	1	1
	Washington	Bellingham	1	0	1	1	0	1
	Washington	Bothell*	0	1	1	0	0	0
	Washington	Maple Valley*	1	0	1	0	0	0
	Washington	Oak Harbor	1	0	1	0	0	0
	Washington	Redmond*	0	0	0	1	0	1
	Washington	Seattle*	2	0	2	2	0	2
	Washington	Sedro Woolley	1	0	1	1	0	1
	Washington	Tacoma*	0	0	0	1	0	1
	Oregon	Aumsville	0	0	0	1	0	1
	Oregon	Bend	2	0	2	0	1	1
	Oregon	Newport**	1	0	1	0	0	0
	Oregon	Siletz**	0	1	1	0	1	1
	Oregon	Toledo**	1	0	1	1	0	1
	Oregon	West Linn	1	0	1	1	0	1
	Florida	Clermont	0	0	0	1	0	1
	Florida	Palatka	1	0	1	1	0	1
	Hawaii	Kihei	0	0	0	1	0	1
	Montana	Bigfork	0	1	1	0	0	0

Community of Catcher Vessel Owner Residence	State of Crew Member Residence	Community of Crew Member Residence	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total Crew Positions 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total Crew Positions 2016
	Unknown	Unknown	3	0	3	1	0	1
	Seattle Subtotal		*24*	*8*	*32*	*32*	*10*	*42*
South Bend	Alaska	Anchor Point	0	0	0	2	0	2
	Alaska	Kodiak	0	0	0	4	0	4
	Washington	Everett	0	0	0	1	0	1
	Washington	South Bend	0	2	2	0	2	2
	Georgia	Fort Valley	0	0	0	1	0	1
	South Bend Subtotal		*2*	*2*	*8*	*2*	*10*	*12*
Washington Subtotal			40	13	53	47	15	62
Oregon								
Independence	Alaska	Anchorage	1	0	1	0	0	0
	Alaska	Kodiak	0	2	2	0	0	0
	Alaska	Palmer	1	0	1	0	0	0
	Oregon	Newport**	3	1	4	0	0	0
	Michigan	Lake Odessa	1	0	1	0	0	0
	Independence Subtotal		*6*	*3*	*9*	*0*	*0*	*0*
Keiser	Alaska	Anchorage	0	0	0	1	0	1
	Alaska	Kodiak	0	0	0	1	1	2
	Oregon	Newport**	0	0	0	2	0	2
	Oregon	South Beach**	0	0	0	0	1	1
	Delaware	Newark	0	0	0	1	0	1
	Michigan	Lake Odessa	0	0	0	1	0	1
	Unknown	Unknown	0	0	0	1	0	1
	Keiser Subtotal		*0*	*0*	*0*	*7*	*2*	*9*

Community of Catcher Vessel Owner Residence	State of Crew Member Residence	Community of Crew Member Residence	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total Crew Positions 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total Crew Positions 2016
*Newport***	Alaska	Kodiak	7	4	11	8	8	16
	Alaska	Palmer	1	0	1	0	0	0
	Alaska	Wasilla	0	0	0	2	0	2
	Washington	Anacortes	0	0	0	1	0	1
	Washington	Federal Way*	0	0	0	1	0	1
	Washington	La Conner	0	0	0	1	0	1
	Washington	Seattle*	0	0	0	0	1	1
	Oregon	Beaverton	0	0	0	0	1	1
	Oregon	Dallas	1	0	1	1	0	1
	Oregon	Depoe Bay	0	0	0	1	0	1
	Oregon	Eugene	1	0	1	2	0	2
	Oregon	Newport**	2	0	2	4	0	4
	Oregon	Toledo**	1	0	1	1	1	2
	Oregon	Tualatin	0	0	0	1	0	1
	California	Los Angeles	1	0	1	0	0	0
	Colorado	Fountain	0	0	0	1	0	1
	Colorado	Loveland	0	0	0	1	0	1
	Florida	Bradenton	0	0	0	1	0	1
	Ohio	Springfield	0	0	0	1	0	1
	Unknown	Unknown	5	0	5	3	0	3
	Newport Subtotal		*19*	*4*	*23*	*30*	*11*	*41*
*Siletz***	Alaska	Anchorage	0	0	0	1	0	1
	Alaska	Juneau	0	0	0	1	0	1
	Alaska	Kodiak	1	0	1	2	1	3
	Alaska	Wasilla	0	0	0	1	0	1

Community of Catcher Vessel Owner Residence	State of Crew Member Residence	Community of Crew Member Residence	Number of ADFG Crew License Holders 2015	Number of CFEC Gear Operator Permit Holders 2015	Total Crew Positions 2015	Number of ADFG Crew License Holders 2016	Number of CFEC Gear Operator Permit Holders 2016	Total Crew Positions 2016
	Oregon	Coos Bay	1	0	1	2	0	2
	Oregon	Klamath Falls	0	0	0	1	0	1
	Oregon	Newport**	1	0	1	1	0	1
	Oregon	Portland	2	1	3	3	1	4
	Oregon	Siletz**	0	1	1	0	1	1
	Oregon	South Beach**	2	3	5	0	2	2
	Oregon	Toledo**	2	0	2	1	0	1
	Oregon	Yachats**	1	1	2	1	1	2
	Hawaii	Pearl City	0	0	0	1	0	1
	Unknown	Unknown	0	0	0	1	0	1
	Siletz Subtotal		*10*	*6*	*16*	*16*	*6*	*22*
Oregon Subtotal			35	13	48	54	19	73
GRAND TOTAL			128	54	182	176	58	235

* Denotes communities within the Seattle MSA
** Denotes communities within Lincoln County, Oregon
Source: NOAA Fisheries 2016a, 2017b.

Table 73. Catcher Processor Crew Community of Residence from EDR Data for Catcher Processors that Participated in the CGOA Rockfish Trawl Fishery, 2015

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
1			Alaska	13	9.0%
	1	1	ANCHORAGE	3	
	2	2	DUTCH HARBOR	5	
	3	3	KENAI	1	
	4	4	SELDOVIA	1	
	5	5	UNALASKA	2	
	6	6	WASILLA	1	
2			Alabama	1	0.7%
	7	1	CHUNCHULA	1	
3			American Samoa	4	2.8%
	8	1	MALAELAO	1	
	9	2	PAGO PAGO	3	
4			Arizona	3	2.1%
	10	1	GOODYEAR	1	
	11	2	PHOENIX	1	
	12	3	VAIL	1	
5			California	3	2.1%
	13	1	AUBURN	1	
	14	2	STOCKTON	1	
	15	3	SYLMAR	1	
6			Florida	1	0.7%
	16	1	MIAMI	1	
7			Idaho	3	2.1%
	17	1	BOISE	2	
	18	2	MOYIE SPRINGS	1	
8			Illinois	2	1.4%
	19	1	CHICAGO	1	
	20	2	LOVINGTON	1	
9			Massachusetts	1	0.7%
	21	1	GARDNER	1	
10			Michigan	1	0.7%
	22	1	MUSKEGON	1	
11			Missouri	1	0.7%
	23	1	SAINT LOUIS	1	
12			Montana	2	1.4%
	24	1	DRUMMOND	1	

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
	25	2	MISSOULA	1	
13			North Carolina	1	0.7%
	26	1	GARNER	1	
14			Nevada	2	1.4%
	27	1	LAS VEGAS	1	
	28	2	RENO	1	
15			Oregon	7	4.8%
	29	1	BEAVERTON	1	
	30	2	COOS BAY	1	
	31	3	NORTH PLAINS	1	
	32	4	PORTLAND	1	
	33	5	REDMOND	1	
	34	6	TIGARD	1	
	35	7	WOODBURN	1	
16			Pennsylvania	1	0.7%
	36	1	PITTSBURGH	1	
17			Texas	4	2.8%
	37	1	AMARILLO	1	
	38	2	EL PASO	2	
	39	3	PHARR	1	
18			Washington	94	64.8%
	40	1	AUBURN	1	
	41	2	BELLINGHAM	1	
	42	3	BLAINE	1	
	43	4	BREMERTON	2	
	44	5	BRUSH PRAIRIE	1	
	45	6	BURIEN	1	
	46	7	CASHMERE	1	
	47	8	CHELAN	2	
	48	9	CLINTON	2	
	49	10	COLVILLE	1	
	50	11	COUPEVILLE	1	
	51	12	EAST WENATCHEE	1	
	52	13	EDMONDS	1	
	53	14	EVERETT	4	
	54	15	FEDERAL WAY	6	
	55	16	FREELAND	1	
	56	17	GIG HARBOR	3	
	57	18	KENT	2	

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
	58	19	LAKE STEVENS	1	
	59	20	LEAVENWORTH	1	
	60	21	LONGVIEW	1	
	61	22	LYNDEN	1	
	62	23	LYNNWOOD	3	
	63	24	OAK HARBOR	1	
	64	25	PACIFIC	1	
	65	26	PASCO	1	
	66	27	PUYALLUP	3	
	67	28	RICHLAND	1	
	68	29	SEATAC	1	
	69	30	SEATTLE	32	
	70	31	SNOHOMISH	1	
	71	32	SPANAWAY	1	
	72	33	SPOKANE	1	
	73	34	TACOMA	8	
	74	35	TUKWILA	1	
	75	36	VANCOUVER	1	
	76	37	WOODLAND	1	
	77	38	YAKIMA	1	
--			Unknown	1	0.7%
	--	--	(blank)	1	
			GRAND TOTAL	145	100.0%

Source: NOAA Fisheries 2016b.

Table 74. Catcher Processor Crew Community of Residence from EDR Data for Catcher Processors that Participated in the CGOA Rockfish Trawl Fishery, 2016

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
1			Alaska	24	10.8%
	1	1	ANCHORAGE	7	
	2	2	DELTA JUNCTION	1	
	3	3	DUTCH HARBOR	14	
	4	4	KENAI	1	
	5	5	WASILLA	1	
2			Alabama	2	0.9%
	6	1	BREMEN	1	
	7	2	CHUNCHULA	1	
3			American Samoa	2	0.9%
	8	1	PAGO PAGO	2	
4			Arizona	4	1.8%
	9	1	GLENDALE	1	
	10	2	GOODYEAR	1	
	11	3	LITCHFIELD PARK	1	
	12	4	VAIL	1	
5			California	14	6.3%
	13	1	DIAMOND SPRINGS	1	
	14	2	FAIRFIELD	2	
	15	3	GLENDALE	1	
	16	4	MODESTO	1	
	17	5	RIALTO	1	
	18	6	SACRAMENTO	1	
	19	7	SAN BERNARDINO	1	
	20	8	SAN DIEGO	1	
	21	9	SANTA ANA	1	
	22	10	STOCKTON	2	
	23	11	SYLMAR	1	
	24	12	YUBA CITY	1	
6			Colorado	3	1.3%
	25	1	AURORA	1	
	26	2	FEDERAL HEIGHTS	1	
	27	3	RAYNER	1	
7			Florida	1	0.4%
	28	1	CANTONMENT	1	
8			Hawaii	2	0.9%

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
	29	1	HONOLULU	1	
	30	2	SACRAMENTO	1	
9			Idaho	2	0.9%
	31	1	BOISE	1	
	32	2	CALDWELL	1	
10			Illinois	2	0.9%
	33	1	FRANKLIN PARK	1	
	34	2	LOVINGTON	1	
11			Michigan	1	0.4%
	35	1	MUSKEGON	1	
12			Minnesota	1	0.4%
	36	1	ONAMIA	1	
13			North Carolina	1	0.4%
	37	1	GARNER	1	
14			Nebraska	1	0.4%
	38	1	DECATUR	1	
15			Nevada	3	1.3%
	39	1	LAS VEGAS	2	
	40	2	NORTH LAS VEGAS	1	
16			New York	1	0.4%
	41	1	BROOKLYN	1	
17			Ohio	1	0.4%
	42	1	MANSFIELD	1	
18			Oklahoma	1	0.4%
	43	1	TULSA	1	
19			Oregon	9	4.0%
	44	1	BEAVERTON	2	
	45	2	GERVAIS	1	
	46	3	GRESHAM	1	
	47	4	PORTLAND	1	
	48	5	SALEM	1	
	49	6	TIGARD	1	
	50	7	WOODBURN	1	
	51	8	YACHATS	1	
20			Pennsylvania	1	0.4%
	52	1	TIONESTA	1	
21			Texas	5	2.2%
	53	1	AMARILLO	2	
	54	2	EL PASO	2	

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
	55	3	PHARR	1	
22			Virginia	1	0.4%
	56	1	VIRGINIA BEACH	1	
23			Washington	128	57.4%
	57	1	AUBURN	3	
	58	2	BREMERTON	2	
	59	3	BRUSH PRAIRIE	1	
	60	4	CARROLLS	1	
	61	5	CENTRALIA	1	
	62	6	CHELAN	3	
	63	7	CLINTON	3	
	64	8	CONWAY	1	
	65	9	DES MOINES	1	
	66	10	EAST WENATCHEE	1	
	67	11	EDMONDS	1	
	68	12	EVERETT	1	
	69	13	FEDERAL WAY	6	
	70	14	FERNDALE	1	
	71	15	FREELAND	1	
	72	16	GIG HARBOR	2	
	73	17	KENT	7	
	74	18	LACEY	3	
	75	19	LAKE STEVENS	1	
	76	20	LONGVIEW	1	
	77	21	LYNDEN	2	
	78	22	LYNNWOOD	4	
	79	23	MARYSVILLE	1	
	80	24	MONROE	4	
	81	25	OAK HARBOR	1	
	82	26	PACIFIC	1	
	83	27	PASCO	4	
	84	28	PORT ORCHARD	1	
	85	29	PUYALLUP	2	
	86	30	RENTON	3	
	87	31	SEATAC	1	
	88	32	SEATTLE	49	
	89	33	SPAINWAY	1	
	90	34	SPOKANE	3	
	91	35	TACOMA	3	

Number of States and Territories	Number of Unique Communities	Number of Communities by State	Name of State or Territory and Community	Number of Crew	Percentage of All Crew
	92	36	TUKWILA	1	
	93	37	VANCOUVER	3	
	94	38	WALLA WALLA	1	
	95	39	WOODLAND	1	
	96	40	YAKIMA	1	
			Unknown	13	5.8%
			(blank)	13	
			GRAND TOTAL	223	100.0%

Source: NOAA Fisheries 2017c.

SIA Attachment 3: Responses to Selected Questions, AFSC GOA Trawl Social Survey, 2014

Kodiak GOA Trawl Catcher Vessel Owner and Crew Responses

Table 75. 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 75. 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 75. 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 76. 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 76. 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 76. 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

SIA Attachment 4: 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]).[39]

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.[40]

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:

[39] Available at https://www.npfmc.org/wp-content/PDFdocuments/catch_shares/GOAtrawlSIA.pdf.

[40] 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.[41] 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

[41] While not showing up in the 2003-2014 dataset used for this analysis, during presentation of this Preliminary SIA to the Council, 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.

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.

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 (2016), 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 has not run local Tanner crab in recent years due to fishery closures, but it has run some GOA brown king crab and relatively small amounts of BSAI 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. 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 at the time of preliminary fieldwork (early June 2016) was not in production, but was undergoing renovations that include upgrading the ammonia system and installing a new salmon processing line, such that plans were to open that facility for salmon processing early in the 2016 salmon season. According to Trident management, processing at the former Western Alaska Fisheries facility will focus exclusively on value added processing of salmon for the foreseeable future. The facility will also be used for other, non-processing support activities, such as providing gear storage, bait, and ice to the catcher vessel fleet. It is planned that the processing and support staff utilized to re-staff the former Western Alaska Fisheries facility will be drawn from the existing Trident workforce (which, in turn, includes former Alaska Fresh Seafoods and Western Alaska Fisheries staff).

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 (2016), the Trident Kodiak resident workforce is characterized as including roughly 350 employees total, as measured by the number of individuals appearing as current Kodiak resident employees in the Trident human resources system, of which about 250 are regular, full-time workers. Peak labor demand is seen from February through April (primarily pollock), July and August (primarily salmon), and September and October (primarily pollock).

Trident is currently expanding their housing capacity to be able to meet peak demands, which can add another 250 full-time, limited duration workers to the staff. This can push the total number of individuals in the system to approximately 600 persons at the highest peaks, exceeding the number of potential workers interested/available in the local labor pool. At present, Trident can house approximately 75 persons at the plant between facilities on the Star of Kodiak and a bunkhouse structure on the dock. In 2014 Trident moved to increase company-owned housing capacity in the community with the purchase of the Kodiak Plaza/Kashevaroff Apartments complex. Containing 66 apartments

and multiple office spaces, the complex will provide housing capacity and other personnel services, including a dining facility. Trident plans on continuing to use 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 (2016), the fleet delivering to Trident Seafoods in Kodiak has been characterized by Trident management as consisting of a core of approximately 20 trawl catcher vessels, 30 seiners, 10 pot cod vessels, and 10 long line vessels that deliver to the plant on a steady basis out of over 200 privately owned vessels in total that typically deliver to the plant in a given year.

Other Kodiak Processors

Kodiak Island WildSource, a part of Sun'aq Tribal Enterprises, is a relative 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 ice house 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.[42]

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.[43]

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 $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.

[42] 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.

[43] 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.

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, Nikiski, and Uganic, 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).

SIA Attachment 5: 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.[44] 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.[45] 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. [46] 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

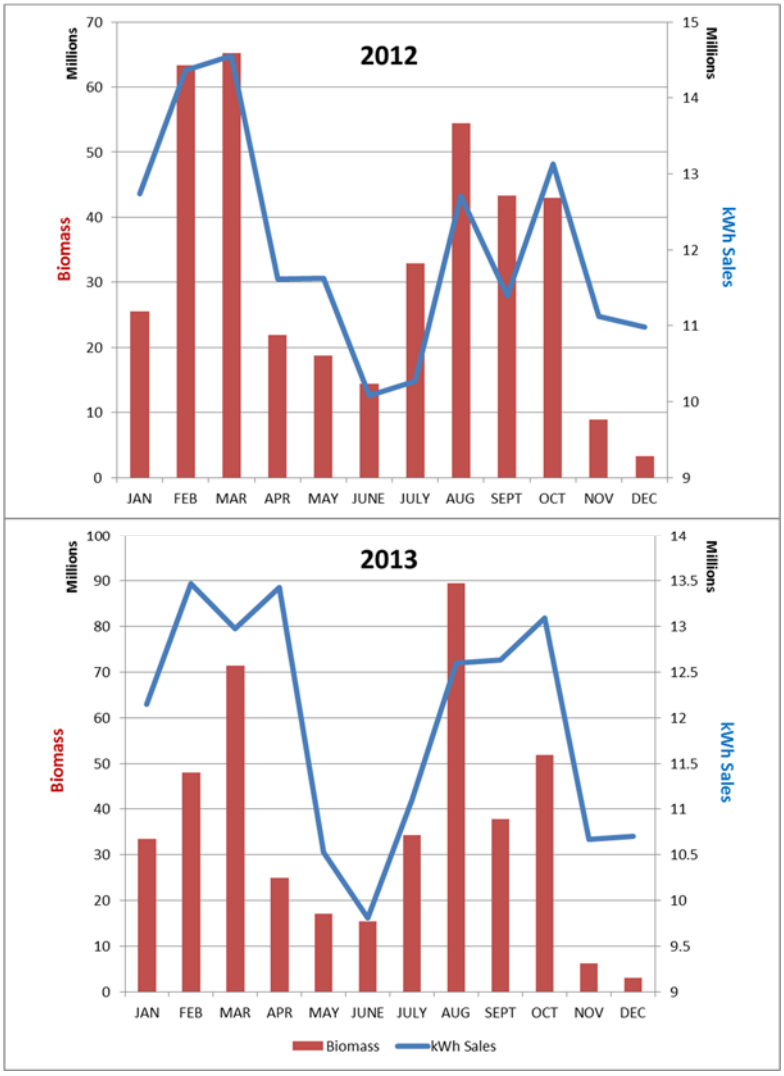
[44] Source: City of Kodiak Comprehensive Annual Financial Report for Fiscal Year 2015, available at: http://www.city.kodiak.ak.us/sites/default/files/fileattachments/finance/page/352/city_of_kodiak_cafr_fy_2015.pdf. Specific employer information is no longer available, due to a change in Alaska statute.

[45] 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).

[46] 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.

kWh to around 44 million kWh.[47] 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: 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.

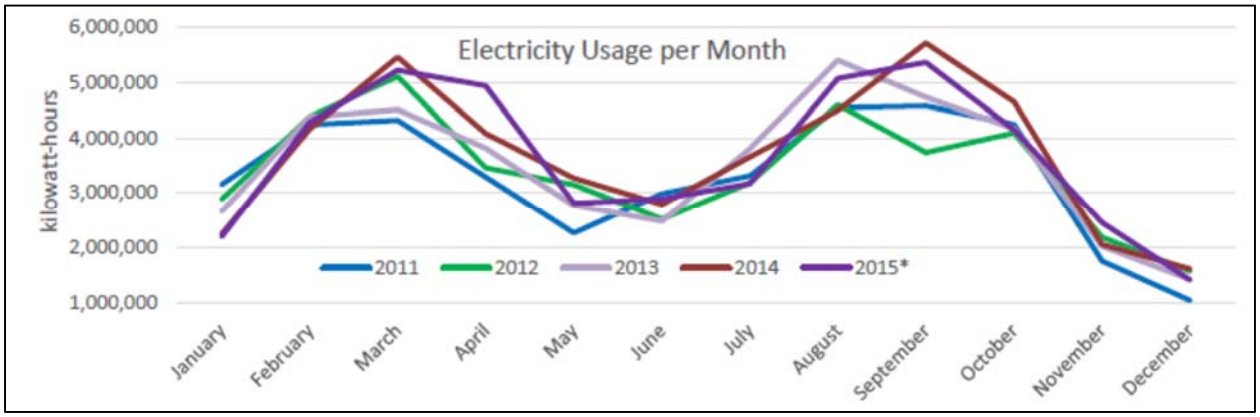
Figure 9. Fish processed at plants in the city of Kodiak (million lbs.) and total KEA electricity sales (kWh), by month for 2012 and 2013



Source: Biomass data provided by Alaska Groundfish Data Bank, taken from NMFS reports; Electricity usage data provided by Kodiak Electric Association.

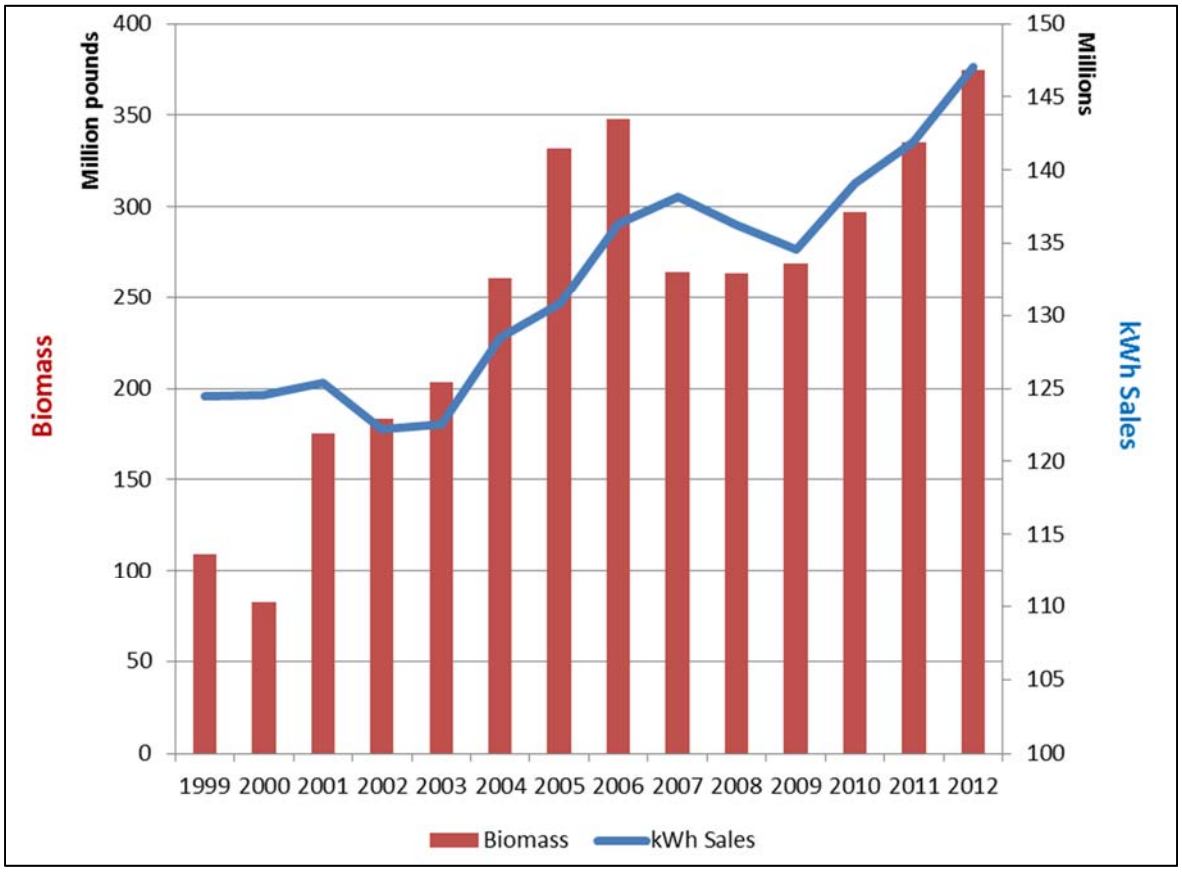
[47] Alaska Groundfish Data Bank, Inc. 2015. "Historical Kodiak Fishery Performance and Fishery Outlook", AGDB special report produced for Kodiak Electrical Association,1614 Mill Bay Rd. Kodiak, AK 99615.

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.

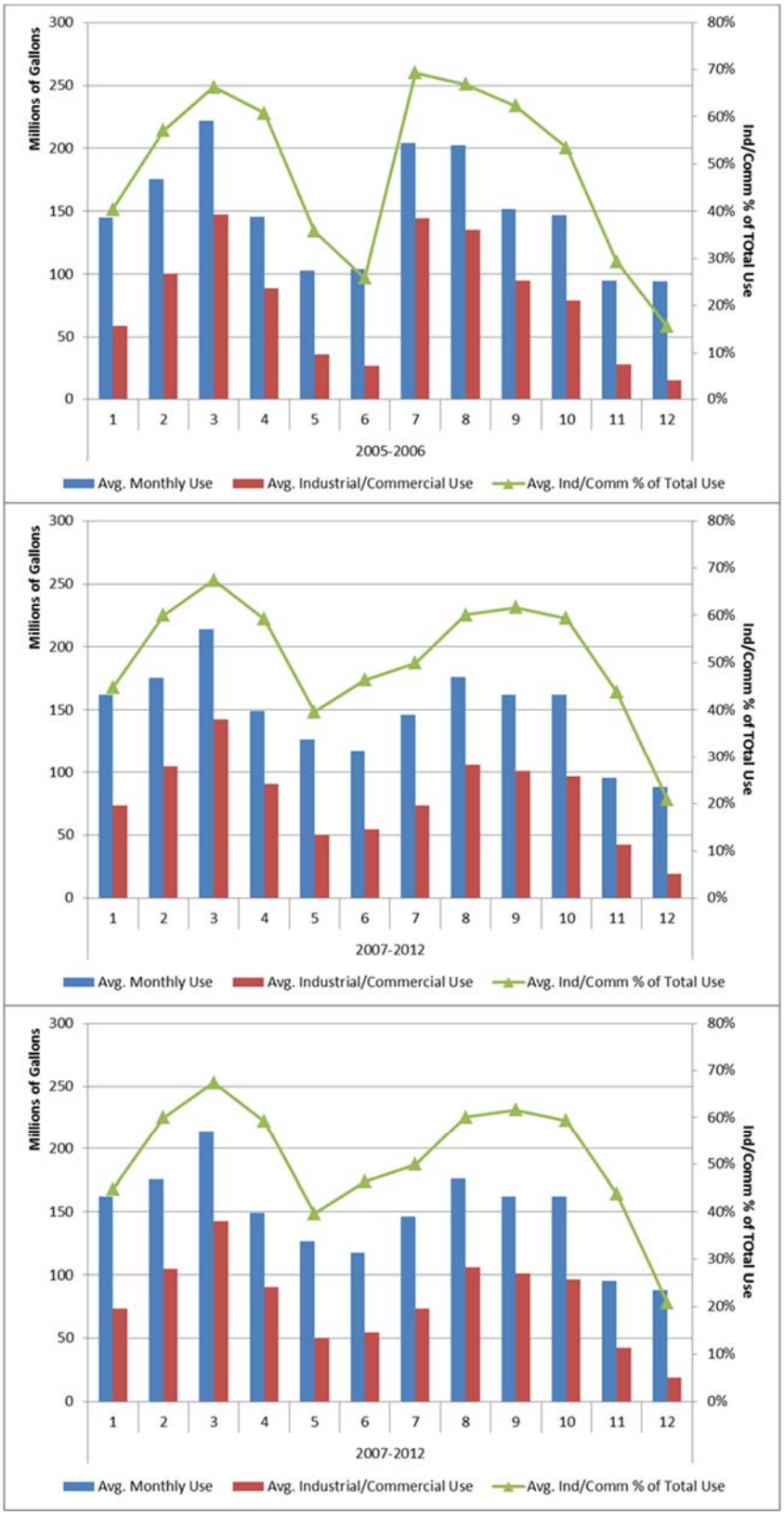
Water

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.[48]

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.

[48] 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)



SIA Attachment 6: Potential Cumulative Small/Rural Community and Cultural Context Issues

The following discussion was prepared by Stev Weidlich of Northern Economics for inclusion in the December 2016 version of the Preliminary Social Impact Assessment: Gulf of Alaska Trawl Bycatch Management Analysis, which was presented at the NPFMC meetings in Anchorage that same month.

This community analysis has largely focused on community impacts associated with the implementation of proposed GOA trawl bycatch management measures through the use of quantitative fishery information and through characterizations of a number of Alaskan regions and communities that describe the magnitude of social- and community-level engagement and dependency on the relevant fisheries. This approach provides a relatively comprehensive analysis of anticipated socioeconomic impacts that could occur as a result of proposed GOA trawl bycatch management changes, including GOA halibut PSC and GOA Chinook salmon PSC limit revisions.

It should be noted, however, that fishing regulatory actions can result in a wide range of social and sociocultural impacts in rural fishing communities. 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. A number of researchers have explored the relationship between contemporary fishery management actions (e.g., IFQ, catch-shares, rationalization, limited entry, etc.) and the sociocultural impacts that can result, including impacts to identity. The following survey of existing literature is not meant to be comprehensive, but is instead included here to indicate the cultural context of fishing, the types of research being conducted within the GOA region or, if relevant, the BSAI region, on commercial fishery management issues and the potentially interactive nature of the present proposed management actions with other management actions that have taken place in recent years.

The cultural importance of halibut (as a species) and halibut fishing (as traditional activity) is well documented in the anthropological literature for Alaska Native tribal groups throughout Alaska, including the Yup'ik, Aleut, Alutiiq, and Tlingit. In addition to being a primary subsistence resource for many coastal groups, halibut feature prominently in legends and parables. In one example, Raven, a prominent "trickster" figure in Tlingit traditional folktales, goes on a fishing trip with Cormorant and Bear during which Raven identifies a rich halibut fishing ground and catches a large number of fish (Swanton 1909). In another example, one Tlingit legend tells a story of one Haida fisherman in Haida Gwaii (formerly known as the Queen Charlotte Islands, which are located off the coast of British Columbia) who caught a small halibut that began to grow exponentially upon reaching the shore. The halibut ultimately grew so large that its struggles on the beach destroyed the village and broke apart Haida Gwaii into multiple islands, distributing the Haida people across the islands (Swanton 1909). It is not uncommon to see halibut iconography in carvings, paintings, and textile handicrafts throughout the region, suggesting its traditional cultural importance.

The academic literature regarding commercial fisheries in Alaska and rural community impacts has focused in recent years on the halibut and sablefish IFQ programs, the western Alaska Community Development Quota (CDQ) program, the BSAI crab rationalization program, and other management actions in Alaska. Some of the most recent literature has examined issues surrounding groundfish bycatch management, community protection measures associated with new fishery management regimes, and societal changes in rural Alaskan communities that may be influenced by changes in commercial fishing. In most cases, the academic literature focuses on the intersection between local community members and the challenges faced by common impacts of rationalization, catch share, or other fisheries privatization programs. For example, a recent article provided a summary of research on fisheries management issues around the world and noted that management actions should be, "flexible, broad, and inclusive, providing potential tools and frameworks to aid in management projects" particularly given the complexity of place and "diverse relationships between people, places and their fish and fisheries" (Lyons et al. 2016)

Courtney Carothers, PhD, is one primary author who has focused regularly on marine resource conservation and management in Alaska in her academic work. In "Fishing Rights and Small Communities: Alaska Halibut IFQ Transfer Patterns" (Carothers, Lew, and Sepez 2010), the authors discuss quota share emigration and how halibut IFQ has resulted in small rural fishing communities (especially those with populations of 1,500 or less) having disproportionately lost fishing rights and how Alaska Native communities are more likely to sell than buy quota. Since quotas have an attached monetary value, many small community residents tend to sell their quotas in tough financial times. The authors also discuss how the quota share market behavior is linked to these small rural fishing communities through the redistribution process of the community selling their quota shares to larger communities, or collectives. The authors describe how, in order to make the program more equitable, the NPFMC started the "Community Purchase Program" for 42 communities of 1,500 people or less.

In her article in *Marine Policy* entitled, "A survey of US halibut IFQ holders: Market participation, attitudes, and impacts" (Carothers 2013), Dr. Carothers attempts to quantify perceptions of halibut IFQ holders and presents the results of a recent survey. She states that there are clear relationships in how the halibut IFQ program is perceived based on income, residency, and ethnicity. She found that older individuals, individuals who make less money, and indigenous fishermen are less likely to buy quota from other fishermen. Additionally, residents of small fishing communities are least likely to support IFQ management policies. On the whole, survey respondents stated that negative impacts of IFQ programs included limits on access, job loss, inequities experienced by rural fishermen and crew, the creation of a "privileged class" of fishermen, and negative environmental impacts (Carothers 2013). Continued research on the topic of catch share programs in rural Alaskan communities by Carothers (Carothers 2015) suggests that community residents have found that these kinds of programs have had divisive, negative impacts in the community and that crew members and younger fishermen have been disproportionately affected. She suggests that some of the core values in fishing, including an appreciation for "hard work" as a key factor in commercial fishing success, have eroded and that access to financial capital is necessary to become an entrant or maintain a commercial fishing career (Carothers 2015).

Focusing specifically on Aleut and Alaska Native fisheries, Katherine Reedy, PhD, discusses similar issues. She recently published an ethnographic view of Alaska Native fisheries and the attitudes and

beliefs of those that fish the fishery (Reedy-Maschner 2010). Dr. Reedy suggests that Alaska Native fishermen's views on marine resources and management can be at odds with environmentalists and conservation/management programs because their use of the marine environment differs from that of at least some other commercial fishermen. She finds that a number of programs more broadly targeted at commercial fishermen in general do not take into account the particular context and operational realities of a substantial portion of Alaska Native fishing operations and suggests that some programs serve to undercut the ability of Alaska Native fishermen to follow traditional cultural patterns of marine resource utilization. As previously noted, in a recent study for the AEB (Reedy 2015) Dr. Reedy developed these points in the specific context of the proposed GOA trawl bycatch management alternatives.

Emilie Springer's thesis, *Through a Cod's Eye: Exploring the Social Context of Alaska's Bering Sea Groundfish Industry*, is another example of the kind of research being done that looks at broader social issues and effects of marine resource management (Springer 2007). Springer discusses how fishermen of groundfish in the Bering Sea (specifically cod), describe their participation in commercial fishing. Springer presents Bering Sea cod fishermen as a representative sample of individuals in other groundfish fisheries, as well as Bering Sea crab fisheries and Alaska state water fisheries. With the exception of vessels using pot gear, Springer notes that, during the 1990s, fishermen in the Bering Sea cod fleet experienced a number of changes, including those resulting from the CDQ program, the License Limitation Program, and Stellar sea lion protection measures. Springer suggests that, as a result of those changes, the fleet matured and opportunities for new, young fishermen were reduced as the fleet was able to fish on a more consistent schedule.

Other recent academic articles have been largely critical of fishery management regimes in Alaska and how they have disproportionately affected Alaska Native communities. Richmond noted that data show that only a handful of communities have been able to purchase halibut IFQ due to the high cost of shares, the limited availability of shares on the open market, and the lack of viable financing opportunities to purchase them (Richmond 2013). Additionally, the requirement that individuals be residents in a community to be eligible to lease quota prevents wider participation in the program by affiliated kin who may not retain eligible-community residency due to a range of factors. Loring presented similar conclusions in a recent article in *Conservation Biology*, positing that fishery management in Alaska does not adequately take into consideration the sociocultural systems that surround the resource and thus "assumes the necessity of trade-offs between biological and social goals" (Loring 2012).

Other research projects in the Bering Sea are also informative to potential changes seen in the GOA. For example, a meta-analysis of ecosystem studies in the Bering Sea have suggested that community residents, including commercial and subsistence fishermen, are able to respond to ecosystem-level change by diversifying their activities across time, space, and species. These ecosystem-wide changes could include changing ocean temperatures, demographic changes, and shifts in commercial fishing management, suggesting a certain amount of resilience in some communities to large changes to commercial and subsistence resources (Haynie and Huntington 2016). The intersection of fishery management and subsistence resource use has also been a topic of recent research in the Bering Sea. For example, Fall and others documented subsistence activities in the Bering Sea communities of Akutan, St. Paul, Togiak, Emmonak, and Savoonga. They found that survey respondents provided a

range of personal, economic, and environmental explanations for recent changes in their subsistence harvesting activities. One trend seen in the data suggested that participation in subsistence fishing relied on involvement in commercial fishing, as earnings from commercial fishing helped pay for subsistence activities and commercial vessels were commonly used for subsistence activities (Fall et al. 2013). Reedy-Maschner and Maschner have also found that fishermen who participate in commercial fishing are often the most important providers in subsistence networks in their local community. As involvement in commercial fishing changes in small, rural Alaskan communities through the implementation of various management regimes, the level of access to subsistence resources can change (Reedy-Maschner and Maschner 2012). Reedy and Maschner found that households that have recently lost direct access to subsistence resources due to policy changes, permit loss, or increased expenses, have created complex adaptive networks of distribution to maintain access. As they state, referencing crab as an example subsistence species, "The social, emotional, and monetary value of crab is still high, but the legal and physical ability to acquire it and share it has changed for [Aleut] men," forcing households to purchase traditional subsistence species from local shore-based processors or via other means (Reedy and Maschner 2014). Reedy and Maschner's social network analysis for the subsistence cod fishery suggests that the loss of important key nodes heavily involved in the distribution of cod to local households would substantially alter access in the region and that the network itself is extremely vulnerable to perturbations (Reedy and Maschner 2014).

Since commercial GOA groundfish bycatch management has been a topic of discussion by the NPFMC since 2012 (in its current incarnation), this timeframe has provided academic researchers to examine aspects of the proposed program during its development. As discussed elsewhere, Reedy (2015) has already developed a social impact assessment for communities in the western GOA. Additionally, Rachel Donkersloot (2016) has examined how community protection measures are considered and challenged by stakeholders in the GOA groundfish fishery. She outlines the ways community fishing associations (CFAs) have been discussed in official forums, noting the resistance to the establishment of CFAs by many industry stakeholders. She argues that the Council process and the discussion of CFAs is underscored by shifting power dynamics between those who stand to realize monetary benefits from a rationalized fishery (e.g., vessel owners and processors) and those stakeholders who have historically been adversely affected by these kinds of programs (e.g., hired skippers and crew). A more generalized examination of the proposed GOA groundfish bycatch management system compared to other catch share programs in the country was recently submitted by Christopher Oliver. In his thesis, Oliver suggests that catch share programs should effectively limit bycatch and overexploitation issues; however, catch share programs are consistently troubled with negotiating and effectively managing community protection measures because, "the fundamental nature of catch share programs as market-based mechanisms is not conducive to the ideas of equitability or equality except as a negotiated outcome," and any gains in the system may need to be balanced against efficiency losses for the maintenance of community protections(Oliver 2015).

While sustained participation of fishing communities in the GOA trawl, GOA halibut, or GOA Chinook salmon fisheries would not appear to be directly at risk from implementation of the proposed action or alternatives, the literature reviewed in this section, along with recent NPFMC analyses, including the recently completed GOA halibut PSC limit revisions community analysis (AECOM 2013), underlines the fact that the proposed action is not taking place in isolation. For example, Donkersloot and Carothers (Donkersloot and Carothers 2016) have noted that the number of Alaska residents under the age of 40

holding fishing permits has fallen from 38 percent in 1980, to 17 percent in 2013, suggesting that commercial fishermen are getting older as a population (i.e., a "graying of the fleet" in the literature) and that demographic changes in the commercial fishery have been exacerbated by the establishment of catch share programs that have had the effect of limiting the number of local new entrants: "There is a growing concern that the majority of these rights will not wind up in the hands of local, and especially young, residents of Alaska's rural fishing communities." They suggest that the financial challenge of entering the commercial fishery has resulted in a substantial amount of out-migration by communities' young adults, resulting in widespread changes to local economies and social systems (Donkersloot and Carothers 2016). Other researchers have also found that when Alaska communities see reductions in direct commercial fishing participation through the establishment of catch share programs, the loss of various types of other community capital will follow. In some cases, communities can diversify their local economies; however, in other cases, out-migration exacerbates change and adversely impacts larger socio-ecological systems (Himes-Cornell and Hoelting 2015).

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.[49] 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 enable 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 proposed alternatives (including the no-action alternative) would serve to further restrain that flexibility, overall sustained participation in a range of local fisheries by residents of the smaller communities in particular would be made all the more challenging.

[49] 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 AFSC GOA trawl fishery social survey, little in the way of time-series/historic information is available for GOA trawl, GOA halibut, and/or GOA Chinook salmon vessel owners, skippers, or crew.