

*An annual report  
focusing on sustained  
participation of  
fishing communities  
engaged in FMP crab  
and groundfish  
fisheries.*

## **D8 Annual Community Engagement and Participation Overview ACEPO**



**NOAA  
FISHERIES**

**Alaska Fisheries Science Center**  
*Economic and Social Science Research*

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APRIL 2021 COUNCIL MEETING

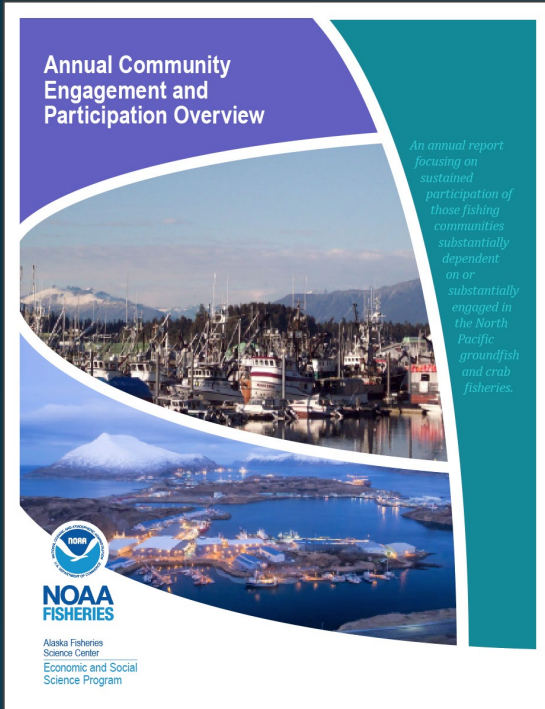




# Purpose of ACEPO

Information document meant to provide **community level information** to contextualize management decisions.

- Provides information on the socio-economic benefits of FMP groundfish and crab fisheries.
- This objective is in line with NS8 which provides for the sustained participation and the minimization of adverse economic impacts for fishing communities (MSA NS8).
- Benefits include, “less tangible or less quantifiable social benefits such as the economic stability of coastal communities.” (Crab FMP 7.2.2)
- Looks at sustained participation in specific fisheries over time (2008-2019).
- Document is designed to be stand alone and accessible for broad audience.
- Offers deep dive into Highly Engaged Alaska fishing communities.
- Room to grow.



## A multi-scaled synopsis of groundfish and crab fisheries community engagement

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- I. Definition of fishing communities, methods, and criteria used for Participation Indices
- II. Overview of FMP groundfish and associated community benefit
- III. Overview of FMP crab and associated community benefit
- IV. Community Sketches for Highly Engaged communities



# Fishing Communities

*For the purpose of ACEPO, communities are defined by geographic location; however we also consider the level of participation in direct harvest, post-harvest processing, and associated community benefits in order to capture the linkages among people engaged in FMP groundfish and crab fisheries, as well as the social and economic impacts on communities of place.*





# Community Participation in Fisheries

## *4 Performance Metrics for Engagement Indices*

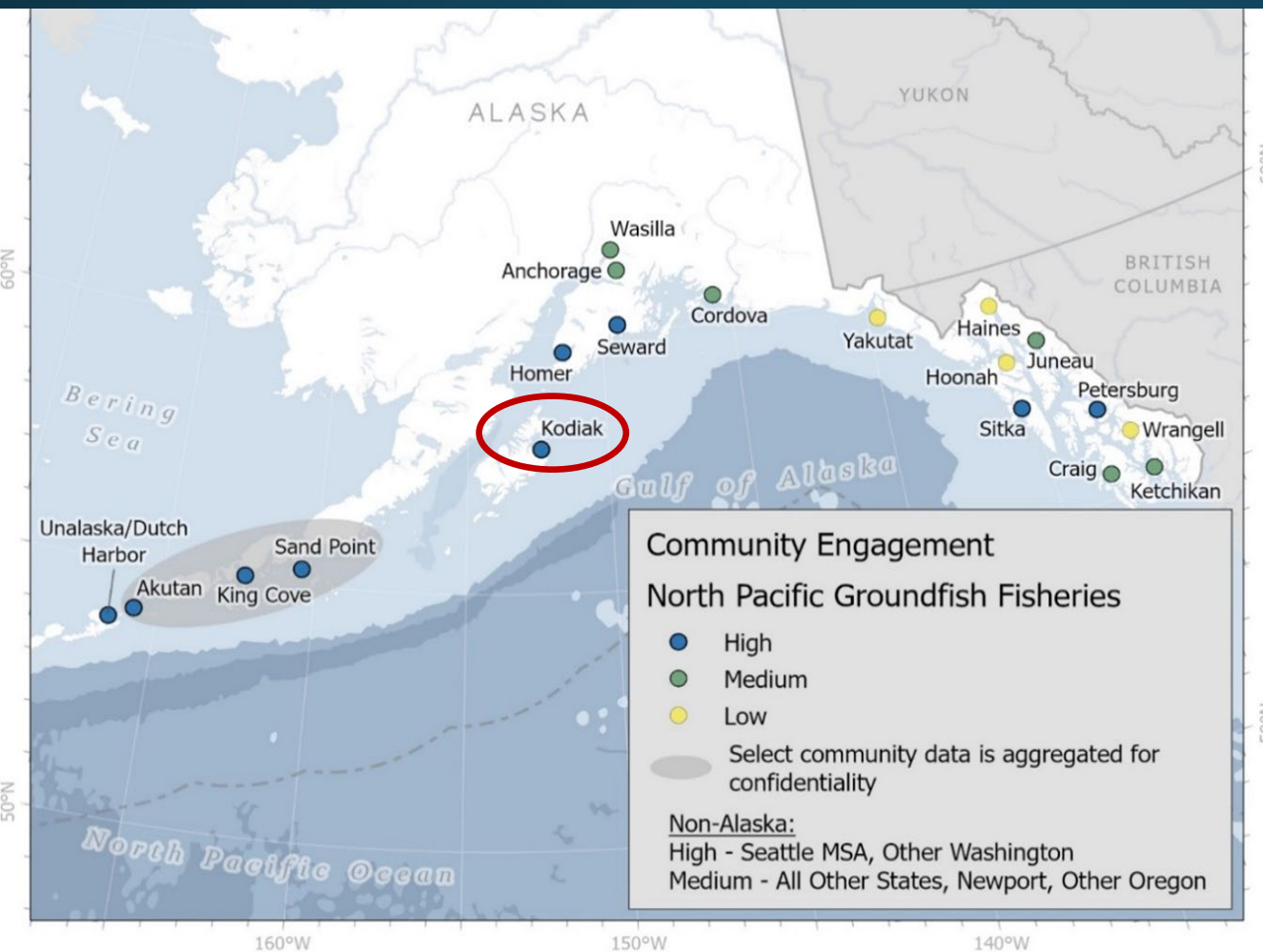
### Commercial Engagement

*A relative score compared to all other AK communities in that fishery*

1. Processing
2. Harvesting

### Regional Quotient

3. Processing - *measures the % of all Alaska commercial landings within the specific FMPs occurring in each community*
4. Harvesting - *measures the % of all Alaska landings attributable to vessels owned by residents of each community*



## Commercial Engagement Index (FMP groundfish)

*The engagement index is an indicator of the degree of participation in a community relative to the participation of all other communities that fish in Alaska.*

*These indices are relative scores: they represent each community's engagement in commercial fisheries relative to all other communities in that year. Indices are then combined across all years to create a time series of relative engagement over time.*

## Commercial Harvesting for FMP Groundfish Fisheries

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Homer	1.10	1.24	1.35	1.32	1.41	1.44	1.35	1.48	1.50	1.56	1.56	1.56
Kodiak	2.52	2.61	2.70	3.16	2.99	2.31	2.51	2.79	2.66	1.98	1.73	1.88
Other Washington	1.28	1.21	1.15	1.04	1.00	1.04	1.03	0.96	0.93	0.88	1.08	1.04
Petersburg	1.40	1.31	1.50	1.24	1.29	1.37	1.44	1.41	1.38	1.48	1.44	1.55
Seattle MSA	8.34	8.22	8.12	8.05	8.08	8.29	8.18	8.14	8.12	8.23	8.22	8.19
Sitka	2.23	2.63	2.64	2.55	2.58	2.62	2.74	2.53	2.79	2.98	3.10	3.05

## Commercial Processing for FMP Groundfish Fisheries

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Akutan	2.06	2.21	2.36	2.24	2.21	2.23	2.17	2.26	2.33	2.92	2.81	2.78
Homer	0.85	1.01	1.47	1.36	1.39	1.37	1.33	1.43	1.48	1.52	1.63	1.49
Kodiak	3.95	4.01	4.04	3.85	3.86	3.66	3.68	3.88	3.61	3.36	2.90	2.93
Seward	0.74	0.87	0.75	0.83	1.00	1.01	0.94	1.05	1.03	1.17	0.97	0.85
Sitka	1.73	1.31	1.30	1.34	1.22	1.26	1.13	1.22	1.36	1.63	1.45	1.46
Unalaska/Dutch Harbor	4.50	4.46	4.36	4.67	4.67	4.85	4.96	4.65	4.71	4.39	4.72	4.74

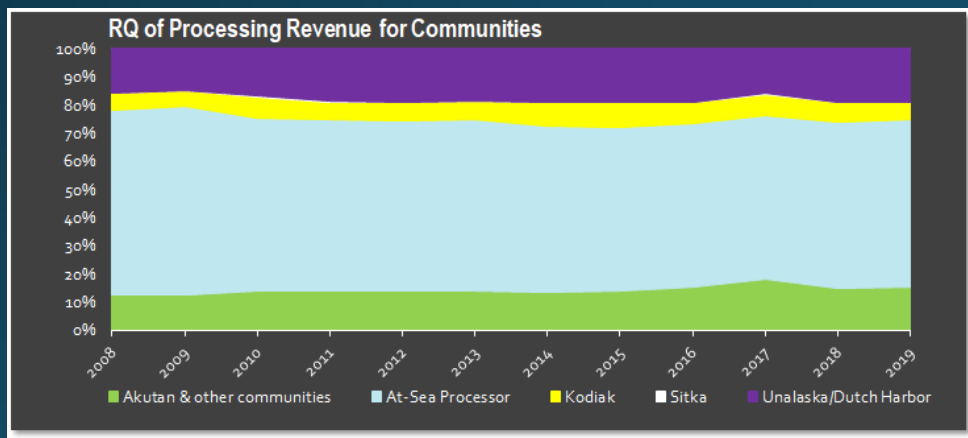
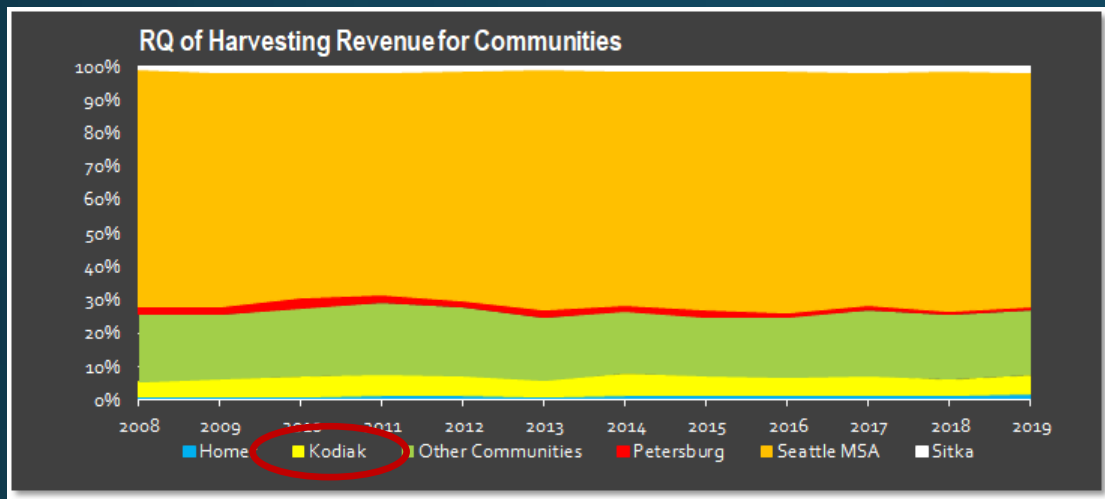
## Engagement Index

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- Landings
- Vessel owner residency

## Harvesting RQ for communities highly engaged in FMP groundfish for at least one year (2000-2019)



### Regional Quotient (RQ)

*Processing RQ measures the % of all Alaska commercial landings within the specific FMPs occurring in each community.*

*Harvesting RQ measures the % of all Alaska landings attributable to vessels owned by residents of each community.*

- Pounds landed
- Revenue generated
- Vessel owner residency





# Considerations for Community Vitality

Community vitality is complex— loosely defined here as:

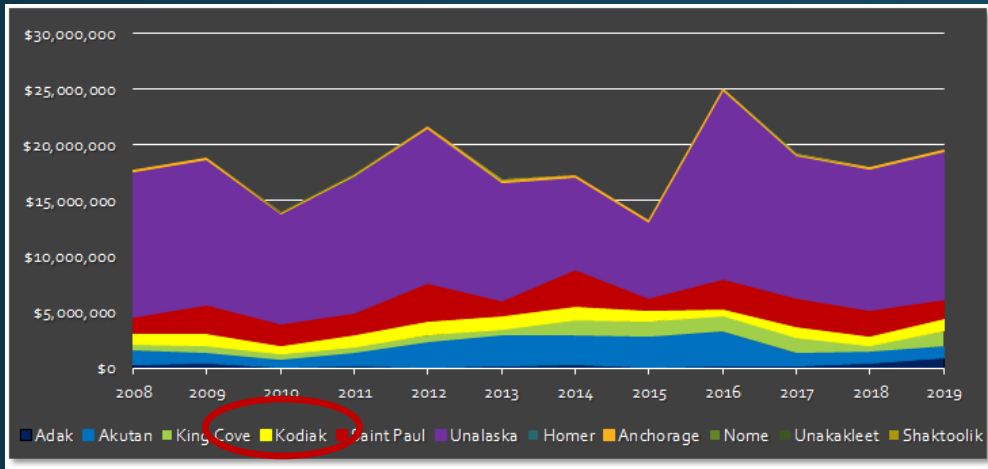
*the community's collective capacity to respond to change with an enhanced level of participation (process or pursuit of) with aspirations for a healthy and productive community"*

References:

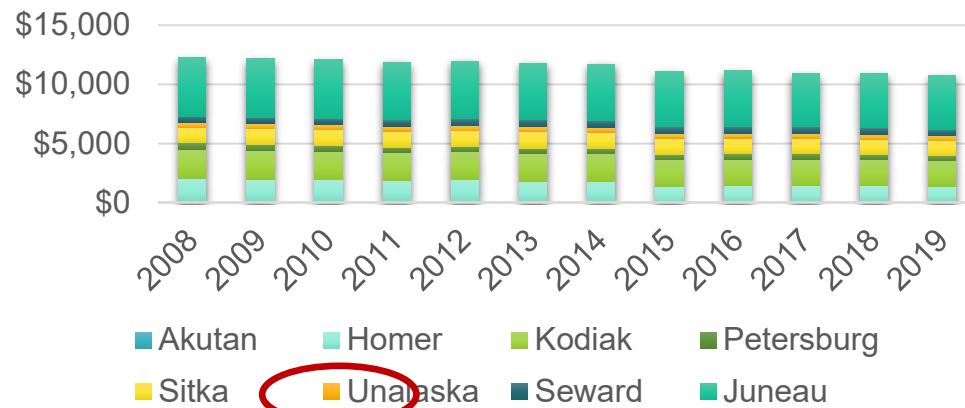
MuhajarinęN., Labontę R., & Winquist, B. D. (2012). The Canadian Index of Wellbeing: key findings from the population domain. *Canadian Journal of Public Health*, 103(5), e342-e347.

Pearce, C. (2005). Natural resources and community vitality: A rural perspective. *Journal of Ecosystems and Management*, 6(2).

### Fishery Tax Revenue for Fishing Communities in FMP Groundfish Fisheries 2008-2019




### K-12 Public School Student Enrollment (2008-2019)




# Community Sketches

- Demographics
- Area Description
- Social Indicators
- Infrastructure & Transportation
- School Enrollment
- Current Economy
- Fish Taxes
- Fishing History & Regulatory Background
- Groundfish
  - Share harvesting revenue
  - Vessels Owned by Residents
  - Harvesting/processing weight & value
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**NOAA FISHERIES**

Alaska Fisheries Science Center  
Economic and Social Sciences Research Program



### Community Sketch

Demographics (self-identified, 2018 ACS) – All Communities						
	Akhiok	Chiniak CDP	Karluk	Kodiak City	Larsen Bay	Old Harbor
Population	70	47	37	5,968	85	221
AK Native	92.5%	N/A	100%	11.8%	45.2%	66.9%
Housing Units	32	27	25	2,172	76	119
Med. Income	\$27,500	N/A	\$18,000	\$69,868	\$36,250	\$29,063
Poverty	20.8%	N/A	27.5%	10.9%	35.7%	22.8%
Med. age	36	N/A	19	36	47	29
High School Ed. or higher	100%	N/A	70.6%	85.3%	81.8%	77.1%

**Area Description**

The largest island in the Gulf of Alaska, Kodiak Island (KI) is approximately 25 miles across the Shelikof Strait from the Katmai Coast and 90 miles southwest of the Kenai Peninsula. KI has been inhabited for the past 8,000 years and the majority of the Alaska Native population are Alutian. A Russian settlement was established at Chiniak Bay in the late 1700s supported by fur trading. In 1882 a fish cannery opened in Karluk apt. sparking further commercial development. Kodiak communities are highly dependent on fisheries. The majority of commercial vessels and seafood processing plants are in Kodiak City; however all communities rely heavily on commercial, recreational, and subsistence fishing. There are two main harbors in Kodiak City: St. Paul Harbor and St. Herman Harbor which is the larger of the two. According to 2015-2019 ACS data, the population estimate is 13,451, with the vast majority living in Kodiak City. The other seven island communities reported populations between 20 and 231. Native Alaskans represent the majority of residents of KI communities, except Kodiak City which has a more diverse population as the island's urban center. In 2019, the average household size for KI was estimated to be 2.91, up slightly from 2.94 in 2010.

**Infrastructure & Transportation**

Kodiak Island is accessible by air and sea however accessibility varies drastically among communities. Kodiak City has two small airports, which are served with several daily flights. Air taxi services provide flights to five remote villages however weather conditions often restrict travel. City-owned seaplane bases at Trident Basin and Lilly Lake accommodate floatplane traffic. The state ferry operates three to four times a week between Kodiak and Homer, and in the summer months, includes other ports as far west as Uyak Alaska. The Fort of Kodiak has two boat harbors with 600 boat slips. Three deep-draft piers accommodate ferries, cruise ships, container ships, military vessels, and a variety of large commercial fishing vessels. Boat launch ramps, a shipyard, and 150 ton vessel lift are available. Island communities have limited access to medical services and residents must travel to Kodiak City or Anchorage for treatment. Maintaining adequate school enrollment is a grave concern for Kodiak communities which have struggled to keep schools open with declining enrollment. Total K-12 school enrollment has decreased by 69.5% since 1996. Larsen Bay School closed in 2018, and Karluk school closed in 2019. Old Harbor is the only school with greater than 20 students for the 2019-2020 school year. Schools with 10 students or less typically close. Kodiak City was not included in the analysis due to difference in size of schools.

**Kodiak Island School Enrollment (2008 – 2019)**

**Demographics (self-identified, 2018 ACS) – All Communities**

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<b>Med. age</b>	36	N/A	19	36	47	29
<b>High School Ed. or higher</b>	100%	N/A	70.6%	85.3%	81.8%	77.1%

**Social Indicators for Fishing Communities**

Labor Force:	Low
Housing Characteristics:	Med.
Poverty:	Med.
Population Composition:	High
Commercial Fishing Engagement:	High
Commercial Fishing Reliance:	High
Recreational Fishing Engagement:	High
Recreational Fishing Reliance:	Med.

Sea Level Rise Risk\*: Probability of shoreline loss between 2 and 1 m/yr is 10-33%

**Coastal hazards: TSUNAMIS, EARTHQUAKES,** storm surges, **EROSION,** Flooding, **VOLCANOES.**

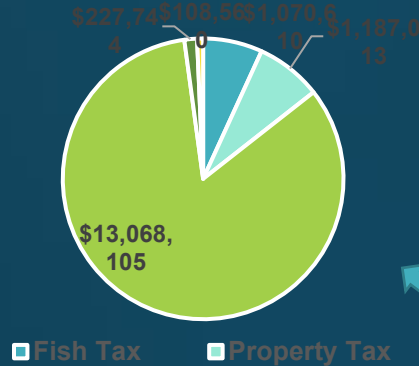
**Native Associations & Corporations:** Natives of Kodiak, Inc.; Koniag, Inc.; Kodiak Area Native Association

# Community Sketches

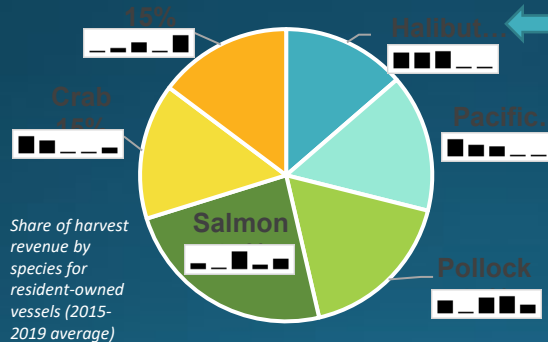
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Kodiak Island 2019 Tax Revenue



Share of Revenue Harvested by Species  
Kodiak Island 2015-2019 average



Share of harvest revenue by species for resident-owned vessels (2015-2019 average)

Bar charts represent 2015 to 2019 ex-vessel values by species landed in the community. The scale of the y-axis is specific to the species

## Community Sketch

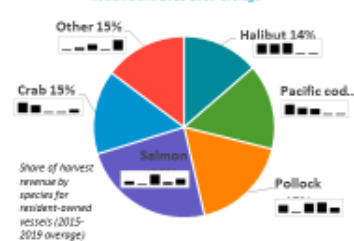
### Current Economy

Commercial fishing, seafood processing, and commercial fishing support services are the major industries contributing to the local economy.<sup>7</sup> The U.S. Coast Guard station and hospital are also significant employers. Other industries include retail services and government. Tourism is growing, and recreational fishing, hiking, and kayaking are increasing in popularity. Kodiak's economy is reliant on fishing, logging, ecotourism, and sport hunting/fishing.<sup>5</sup> In 2019, Kodiak borough collected \$1.07 million in fisheries-related taxes, compared to \$5.27 in 2010 and \$3.63 million in 2000. The vast majority of Kodiak's revenue comes from sales tax, reported as \$13 million in 2019. However, it should be noted that data related to port/dock usage fees are not available. Since those fees account for a significant portion of fisheries-related revenue in previous years, it is likely that revenue figures are underrepresented.

Kodiak Island 2019 Tax Revenue



Share of Revenue Harvested by Species  
Kodiak Island 2015-2019 average



Share of harvest revenue by species for resident-owned vessels (2015-2019 average)

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## KODIAK ISLAND

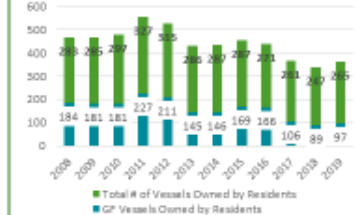
### GF Harvesting Engagement HIGH

Kodiak has a diversified fisheries profile, with groundfish making up about 40% of total fisheries harvest in Kodiak. Pacific cod has shown a consistent decline in recent years, as has halibut, crab, and to some degree pollock. In 2019, the volume of groundfish harvest was 241.2 million pounds with an associated value of \$44.1 million. Compared to the previous five year average, both the harvest volume and associated value showed declines of 1.8 million pounds (down 7%) and \$5.8 million (down 8%) respectively. Resident ownership of fishing vessels increased by 18 vessels (7%) in 2019, while groundfish fishing vessels owned by Kodiak residents increased in number from 89 to 97 vessels (up 9%). Smaller communities on Kodiak Island are often most severely impacted by shifts in fisheries participation given that the bulk of commercial fisheries operations occur in Kodiak City.

Volume Groundfish Harvest & Ex-vessel Value



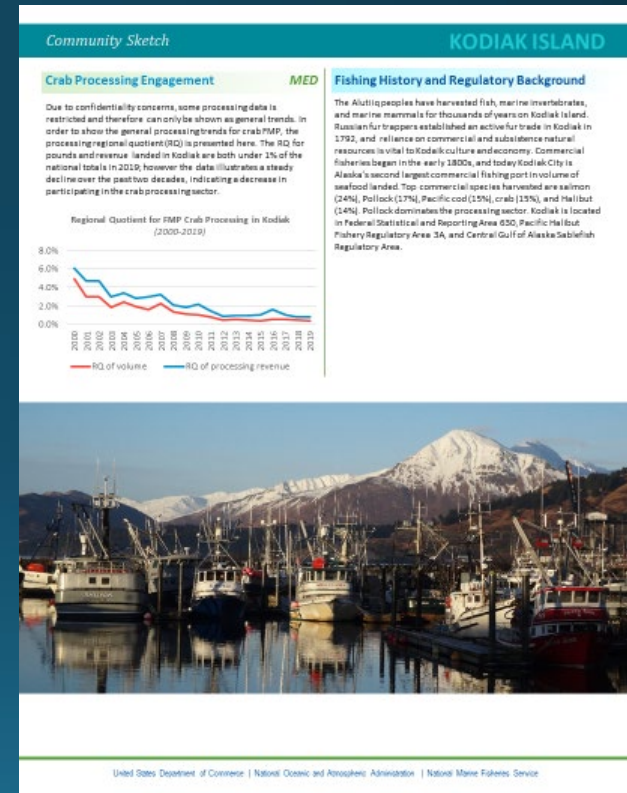
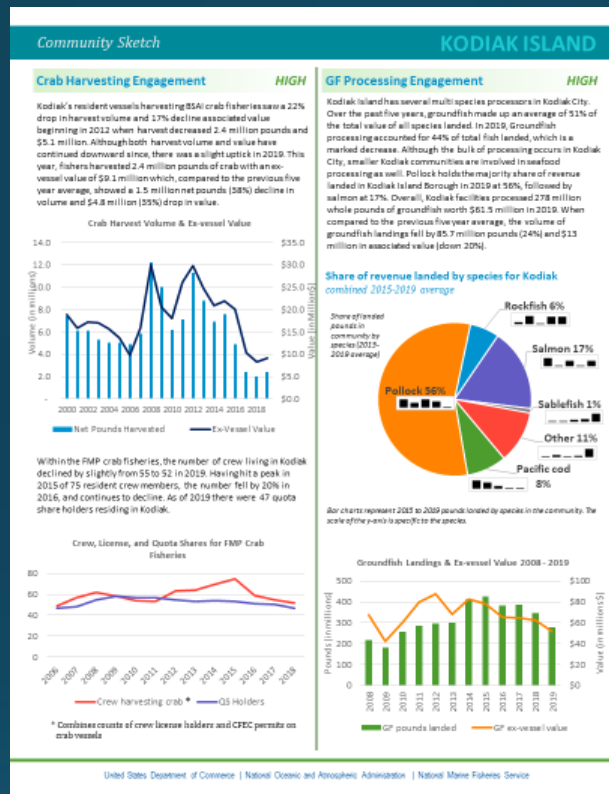
Vessels Owned by Kodiak Island Residents





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Questions?



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