

NOAA FISHERIES

Annual Community Engagement and Participation Overview 2026

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Preface

An annual report focusing on sustained participation of those fishing communities substantially dependent on or substantially engaged in the North Pacific groundfish and crab fisheries.



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November 2026

Part I.

Introduction, Broader Context, and Hot Topics

Fishing Communities in Alaska

The Annual Community Engagement and Participation Overview (ACEPO) provides community-level social and economic information to support the North Pacific Fishery Management Council's (Council) management objectives and implementation of the Magnuson–Stevens Fishery Conservation and Management Act (MSA). Developed by the Alaska Fisheries Science Center (AFSC), ACEPO informs consideration of fishing communities in federal fisheries management to ensure that federal fisheries management is scientifically sound, socially responsive, equitable, and transparent (16 U.S.C. §§ 1801–1891d).

Fishing in Alaska underpins local and state economies, strengthens cultural ties, and supports food security across Alaska, the nation, and beyond. Communities engaged in commercial, recreational, and subsistence fishing depend on Alaska fishing for food, livelihoods, cultural continuity, social connection, and wellbeing. ACEPO focuses on communities substantially engaged in the commercial groundfish and crab fisheries managed under the Fishery Management Plans (FMPs), while providing context on the important linkages connecting communities to fishing.

The MSA establishes ten National Standards for fisheries conservation and management. National Standard 8 specifically requires management measures to consider the importance of fishery resources to fishing communities, using the best available economic and social information. Consistent with the Act's conservation requirements, these measures must provide for communities' sustained participation and, to the extent practicable, minimize adverse economic impacts. ACEPO supports these considerations by documenting community participation and changes over time.

ACEPO provides information on the social and economic benefits associated with FMP groundfish and crab fisheries. Economic and social benefits to these communities are closely linked to economic stability and community wellbeing. Consistent with National Standard 8, the Council has identified seven management objectives, including maximizing the long-term economic and social benefits of fisheries to the nation (Crab FMP 7.2.2). These benefits include food, profits, identity, income, employment,, and less easily quantified, social continuity and community stability of coastal communities.To support these objectives, the Alaska Fisheries Science Center (AFSC) developed ACEPO to provide an annual overview of community engagement in Alaska federal fisheries. ACEPO is updated annually, and may be expanded to include more detailed information as needed and upon request.

Interpreting Fishing Engagement

Fisheries engagement extends beyond direct harvesting and processing to the relationships, practices, and benefits that sustain community wellbeing. Many Alaska coastal communities rely heavily on marine resources for food and livelihoods, and their identities as fishing communities are rooted in generations of harvesting, stewardship, and knowledge exchange. Sharing networks connect commercial, subsistence, and recreational fishing through the exchange of seafood, equipment, labor, and knowledge, helping sustain households and community relationships when fishing opportunities change. These activities help explain how a community can be deeply engaged in fisheries even when few residents own commercial fishing vessels or little catch is landed locally. Commercial, subsistence, recreational, and charter fishing often overlap in people's lives. A household may earn income from commercial fishing, harvest salmon for home use, and share its catch with relatives, Elders, or neighbors. Sharing networks also circulate equipment, labor, and knowledge within and across communities. When catches are low or a fishery closes, these relationships can help households continue practices that connect generations. In many Alaska coastal communities, those practices are central to what it means to be a fishing community.

Through the Western Alaska Community Development Quota (CDQ) Program, eligible communities can benefit from employment, training, grants, and investments in community programs. These connections illustrate how income, seafood, skills, and other benefits move among households and communities.

ACEPO's engagement indices describe one part of this picture. They compare communities' relative involvement in commercial harvesting and processing in North Pacific groundfish and crab fisheries managed under federal Fishery Management Plans. A high score indicates that the measured activity is relatively concentrated in a community. A low score can coexist with substantial participation in other fisheries, reliance on subsistence harvests, or benefits from fisheries activity elsewhere. Understanding how much a community depends on fishing, who benefits, and how changes in fishing opportunities affect residents requires local context. Read alongside the engagement tables, the community sketches show how fishing supports economies, food security, and cultural continuity in different places. They also help explain why a change in fishing opportunity can have consequences far beyond the vessels and processors directly involved as communities work to sustain themselves.

Communities of place

ACEPO examines fishing communities in Alaska and the broader United States whose residents or local facilities participate in Alaska's FMP groundfish and crab fisheries. The analysis considers geographic location alongside historical and current fisheries participation. Four fishing performance metrics are used: 1) commercial processing engagement, 2) commercial harvesting engagement, 3) the processing regional quotient–a community's share of total landings volume in the FMP groundfish or crab fisheries examined, and 4) the harvesting regional quotient–the share of total landings revenue in those fisheries attributed to vessels owned by community residents.

The engagement indices describe relative levels of commercial activity, while the regional quotients describe each community's share of landings volume or revenue. Together, these measures capture different dimensions of participation.

In addition to the commercial engagement indices, ACEPO summarizes subsistence fisheries harvests, presents a separate engagement index for recreational fisheries, and describes the effects of environmental change on community wellbeing. Together, this information provides an overview of community participation in Alaska fisheries, and changes in commercial engagement since 2008.

Methods

ACEPO is organized into four sections that provide an overview of fisheries engagement across fisheries, communities, and time. Section I defines fishing communities under the MSA, outlines the social and economic benefits associated with participation in FMP groundfish and crab fisheries, explains the methods used to develop the Community Fisheries Participation Indices, and discusses the importance of subsistence fishing, and climate-related impacts on food security. Community Participation in North Pacific Groundfish Fisheries and Community Participation in North Pacific Crab Fisheries present community-level engagement in groundfish and crab fisheries, identify highly engaged communities, and summarize changes in participation. These sections also provide regulatory and historical context for each fishery. Community Sketches presents community sketches for those communities identified as highly engaged in FMP groundfish and crab fisheries using the quantitative criteria described below. The sketches describe local fisheries participation in greater detail and provide context for interpreting the indices and understanding the broader social, cultural, and economic benefits associated with fishing.

The analysis uses a database of U.S. communities with harvesting or processing activity in Alaska's commercial FMP groundfish and crab fisheries, including communities outside Alaska. It examines participation from 2008 through 2025 using the best available data for that period. ACEPO does not provide an exhaustive account of all fishing communities or all forms of fisheries participation. Instead, it focuses on communities classified as highly engaged according to the quantitative criteria described in the engagement-index methods. This classification identifies relative commercial engagement within the fisheries examined; it does not encompass every community that may be substantially engaged in or dependent on fishing under the broader MSA definition.

Methodology and Definitions of Community Engagement Indices

Measuring a community's fishing engagement is complex due to the wide range of fisheries in which each community may participate. Any single measure may provide an incomplete picture of engagement, so we evaluate several measures together. We summarize these measures into five separate community engagement indices for commercial groundfish harvesting and processing, crab harvesting and processing, and recreational fishing using principal component factor analysis (PCFA).[1][2]

[1] Himes-Cornell, A., & Kasperski, S. (2016). Using socioeconomic and fisheries involvement indices to understand Alaska fishing community well-being. Coastal Management, 44(1), 36-70.

[2] Lewis-Smith, C., & Norman, K. (2024). Developing US West Coast recreational fishing community measures: Applying an index approach in the context of COVID-19 and social vulnerability. Ocean & Coastal Management, 255, 107236.

To distinguish harvesting engagement from processing engagement, we conduct separate PCFAs using related sets of community-level variables attributed to vessel owner residence. Harvesting engagement is measured using four variables recorded at the community level: 1) total ex-vessel revenue, 2) total volume of landings, 3) the number of participating vessels in the fishery, and 4) the number of unique vessel owners participating in the fishery. Processing engagement uses four variables attributed to the community where processing occurs: 1) first-wholesale revenue, 2) processing volume, 3) the number of vessels delivering to the community, and 4) the number of active processors. Similarly, recreation fishing engagement is measured using four variables recorded at the community level: 1) sport fishing licenses sold, 2) the number of residents holding sport fishing licenses, 3) the number of sport fishing guides and 4) the number of sport fishing businesses. (Variables used for the recreational engagement index PCFA are described in that section.)

For each fishery and year, the analysis includes only communities with non-zero participation (where the sum of the four variable inputs is greater than zero). Each PCFA produces a single engagement index value that measures the engagement of a community relative to all other communities that participated in that given fishery in that year's analysis. For this reason, this analysis should not be directly interpreted as changing participation of a given community over time without additional context. For example, a community's engagement score could rise without any change in its own input variables simply because a single variable decreased at another community. Instead, these scores should be thought of as an annual relative ranking, although some takeaways may be inferred with additional context. For reporting, the PCFA indices are grouped into four categories using the score ranges defined below:

Engagement Category	PCFA Index Range
High Engagement	Greater than 1
Medium-High Engagement	Between 0.5 and 1
Medium Engagement	Between 0 and 0.5
Low Engagement	Less than 0

New this year

In previous versions of ACEPO, the PCFA framework was applied to aggregated groundfish and crab species. This year, in addition to the aggregate analysis, we disaggregate groundfish and crab species into regional fishing stocks. The groundfish species evaluated this year are BSAI and GOA Pacific cod and BSAI and GOA pollock. The crab species evaluated this year are Bristol Bay Red King Crab, Norton Sound Red King Crab, Snow Crab, and Tanner Crab. Future iterations of ACEPO may disaggregate select groundfish and crab species further. ACEPO also includes three Hot Topics sections, intended to be updated annually to reflect developments in or affecting Alaskan fishing communities that are not captured by the engagement indices and do not otherwise fit into a specific community sketch. This year, we updated the "Environmental Change and the Effects on Fisheries and Fishing Communities" and "Subsistence Fishing and Food Security" sections to reflect changes over the past year, and included a new Hot Topic section on the emerging El Niño conditions projected to continue into 2027.

The Importance of Human Communities

National Standard 8 of the Magnuson Stevens Fishery Conservation and Management Act (MSA) requires states that management and conservation measures shall, "take into account the importance of fishery resources to fishing communities in order to: (1) Provide for the sustained participation of such communities; and (2) To the extent practicable, minimize adverse economic impacts on such communities" (16 U.S.C. § 1851(a)(8)).

The MSA defines a fishing community as "a community which 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 United States fish processors that are based in such community" (16 U.S.C. § 1802(17)). While the MSA defines and mandates the consideration of fishing communities, understanding and capturing the complexity of a community's relationship with fisheries remains challenging.

Communities are diverse. For the sake of consistency, ACEPO uses a geographically based approach aligned with the National Marine Fisheries Service's (NMFS) National Standard 8 guidelines. These guidelines describe a fishing community as a social or economic group whose members live in a particular location and share a dependence on commercial, recreational, or subsistence fishing, or directly related services and industries (50 CFR § 600.345(b)(3)).[3] This approach provides a consistent basis for organizing community-level information, but geographic boundaries alone cannot capture the full range of relationships that link people to fisheries and sustain fishing communities. Social networks connect people, knowledge, seafood, income, goods, and services across locations. Shared fishing grounds, seasonal activities, cultural practices, and harvesting traditions may also connect people whose relationships extend beyond a single place. The move toward ecosystem-based management within Federal fisheries enabled greater consideration of "community-level processes, practices, interactions and interdependencies as starting points for understanding the relationship between the rich and complex social practice of fishing and marine ecosystems."[4]

Understanding fishing communities therefore requires attention to communities of place and communities of practice - those enduring groups connected through shared activities, identities, and social relationships. While the communities identified in ACEPO are defined by geographic location, the report combines measures of commercial harvesting and processing engagement with community sketches and contextual information to describe broader fisheries relationships and benefits. This approach supports consideration of how participation in FMP groundfish and crab fisheries contributes to communities of place, while recognizing that the indices do not capture all fisheries connections, the distribution of benefits among residents, or the full social and economic effects of management decisions

ACEPO was developed in response to requests from NPFMC for community-level information for the groundfish and crab fisheries. ACEPO provides specific fisheries data relevant to sustained participation in specific fisheries as well as broader community engagement and wellbeing to facilitate contextualized decision making by the Council.

[3] Clay, P. M., & Olson, J. (2007). Defining fishing communities: issues in theory and practice. Napa Bulletin, 28(1), 27-42.

[4] Martin, K. S., McCay, B. J., Murray, G. D., Johnson, T. R., & Oles, B. (2007). Communities, knowledge and fisheries of the future. International journal of global environmental issues, 7(2-3), 221-239.

1. El Niño Conditions and Near-term Uncertainty

El Niño conditions, or above average surface temperatures in the central and eastern Pacific Ocean, will introduce additional environmental variability for Alaskan fishing communities in 2027. As of NOAA's October 8, 2026 assessment, El Niño was established and strengthening, with a probability of strong-to-very-strong conditions continuing through 2027.[1] These forecasts describe the strength and persistence of the climate event, however, it remains uncertain how this will impact Alaska's fisheries and fishing communities. A strong El Niño increases the likelihood of associated climate effects but does not guarantee a particular regional response.

1.0.0.1. Gulf of Alaska

In the Gulf of Alaska, El Niño may contribute to warmer surface waters and changes in the plankton communities supporting marine food webs. If warming favors less energy-rich plankton, changes in prey quality could affect organisms farther up the food web, including commercially important fish. Responses will depend on the timing, location, and duration of warming, as well as conditions already present when the event develops in Alaska waters. El Niño can amplify existing environmental pressures, but its occurrence may not necessarily produce a marine heatwave throughout the region.

Fishery responses are likely to vary among species and life stages. Pacific cod eggs and cold-water forage fish such as capelin have relatively narrow temperature tolerances, whereas some other species may experience favorable conditions in warmer years. Adult groundfish may respond differently from eggs, larvae, and juveniles. Changes in early survival and recruitment may therefore take several years to appear in fishery production.

1.0.0.2. Bering Sea and Aleutian Islands

The consequences for the Bering Sea and Aleutian Islands are more uncertain. Eastern Bering Sea ecosystem conditions depend strongly on winter sea ice, and NOAA Fisheries reports no consistent observed relationship between El Niño and Bering Sea winter ice extent. El Niño therefore should not be interpreted as a direct forecast of low ice or unusually warm bottom waters. If warming develops, however, it could affect crab and groundfish distributions, predator–prey interactions, and harmful algal bloom risk.

Regional observations will be particularly important for interpreting this uncertainty. To better capture ongoing ecological interactions, seasonal forecasts should therefore be considered alongside observations of local temperatures, ice, and ecosystem conditions when assessing potential fisheries consequences.

[1] https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

1.0.0.3. Implications for Fishing Communities

For Alaska fishing communities, changing environmental conditions can affect access to resources, reliable harvests, and viable livelihoods. Shifts in fish distribution or survival may affect fishing locations, operating costs, processing activity, and household income. Changes affecting subsistence resources could also influence seasonal availability, access, and sharing networks. These are possible consequences requiring additional monitoring, rather than predicted outcomes of the current event.

For more information, please see

October 2026 Northeast Pacific Predictions

- Jessie Liu, Geophysical Fluid Dynamics Library

2. Environmental Change and the Effects on Fisheries and Fishing Communities

Environmental change is reshaping Alaska's fisheries and coastal communities through shifts in marine ecosystems, freshwater conditions, and exposure to coastal hazards. Alaska is warming approximately two to three times faster than the global average. Warming air and ocean temperatures, declining sea ice, thawing permafrost, and changing precipitation patterns affect fisheries as well as community infrastructure, and access to harvesting areas.[1] These changes have consequences for fishing livelihoods, food security, marine safety, cultural continuity, and community wellbeing.[2][3]

2.0.0.1. *Changing fisheries and persistent ecosystem effects*

The consequences of major warming events can persist long after ocean temperatures moderate. Marine heatwaves in the Gulf of Alaska during 2014–2016 and the Bering Sea during 2018–2019 altered food webs and contributed to declines in commercially and culturally important species.[4][5][6] Research links the eastern Bering Sea snow crab collapse to heatwave-related changes in habitat and food availability, with starvation identified as a likely major contributor.[7] Changing conditions have also affected Western Alaska salmon survival and run returns directly impacting those

[1] Crimmins, A. R., Avery, C. W., Easterling, D. R., Kunkel, K. E., Stewart, B. C., & Maycock, T. K. (Eds.). (2023). Fifth National Climate Assessment. U.S. Global Change Research Program. https://doi.org/10.7930/NCA5.202

[2] Ballinger, T. J., Bigalke, S., Walsh, J. E., Brettschneider, B., Thoman, R. L., Bhatt, U. S., et al. (2023). NOAA Arctic Report Card 2023: Surface Air Temperature.

[3] Markon, C., Gray, S., Berman, M., Eerkes-Medrano, L., Hennessy, T., Huntington, H. P., Littell, J., McCammon, M., Thoman, R., & Trainor, S. F. (2018). Chapter 26: Alaska. Impacts, Risks and Adaptation in the United States: The Fourth National Climate Assessment, Volume II. U.S. Global Change Research Program. https://doi.org/10.7930/NCA4.2018.CH26

[4] Suryan, R. M., Arimitsu, M. L., Coletti, H. A., Hopcroft, R. R., Lindeberg, M. R., Barbeaux, S. J., … & Zador, S. G. (2021). Ecosystem response persists after a prolonged marine heatwave. Scientific reports, 11(1), 6235.

[5] Gomes, Dylan GE, James J. Ruzicka, Lisa G. Crozier, David D. Huff, Richard D. Brodeur, and Joshua D. Stewart. "Marine heatwaves disrupt ecosystem structure and function via altered food webs and energy flux." Nature Communications 15, no. 1 (2024): 1988.

[6] Szymkowiak, M., & Steinkruger, A. (2023). Alaska fishers attest to climate change impacts in discourse on resource management under marine heatwaves. Environmental Science & Policy, 140, 261-270.

[7] Szuwalski, C. S., Aydin, K., Fedewa, E. J., Garber-Yonts, B., & Litzow, M. A. (2023). The collapse of eastern Bering Sea snow crab. Science, 382(6668), 306-310.

communities relying on salmon for food, livelihood, and way of life.[8][9][10] Continued restrictions on Western Alaska salmon fishing have implications beyond commercial income. In 2025-2026, conservation concerns again drove closures within the Chinook, chum, and coho salmon harvests across commercial and subsistence fisheries on the Kuskokwim and Yukon Rivers.[11][12] Repeated interruptions limit access to household foods, opportunities for sharing, cross generational knowledge exchange, and maintaining relationships with customary fishing places. Management records also document concerns from residents facing salmon restrictions after losing stored food during the previous autumn's flooding.[13]

2.0.0.2. *Typhoon remnants, flooding, erosion, and community disruption*

Severe coastal storms have affected fishing communities through immediate damage and prolonged disruption to housing, transportation, food storage, and harvesting access. The remnants of Typhoon Merbok in 2022 and Typhoon Halong in October 2025 caused widespread damage in western Alaska, including destroyed homes, community structures and fishing gear, damaged communications and transportation infrastructure, lost winter food supplies, and extensive displacement.[14]

Recovery from Typhoon Halong continues. A year after the storm, some residents remained displaced, and communities faced difficult decisions about rebuilding homes and seasonal harvesting sites exposed to flooding. Reporting documented destroyed subsistence camps and changes to waterways and access routes.[15] [16] Reduction in the seasonal length of shore fast sea ice increases coastal exposure to high winds and seas, while permafrost thaw weakens coastal ground and in-

[8] Schoen, E. R., Howard, K. G., Murphy, J. M., & Schindler, D. E. (2023). Divergent responses of Western Alaska salmon to a changing climate. Arctic Report Card: Update for 2023. National Oceanic and Atmospheric Administration (NOAA). https://arctic.noaa.gov/report-card/report-card-2023/divergent-responses-of-western-alaska-salmon-to-a-changing-climate/

[9] Farley Jr, E. V., Yasumiishi, E. M., Murphy, J. M., Strasburger, W., Sewall, F., Howard, K., … & Moss, J. H. (2024). Critical periods in the marine life history of juvenile western Alaska chum salmon in a changing climate. Marine Ecology Progress Series, 726, 149-160.

[10] Biela, V. R., Sergeant, C. J., Carey, M. P., Liller, Z., Russell, C., Quinn-Davidson, S., … & Zimmerman, C. E. (2022). Premature mortality observations among Alaska's Pacific salmon during record heat and drought in 2019. Fisheries, 47(4), 157-168.

[11] Jallen, D. M., Olson, M., Parker, M. J., Borba, B. M., Padilla, A. J., & West, F. W. (2025). Yukon River salmon stock status and fishery overview: A report to the Alaska Board of Fisheries, November 2025. Alaska Department of Fish and Game, Division of Sport Fish, Research and Technical Services.

[12] Makhlouf, B., Schindler, D. E., Cline, T., Fernandez, D. P., Esquible, J., & Hoffman, A. (2026). Strategic fisheries closure balances harvest opportunity and stock diversity in a large Alaska river basin. Canadian Journal of Fisheries and Aquatic Sciences, (ja).

[13] Esquible, J., Ringer, D. S., & Carothers, C. (2024). Salmon, stewardship, and indigenous livelihoods: bridging knowledge systems and reshaping research relationality in the Kuskokwim region of southwestern Alaska. Ecology and Society, 29(1).

[14] Schaffer, D. (2025). Post-typhoon Merbok impact on geographically isolated western Alaska communities and sustainable recovery process for vulnerable populations (Doctoral dissertation, University of Alaska Fairbanks).

[15] Yang, M., Wang, Z., Walsh, J. E., Doyle, J. D., Thoman Jr, R. L., & DuVivier, A. K. (2026). Insights from Ex-Typhoon Halong (2025)—An Arctic Cyclone of Tropical Origin. Bulletin of the American Meteorological Society, 107(10), E2598-E2619.

[16] Overland, J. E. (2026). Arctic Change and Recent Severe Societal Impacts. Meteorology, 5(3), 24.

frastructure.[17] [18] [19]

2.0.0.3. *Harmful algal blooms and ocean acidification*

Harmful algal blooms present risks to fisheries and marine wildlife. Recent events in the Pribilof Islands demonstrate that these concerns extend beyond shellfish. Research linked northern fur seal deaths on St. Paul Island in 2024 and St. George Island in 2025 to saxitoxin exposure associated with harmful algae.[20] These events are particularly concerning for Unangan communities with longstanding cultural and subsistence relationships with fur seals.

Ocean acidification can affect sensitive species, including crabs. The consequences for fisheries depend on species, life stage, location, and interactions with other environmental conditions, creating additional uncertainty for communities dependent on these resources.

2.0.0.4. *Cumulative impacts and community capacity to respond*

These environmental disruptions occur alongside ongoing economic pressures that influence how households, businesses, and communities respond. High operating costs, changing seafood markets, and shifts in processing capacity can limit the ability to absorb low harvests or pursue alternatives.[21] Community vulnerability depends on exposure to environmental disruption, dependence on affected resources, and the capacity to respond. Relevant capacities in Alaska include access to alternative fisheries and livelihoods, mixed economies and financial resources, robust environmental knowledge, institutional support, and strong social networks.[22] [23] [24] Indigenous Knowledge and Local Knowledge contribute essential observations of changing conditions and inform appropriate responses.[25] [26] Adaptation also requires attention to whether alternatives are accessible, affordable, culturally meaningful, and consistent with community priorities.[27]

[17] Creel, R., Guimond, J., Jones, B. M., Nielsen, D. M., Bristol, E., Tweedie, C. E., & Overduin, P. P. (2024). Permafrost thaw subsidence, sea-level rise, and erosion are transforming Alaska's Arctic coastal zone. Proceedings of the National Academy of Sciences, 121(50), e2409411121.

[18] Kettle, N. P., Grabinski, Z., Thoman, R. L., Walsh, J. E., & Owens, R. (2025). Sea ice and socio-economic impacts from extreme events in Nome, Alaska. Polar Record, 61, e13.

[19] Henke, M., Miesse, T., de Lima, A. D. S., Ferreira, C. M., & Ravens, T. M. (2024). Increasing coastal exposure to extreme wave events in the Alaskan Arctic as the open water season expands. Communications Earth & Environment, 5(1), 165.

[20] Lefebvre, K. A., Campbell, C. M., Divine, L. M., Melovidov, P., Hellen, H., Huntington, K. B., … & Kurtay, G. (2025). Saxitoxin linked to deaths of northern fur seals in the Southeast Bering Sea. Marine Mammal Science, 41(4), e70028.

[21] https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.shtml

[22] Loring, P. A., Gerlach, S. C., & Penn, H. J. (2016). "Community work" in a climate of adaptation: responding to change in rural Alaska. Human Ecology, 44, 119-128.

[23] Shishmaref, E. O. C. C. I. Fierce Climate Sacred Ground An Ethnography Of Climate Change In Shishmaref Alaska.

[24] Himes-Cornell, A., & Kasperski, S. (2015). Assessing climate change vulnerability in Alaska's fishing communities. Fisheries Research, 162, 1–11.https://doi.org/10.1016/j.fishres.2014.09.010

[25] Dorji, T., Rinchen, K., Morrison-Saunders, A., Blake, D., Banham, V., & Pelden, S. (2024). Understanding how Indigenous knowledge contributes to climate change adaptation and resilience: A systematic literature review. Environmental management, 74(6), 1101-1123.

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2. Environmental Change and the Effects on Fisheries and Fishing Communities

ACEPO's community sketches provide a context for interpreting the localized impacts of these changes. Where information is available, the sketches describe disruptions to fisheries and harvesting access, consequences for livelihoods and food security, and community responses. Interpreting the engagement indices alongside this context helps position changes in commercial activity with the broader sustainability of fisheries participation, cultural continuity, and community wellbeing.

3. Subsistence Fishing and Food Security

Alaska fisheries provide seafood for the nation and international market, while supporting vital subsistence needs for Alaskan communities. Alaska communities harvest marine resources whose importance extends beyond nutrition to social relationships, cultural practices, and household economies. Alaska Natives have harvested and shared traditional foods for thousands of years, and these practices remain central to physical, mental, and spiritual wellbeing.[1][2]

ACEPO therefore considers subsistence food security in terms of harvest opportunities, access, sharing, and cultural continuity. Commercial engagement indices do not capture these relationships. Community context is essential for understanding how fisheries restrictions and environmental disruptions affect households differently and what resources support continued participation in subsistence ways of life.

3.0.0.1. Jurisdiction of Subsistence

Alaska's subsistence fisheries operate within overlapping state and federal management systems. In 1978, the State of Alaska enacted its first subsistence law authorizing the Board of Fisheries (BOF) and the Board of Game (BOG) to adopt regulations governing subsistence (AS 16.05.251 for BOF and AS 16.05.255 for BOG). When either board finds that a fish stock or game population is customarily and traditionally used for subsistence, it must determine, consistent with sustained yield, "the Amount reasonably Necessary for Subsistence uses" (ANS). State law gives subsistence uses priority over recreational and commercial uses when harvest restrictions are necessary. [3] [4]

Under Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), federal management provides a subsistence priority for rural Alaska residents on federal public lands and applicable waters. Federal subsistence management began in 1990 and expanded in 1999 to include additional fisheries in qualifying navigable waters. The two systems differ in who is eligible, where each system applies, and which specific harvests the regulations govern.[5] [6]

[1] Heeringa, K., Huntington, O., Woods, B., Chapin, F. S., Hum, R., Brinkman, T., & Participants, W. (2019). A Holistic Definition of Healthy Traditional Harvest Practices for Rural Indigenous Communities in Interior Alaska. Journal of Agriculture, Food Systems, and Community Development, 9(B), 115–129. https://doi.org/10.5304/jafscd.2019.09B.009

[2] Fall, J. A. (2018). Subsistence in Alaska: A Year 2017 Update. Alaska Dept. of Fish and Game Division of Subsistence.

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[4] Alaska Stat. § 16.05.258 (2023).

[5] Developing a Research and Restoration Plan for Arctic-Yukon-Kuskokwim (Western Alaska) Salmon. (2005). National Academies of Sciences, Engineering, and Medicine. Washington, DC: The National Academies Press.https://doi.org/10.17226/11080.

[6] McGee, Jack B. (2010). SUBSISTENCE HUNTING AND FISHING IN ALASKA: DOES ANILCA'S RURAL SUBSISTENCE PRIORITY REALLY CONFLICT WITH THE ALASKA CONSTITUTION? Alaska Law Review, 287(2): 221-256.

3. Subsistence Fishing and Food Security

Subsistence fishing supports food security in Alaska by providing access to nutritious, locally harvested food.[7] The U.S. Department of the Interior estimates that fish account for about 56% of Alaska's statewide subsistence harvest with hunting and foraging accounting for the remaining.[8] Research in three Yukon River communities shows how sharing and exchanging subsistence salmon connects households within and across communities.[9] These practices help sustain cultural identity and locally governed food systems, both central to food sovereignty.[10][11] Subsistence fish and wildlife contribute substantially to rural diets, and purchasing foods to replace these harvests would likely impose significant costs on households.[12]

Food security exists, "when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences in order to lead a healthy and active life."[13] Food sovereignty complements food security by emphasizing peoples' right to define their own food systems and to access culturally appropriate foods produced sustainably.[14] For Alaska communities, these concepts draw attention to both reliable access to food and the ability to sustain relationships with fish and wildlife, customary harvesting places, and the people with whom they harvest and share food. Access to multiple food sources and strong sharing networks can help households weather disruptions, including interruptions in store supplies and climate-related changes in the availability of wild foods

3.0.0.2. *Compounding Pressures on Food Security*

Subsistence access depends on healthy stocks, functioning equipment, safe travel routes, adequate food storage, and access to customary harvesting places. The October 2025 flooding from Typhoon Halong destroyed stores of subsistence foods, damaged fishing infrastructure, and displaced families across the Yukon–Kuskokwim Delta.[ˆsubsistence-15] One year later, some families remained displaced. October 2026 reporting documented the loss of seasonal cabins at Umkumiut and changes that made customary blackfish harvesting sites near Nightmute inaccessible.[15] Where fishing op-

[7] Loring, P. A., Gerlach, S. C., & Harrison, H. L. (2013). Seafood as Local Food: Food Security and Locally Caught Seafood on Alaska's Kenai Peninsula. Journal of Agriculture, Food Systems, and Community Development, 3(3), 13–30. https://doi.org/10.5304/jafscd.2013.033.006

[8] U.S. Department of the Interior. (n.d.). Federal Subsistence Management Program. https://www.doi.gov/subsistence/federal-subsistence-management-program

[9] Trainor, A., Gerkey, D., McDavid, B. M., Cold, H. S., Park, J., & Koster, D. S. (2021). How Subsistence Salmon Connects Households and Communities: An Exploration of Salmon Production and Exchange Networks in Three Communities on the Yukon River, 2018–2019 (Technical Paper No. 481; p. 298). Alaska Dept. of Fish and Game Division of Subsistence.

[10] Trainor, A., Gerkey, D., McDavid, B. M., Cold, H. S., Park, J., & Koster, D. S. (2021). How Subsistence Salmon Connects Households and Communities: An Exploration of Salmon Production and Exchange Networks in Three Communities on the Yukon River, 2018–2019 (Technical Paper No. 481; p. 298). Alaska Dept. of Fish and Game Division of Subsistence.

[11] Wittman, H. (2011). Food Sovereignty: A New Rights Framework for Food and Nature? Environment and Society, 2(1). https://doi.org/10.3167/ares.2011.020106

[12] Fall, J. A. (2018). Subsistence in Alaska: A Year 2017 Update. Alaska Dept. of Fish and Game Division of Subsistence.

[13] Peng, W., & Berry, E. M. (2019). The concept of food security. In P. Ferranti, E. M. Berry, & J. R. Anderson (Eds.), *Encyclopedia of Food Security and Sustainability* (pp. 1-7). Elsevier. https://doi.org/10.1016/B978-0-08-100596-5.22314-7

[14] LVC (La Via Campesina). (2007). Declaration of Nyéléni. Nyéléni, Sélingué, Mali. Retrieved October 15, 2024, fromhttps://nyeleni.org/IMG/pdf/DeclNyeleni-en.pdf%E2%86%A9%EF%B8%8E

[15] Association of Village Council Presidents. 10/16/2026 access 11/01/2026 https://www.avcphousing.org/one-year-after-typhoon-halong-a-statement-from-avcp-regional-housing-authority/

portunities are already limited, displacement and the loss of access to harvesting sites can make it harder for families to replenish food stores, share their catch, and pass on harvesting knowledge through practice.

Recovery reporting in October 2026 documented continuing displacement, destroyed seasonal camps, and altered harvesting access. These disruptions can compound restricted fishing opportunities and interrupt the activities through which families share food and pass knowledge between generations.[16]

[16]Shah, A., Thoman, R., & Plumb, E. Halong (2026). Alaska Center for Climate Assessment and Preparedness, International Arctic Research Center, University of Alaska Fairbanks.

Part II.

Community Participation Indices

The ACEPO analysis considers four performance metrics of community commercial fisheries participation to understand the different ways that communities are involved in Alaska fisheries: commercial processing engagement, commercial harvesting engagement, the processing regional quotient which measures the percentage of all Alaska commercial landings within the specific FMPs occurring in each community, and the harvesting regional quotient that measures the percentage of all Alaska landings attributable to vessels owned by residents of each community. Time series summary tables of these four metrics provide a quantitative measure of community participation in Alaska commercial fisheries and how that participation may have changed from 2008 through 2025, the most recent available data. In addition to the four commercial performance metrics, ACEPO also includes a recreational engagement index that measures community participation in Alaska recreational fisheries from 2003 through 2025.

The Community Participation Indices are relative, in that each community's level of engagement is dependent on the other communities included in the analysis. For the commercial indices the set of communities includes eight non-Alaska community groupings: Bellingham, WA; Other Washington; Newport, OR; Other Oregon; All California; All Other States; the At-Sea Processor grouping; and the Seattle metropolitan statistical area (Seattle MSA) which is defined as King, Pierce, and Snohomish counties of Washington, including: Seattle, Tacoma, Everett, and Bellevue. These groupings were chosen to maintain consistency with Council analyses.

By examining participation over time, it is possible to trace sustained participation in specific fisheries, as well as flag changes in participation for some communities. Further research may then clarify some of the drivers of these changes. ACEPO presents an overview of communities substantially engaged in FMP groundfish and FMP crab fisheries, and highlights those communities that are highly engaged according to the established criteria. Due to the differences in the overall fisheries framework, involvement in CDQ programs was not among the criteria used to identify communities, but may be considered in future analysis.

ACEPO provides additional data for communities identified as highly engaged to make available the best scientific information available (BSIA) to support decision making. The dataset includes data on Alaska commercial fishing activities from 2008-2025 for all communities in the U.S. In line with continued efforts to increase relevance, we could expand to include additional information in the future.

The analysis presented here reports participation in the commercial processing and harvesting sectors in North Pacific groundfish and crab FMP fisheries. In response to comments from the SSC, we have introduced species-specific commercial processing and harvesting engagement indices alongside the aggregate groundfish and aggregate crab indices presented in previous versions of ACEPO. Initial efforts include engagement indices for BSAI and GOA Pacific cod and pollock, Bristol Bay red king crab, Norton Sound red king crab, snow crab, and tanner crab. Additional fisheries can be added to this analysis as interest and capacity allow.

Most communities that emerged were discrete entities; however Kodiak Island Borough (KIB) was analyzed on the borough level separately from the City of Kodiak in order to reflect the fishing contribution of smaller communities on Kodiak Island, which may otherwise be obscured. For communities where the small number of participating entities requires the suppression of individual statistics, reasons for data aggregation are noted.

Several assumptions were made within this analysis. Vessels were assigned to the community based upon the ownership address listed in the Alaska Commercial Fisheries Entry Commission (CFEC)

registry. Vessel ownership can be dynamic; and there may be multiple reasons for registration practices that may not relate to residency of owner(s). Permit information was provided when possible. Given a mobile workforce and possibility of multiple home ports, these indicators only allow for a partial understanding of the flow of economic and social benefits associated with individuals and vessels. Shoreside processors were associated with geographic location to capture regional benefits; however it is important to note that corporate structures may extend more broadly and economic benefits extend beyond one geographic community.

Commercial Fisheries Engagement Indices

The study population includes communities with any shoreside landings for FMP groundfish and both at-sea and shoreside landings for FMP crab; and communities with residents owning vessels that fished in those fisheries. For the aggregate and species-specific groundfish fisheries engagement indices, communities were included if: 1) the community had shoreside landings in any of the 15 years from 2008-2025 or 2) residents owned vessels that fished in any year from 2008-2025. For the aggregate and species-specific crab fisheries engagement indices communities were included if: 1) communities had shoreside landings in any of the 23 years from 2000-2025 or 2) residents owned vessels that fished for FMP crab in any year from 2000-2025. At this time, the engagement indices exclude inshore floating processors that cannot be assigned to a location, as well as any landings where the landing port is unknown or missing. The analysis separates variables into two categories of fisheries involvement for each FMP: commercial processing, which reflects the port of landing, and commercial harvesting, which reflects residency of the vessel making the landing.

Processing engagement - represented by the amount of landings and associated revenues from landings in the community, the number of vessels delivering any FMP groundfish or crab in the community, and the number of processors in the community processing any FMP groundfish or crab.

Harvesting engagement - represented by the volume of FMP groundfish and crab landings from vessels owned by residents, ex-vessel revenues associated with those landings, the number of vessels with FMP groundfish or crab landings owned by residents in the community, and the number of distinct resident vessel owners whose vessels made FMP groundfish or crab landings in any community.

By separating commercial processing from commercial harvesting, the engagement indices highlight the importance of fisheries in communities that may not have a significant amount of landings or processing in their community, but have a large number of fishers and/or vessel owners that participate in commercial fisheries who are based in the community.

To examine the relative harvesting and processing engagement of each community, a separate principal components factor analysis (PCFA) was conducted each year for each category to determine a community's engagement relative to all other Alaska communities. Two PCFAs are conducted (processing engagement and harvesting engagement) each year for aggregate and species-specific groundfish and crab. PCFA is a variable reduction strategy that separates a large number of correlated variables into a set of fewer, linearly independent components. These components are used to create quantitative indices of engagement for each community by using the regression method of summing the standardized coefficient scores multiplied by the included variable values. A unique processing index and harvesting index value for each community in each year is created using the first unrotated extracted factor from the PCFA, each of which resulted in single factor solutions

with second factor eigenvalues below 1.00 for all 76 PCFAs. Each index is normalized to have a mean of zero and a standard deviation of one.

These indices are relative scores rather than raw numbers: they represent each community's engagement in commercial fisheries relative to all the other communities in that year. Indices are then combined across all years to create a series of relative engagement over time. Because these are relative indices, a shift in index does not indicate an absolute shift in the number of participants; rather it represents the relational shift when examining all participating communities. A large change in the total number of active vessels over time will only cause a change in an index if one community loses a larger share of their vessels (or other commercial fisheries activities) than another community.

Regional Quotient

The regional quotient (RQ) measures the proportion of a specific fishery (for all fisheries in aggregate) associated with a particular community (in relation to all communities within the region). This metric is meant to reflect the community's degree of involvement (as measured by fisheries landings in that community) in a select fishery, in both the harvesting and processing sectors. The RQ is calculated both as the landings and revenue attributable to a community divided by the total landings or revenue from all communities. To reflect each community's share of landings or revenue of the total fishery, the RQ takes into account landings in the at-sea sector (catcher processors and motherships) and at inshore floating processors, and treats the At-Sea group as a separate "community of practice." Calculated separately for the dimensions of processing engagement and harvesting engagement, the RQ uses the same criteria for inclusion as the commercial fisheries engagement indices for all selected fisheries.

4. Community Participation in North Pacific Groundfish Fisheries

4.0.1. Alaska FMP Groundfish Fisheries



The North Pacific region's commercial fisheries have transformed over time with changing technology, labor, market demand, and legislation. The earliest commercial fishing efforts by U.S. vessels in waters off the coast of Alaska emerged in the 1860s, primarily targeting Pacific cod. With the development of diesel engines, commercial fisheries for Pacific halibut and groundfish expanded north to the Gulf of Alaska (Gulf) and into the Bering Sea (BS) region by the 1920s. By the mid-1900s, fisheries had developed for a variety of groundfish species. Groundfish fisheries changed dramatically in the wake of World War II as Alaskan commercial fisheries expanded and industrialized. From the end of World War II to the introduction of the Exclusive Economic Zone under the Magnuson-Stevens Act (MSA), the North Pacific region's harvests increased substantially. The greatest increase was in the groundfish and crab sectors in the Bering Sea Aleutian Islands (BSAI) and Gulf. Groundfish harvests grew to exceed 2 million tons (mt) per year in the early 1970s. Technological developments and changes in marketing continued to increase harvests, leading to some concern of overexploitation, particularly by foreign fleets. The 1945 Truman Proclamation stressed the U.S.'s right to manage and conserve living marine resources in these areas and to require foreign compliance. This claim was not effectively exercised until the MSA was implemented in 1977. The MSA has been amended over the years, most substantially in 1996 with the Sustainable Fisheries Act, and in 2006 with the Reauthorization Act.

Within the context of this document, "FMP groundfish fisheries" refers to species in the North Pacific managed under the Fishery Management Plans for Bering Sea and Aleutian Islands Groundfish and and Gulf of Alaska Groundfish. It includes species that are managed under both federal (Total Allowable Catch) TAC as well as State of Alaska Guideline Harvest Limit (GHL) allocations, such as sablefish and Pacific cod, but excludes Pacific halibut.

4.0.2. Commercial Groundfish Harvesting Engagement

Data were collected for 103 communities or community groupings throughout the U.S. to create performance metrics of community participation in Alaska groundfish FMP fisheries from 2008-2025. Communities were included if they had either some commercial BSAI or Gulf FMP groundfish fisheries landings or residents who owned vessels used in commercial BSAI or Gulf FMP groundfish fishing during this time period. Of these 103 communities, 62 had some groundfish landings in their community while 93 had a resident who owned a vessel that participated in commercial groundfish harvest. All 103 communities were included in both the commercial harvesting and processing engagement index. The results of the commercial harvesting engagement PCFA analyses are shown here in Table 4.1, which presents the eigenvalues, factor loadings, total variance explained, and Armor's theta reliability coefficient cited for all variables. The results suggest fairly strong relationships among variables, and that a single index based on the first extracted factor explains over 76.2% of the variation in each of the variables in each year. Figure 4.1 displays the aggregate annual values of the four variables that make up the harvesting engagement index for each year to better understand the absolute changes in North Pacific groundfish harvesting activities that are underlying the relative harvesting engagement index. Aggregate revenues were down 11.5% with pounds landed falling by 0.671%, respectively, in 2025 compared with their 2020 - 2024 average while being harvested by 30.7% fewer vessels, which were owned by 31.5% fewer individuals.

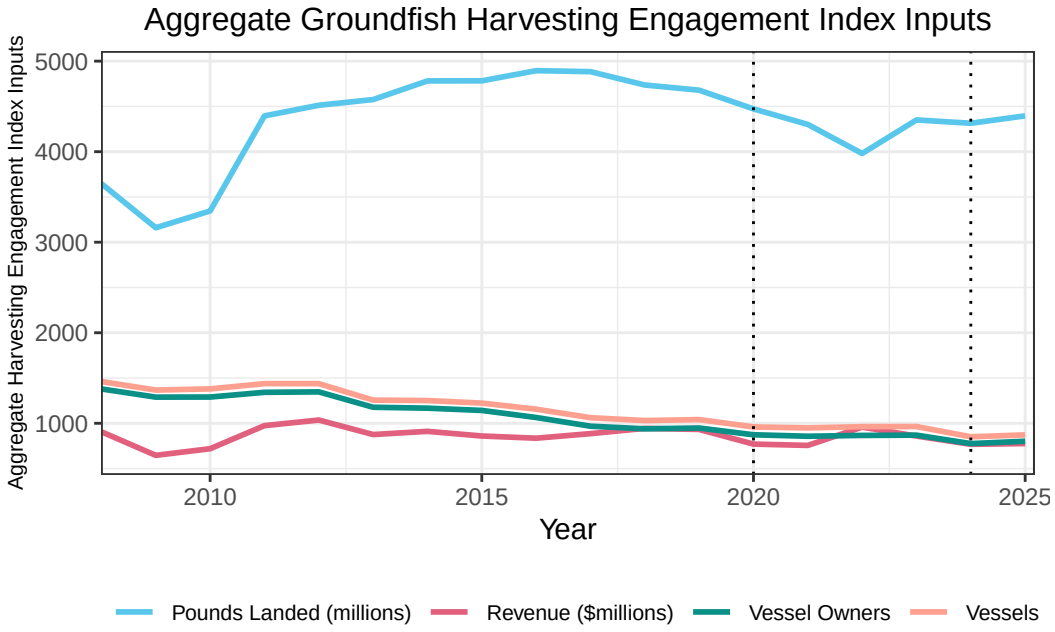


Figure 4.1.: Aggregate annual Groundfish Harvesting Engagement Index inputs. Dotted lines indicate the previous 5 year period (2020 - 2024)

In addition to the goodness of fit statistics of the analyses provided in Table 4.1, each PCFA provides an index score for each of the 103 communities included in the harvesting engagement analyses. 4.2 displays commercial aggregate and species-specific groundfish harvesting engagement index results for the 6 communities that were highly engaged in aggregate FMP groundfish harvesting for at least one year between 2008-2025. Communities are defined as highly engaged when their index

Table 4.1.: Commercial harvesting engagement for groundfish PCFA results 2008-2025

	Eigenvalues				Factor Loadings					
Year	1	2	3	4	Ex-vessel value from vessel owners	Pounds landed by vessel owners	Total # fishing vessels	Total # of unique vessels owners	Percent variance explained	Armor's Theta
2008	3.27	0.73	0.00	0.00	0.91	0.90	0.92	0.89	0.82	0.93
2009	3.19	0.81	0.00	0.00	0.90	0.89	0.91	0.87	0.80	0.91
2010	3.16	0.84	0.00	0.00	0.90	0.88	0.91	0.87	0.79	0.91
2011	3.13	0.87	0.00	0.00	0.89	0.87	0.90	0.87	0.78	0.91
2012	3.12	0.88	0.00	0.00	0.89	0.88	0.90	0.86	0.78	0.91
2013	3.22	0.78	0.00	0.00	0.90	0.89	0.92	0.87	0.81	0.92
2014	3.18	0.82	0.00	0.00	0.90	0.89	0.91	0.87	0.80	0.91
2015	3.20	0.80	0.00	0.00	0.90	0.89	0.92	0.87	0.80	0.92
2016	3.24	0.76	0.00	0.00	0.91	0.89	0.93	0.87	0.81	0.92
2017	3.31	0.69	0.00	0.00	0.92	0.90	0.94	0.88	0.83	0.93
2018	3.29	0.71	0.00	0.00	0.92	0.90	0.94	0.87	0.82	0.93
2019	3.26	0.74	0.00	0.00	0.91	0.90	0.93	0.87	0.82	0.92
2020	3.27	0.73	0.00	0.00	0.91	0.90	0.93	0.87	0.82	0.93
2021	3.21	0.79	0.00	0.00	0.91	0.89	0.92	0.86	0.80	0.92
2022	3.21	0.79	0.00	0.00	0.91	0.89	0.93	0.86	0.80	0.92
2023	3.12	0.87	0.00	0.00	0.89	0.88	0.92	0.85	0.78	0.91
2024	3.09	0.91	0.00	0.00	0.89	0.88	0.91	0.84	0.77	0.90
2025	3.05	0.95	0.00	0.00	0.89	0.86	0.90	0.84	0.76	0.90

score is above one, i.e., one standard deviation above the mean of zero. For the ranges associated with each category, please see the Introduction, Broader Context, and Hot Topics section.

The harvesting engagement index is a relative indicator of community participation compared to the participation of all other communities that harvest BSAI and Gulf FMP groundfish. It measures the presence of commercial fishing participation through residents who own commercial fishing vessels that are active in FMP groundfish fisheries. Variables included in the index are pounds landed and revenue by resident vessel owners, the number of active vessels, and the number of unique vessel owners in the community. Aggregate FMP groundfish harvesting indices considers variables across all groundfish species in a given year whereas species-specific (BSAI and GOA Pacific cod and pollock) harvesting indices subsets the model variables to only those associated with the species being analyzed. For this reason, a community may be highly engaged in one species-specific index (i.e. BSAI Pacific cod and GOA Pacific cod), but not in another.

All 6 community groupings listed in 4.2 excluding Other Washington, were Highly Engaged in aggregate commercial groundfish harvesting in all years from 2008-2025 : Homer, Kodiak, Petersburg, Sitka, and Seattle MSA communities. Seattle MSA has by far the highest degree of engagement over time, with fairly consistent comparative indices from 2008-2025. Aside from Seattle MSA, Kodiak, Sitka, and Homer have the highest engagement scores over time.

This year, in addition to the aggregate analysis, we disaggregated select groundfish and crab species into regional fishing stocks to explore stock specific trends. The four groundfish species evaluated this year are BSAI and GOA Pacific cod, and BSAI and GOA pollock. The four crab species evaluated this year are Bristol Bay Red King Crab, Norton Sound Red King Crab, Snow Crab, and Tanner Crab.

4. Community Participation in North Pacific Groundfish Fisheries

Table 4.2.: Index scores of communities highly engaged in commercial Harvesting of Groundfish for at least one year from 2000 - 2025. Darker shading indicates higher numbers of years at a particular engagement level.

Community	2021	2022	2023	2024	2025
Homer					
Pacific Cod — BSAI	Medium-High	Medium	Medium	Medium	Medium
Pacific Cod — GOA	High	High	High	High	High
Pollock — BSAI	Low	Low	Low	Low	Low
Pollock — GOA	High	High	High	Medium-High	High
All Groundfish	High	High	High	High	High
Kodiak					
Pacific Cod — BSAI	Medium-High	Medium-High	Medium-High	Medium-High	Medium-High
Pacific Cod — GOA	High	High	High	High	High
Pollock — BSAI	Low	Medium	Medium	Medium	Medium
Pollock — GOA	High	High	High	High	High
All Groundfish	High	High	High	High	High
Other Washington					
Pacific Cod — BSAI	Medium-High	High	Medium-High	Medium-High	High
Pacific Cod — GOA	High	High	Medium-High	Medium-High	Medium-High
Pollock — BSAI	Medium	Medium	Medium	Low	Medium
Pollock — GOA	Medium	Medium-High	Medium	Medium	Medium
All Groundfish	High	High	High	Medium-High	Medium-High
Petersburg					
Pacific Cod — BSAI	Medium	Medium	Medium	Low	Low
Pacific Cod — GOA	High	High	Medium-High	Medium-High	Medium-High
Pollock — BSAI	Low	Low	Low	Low	Low
Pollock — GOA	Low	Low	Low	Low	Low
All Groundfish	High	High	High	High	High
Seattle MSA					
Pacific Cod — BSAI	High	High	High	High	High
Pacific Cod — GOA	High	High	High	High	High
Pollock — BSAI	High	High	High	High	High
Pollock — GOA	High	High	High	High	High
All Groundfish	High	High	High	High	High
Sitka					
Pacific Cod — BSAI	Low	Low	Low	Low	Low
Pacific Cod — GOA	Medium-High	Medium-High	Medium	Medium	Medium
Pollock — BSAI	Low	Low	Low	Low	Low
Pollock — GOA	Low	Low	Low	Low	Low
All Groundfish	High	High	High	High	High

See Introduction, Broader Context, and Hot Topics for more information on methodology and categorical value ranges.

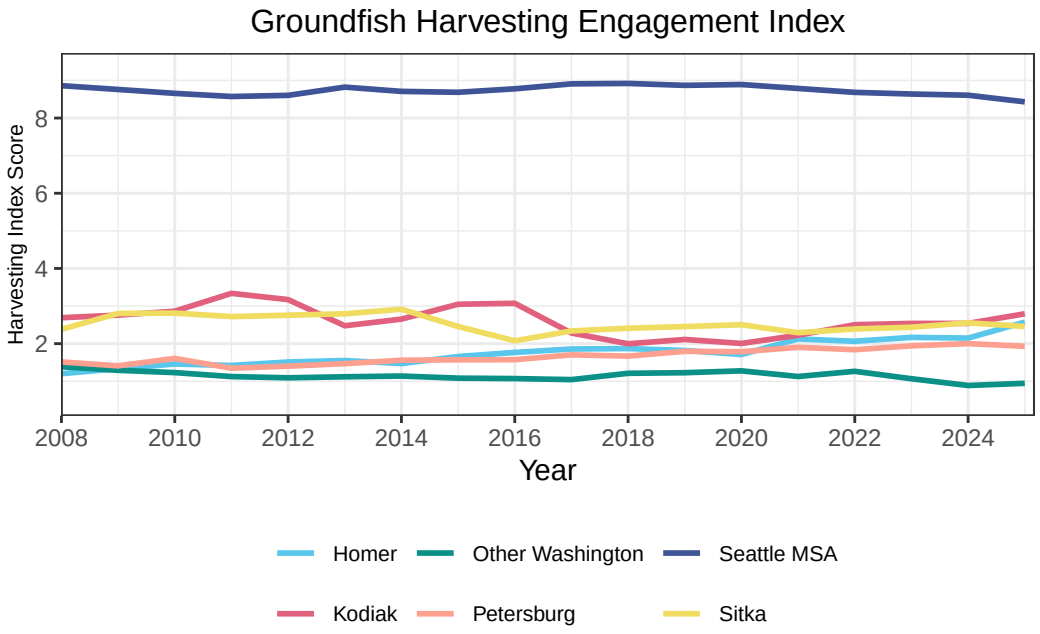


Figure 4.2.: Index scores of communities highly engaged in commercial groundfish harvesting for at least 1 year from 2009-2025

4.0.3. Harvesting Regional Quotient for Groundfish



The commercial harvesting Regional Quotient (RQ) is associated with a community's resident vessel owners to account for where the proportion of fishing revenue enters the local economy. Figure 4.3 shows the harvesting RQ for North Pacific groundfish revenue from 2008-2025. The RQ indicates the percentage contribution in revenue of FMP groundfish from resident vessel owners in a community relative to the total (shore-based and at-sea) revenue from BSAI and Gulf FMP groundfish fisheries.

The community with the largest share of harvesting vessel owners is the Seattle MSA, which averaged 16.5% from 2008-2025, followed by Sitka (12.3%), Kodiak (11.5%), Homer (8.57%), Petersburg, (8.11%), and Other Washington (4.8%). While the Seattle MSA has only a slightly larger share of the Alaskan groundfish vessels, those dominate the share of groundfish volume (77.6%)

and groundfish value (69.8%). The other highly engaged communities had vessels which accounted for 1.67% of total Alaska groundfish revenues in Sitka, 5.14% in Kodiak, 1.54% in Homer, 1.82% in Petersburg, and 5.38% from vessels with owners residing in Other Washington. The regional quotient of harvest revenue in 2025 is fairly similar to those from the 2008-2025 period, with the Seattle MSA's revenue share falling to 66.2% from an average of 69.8%. Other highly engaged communities increased their share, including: Kodiak (5.9%), Other Washington, (5.28%), Sitka, (2.53%), Homer, (2.38%), and Petersburg (1.34%).

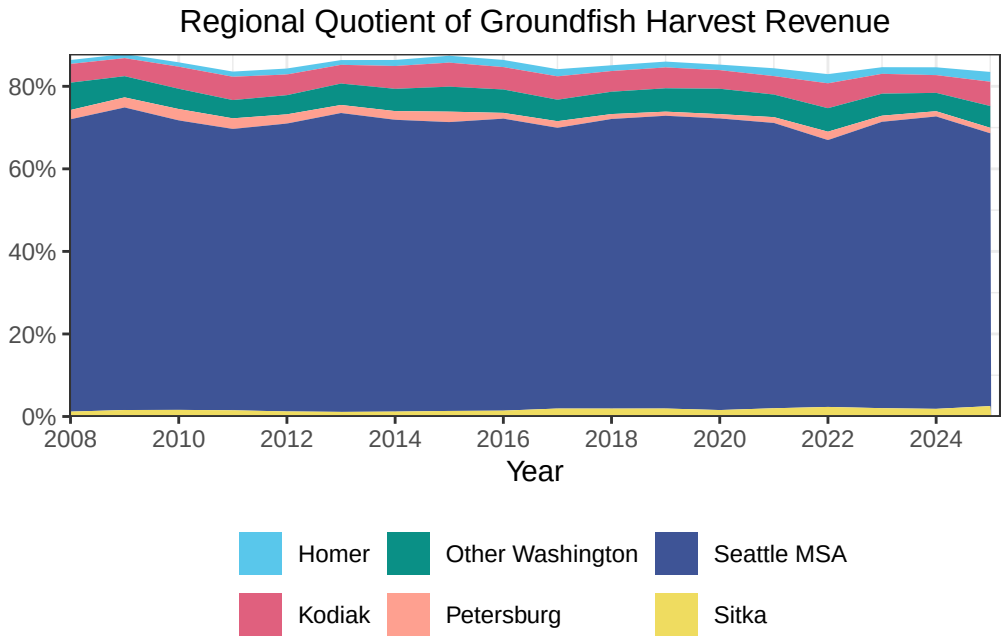


Figure 4.3.: Regional quotient of revenue for communities highly engaged in commercial groundfish harvesting for all years from 2008-2025

4.0.4. Commercial Groundfish Processing Engagement

The results of the commercial processing engagement PCFA analyses are shown in Table 4.3, which presents the eigenvalues, factor loadings, total variance explained, and Armor's theta reliability coefficient (Armor, 1974) for all of the variables included in each PCFA. Vessel deliveries and landings were used as a proxy metric for processing engagement. The results suggest strong relationships among variables and that a single index based on the first extracted factor explains 75.2% of the variation in each of the variables in each year. In addition to the goodness of fit statistics of the analyses provided in Table 4.3, each PCFA provides an index score for each of the 62 communities included in the analyses.

The commercial processing engagement index is a relative indicator of community participation compared to the participation of all other communities that process BSAI and Gulf FMP groundfish. Figure 4.4 displays the aggregate annual values of the four variables that make up the processing engagement index for each year to better understand the absolute changes in North Pacific groundfish processing activities that are underlying the relative processing engagement index. As with the harvesting engagement indices, comparing 2025 with their 2020-2024 mean shows that

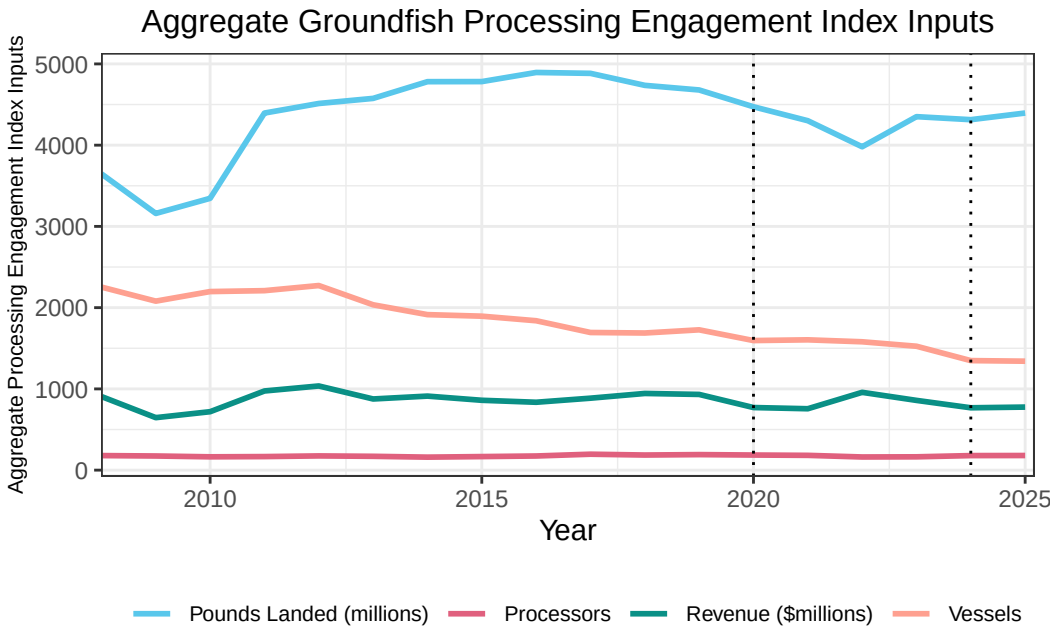


Figure 4.4.: Aggregate annual Groundfish Processing Engagement Index inputs. Dotted lines indicate the previous 5 year period (2020 - 2024)

aggregate revenues were down 11.5% with pounds landed declining by 0.671%. These harvests were delivered to 2.71% more processors in 2025 than the average of 2020-2024 and harvested by 32.4% fewer delivering vessels.

Table 4.4 presents the aggregate FMP groundfish and species-specific processing index scores for the 7 community groupings that were Highly Engaged (i.e., had an index score above one, which is one standard deviation above the mean of zero) in aggregate FMP groundfish processing for at least one year from 2008 to 2025, and these cells are shaded in 4.4. For select communities, such as Petersburg or Sitka, select species-specific indices are excluded from 4.4. These exclusions occur because there are no species-specific observations of input variables throughout the timeseries, resulting in the community being removed from the analysis. Four communities (Akutan, At-Sea Processors, Kodiak, and Unalaska/Dutch Harbor) were highly engaged in aggregate FMP groundfish commercial processing for all 18 years from 2008-2025, as shown in Figure 4.5. The At-Sea Processor grouping has consistently held the highest engagement scores over time, partially due to the large number of vessels and the allocations of BSAI FMP groundfish species to this sector relative to shore-based communities. Homer became highly engaged in aggregate FMP groundfish processing for the first year in 2017 and continued to be highly engaged since 2021 while Sitka was calculated as highly engaged for the first time in 2018 and continued to be highly engaged since 2023. In 2025, for the first time in our analysis, Petersburg was also highly engaged.

Table 4.3.: Commercial groundfish processing engagement PCFA results 2008-2025

	Eigenvalues				Factor Loadings					
Year	1	2	3	4	Ex-vessel value	Pounds landed in community	Number vessels delivering	Number of processors	Percent variance explained	Armor's Theta
2008	3.12	0.82	0.06	0.00	0.99	0.98	0.49	0.97	0.78	0.91
2009	3.11	0.85	0.05	0.00	0.99	0.98	0.46	0.98	0.78	0.90
2010	3.10	0.86	0.04	0.00	0.99	0.98	0.45	0.98	0.77	0.90
2011	3.10	0.84	0.05	0.00	0.99	0.98	0.47	0.97	0.78	0.90
2012	3.09	0.85	0.06	0.00	0.99	0.98	0.46	0.97	0.77	0.90
2013	3.10	0.84	0.05	0.00	0.99	0.98	0.47	0.98	0.78	0.90
2014	3.12	0.83	0.05	0.00	0.99	0.98	0.49	0.97	0.78	0.91
2015	3.12	0.81	0.07	0.00	0.99	0.98	0.51	0.96	0.78	0.91
2016	3.14	0.78	0.07	0.00	0.98	0.98	0.54	0.97	0.79	0.91
2017	3.15	0.75	0.10	0.00	0.98	0.97	0.58	0.96	0.79	0.91
2018	3.12	0.77	0.10	0.00	0.98	0.97	0.56	0.96	0.78	0.91
2019	3.12	0.77	0.10	0.00	0.98	0.97	0.56	0.96	0.78	0.91
2020	3.10	0.76	0.14	0.00	0.96	0.96	0.59	0.95	0.77	0.90
2021	3.09	0.78	0.13	0.00	0.96	0.95	0.59	0.95	0.77	0.90
2022	3.09	0.78	0.13	0.00	0.97	0.96	0.56	0.95	0.77	0.90
2023	3.04	0.80	0.15	0.00	0.96	0.95	0.56	0.95	0.76	0.90
2024	3.01	0.82	0.17	0.00	0.95	0.95	0.57	0.94	0.75	0.89
2025	3.02	0.82	0.17	0.00	0.95	0.94	0.60	0.93	0.75	0.89

Table 4.4.: Index scores of communities highly engaged in commercial Processing of Groundfish for at least one year from 2000 - 2025. Darker shading indicates higher numbers of years at a particular engagement level.

Community	**2021**	**2022**	**2023**	**2024**	**2025**
Akutan					
Pacific Cod — BSAI	High	Medium-High	Medium-High	High	High
Pacific Cod — GOA	Medium	Medium-High	Medium-High	High	Low
Pollock — BSAI	Medium	Medium	Medium	Medium	Medium
Pollock — GOA	Medium	Medium	Medium	High	Medium
All Groundfish	High	High	High	High	High
At-Sea Processor					
Pacific Cod — BSAI	High	High	High	High	High
Pacific Cod — GOA	High	High	High	High	High
Pollock — BSAI	High	High	High	High	High
Pollock — GOA	Medium-High	Medium-High	Medium-High	Medium-High	Medium-High
All Groundfish	High	High	High	High	High
Dutch Harbor					
Pacific Cod — BSAI	Medium-High	Medium-High	High	High	High
Pacific Cod — GOA	Low	Low	Low	Medium	Medium
Pollock — BSAI	Medium-High	Medium-High	Medium-High	High	Medium-High
Pollock — GOA	Low	Low	Medium	Low	Low
All Groundfish	High	High	High	High	High
Homer					
Pacific Cod — BSAI	Low	Low	Low	Low	Low
Pacific Cod — GOA	High	High	High	High	High
Pollock — GOA	Low	Low	Low	Low	Low
All Groundfish	High	High	High	High	High
Kodiak					

4. Community Participation in North Pacific Groundfish Fisheries

Table 4.4.: Index scores of communities highly engaged in commercial Process *(Continued)*

Community	2021	2022	2023	2024	2025
Pacific Cod — BSAI	Low	Low	Low	Low	Low
Pacific Cod — GOA	High	High	High	High	High
Pollock — BSAI	Low	Low	Low	Low	Low
Pollock — GOA	High	High	High	High	High
All Groundfish	High	High	High	High	High
Petersburg					
Pacific Cod — GOA	Medium	Medium	Medium	Medium	Medium
Pollock — GOA	Low	Low	Low	Low	Low
All Groundfish	Medium-High	Medium-High	Medium-High	Medium-High	High
Sitka					
Pacific Cod — GOA	Medium	Medium	Medium	Medium	Low
Pollock — GOA	Low	Low	Low	Low	Low
All Groundfish	High	Medium-High	High	High	High

See Introduction, Broader Context, and Hot Topics for more information on methodology and categorical value ranges.

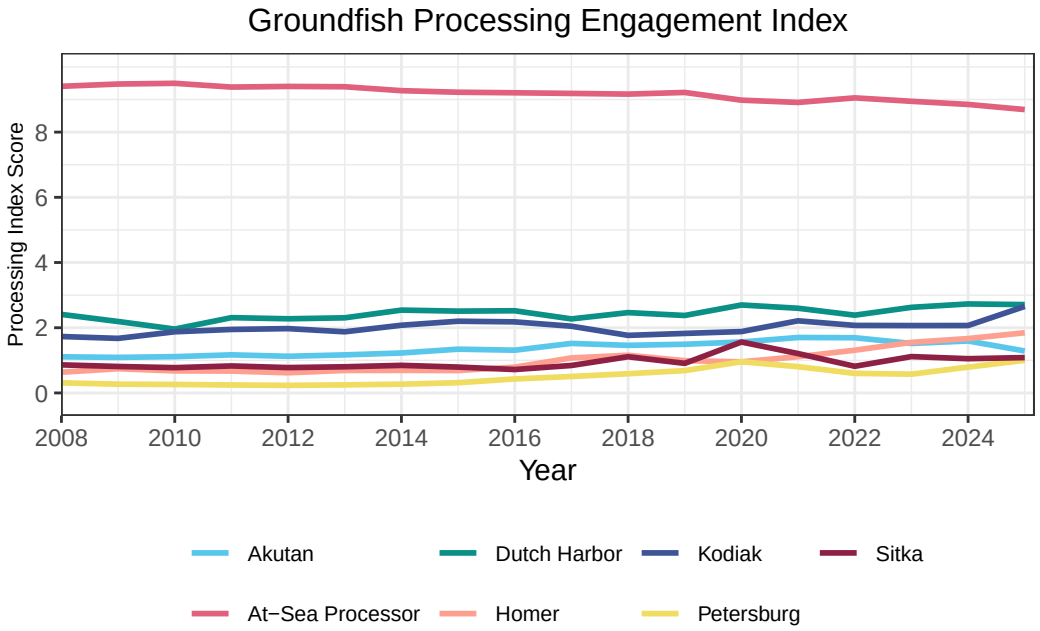


Figure 4.5.: Index scores of communities highly engaged in commercial groundfish processing for at least 1 year from 2008-2025

4.0.5. Groundfish Processing Regional Quotient



Another measure of community participation in commercial FMP groundfish fisheries is its processing regional quotient (RQ), defined as the share of commercial revenues within a community out of the total North Pacific FMP groundfish revenues. The RQ is an indicator of the percentage contribution in that community, relative to the total revenues (including shorebased and at-sea) from all BSAI and Gulf FMP Groundfish landings. Figure 4.6 shows the processing RQ in terms of ex-vessel revenue from 2008-2025.

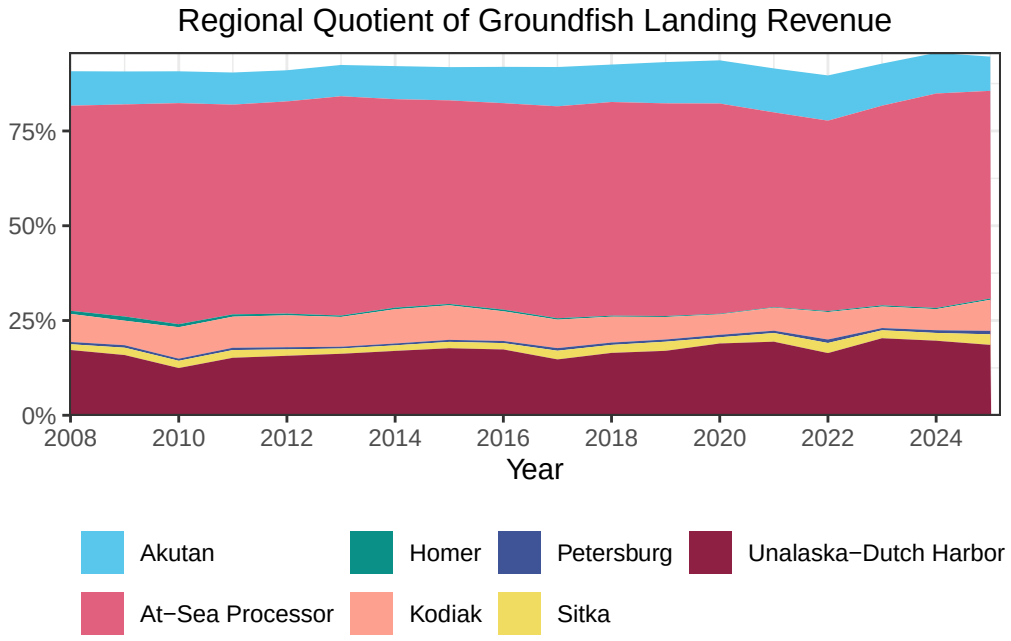


Figure 4.6.: Regional quotient of revenue for communities highly engaged in commercial groundfish processing for all years from 2008-2025

The most prominent community for processing FMP groundfish in terms of landing weight has been the At-Sea Processing grouping, which accounted for approximately 54.7% of FMP groundfish

landing ex-vessel revenues over the period 2008-2025. In terms of shoreside processing, Dutch Harbor/Unalaska had the largest share of landings revenue, averaging 16.9% over the same period. The two other communities highly engaged in FMP groundfish processing for all years are Kodiak and Akutan. Kodiak averaged nearly 7.3% of FMP groundfish landings revenues over this period while Akutan and all other not highly engaged communities averaged 16.6%. Sitka averaged 2% of FMP groundfish landings revenues over this period while Homer averaged 0.4%.

Comparing 2025 to the past five years, the share of landings revenue for the at-sea sector has increased by 1.8% to 54.8% in 2025. Dutch Harbor's RQ remained relatively stable (-0.3%) at 18.6% in 2025 compared with the 2020-2024 average (18.9%). Relative to the 2020-2024 average, the processing RQ in Akutan declined by 2.3% to 9.0% in 2025, increased in Kodiak by 2.2% to 8.2% in 2025, increased in Sitka by 0.6% to 2.8% in 2025, and increased in Homer by 0.09% to 0.3% in 2025.

4.0.6. Participation Summary for FMP Groundfish Fisheries

Based on the community engagement index scores for both commercial processing and commercial harvesting engagement, communities were categorized into low (index scores below the mean of 0), medium (index scores between 0 and 0.5), medium-high (index scores between 0.50001 and 1), and high engagement (index scores above 1) for each year. The number of years a community is in each category for the processing and harvesting engagement indices is presented in Table 4.5.

There are 32 communities or community groupings in Table 4.5 that had medium, medium-high, or high engagement in either harvesting or processing engagement and 9 communities were highly engaged in one aspect of commercial fisheries in any year from 2008-2025. There were 7 communities that were highly engaged in processing and 6 that were highly engaged in harvesting for at least one year from 2008-2025.

Table 4.5.: Number of years by processing engagement level for all commercial fisheries. Alaska communities not listed had low processing and harvesting engagement in all years (2008-2025). Darker shading indicates higher numbers of years at a particular engagement level.

	Harvesting Engagement				Processing Engagement			
Community	Low	Medium	Medium-High	High	Low	Medium	Medium-High	High
Adak	18	0	0	0	16	2	0	0
Akutan	18	0	0	0	0	0	0	18
All Other States	0	16	2	0	18	0	0	0
Anchorage	0	14	4	0	18	0	0	0
At-Sea Processor	18	0	0	0	0	0	0	18
Bellingham	18	0	0	0	16	1	1	0
Cordova	1	15	2	0	0	18	0	0
Craig	0	18	0	0	4	14	0	0
Delta Junction	16	2	0	0	18	0	0	0
Dutch Harbor	18	0	0	0	0	0	0	18
Haines	15	3	0	0	18	0	0	0
Homer	0	0	0	18	0	0	11	7
Hoonah	18	0	0	0	9	9	0	0
Inshore Stationary Floating Processor	18	0	0	0	11	7	0	0
Juneau	0	0	18	0	0	17	1	0
Ketchikan	0	18	0	0	5	13	0	0
King Cove	16	2	0	0	2	15	1	0
Kodiak	0	0	0	18	0	0	0	18
Newport	0	18	0	0	18	0	0	0
Other Oregon	0	14	4	0	18	0	0	0
Other Washington	0	0	2	16	18	0	0	0
Pelican	18	0	0	0	17	1	0	0
Petersburg	0	0	0	18	0	9	8	1
Saint Paul	17	1	0	0	18	0	0	0
Sand Point	0	18	0	0	0	18	0	0
Seattle Msa	0	0	0	18	18	0	0	0
Seward	14	4	0	0	0	6	12	0
Sitka	0	0	0	18	0	0	12	6
Wasilla	4	14	0	0	18	0	0	0
Whittier	18	0	0	0	11	7	0	0
Wrangell	6	12	0	0	10	8	0	0
Yakutat	18	0	0	0	0	18	0	0

4.0.7. Groundfish Fishery Taxes

Taxes generated by the fishing industry, particularly the fish processing sector, are important revenue sources for communities, boroughs, and the State. There are two main sources of fishery taxes in Alaska: shared taxes administered through the State of Alaska, and municipal fisheries taxes independently established and collected at select municipalities. Fisheries tax revenue across the 6 highly engaged Alaska fishing communities in FMP groundfish fisheries is presented in Figure 4.7. This tax data should not stand alone to inform community engagement levels, as the data has many nuances with some communities not reporting taxes in some years, many reporting $0 in given years with no explanation, and with the sales tax including raw fish taxes in some communities, but with the inability to disaggregate. We have noted in figure descriptions when nuances were observed. Furthermore, to improve accuracy in this report and to increase communication and trust-building amongst institutions, this tax data has been reviewed by communities.

4.0.7.1. State Taxes

The fisheries business tax, implemented in 1990, is levied on businesses that process or export fisheries resources from Alaska. Tax rates vary under the fisheries business tax, depending on a variety of factors, including: how well established the fishery is, and whether processing takes place on a shoreside or offshore facility. Although the fisheries business tax is typically administered and collected by the individual boroughs, revenue from the tax is deposited in Alaska's General Fund. According to State statute, each year, the State legislature appropriates 25%-50% of the revenue from the tax to the municipality or borough where processing occurs.

The State of Alaska has collected the fisheries resource landing tax since 1994. This tax is levied on processed fishery resources that were first landed in Alaska, whether they are destined for local consumption or shipment abroad. This tax is collected primarily from catcher-processor and at-sea processor vessels that process fishery resources outside of the State's three-mile management jurisdiction, but within the U.S. Exclusive Economic Zone, and bring their products into Alaska for trans-shipment. Fishery resource landing tax rates vary from 1% to 3%, depending on whether the resource is classified as "established" or "developing." According to State statute, all revenue from the Fishery Resource Landing Tax is deposited in the State's General Fund, but half of the revenue is available for sharing with municipalities where fishery resources are landed.

4.0.7.2. Municipal Taxes

In addition to these State taxes, some communities have developed local tax programs related to the fishing industry. These include taxes on raw fish transfers across public docks, fuel transfers, extraterritorial fish, and marine fuel sales, and fees for bulk fuel transfer, boat hauls, harbor usage, port and dock usage, and storing gear on public land. There is no one source for data on these revenue streams; however, most communities self-report in their annual municipal budgets collected by the Alaska Division of Community and Regional Affairs. However, some communities report fish tax revenue as sales tax, which affects the accuracy of municipal tax data reported throughout this document and included in Figure 4.7.

For the Alaska communities identified as highly engaged in commercial harvest or processing of groundfish from 2008-2025, Figure 4.7 shows fishery-related tax revenue from municipal and shared

taxes from 2012-2025. Unalaska consistently brings in the most fishery related tax revenue through the Fishery Business and Fishery Landing taxes and municipal raw fish tax. Unalaska experienced over a $4 million loss of fishery tax revenue from 2016 to 2017, but increased between 2018 and 2020 and between 2021 and 2022, recovering approximately $2 million of that loss. An additional $2.5 million of fishery tax revenue was lost between 2023 and 2024, with approximately $1 million being recovered in 2025. It is worth noting that until 2017, Akutan was entirely dependent on fishery tax income. In 2017, Akutan implemented a 1.5% sales tax, and stopped collecting a municipal raw fish tax. No taxes were reported by Kodiak in 2021.

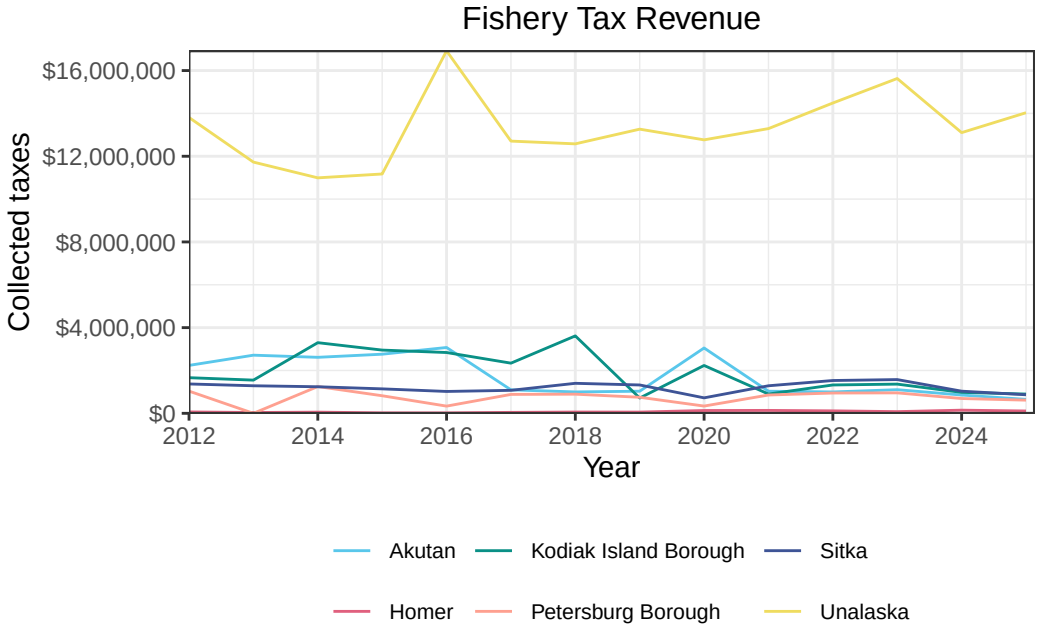


Figure 4.7.: Fishery tax revenue for highly engaged fishing communities in FMP Groundfish Fisheries from 2012-2025. Includes only Alaskan communities; excludes data associated with Seattle MSA, Washington, Oregon, and at-sea landings. Kodiak tax data were not reported in 2021. Kodiak, Sitka, and Petersburg include borough-level tax data.

4.0.8. School Enrollment in Groundfish Communities

Ensuring the productivity and sustainability of fishing communities is a core mandate of Federal fisheries management. One indicator to evaluate community vitality is K-12 public school enrollment. Declining enrollment trends, and particularly school closures, signal the community is in transition and possible social disruption. Public educational institutions offer a space for people to gather and invest in community events and shared wellbeing. Communities with struggling schools are likely also experiencing population outmigration, a declining tax base, and reduced public services. Figure 4.8 presents K-12 public school enrollment numbers for the six highly engaged groundfish communities within Alaska (including those in the harvesting or processing sector).

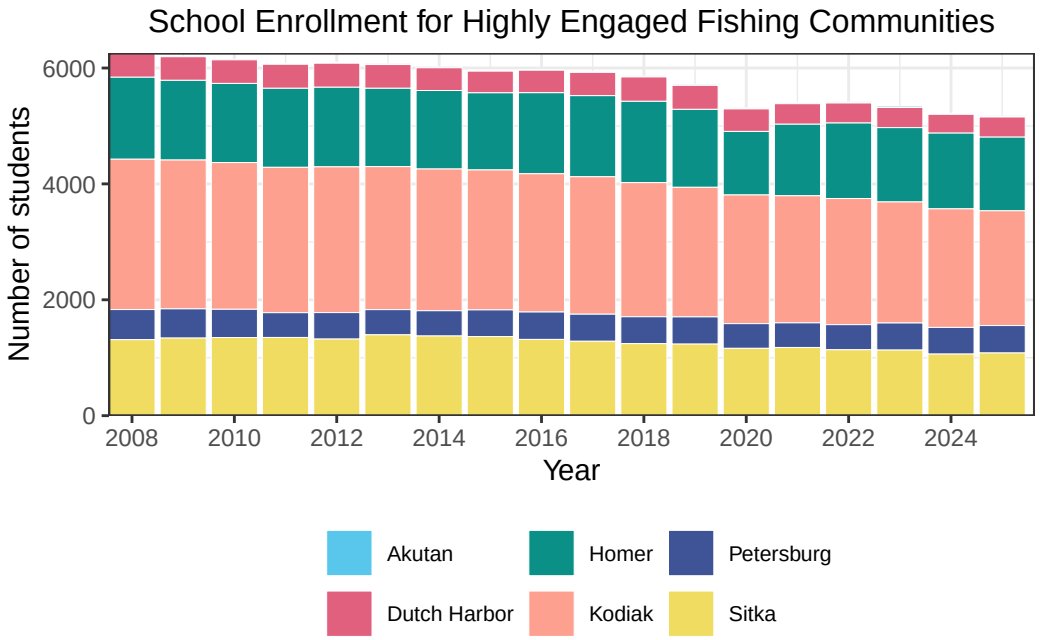


Figure 4.8.: Highly engaged FMP groundfish communities (either harvesting or processing) K-12 public school student enrollment from 2008-2025

Overall, from 2008-2025, there has been a decline of 1,081 students (down 17% in total enrollment) for Akutan, Homer, Kodiak (Kodiak Island Borough), Petersburg, Sitka, and Unalaska combined. Akutan school district experienced a 128.6% growth in enrollment over this period, though it should be noted that Akutan has very low student enrollment numbers, with a maximum of 24 students in any year from from 2008 to 2025. All other communities have seen declines in school enrollment from 2008 to 2025, with percentage declines ranging from 10.5% in Homer, 9% in Petersburg, 13.1% in Unalaska, 17.5% in Sitka, and 23.6% for Kodiak Island Borough.

The sharpest decline in enrollment occurred in 2020, due to the COVID-19 pandemic. Over all communities, enrollment declined 7%, with Homer seeing the largest percentage decline (18.5%). While there has been some recovery of enrolled students since 2020, the overall trend since 2008 has been of steadily declining enrollment.

5. Community Participation in North Pacific Crab Fisheries

5.0.1. Alaska FMP Crab Fisheries

Commercial crab fisheries in the North Pacific began significant development in the 1950s, initially with king crabs in the Bering Sea and Gulf of Alaska, and somewhat later with snow and Tanner crab. Today, many of the Alaska crabstocks are in a depressed state relative to much larger populations and aggressive harvesting in the era prior to 2000, during which period the fisheries experienced large boom and crash cycles. Declines in the BSAI crab fisheries in the last decade, and subsequent contraction of the active fleet and numerous processing plant closures, have drastically affected fishers as well as the social, cultural, and economic well being of fishing communities along the dimensions of economic dependence, social networks, food security, and identity.[1]



The Council's BSAI Crab FMP specifies the terms of management of 10 crab stocks and 11 fisheries in the Bering Sea and Aleutian Islands. The Bristol Bay red king crab (BBR), Bering Sea snow crab (BSS), Eastern and Western Bering Sea Tanner crab (EBT/WBT), Eastern and Western Aleutian Islands golden king crab (EAG/WAG), Saint Matthew blue king crab (SMB), and Pribilof Islands red and blue king (PIK) crab fisheries are managed under the BSAI Crab Rationalization program. In addition, the Norton Sound red king crab (NSR) and Pribilof Islands golden king (PIG) crab fisheries are managed under the FMP, but are not part of the rationalization program; the NSR fishery is designated super-exclusive under the FMP, such that vessels registered to participate in the NSR fishery may not make landings in any other FMP crab fishery during the same year. In addition to FMP crab fisheries, ADFG manages commercial fisheries for several crab species in state waters, most notably Dungeness crab and red king crab fisheries in Southeast Alaska and Tanner crab fisheries in the Central and Eastern Gulf of Alaska. Although historically small relative to BSAI crab fisheries, with recent closures and reduced catch levels in FMP fisheries, state-managed crab fisheries have represented a greater fraction of total production volume and value of crab

[1] Ritzman, J., Brodbeck, A., Brostrom, S., McGrew, S., Dreyer, S., Klinger, T., & Moore, S. K. (2018). Economic and sociocultural impacts of fisheries closures in two fishing-dependent communities following the massive 2015 U.S. West Coast harmful algal bloom. *Harmful Algae, 80*, 35-45. https://doi.org/10.1016/j.hal.2018.09.002

from waters off Alaska over the last several years.[2] However, the community participation indices reported below are inclusive of BSAI FMP crab fisheries only, and do not account for community participation in crab harvest and processing sectors associated with state-managed, non-FMP crab fisheries.

Under the shared federal and state management structure of the FMP, the Alaska Department of Fish and Game (ADFG) has authority for setting TAC (or GHLs for the two non-rationalized fisheries) levels. The PIK and WAI fisheries have been closed to targeted fishing since prior to implementation of the rationalization program in 2005, and the SMB fishery has been closed since 2016. Six fisheries were open to targeted fishing and were actively prosecuted during 2025: the BBR, BSS and WAG fisheries were opened during 2025 with historically low TACs, while the WBT fishery saw a historically high TAC, and EAG and NSR fisheries saw fairly stable TAC levels. The PIG fishery was closed for the 2025 season for the first time since 2006, and the BBR, BSS, and EBT fisheries have been subject to closures in one or more of the most recent five seasons. In 2025, across the six active FMP BSAI crab fisheries (including the non-rationalized Norton Sound red king crab fishery), an active fleet of 74 harvesting vessels made commercial landings (31 of which operated exclusively in the NSR fishery), which were processed at 8 processing facilities throughout the region.[3]

In 2021 and 2022, several BSAI crab stocks experienced unprecedented declines, resulting in closures and significant decreases in total allowable catch (TAC) for a suite of crab fisheries. In 2020, ADFG announced a closure of the eastern portion of the summer commercial Norton Sound Red King Crab (NSR) fishery due to historical stock decline. The summer fishery fully reopened for subsequent seasons through 2025, however, to support rebuilding efforts, the Norton Sound Economic Development Corporation ceased buying NSR crab through 2023. The 2024 and 2025 NSR summer commercial seasons were active. The two largest and most valuable BSAI crab fisheries historically, Bering Sea snow crab (BSS) and Bristol Bay red king crab (BBR) were simultaneously closed for the 2022/23 season, the first time in the management history of commercial crab fishing in the BSAI. This follows a consistent declining trend and low Total Allowable Catch (TAC) levels in the BBR fishery over several years, with closure of the fishery for the 2021/22 and 2022/23 seasons. The sustained decline in the BBR fishery has been coupled with the recent collapse in BSS fishery, beginning with the record low TAC issuance for the 2021/22 BSS fishery, followed by closure for the 2022/23 and 2023/24 seasons. Both fisheries were opened for the 2024/25 and 2025/26 seasons with low TAC issuance relative to the decade prior to the BSS collapse. Evidence indicates that snow crab and red king crab declines are related to climate change.[4][5] The crash of the Bering Sea snow crab stock was affected by the 2019 heat wave in the North Pacific. Marine heat waves have been attributed to climate change.[6] Ongoing research into the social and economic effects

[2]Szuwalski, C. S., Aydin, K., Fedewa, E. J., Garber-Yonts, B., & Litzow, M. A. (2023). The collapse of eastern Bering Sea snow crab. Science, 382(6668), 306-310.

[3]Garber-Yonts, B., A. Abelman, R. Dame, S. Kasperski, and J. Lee. 2024. Stock assessment and fishery evaluation report for the king and Tanner crab fisheries of the Bering Sea/Aleutian Islands area: Economic status of the BSAI king and tanner crab fisheries off Alaska, 2023. Anchorage, AK: North Pacific Fishery Management Council. Retrieved from https://www.npfmc.org/wp content/PDFdocuments/resources/SAFE/CrabSAFE/CrabEconSAFE.pdf

[4]Szuwalski, C. S., Aydin, K., Fedewa, E. J., Garber-Yonts, B., & Litzow, M. A. (2023). The collapse of eastern Bering Sea snow crab. Science, 382(6668), 306-310.

[5]Litzow, M. A., Fedewa, E. J., Malick, M. J., Connors, B. M., Eisner, L., Kimmel, D. G., … & Ryznar, E. R. (2024). Human-induced borealization leads to the collapse of Bering Sea snow crab. Nature Climate Change, 14(9), 932-935.

[6]Reiley, L. (2022, August 21). Alaska's snow crabs have disappeared. Where they went is a mystery. *The Washington*

of declining fisheries can inform adaptation strategies for future climate risks and decision-making and climate-ready fisheries.[7]

A NOAA fishery disaster is a federally recognized event in which a fishery experiences a significant decline in productivity or revenue due to natural or other allowable causes beyond the control of fishery participants, potentially qualifying affected communities and businesses for federal disaster assistance. Since 2019, the Secretary of Commerce has issued multiple disaster declarations for BSAI crab fisheries, reflecting substantial declines in crab stocks, fishery closures, and associated economic losses to harvesters, processors and fishing communities:

- 2019 Norton Sound red king crab - $1.4 million allocated for relief
- 2019/2020 Bering Sea Tanner crab - $12.9 million allocated for relief
- 2021/2022 Bristol Bay red king crab, Bering Sea snow crab, and Bering Sea Tanner crab - $94.4 million allocated for relief
- 2020 and 2021 Norton Sound red king crab - $2.8 million allocated for relief
- 2022/2023 Bristol Bay red king crab and Bering Sea snow crab - $96.6 million allocated for relief
- 2023/2024 Bering Sea snow crab - $114.6 million allocated for relief

As of November 2026, a disaster determination for the 2024/2025 Bering Sea snow crab fishery remains pending.

5.0.2. Commercial Crab Harvesting Engagement

Performance metrics of community participation in BSAI King and Tanner crab FMP fisheries for calendar years 2000-2025 were created with data collected from 40 communities or community groupings throughout the U.S. that had either some commercial FMP crab fisheries landings or residents who owned vessels used in commercial FMP crab fishing during this time period. Of these 40 communities, only 15 had any FMP crab landings in their community while 36 had a resident who owned a vessel that participated in FMP crab fisheries. All 40 communities were included in both the crab harvesting and processing engagement indices.

Figure 5.1 shows the aggregate annual values of the four variables that make up the harvesting engagement index for each year to better understand the absolute changes in North Pacific crab harvesting activities that are underlying the relative harvesting engagement index. Aggregate ex-vessel revenues in calendar year 2025 were up 28.6% compared with the 2020-2024 baseline period average but were up 81.8% compared with 2024. In 2025, landings volume was down 19% from the 2020-2024 baseline period average and up 95.3% compared with 2024. The number of vessels harvesting FMP crab increased in 2025 by 8% compared with the 2020-2024 baseline period average and increased by 11.8% compared with 2024. Crab vessel owners show a similar pattern to active vessels with 8.4% more vessel owners compared with the average of the 2020-2024 baseline period and 11.1% more owners compared with 2024.

Post. https://www.washingtonpost.com/business/2022/08/21/alaska-crab-climate/

[7]White, C. (22, November 18). Difficult future ahead for Alaska's crab industry. *SeafoodSource*. https://www.seafoodsource.com/news/supply-trade/difficult-future-ahead-for-alaska-s-crab-industry

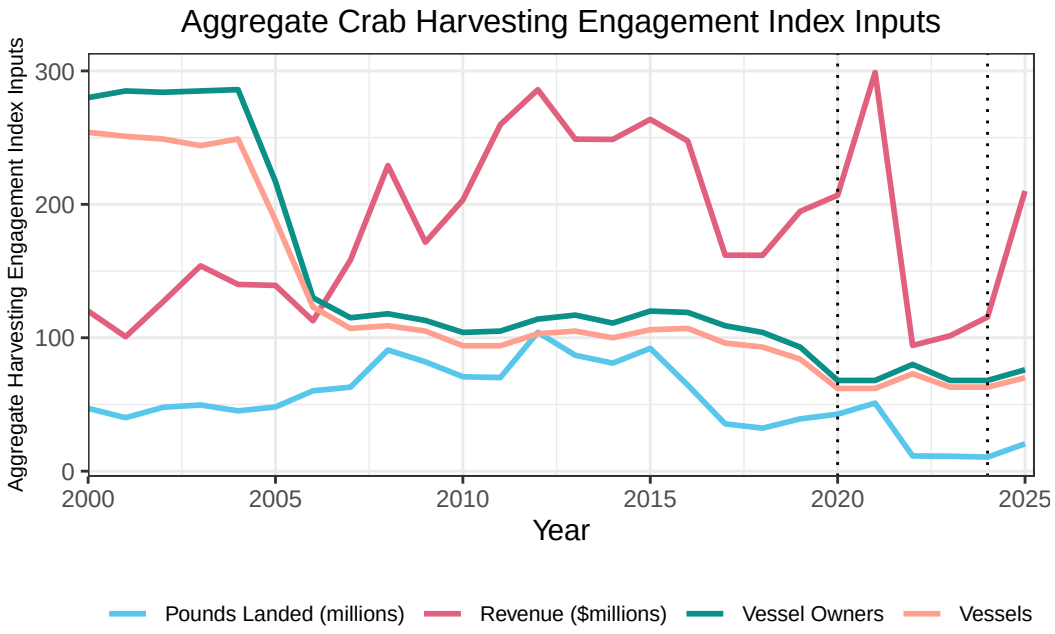


Figure 5.1.: Aggregate annual Crab Harvesting Engagement Index inputs. Dotted lines indicate the previous 5 year period (2020 - 2024)

The results of the BSAI FMP commercial crab harvesting engagement PCFA analyses are shown in Table 5.1 which presents the eigenvalues, factor loadings, total variance explained, and Armor's theta reliability coefficient for all variables. The results suggest very strong relationships among variables, and that a single index based on the first extracted factor explains over 93% of the variation in each of the variables in each year. In addition to the goodness of fit statistics of the analyses provided in Table 5.1 , each PCFA provides an index score for each of 40 communities included in the analysis. 5.2 presents these index scores for the 4 communities identified as highly engaged in BSAI FMP crab harvesting for at least one year between 2000 and 2025.

For the 4 communities identified as highly engaged in BSAI FMP crab harvesting for at least one year, we also calculate species-specific harvesting indices for Bristol Bay red king crab, Norton Sound red king crab, snow crab, and tanner crab. Species-specific analyses use the same input variables, however, we subset the data to those associated with a given species. Species-specific analyses were not conducted for select species in correspondence with crab closures (indicated with a "-").

The harvesting engagement index is a relative indicator of community participation compared to the participation of all other communities that harvest FMP crab in Alaska. It is a measure of the presence of commercial crab fishing through residents who own commercial fishing vessels: this includes pounds landed by vessel, revenue, the number of vessel owners, and the total number of owners in a community.

5.2 presents the index scores for the communities that emerged as Highly Engaged in harvesting aggregate FMP crab (index score above one, which is one standard deviation above the mean of zero) for at least one year (2000-2025). Of the groupings listed in 5.2, Seattle MSA is the only

Table 5.1.: Commercial Crab harvesting engagement PCFA results 2008-2025

	Eigenvalues				Factor Loadings					
Year	1	2	3	4	Ex-vessel value from vessel owners	Pounds landed by vessel owners	Total # fishing vessels	Total # of unique vessels owners	Percent variance explained	Armor's Theta
2000	3.99	0.01	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
2001	3.99	0.01	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
2002	3.99	0.01	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
2003	3.99	0.01	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
2004	3.99	0.01	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
2005	3.98	0.02	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
2006	3.93	0.07	0.00	0.00	0.99	0.99	0.99	0.99	0.98	0.99
2007	3.90	0.10	0.00	0.00	0.99	0.99	0.99	0.99	0.98	0.99
2008	3.94	0.06	0.00	0.00	0.99	0.99	0.99	0.99	0.99	1.00
2009	3.93	0.07	0.00	0.00	0.99	0.99	0.99	0.99	0.98	0.99
2010	3.91	0.09	0.00	0.00	0.99	0.99	0.99	0.99	0.98	0.99
2011	3.90	0.10	0.00	0.00	0.99	0.99	0.99	0.98	0.97	0.99
2012	3.88	0.12	0.00	0.00	0.98	0.99	0.99	0.98	0.97	0.99
2013	3.85	0.14	0.00	0.00	0.98	0.98	0.98	0.98	0.96	0.99
2014	3.83	0.17	0.00	0.00	0.98	0.98	0.98	0.98	0.96	0.99
2015	3.85	0.15	0.00	0.00	0.98	0.98	0.98	0.98	0.96	0.99
2016	3.83	0.17	0.00	0.00	0.98	0.98	0.98	0.98	0.96	0.99
2017	3.81	0.19	0.00	0.00	0.98	0.98	0.98	0.97	0.95	0.98
2018	3.84	0.15	0.00	0.00	0.98	0.98	0.98	0.98	0.96	0.99
2019	3.86	0.14	0.00	0.00	0.98	0.98	0.98	0.98	0.96	0.99
2020	3.97	0.02	0.00	0.00	1.00	1.00	1.00	1.00	0.99	1.00
2021	3.98	0.02	0.00	0.00	1.00	1.00	1.00	1.00	0.99	1.00
2022	3.78	0.22	0.00	0.00	0.97	0.97	0.97	0.98	0.94	0.98
2023	3.71	0.29	0.00	0.00	0.96	0.96	0.96	0.96	0.93	0.97
2024	3.66	0.34	0.01	0.00	0.96	0.96	0.96	0.95	0.91	0.97
2025	3.59	0.40	0.00	0.00	0.95	0.95	0.95	0.94	0.90	0.96

community grouping emerging as Highly Engaged in commercial crab harvesting for all years (see Figure 5.2).

Seattle MSA, which consists of Seattle and surrounding satellites and suburbs, has the highest degree of engagement over time, with consistently high index scores in all years from 2000-2025. Historically, Kodiak had high engagement scores, but since 2010 has had engagement scores below the high-engagement threshold. The relative decrease in engagement indices suggests fluctuations in U.S. crab fisheries participation. Anchorage's index scores rose from 2000 onward, peaking in 2015. Since 2016, however, Anchorage's engagement score has remained below the highly-engaged threshold. Nome for the first time was a highly engaged crab FMP harvesting community in 2022, and continued to be highly engaged through 2025.

5. Community Participation in North Pacific Crab Fisheries

Table 5.2.: Index scores of communities highly engaged in commercial Harvesting of Crab for at least one year from 2000 - 2025. Darker shading indicates higher numbers of years at a particular engagement level.

Community	2021	2022	2023	2024	2025
Anchorage					
BBR	Low	-	Medium-High	Medium-High	Medium-High
BSS	Medium-High	High	-	-	High
BST	Medium-High	High	High	High	Medium
NSR	-	Low	Low	Low	Low
All Crab	Medium-High	Medium-High	Medium-High	Medium	Medium-High
Kodiak					
BBR	Low	-	Medium	Medium	Medium-High
BSS	Medium	Medium	-	-	Medium
BST	Low	Low	Low	Low	Low
NSR	-	Low	Low	Medium	Medium
All Crab	Medium-High	Medium	Medium	Medium	Medium
Nome					
NSR	-	High	High	High	High
All Crab	Low	High	High	High	High
Seattle MSA					
BBR	High	-	High	High	High
BSS	High	High	-	-	High
BST	High	High	High	High	High
NSR	-	Low	Low	Low	Low
All Crab	High	High	High	High	High

See Introduction, Broader Context, and Hot Topics for more information on methodology and categorical value ranges.

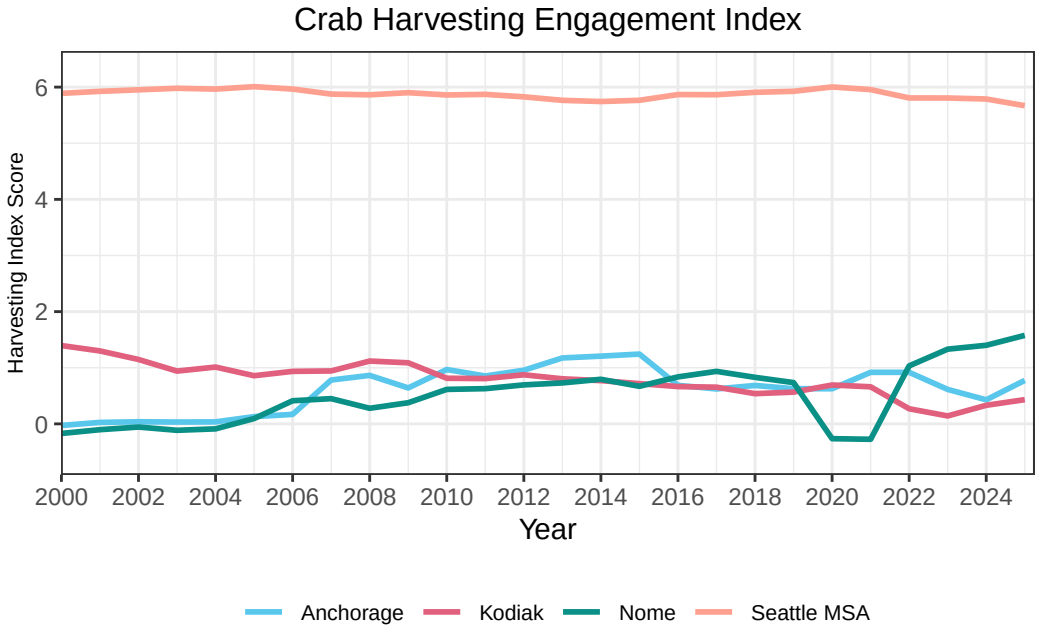


Figure 5.2.: Index scores of communities highly engaged in commercial crab harvest for at least 1 year from 2000-2025

5.0.3. Crab Harvesting Regional Quotient



The Regional Quotient (RQ) of commercial crab harvesting was calculated using vessel owner residency for those vessels participating in BSAI FMP crab fisheries to better understand where revenues from crab harvesting enters local economies. This metric is based on residency of vessel owners with vessels that are active in the fisheries. It is assumed that some portion of revenue gained from participation in the FMP crab fisheries is spent and circulated in the local economy through direct and indirect purchases of goods and services. The harvesting RQ is an indicator of the percentage of revenue from FMP crab from resident vessel owners in a community relative to the total (shore-based and at-sea) revenue across all BSAI crab FMP fisheries.

Figure 5.3 shows the harvesting RQ for BSAI FMP crab revenue from 2000-2025. The Seattle MSA has had the largest share of crab harvesting vessel owners, which had a value-weighted mean of 58.85% over the 2000-2025 period, followed by Anchorage, Kodiak, and Nome at 10.9%, 8.7%, and 0.54%, respectively. However, Kodiak's share has fallen over time from a high of 15.6% in 2000 to a f 4% in 2025. Anchorage's share of crab revenue attributable to vessels owned by residents has increased from 2.52% in 2000 to a peak of 16.18% in 2015 and was 12.29% in 2025. While low on average for the entire time period, Nome's share of crab revenue reached a peak of 2.69% in 2022 and was 1.19% in 2025.

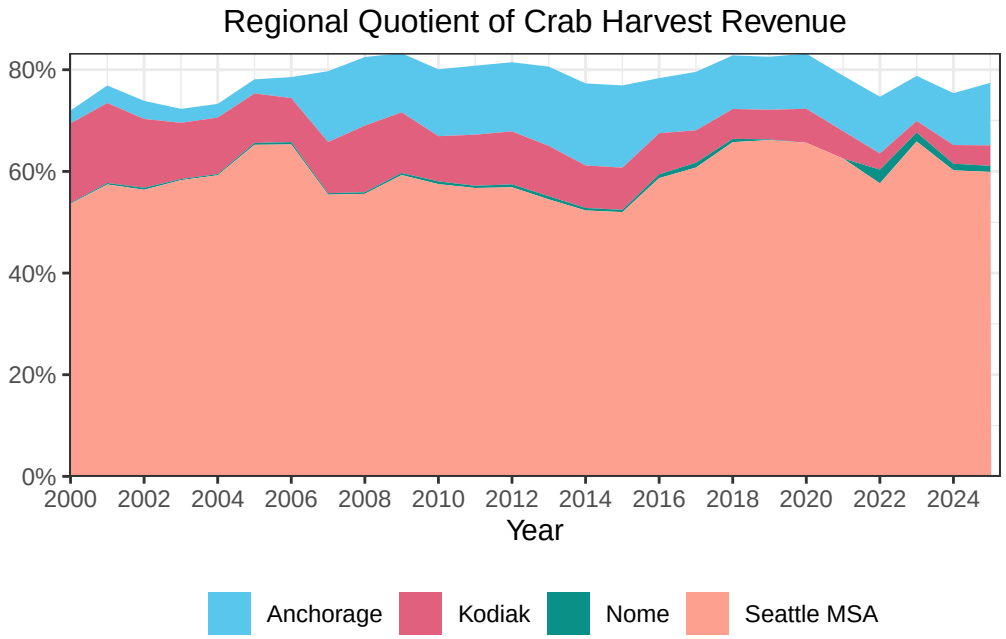


Figure 5.3.: Regional quotient of revenue for communities highly engaged in commercial crab harvesting for any year from 2000-2025

Crew on crab fishing vessels also constitute an important component of crab fishery participants. The distribution of the primary residence of crew participating in Crab Rationalization Program fisheries across highly engaged communities is shown in Figure 5.4 .The share of crew from highly engaged communities averaged 48% over the entire post-Crab Rationalization Period, 2006-2025, but their share has fallen from a high of 55% in 2007 to 40% in 2025, with a notable low of 30% in 2020. It is likely the travel restrictions implemented during the COVID-19 pandemic accounted for most of the difference. Crew from Alaska communities reached a peak in 2020 at 42% while Oregon and Washington had their lowest crew participation rates at 3.6% and 25%, respectively. Participation rates in 2025 declined for Alaska at 30%, increased for Oregon at 13%, and remained relatively stable for Washington at21%.

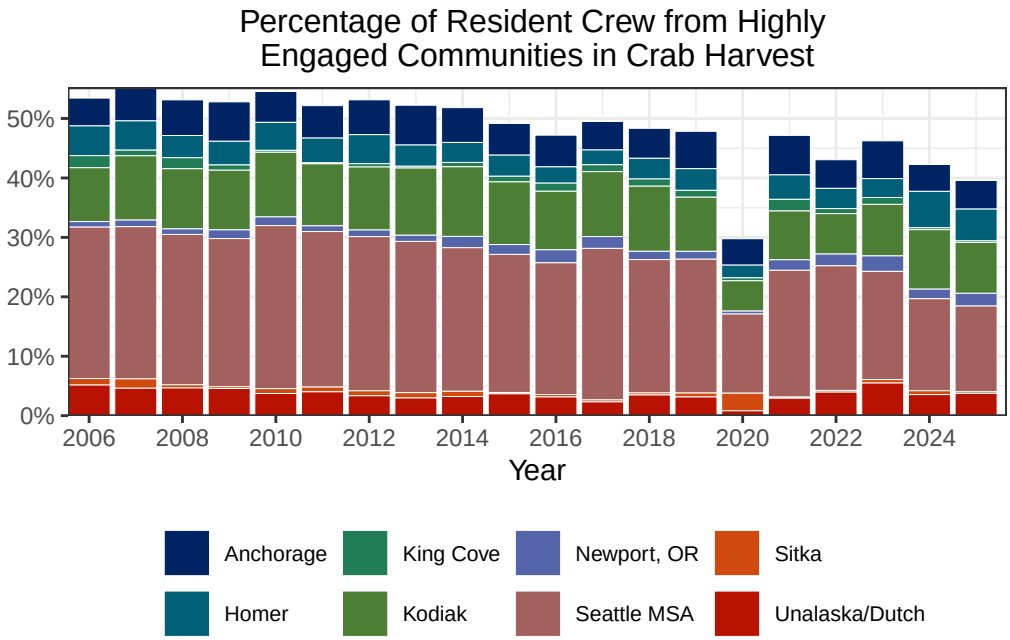


Figure 5.4.: Percentage of crew by residence for top communities participating in crab harvest from rationalized crab fisheres in the BSAI, 2006-2025

5.0.4. Commercial Crab Processing Engagement

The results of the aggregate commercial crab processing engagement PCFA analyses are shown in Table 5.3, which presents the eigenvalues, factor loadings, total variance explained, and Armor's theta reliability coefficient (Armor, 1974) for all of the variables included in each PCFA. The results suggest very strong relationships among variables and that a single index based on the first extracted factor explains over 82% of the variation in each of the variables in each year. In addition to the goodness of fit statistics of the analyses provided in Table 5.3, each PCFA provides an index score for each of the communities included in the analyses.

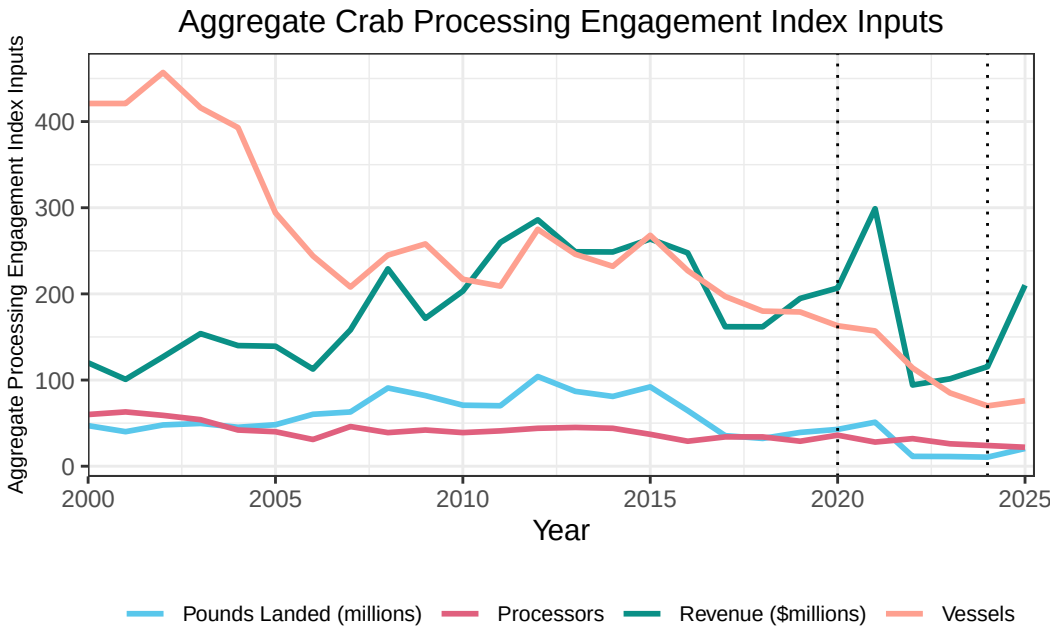


Figure 5.5.: Aggregate annual Crab Processing Engagement Index inputs. Dotted lines indicate the previous 5 year period (2020 - 2024)

These index scores, in addition to species-specific commercial crab processing indices, are presented in 5.4 for the 6 communities or groupings that were highly engaged (index score above one, which is one standard deviation above the mean of zero) in aggregate commercial crab processing for at least one year from 2000-2025. To avoid confusion, select species-specific commercial crab processing indices were excluded for communities that do not process the corresponding species. Also, for years and species combinations with crab closures, no species-specific indices were calculated (indicated with a "-"). Cells indicating high engagement are shaded in 5.4. The index is a relative indicator of community participation compared to the participation of all other communities that process BSAI FMP crab.

To better understand the absolute changes in BSAI FMP crab processing over time, Figure 5.5 displays the aggregate annual values of the four variables that make up the processing engagement index for each year. Aggregate revenues in 2025 were up 28.6% compared to the 2020-2024 average, while pounds landed were down 19.1%. Similarly, the number of active crab vessels and crab vessel owners were down 35.5% and 24.7%, respectively, in 2025 compared with their 2020-2024 average.

Table 5.3.: Commercial processing engagement PCFA results in BSAI crab (2000-2025)

	Eigenvalues				Factor Loadings					
Year	1	2	3	4	Ex-vessel value	Pounds landed in community	Number vessels delivering	Number of processors	Percent variance explained	Armor's Theta
2000	3.47	0.50	0.02	0.01	0.98	0.97	0.99	0.76	0.87	0.95
2001	3.28	0.66	0.04	0.02	0.97	0.96	0.99	0.66	0.82	0.93
2002	3.39	0.55	0.03	0.02	0.97	0.95	0.99	0.76	0.85	0.94
2003	3.51	0.46	0.02	0.01	0.98	0.97	0.99	0.80	0.88	0.95
2004	3.58	0.39	0.03	0.01	0.98	0.97	0.99	0.84	0.90	0.96
2005	3.53	0.42	0.05	0.01	0.98	0.96	0.98	0.82	0.88	0.96
2006	3.67	0.20	0.11	0.02	0.98	0.97	0.96	0.92	0.92	0.97
2007	3.55	0.41	0.03	0.01	0.97	0.94	0.98	0.87	0.89	0.96
2008	3.56	0.36	0.07	0.01	0.98	0.95	0.98	0.86	0.89	0.96
2009	3.72	0.21	0.06	0.02	0.98	0.97	0.98	0.93	0.93	0.97
2010	3.58	0.35	0.06	0.02	0.97	0.94	0.98	0.89	0.89	0.96
2011	3.74	0.17	0.08	0.01	0.98	0.97	0.97	0.95	0.94	0.98
2012	3.74	0.22	0.03	0.01	0.98	0.97	0.99	0.93	0.93	0.98
2013	3.61	0.34	0.04	0.01	0.96	0.97	0.98	0.89	0.90	0.96
2014	3.55	0.39	0.05	0.01	0.96	0.95	0.97	0.88	0.89	0.96
2015	3.67	0.31	0.02	0.01	0.97	0.95	0.98	0.93	0.92	0.97
2016	3.77	0.18	0.04	0.01	0.98	0.97	0.96	0.97	0.94	0.98
2017	3.60	0.29	0.09	0.02	0.97	0.94	0.94	0.94	0.90	0.96
2018	3.56	0.36	0.07	0.01	0.96	0.94	0.95	0.92	0.89	0.96
2019	3.75	0.17	0.07	0.01	0.98	0.97	0.96	0.96	0.94	0.98
2020	3.77	0.16	0.06	0.01	0.99	0.99	0.96	0.94	0.94	0.98
2021	3.84	0.12	0.04	0.01	0.98	0.99	0.98	0.96	0.96	0.99
2022	3.52	0.44	0.04	0.00	0.95	0.94	0.93	0.94	0.88	0.95
2023	3.58	0.39	0.03	0.00	0.95	0.95	0.94	0.95	0.89	0.96
2024	3.54	0.43	0.04	0.00	0.95	0.94	0.95	0.92	0.88	0.96
2025	3.56	0.44	0.01	0.00	0.95	0.95	0.96	0.92	0.89	0.96

5. Community Participation in North Pacific Crab Fisheries

Table 5.4.: Index scores of communities highly engaged in commercial Processing of Crab for at least one year from 2000 - 2025. Darker shading indicates higher numbers of years at a particular engagement level.

Community	2021	2022	2023	2024	2025
Akutan					
BBR	Low	-	Medium	Low	Low
BSS	Low	Medium	-	-	Low
BST	Low	Medium	Low	Low	Low
All Crab	Medium-High	High	Medium-High	Low	Low
At-Sea Processor					
BBR	High	-	Medium	Low	Low
BSS	Low	Low	-	-	Low
BST	Low	Low	Low	Low	Low
All Crab	Medium	Medium	Medium	Medium	Low
Dutch Harbor					
BBR	Low	-	High	High	High
BSS	High	High	-	-	High
BST	High	High	High	High	High
All Crab	High	High	High	High	High
King Cove					
BBR	Low	-	Low	Low	Low
BSS	Low	Low	-	-	Low
BST	Medium	Low	Low	Low	Low
All Crab	Medium-High	Medium-High	Medium	Low	Low
Nome					
NSR	High	High	High	High	High
All Crab	Medium	High	High	High	High
Saint Paul					
BBR	Low	-	Low	Low	Low
BSS	High	High	-	-	Low
BST	Low	Low	Low	Low	Low
All Crab	High	High	Low	Low	Low

See Introduction, Broader Context, and Hot Topics for more information on methodology and categorical value ranges.

Of the 6 communities found in 5.4, only Unalaska/Dutch Harbor was highly engaged in commercial crab processing for all years from 2000-2025. St. Paul was highly engaged for all years post-rationalization (2005) through 2022 (excluding 2007, the year it was frozen in and deliveries were made to floating processors) but with the ongoing closure of the Bering Sea snow crab fishery, St. Paul's high engagement score fell from highly engaged to low engagement in 2025. As the sole processing plant in St. Paul primarily focuses on snow crab, the declines in that fishery are having large impacts on municipal and local fisher revenues. Other communities that were highly engaged for some portion of the time period include Akutan (highly engaged in 2022 but not in subsequent years), Nome (highly engaged in 2022 through 2025), At-Sea Processors (not highly engaged since 2015), and King Cove which was only highly engaged in 3 total years: 2005, 2006, and 2016. The At-Sea processing sector scored as highly engaged fairly consistently until 2015 when it declined to just above zero for the past 10 years. Consistently Unalaska/Dutch Harbor has held the highest engagement scores over time, followed by Saint Paul (between 2008 to 2021). Processing engagement indices in Akutan increased, reaching a peak in 2015. Although below the highly-engaged threshold from 2000 to 2012, Nome's relative engagement indices have generally increased over time, with

significant exceptions of a moderate decline in 2016, and more pronounced decline from 2019 to 2021, Nome has been back in the highly engaged processing category again since 2023. Index scores of communities highly engaged for at least one year from 2000-2025 are shown in Figure 5.6.

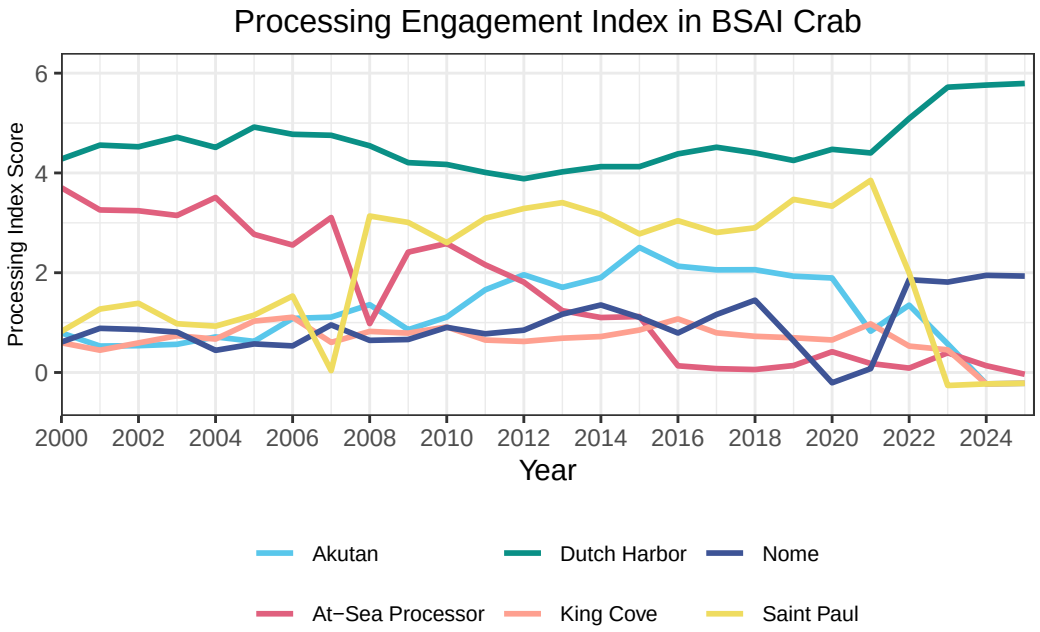


Figure 5.6.: Index scores of communities highly engaged in commercial processing for at least 1 year from 2000-2025

5.0.5. BSAI Crab Processing Regional Quotient

The crab processing regional quotient (RQ) is defined as the share of commercial revenues within a community out of the total BSAI FMP crab revenues. The RQ is an indicator of the percentage contribution in that community relative to the total revenues (including shore-based and at-sea) from all communities. Figure 5.7 shows the BSAI FMP crab processing RQ for revenue from 2000-2025. The most prominent community for processing FMP crab in terms of landing weight and revenue in 2025 was Unalaska/Dutch Harbor, which accounted for 48.5%, on average, of FMP crab ex-vessel revenue historically, but that reached a new high in 2025 at 97.3%.

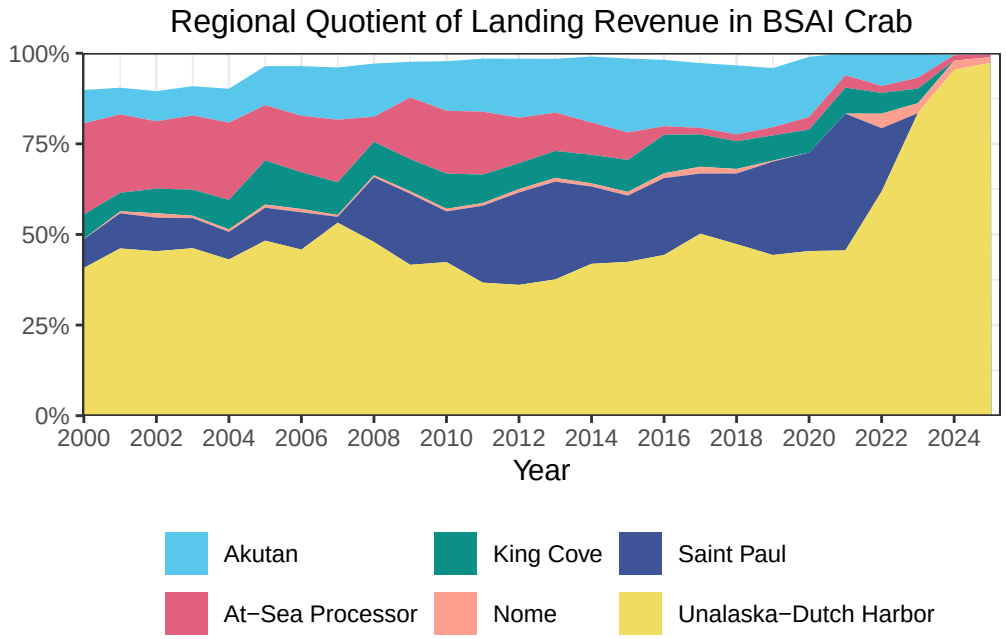


Figure 5.7.: Processing regional quotient of landings revenue for communities highly engaged in commercial crab processing for at least one year from 2000-2025

5.0.6. Participation Summary for FMP Crab Fisheries

Based on the community engagement index scores for both commercial processing and harvesting engagement in the North Pacific crab FMP fisheries, communities were categorized into low (index scores below the mean of 0), medium (index scores between 0 and 0.5), medium-high (index scores between 0.50001 and 1), and high engagement (index scores above 1) for each year. The number of years a community is in each category for the processing and harvesting engagement indices is presented in Table 5.5. There are 20 communities or community groupings in Table 5.5 that had medium, medium-high, or high engagement in either harvesting or processing engagement and 9 communities were highly engaged in one aspect of FMP crab fisheries in any year from 2008-2025. There were 6 communities that were highly engaged in processing engagement and 4 that were highly engaged in harvesting engagement for at least one year from 2008-2025. For 2025, the Seattle MSA continues to dominate the crab harvesting engagement index while Dutch Harbor has increased it's already large crab processing engagement index as a result of the closure of the Bering Sea snow crab fishery and associated landings in St. Paul.

5.0.7. Crab Fishery Taxes

Taxes generated by fisheries are important revenue sources for communities, boroughs, and the State. There are two main sources of fishery taxes in Alaska: shared taxes administered through the State of Alaska, and municipal fisheries taxes independently established and collected at select municipalities. See the Groundfish Fishery Taxes subsection of the Community Participation in North Pacific Groundfish Fisheries above for an overview of the structure and administration of state and municipal fishery taxes in the State of Alaska.

Table 5.5.: Number of years by processing engagement level for all commercial fisheries. Alaska communities not listed had low FMP crab processing and harvesting engagement in all years (2000-2025). Darker shading indicates higher numbers of years at a particular engagement level.

	Harvesting Engagement				Processing Engagement			
Community	Low	Medium	Medium-High	High	Low	Medium	Medium-High	High
Adak	26	0	0	0	16	10	0	0
Akutan	26	0	0	0	2	0	9	15
All Other States	22	4	0	0	26	0	0	0
Anchorage	1	7	15	3	26	0	0	0
At-Sea Processor	26	0	0	0	1	9	1	15
Dutch Harbor	26	0	0	0	0	0	0	26
Golovin	22	4	0	0	26	0	0	0
Homer	6	20	0	0	26	0	0	0
Hood River	17	9	0	0	26	0	0	0
King Cove	26	0	0	0	2	2	19	3
Kodiak	0	4	16	6	5	18	3	0
Lincoln	0	26	0	0	26	0	0	0
Nome	7	5	10	4	1	2	14	9
Other Oregon	2	24	0	0	26	0	0	0
Other Washington	5	21	0	0	26	0	0	0
Saint Paul	26	0	0	0	3	1	3	19
Seattle Msa	0	0	0	26	26	0	0	0
Shaktoolik	19	7	0	0	26	0	0	0
Unalakleet	12	13	1	0	24	2	0	0
Wasilla	21	5	0	0	26	0	0	0

For the Alaska communities identified as highly engaged in commercial harvest or processing of crab from 2000-2025, Figure 5.8 shows fishery-related tax revenue from municipal and shared taxes from 2012-2025. Unalaska consistently brings in the most fishery related tax revenue through the Fishery Business and Fishery Landing taxes and municipal raw fish tax. Unalaska experienced over a $4 million loss of fishery tax revenue from 2016 to 2017, but increased between 2018 and 2020 and between 2021 and 2023, recovering approximately $2 million of that loss. Another loss of $2.5 million in fishery tax revenue occurred in 2024, but it rebounded slightly in 2025. Akutan was entirely dependent on fishery tax revenue until 2017, when the community implemented a 1.5% sales tax, and ceased the municipal raw fish tax. Saint Paul did not report a raw fish tax in 2013 or 2015.

5.0.8. School Enrollment in Crab Communities

School enrollment trends can provide information on community wellbeing. Public schools offer a space for people to gather and participate in community events and shared wellbeing, particularly in rural areas with limited infrastructure. Schools provide public resources such as libraries, internet access, and other facilities that benefit the greater community. Schools with declining enrollment may indicate population outmigration, a declining tax base, or shifts in employment opportunities.

Figure 5.9 presents annual K-12 school enrollment from 2008-2003 for the seven Alaska communities highly engaged in FMP crab fisheries in the North Pacific (including those in harvesting and/or

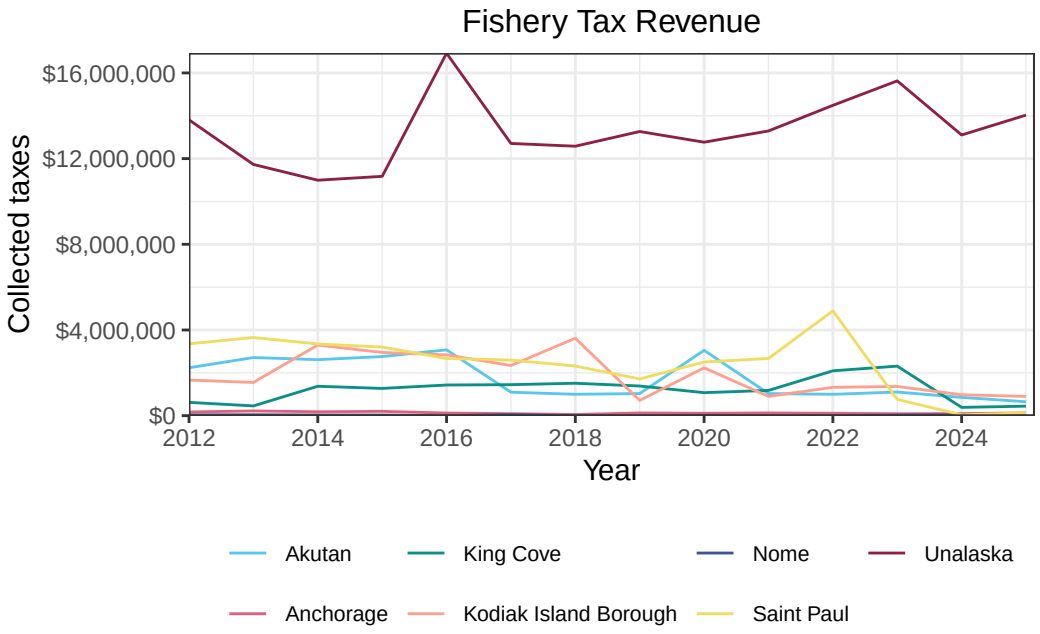


Figure 5.8.: Fishery tax revenue for highly engaged fishing communities in FMP Crab Fisheries from 2012-2025. Includes only Alaskan communities; excludes data associated with at-sea landings. Kodiak tax data were not reported in 2021. Kodiak includes borough-level tax data.

processing).

Over these seven communities combined, there has been a 14% decrease in total enrollment, representing a decline of 7,413 students, between 2008-2025. Communities with declining student enrollment between 2008 and 2025 include: Saint Paul (–55%), Anchorage (-18%), Kodiak (-24%), King Cove (-46%), Unalaska (-13%). Saint George Island school closed in 2018, leaving Saint Paul's school the only remaining school in the Pribilof Islands.

Akutan's student enrollment went up by 129%, from 7 in 2008 to 16 in 2025, and Nome's enrollment went down by -1%. It should be noted that Akutan has very low student enrollment numbers, with a maximum of 24 students in any year from from 2008 to 2025.

In general, there have been important declines in school enrollment for most of the communities rated as highly engaged in Alaska FEP crab fisheries. Additional research is needed to better understand the causes of these declines, as well as the enduring effects of the COVID pandemic on school enrollment.

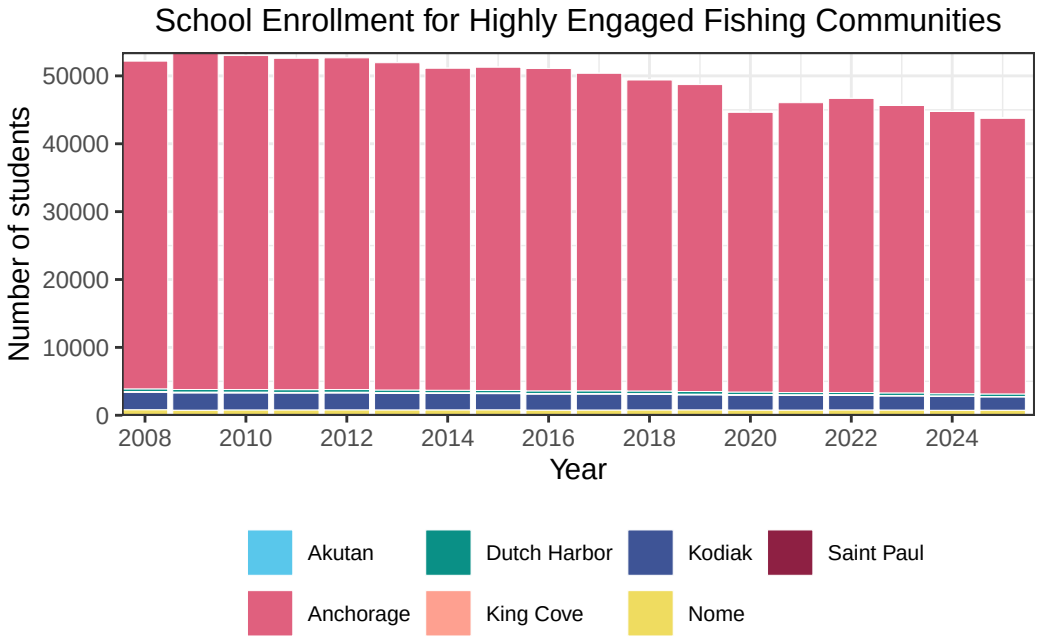


Figure 5.9.: K-12 public school enrollment for highly engaged crab communities combined (either harvesting or processing from 2008-2025

6. Alaska Recreational Fisheries

Sport fishing in Alaska provides an important source of income, culture, and food security for resident anglers as well as an important source of tourism revenue from resident and non-resident anglers. These sport anglers fish in both fresh and saltwater using guides, charters, and on their own primarily for salmon (freshwater) and halibut (saltwater). Saltwater recreational anglers alone account for more than 1 million fishing days per year and anglers on charter fishing trips in Alaska catch about half of the approximately 500,000 Pacific salmon and 350,000 halibut harvested by all saltwater anglers in Alaska each year.[1]

6.0.1. Alaska Community Recreational Fishing Engagement

Data were collected for 292 communities or community groupings throughout the U.S. to create performance metrics of community participation in Alaska recreational fisheries from 2003 through2025. Communities were included if they had some amount of sport fishing licenses sold in the community, sportfishing guides, sport fishing businesses, or residents that held sport fishing licenses during this time period.



The recreational engagement index is a relative indicator of community participation compared to the participation of all other communities that participate in recreational fisheries in Alaska. It measures the presence of recreational fishing participation through the number of residents who hold sport fishing licenses, the number of sport fishing licenses sold within the community, the number of sport fishing guide businesses, and the number of sport fishing guides in the community. These four metrics were analyzed with Principal Component Factor Analysis (PCFA) and the resulting factor loadings were used to generate a single recreational engagement index score for each community in each year between 2003 and 2025.

The results of the recreational engagement PCFA analyses are shown in Table 6.1, which presents the eigenvalues, factor loadings, total variance explained, and Armor's theta reliability coefficient cited for all variables. The results suggest moderately strong relationships among variables, and that a single index based on the first extracted factor explains over 68% of the variation in each of the variables in each year. Figure 6.1 displays the aggregate annual values of the four variables

[1] National Oceanic and Atmospheric Administration. (2019, June 3). *Alaska's valuable recreational fishing industry.* NOAA Fisheries. Retrieved November 15, 2024, from https://www.fisheries.noaa.gov/feature-story/alaskas-valuable-recreational-fishing-industry

that make up the recreational engagement index for each year to better understand the absolute changes in North Pacific recreational fishing activities that are underlying the relative recreational engagement index. The total number of sport fishing licenses sold to Alaska residents was down -14.5% despite total sportfishing licenses sold in Alaska communities increasing by 13.7% in 2025 compared with their 2020-2024 average. There was also a modest decline in sport fishing businesses by -19.5%, which employed -9.88% sport fishing guides in 2025 compared with their 2020-2024 average.

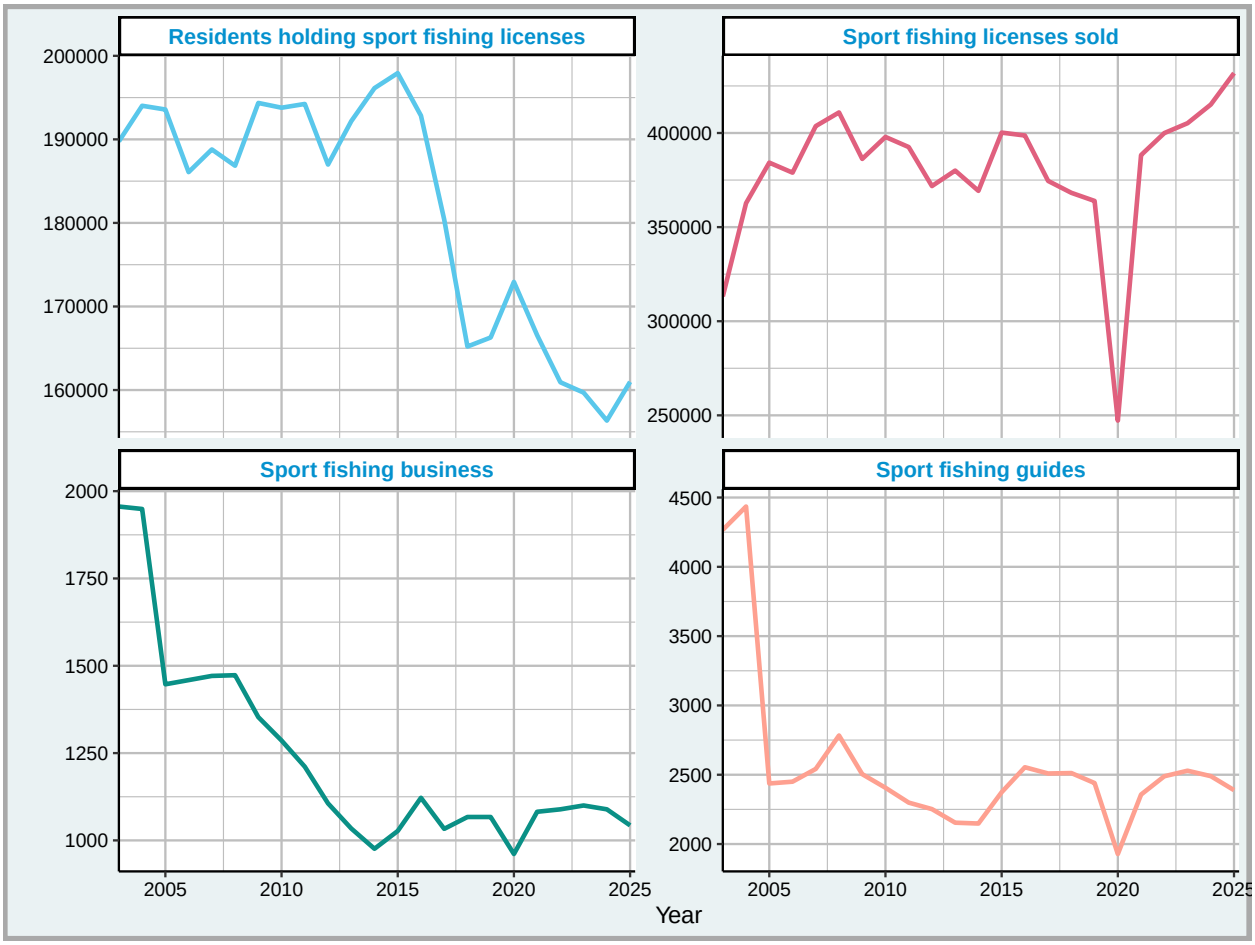


Figure 6.1.: Aggregate annual recreational engagement index inputs.

In addition to the goodness of fit statistics of the analyses provided in Table 6.1, each PCFA provides an index score for each of the 292 communities included in the recreational engagement analyses. Based on the community engagement index, communities were categorized into low (index scores below the mean of 0), medium (index scores between 0 and 0.5), medium-high (index scores between 0.50001 and 1), and high engagement (index scores above 1) for each year. Table 6.2 displays recreational engagement index results for the 15 communities that were highly engaged in recreational fishing for at least one year between 2003-2025. The number of years a community is in each category for the recreational engagement indices is presented here in Table 6.3

6. Alaska Recreational Fisheries

Table 6.1.: Recreational engagement PCFA results 2003-2025

	Eigenvalues				Factor Loadings					
Year	1	2	3	4	Sport fishing licenses sold	Sport fishing guides	Sport fishing business	Residents holding sport fishing licenses	Percent variance explained	Armor's Theta
2003	3.82	0.16	0.02	0.00	0.99	0.99	0.97	0.95	0.95	0.98
2004	3.81	0.15	0.03	0.01	0.99	0.99	0.97	0.95	0.95	0.98
2005	3.62	0.33	0.04	0.01	0.98	0.98	0.95	0.90	0.90	0.96
2006	3.54	0.38	0.06	0.01	0.97	0.97	0.94	0.88	0.89	0.96
2007	3.50	0.38	0.11	0.01	0.95	0.97	0.94	0.88	0.88	0.95
2008	3.48	0.38	0.13	0.01	0.95	0.97	0.94	0.87	0.87	0.95
2009	3.47	0.39	0.13	0.01	0.94	0.97	0.93	0.87	0.87	0.95
2010	3.46	0.40	0.13	0.01	0.94	0.97	0.93	0.87	0.86	0.95
2011	3.41	0.43	0.15	0.01	0.93	0.97	0.93	0.86	0.85	0.94
2012	3.45	0.36	0.18	0.01	0.92	0.97	0.93	0.88	0.86	0.95
2013	3.39	0.41	0.20	0.01	0.91	0.97	0.93	0.87	0.85	0.94
2014	3.36	0.37	0.27	0.01	0.89	0.97	0.93	0.87	0.84	0.94
2015	3.34	0.36	0.29	0.01	0.85	0.98	0.94	0.88	0.84	0.93
2016	3.27	0.44	0.27	0.02	0.81	0.98	0.95	0.88	0.82	0.93
2017	3.12	0.57	0.29	0.02	0.73	0.97	0.94	0.87	0.78	0.91
2018	3.03	0.62	0.33	0.02	0.70	0.97	0.93	0.85	0.76	0.89
2019	3.02	0.67	0.30	0.01	0.66	0.98	0.93	0.86	0.75	0.89
2020	2.83	0.83	0.33	0.01	0.49	0.98	0.94	0.87	0.71	0.86
2021	2.83	0.86	0.29	0.02	0.45	0.98	0.95	0.88	0.71	0.86
2022	2.80	0.89	0.29	0.02	0.41	0.98	0.95	0.88	0.70	0.86
2023	2.77	0.89	0.33	0.01	0.41	0.99	0.94	0.86	0.69	0.85
2024	2.76	0.91	0.32	0.01	0.37	0.99	0.94	0.87	0.69	0.85
2025	2.72	0.91	0.35	0.02	0.39	0.98	0.94	0.85	0.68	0.84

6. Alaska Recreational Fisheries

Ten of the 15 community groupings listed in Table 6.2 were Highly Engaged in recreational fishing in all years from 2003-2025 : Anchorage, Fairbanks, Homer, Juneau, Ketchikan, Kodiak, Sitka, Soldotna, and Wasilla. Kenai and Seward have been highly engaged for all years after 2003 and 2004, respectively. The other communities that were highly engaged in at least one year over this period include Palmer, Craig, Cooper Landing, and Ninilchik. Anchorage has by far the highest degree of engagement over time. Aside from Anchorage, Soldotna and Juneau have the highest engagement scores over time. Between 2024 and 2025, Petersburg and Ninilchik moved up from Medium engagement to Medium-High engagement and Dillingham and Delta Junction moved up from Low to Medium engagement. All other communities were unchanged from their 2024 categories (Figure 6.2).

6. Alaska Recreational Fisheries

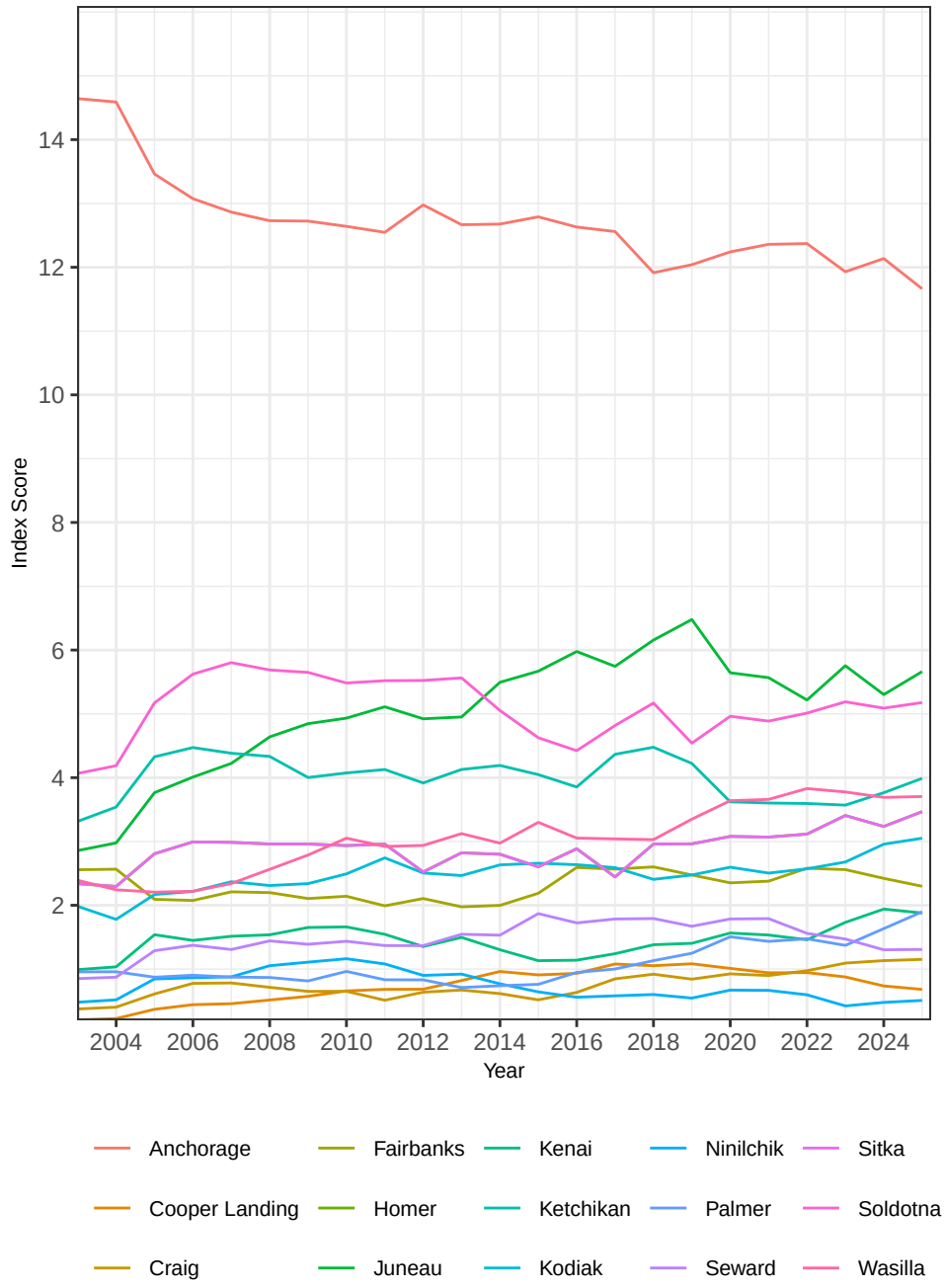


Figure 6.2.: Index scores of communities highly engaged in recreational fishing for at least 1 year from 2003-2025

6. Alaska Recreational Fisheries

Table 6.2.: Index scores of communities highly engaged in recreational fishing 2003 - 2025. Shaded cells are index scores above one (one standard deviation above the mean of zero) for at least one year 2003 - 2025.

Community	2021	2022	2023	2024	2025
Anchorage	High	High	High	High	High
Cooper Landing	Medium-High	Medium-High	Medium-High	Medium-High	Medium-High
Craig	Medium-High	Medium-High	High	High	High
Fairbanks	High	High	High	High	High
Homer	High	High	High	High	High
Juneau	High	High	High	High	High
Kenai	High	High	High	High	High
Ketchikan	High	High	High	High	High
Kodiak	High	High	High	High	High
Ninilchik	Medium-High	Medium-High	Medium	Medium	Medium-High
Palmer	High	High	High	High	High
Seward	High	High	High	High	High
Sitka	High	High	High	High	High
Soldotna	High	High	High	High	High
Wasilla	High	High	High	High	High

See Introduction, Broader Context, and Hot Topics for more information on methodology and categorical value ranges.

6. Alaska Recreational Fisheries

There are 53 communities or community groupings in Table 6.3 that had medium, medium-high, or high engagement in recreational fishing in Alaska for at least one year from 2003 through 2025, while only 15 communities were highly engaged in recreational fisheries in any year from 2003 to 2025. A total of 9 communities were highly engaged in all years over this period.

Table 6.3.: Number of years by engagement level for all recreational fisheries. Alaska communities not listed had low recreational engagement in all years (2003-2025). Darker shading indicates higher numbers of years at a particular engagement level.

	Low	Medium	Medium-High	High
Anchor Point	0	19	4	0
Anchorage	0	0	0	23
Angoon	20	3	0	0
Aniak	21	2	0	0
Bethel	19	4	0	0
Big Lake	22	1	0	0
Cooper Landing	0	5	14	4
Copper Center	7	16	0	0
Cordova	0	23	0	0
Craig	0	2	18	3
Delta Junction	14	9	0	0
Dillingham	3	20	0	0
Eielson Air Force Base	22	1	0	0
Elfin Cove	14	9	0	0
Fairbanks	0	0	0	23
Glennallen	21	2	0	0
Gustavus	1	22	0	0
Haines	0	23	0	0
Homer	0	0	0	23
Hoonah	4	19	0	0
Iliamna	10	13	0	0
Juneau	0	0	0	23
Kasilof	0	15	8	0
Kenai	0	0	1	22
Ketchikan	0	0	0	23
King Salmon	0	4	19	0
Klawock	0	23	0	0
Kodiak	0	0	0	23
Larsen Bay	16	7	0	0
Nikiski	8	15	0	0
Ninilchik	0	3	16	4
North Pole	0	9	14	0
Old Harbor	22	1	0	0
Palmer	0	0	14	9
Pelican	16	7	0	0
Petersburg	0	14	9	0
Port Alsworth	11	12	0	0
Port Lions	14	9	0	0
Seward	0	0	2	21
Sitka	0	0	0	23
Skagway	22	1	0	0
Skwentna	12	11	0	0
Soldotna	0	0	0	23
Sterling	0	0	23	0
Talkeetna	0	23	0	0
Thorne Bay	1	22	0	0

6. Alaska Recreational Fisheries

(continued)

	Low	Medium	Medium-High	High
Two Rivers	22	1	0	0
Valdez	0	1	22	0
Wasilla	0	0	0	23
Whittier	22	1	0	0
Willow	0	23	0	0
Wrangell	0	23	0	0
Yakutat	0	9	14	0

Part III.

Community Sketches

for FMP Crab and Groundfish Fisheries



Twelve communities were identified as being *Highly Engaged* in the North Pacific FMP groundfish and crab fisheries (in the harvesting sector, processing sector, or both) for at least one year from 2008-2025: Akutan, King Cove, Sand Point, Homer, Kodiak Island, Nome, Petersburg, the Seattle MSA, Sitka, Seward, St. Paul, and Unalaska. In the following section, detailed sketches provide an overview of how these communities differ geographically, historically, culturally, economically, and demographically. The purpose of the Community Sketches is to: 1) present a detailed snapshot of the communities with sustained and substantial engagement in Alaska FMP crab and groundfish fisheries; and 2) show linkages among social, economic, and policy processes to inform management decisions. By identifying key social and economic trends, these sketches can inform decision-making in federally managed fisheries.

Seattle MSA (defined as King, Pierce, and Snohomish counties of Washington, including: Seattle, Tacoma, Everett, and Bellevue) and Anchorage were rated as Highly Engaged; however, as major cities, both are involved in multiple industries and are distinct from smaller, more remote fisheries dependent communities. Seattle MSA was added in 2022 to the Community Sketches in an effort to capture the role of Alaska fisheries within the Seattle MSA.

The sketches are updated annually and additional communities of interest may be developed and presented according to decision-making needs. Given the aim of the Community Sketches, it was necessary to modify the constraints of the information slightly for certain communities. The engagement indices identified Kodiak City as one of the substantially engaged communities; however, the choice was made to include the greater Kodiak Island borough in the community sketch in

order to give attention to the close economic, social, and governance linkages among Kodiak Island communities. Finally, due to confidentiality concerns we do not present fishing data for Akutan, King Cove, and Sand Point. For that reason, the Akutan, Sand Point, and King Cove sketches provide information on each community, but do not present.

Note on Tax Data

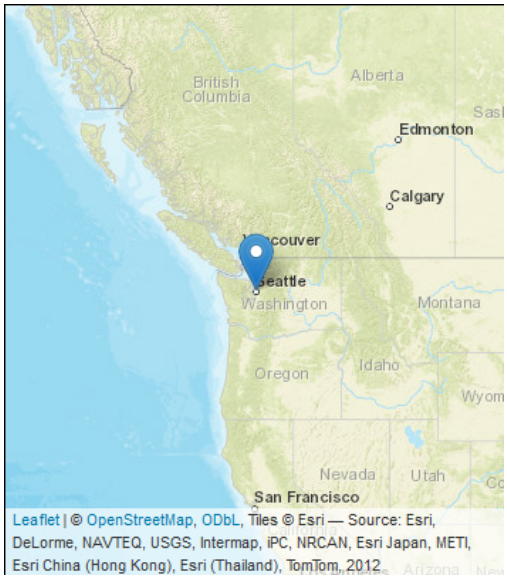
In the "Current Economy" section of the community sketches, we present ***municipal tax*** *data as reported in the Alaska Taxable 2025 report,*[2] *as well as* ***shared fisheries-related taxes*** *reported by the State of Alaska Fiscal Year 2025 Shared Taxes and Fees Annual Report.*[3] *Municipal taxes as presented in the sketches include property tax, sales tax, raw fish taxes, and "other taxes", which include bed tax, alcohol tax, among other taxes. It should be noted that some municipalities include raw fish taxes in their sales taxes and do not report these separately in the Alaska Taxable report; in these cases, we are unable to extrapolate these raw-fish taxes without the capacity to groundtruth the reported data. Additionally, municipal raw fish taxes are sometimes collected at the borough level—for example, in the Aleutians East Borough. Total values of fisheries-related taxes–the sum of shared fisheries business, shared fisheries landing, and municipal raw fish taxes, where these are reported separately from sales tax—are included in the* Current Economy *section, and comparisons between these total values across communities can be found in the* Fishery Tax *sections of the earlier chapters on community participation in North Pacific groundfish and crab fisheries. Aleutians East Borough and Kodiak Island Borough both receive revenue from shared fisheries taxes, in addition to member communities also receiving disbursements from the shared revenue program.*

[2] Alaska Department of Commerce, Community, and Economic Development. (2026). Alaska Taxable 2025. Juneau, AK: Alaska Division of Community and Regional Affairs. Retrieved from https://dcra-cdo-dcced.opendata.arcgis.com/datasets/taxes-all-locations/explore?location=17.597377%2C-77.920424%2C2&showTable=true

[3] Alaska Department of Revenue, Tax Division. (2025). Fiscal Year 2025 Shared Taxes and Fees Annual Report. Retrieved fromhttps://tax.alaska.gov/programs/programs/reports/AnnualReport.aspx?Year=2025

7. Seattle MSA

7.0.0.1. Area Description & History



The Seattle Metropolitan Statistical Area (Seattle MSA) is an urban conglomeration in Washington state comprising the state's three most populous counties—King, Pierce, and Snohomish—and includes the Pacific Northwest's largest city, Seattle. Seattle's Indigenous history spans thousands of years of Coast Salish stewardship. The Duwamish people (dx dəw abš, "People of the Inside") have lived in the Elliott Bay watershed and surrounding areas of present-day King County since time immemorial.[1] The area has long had a vital role in Alaska commercial fisheries, with approximately 75% of Alaska's commercial fishing vessels mooring, docking, and conducting repairs in Seattle. Before Seattle and its suburbs became home to a technology industry, logging was its first major industry. Later in the 19th century, the city became the gateway to Alaska with newfound commercial and shipbuilding industries. For over 100 years, commercial fishers in Seattle have traveled to work and fish in Alaska waters.[2] Commercial fishermen use the three core facilities in the Port of Seattle including Fishermen's Terminal, Maritime Industrial Center, and Terminal 91.[3]

7.0.0.2. Demographics

We attempted to isolate data used to the Seattle MSA to the degree possible; however, in some cases, accessible datasets were based on the broader Puget Sound Region because of the strong social and economic linkages across the region. With a population just over 4 million, the Seattle MSA is the largest community in Washington state and supports Alaska fisheries through supplying crew, captains, support businesses, and vessels. On average from 2020-2024, the Seattle MSA had a median household income of $115,177 and had approximately 1.7M housing units.

[1] https://www.duwamishtribe.org/history
[2] Ott, J. (2017, December 1). Fishermen's Terminal (Seattle). HistoryLink.org Essay 20488. Retrieved November 14, 2024 from https://www.historylink.org/file/20488.
[3] Swift, C. (2025). Five Fast Facts about Commercial Fishing. Port of Seattle. Accessed November 7 , 2026 from https://www.portseattle.org/blog/five-fast-facts-about-commercial-fishing

7. Seattle MSA

Demographics	
Population	754,195
Median household income	123,860
Housing units	393,918
Percentages	
Male	50.9%
Female	49.1%
White	60.3%
American Indian or Alaska Native	0.6%
Black or African American	6.5%
Asian	17.6%
Native Hawaiian or Pacific Islander	0.2%
Hispanic or Latino	7.8%
Below poverty line	9.9%
High school diploma or higher	95.9%
Population under 5	4.2%
Population over 18	86.2%
Population over 65	13%

Source:
*US Census Bureau American Community Survey 5-year estimates (2020-2024)

7.0.0.3. Current Economy

Seattle MSA plays an integral role in Alaska commercial fisheries. Seattle is the home port to 275 vessels with 209 (76%) of those involved in fishing Alaska waters for Pollock, Alaskan king crab, groundfish, and salmon.[4] Alaskan fisheries account for an annual harvest greater than all other U.S. states combined, adding more than $1.8 billion dollars in landing revenue annually to the U.S. economy.[5]

A 2023* report by the Northwest Seaport Alliance documented the Seattle MSA's commercial fishing industry supplied 5,800 jobs. Of that, 4,420 individuals worked on fishing vessels, and 3,840 of those fished in Alaskan waters, supporting over $313 million in labor income and $255 million in revenues. In the same year, commercial fishing operations through the Port of Seattle generated $11 million in taxes to Washington State.[6]

To gain understanding of the economic and social linkages between Seattle and Alaska fisheries, the following sections highlight: 1) the seafood processing sector, 2) observer programs, 3) fleet modernization efforts, and 4) shipping operations in the Seattle MSA region. This information can provide information on how communities interact, work to support adaptation and resilience in the face of global change.

* Most recent data available was used.

7.0.0.4. Seafood Processors and Harvesters in Alaskan Fisheries

According to the most recent report, in 2025 34 groundfish and 8 crab processors had headquarters located in the Seattle MSA (including both at-sea and shore-based operations). These company's

[4]NOAA Fisheries Office of Science and Technology, Fisheries Economics of the United States - Data Tool, Available at https://www.fisheries.noaa.gov/foss, Accessed 11/06/2026
[5]https://www.portseattle.org/sites/default/files/2025-10/2025%20Economic%20Impact%20Analysis.pdf
[6]https://www.portseattle.org/page/economic-impact

facilities processed 1.5 billion pounds of groundfish worth $2.1 billion, and 13.21 million pounds of crab worth $186.9 million across all fisheries.[7] In 2023, 75% of Seattle fishing vessels fished in Alaskan waters, and in 2025, 38% of Alaska commercial fisheries' gross earnings was accounted for by Seattle-based harvesters. In order to better understand the social and economic linkages, how these connections may change with climate change, and the localized effects requires continued work with the best available disaggregated data.

7.0.0.5. Observer Programs

In addition to the many Alaska fishing vessels who dock, moor, and conduct repairs in the Seattle MSA, several organizations provide trained observers for Alaska fisheries. These entities operate out of the Seattle MSA with earnings contributing to Washington and the broader Nation's economy. For example, The North Pacific Observer Program (NPOP) began in 1990 to provide observers to vessels participating in Alaska's groundfish fishery. These observers are available year-round to meet industry coverage requirements and Federal mandates.[8] According to the 2023 North Pacific Observer Program Annual Report, Washington-based observer programs operating in Alaska fisheries contributed nearly $17 million to the Washington state economy.[9] The data used here derives from summary statistics from invoices submitted by at least three observer providers to meet confidentiality requirements

7.0.0.6. Fleet Modernization & Maintenance

In addition to processor and observer activities conducted in the Seattle MSA, fleet modernization activities contribute millions of dollars per year to Washington's economy. An estimated $800 million will be spent in fleet modernization activities in the Puget Sound between the years 2017 and 2026[10] contributing to Seattle MSA's fisheries related expenditures.

7.0.0.7. Fishing History & Regulatory Background

For over 100 years, the Seattle fleet has fished Alaskan waters. With immigrants from Scandinavia arriving in the 1880's, these same groups brought their skills in fishing and maritime activities to the Pacific Northwest. The Puget Sound Fisheries Association Committee, which founded Fisherman's Terminal, was composed of primarily Norwegian immigrants.[11] On January 10, 1914, over 200 fishing vessels hailed from Olympia, Washington to Alaska, marking the opening of, "Fishermen's Headquarters," known today as Fishermen's Terminal that is home to a significant North Pacific

[7] Alaska Department of Fish & Game. 2026. Commercial Operator Annual Report. Data provided by AKFIN.

[8] Alaska Fisheries Science Center and Alaska Regional Office. 2024. North Pacific Observer Program 2023 Annual Report. AFSC Processed Rep. 2024-10, 128 p. Alaska Fish. Sci. Cent., NOAA, Natl. Mar. Fish. Serv., 7600 Sand Point Way NE, Seattle WA 98115.

[9] Modernization of the North Pacific Fishing Fleet: Economic Opportunity Analysis. (2016). McDowell Group.https://www.portseattle.org/sites/default/files/2018-03/Fleet%20Modernization%20Final%2011_11.pdf

[10] Forssblad, M. (2001). Norwegians in Seattle and King County. HistoryLink.org Essay 3476.https://www.historylink.org/file/3476.

[11] Port of Seattle. Fishermen's Terminal History.https://www.portseattle.org/page/fishermens-terminal-history

fishing fleet.[12] In the 1960s – 1980s, there was a boom in Alaska fisheries as commercial harvests decreased in other locations, many commercial fishers from other areas ventured into Alaskan waters. Oral history research on fishers residing in the broader Pacific Northwest, who participate in Alaska Federal fisheries, identified factors that led them to engage in Alaska fisheries. These included established social connections, expanded opportunities, sense of adventure, and economic possibilities.[13] Today, two out of three Seattle MSA vessels fish in Alaska.[14]

7.0.0.8. Climate Change Vulnerability & Adaptive Capacity

Due to the distinct nature of the Seattle MSA compared to other highly engaged communities, social indicators and levels of engagement have not been included for Seattle MSA's involvement in Alaska commercial fisheries. Instead, a discussion of the vulnerability and adaptive capacity to climate risk for the Seattle MSA's commercial fishing industry is included here to inform understandings of climate effects on Seattle's economy and coastal infrastructure. Finally, this section highlights several gaps in knowledge necessary to explore the adaptive capacity and climate vulnerability within Seattle MSA fisheries.

The city of Seattle is predicted to get increasingly warmer temperatures and episodes of heatwaves. Drier summers and wetter winters are also expected with increased chances of extreme precipitation events. Sea levels are expected to rise up to nine inches by the 2030s, and storm surges and high tides will periodically increase these levels.[15] The climate driven shifts in distribution and abundance of commercial fisheries in Alaska will likely affect the sustained participation of Seattle MSA in Alaska federal fisheries; however, there is a great deal of uncertainty.

The Port of Seattle has developed $1.6 billion in modernization projects and mitigation measures to address projected climate risks to the port and fisheries operations.[16] These efforts include increased fuel efficiency and improved processing capacity. Approximately 50% of all fleet modernization plans are expected to take place in Puget Sound. Additional research is necessary to inform climate ready fisheries

7.0.0.9. Groundfish Harvesting Engagement - HIGH

Seattle MSA has the highest degree of groundfish harvesting engagement in Alaskan waters over time compared to all fishing communities in this analysis. The volume of groundfish harvest has been relatively stable between 2023 and 2025, but remains below pre-COVID-19 harvest volumes.

[12] Kahrs, Jeffrey. (2015-2018). Commercial Fishermen Oral History Project with commercial fishers in Seattle (Collection Number: 2018.63) Museum of History & Industry, Sophie Frye Bass Library. Seattle, WA.https://archiveswest.orbiscascade.org/ark:/80444/xv988280#dscID

[13] Kahrs, Jeffrey. (2015-2018). Commercial Fishermen Oral History Project with commercial fishers in Seattle (Collection Number: 2018.63) Museum of History & Industry, Sophie Frye Bass Library. Seattle, WA. https://archiveswest.orbiscascade.org/ark:/80444/xv988280#dscID

[14] National Oceanic and Atmospheric Administration (NOAA). (n.d.). Fisheries Monitoring and Analysis Division history. NOAA Fisheries.https://www.fisheries.noaa.gov/alaska/fisheries-observers/fisheries-monitoring-and-analysis-division-history

[15] City of Seattle. (2023, June). City of Seattle's climate vulnerability assessment. Cascadia Consulting Group. Seattle.gov>

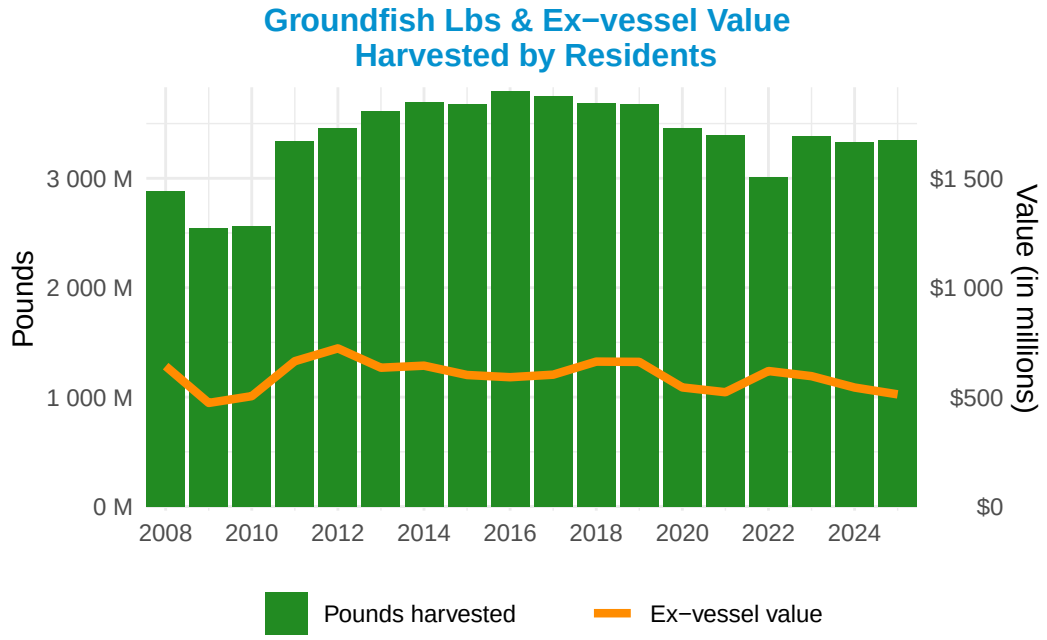
[16] Modernization of the North Pacific Fishing Fleet: Economic Opportunity Analysis. (2016). McDowell Group. https://www.portseattle.org/sites/default/files/2018-03/Fleet%20Modernization%20Final%2011_11.pdf

7. Seattle MSA

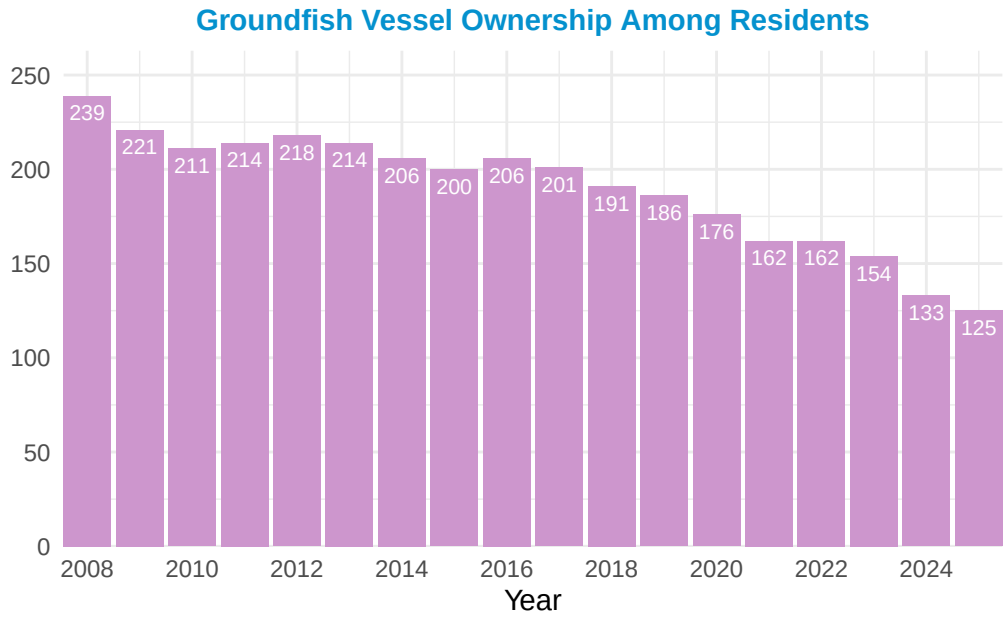
The volume of groundfish harvested reached its peak in 2016 at almost 3.8 million pounds. Groundfish landings increased significantly in 2011 and remained high through 2019 but have declined between 2020 and 2022. This may have been due to the effect of the COVID-19 pandemic on maintaining crew, difficulties with travel, plant closures, and overall safety concerns.

In 2025, the ex-vessel value of groundfish harvested by Seattle owned vessels has remained relatively stable in 2025, having decreased slightly between 2022 and 2024. Seattle experienced an increase in ex-vessel value between 2009 and 2012 but steadily declined until 2016. Between 2017 and 2019, ex-vessel value increased but declined sharply during the beginning of the COVID-19 pandemic.

Alaska Groundfish fishing vessels owned by Seattle MSA residents continues to steadily decline. Between 2021 and 2025, Seattle vessel ownership decreased by 22.8% (down 37 vessels). The number of vessels owned by Seattle MSA residents peaked in 2008, and continued a slight downward trend. The 125 vessels owned by Seattle MSA residents in 2025 reflects a new historical low.



7. Seattle MSA



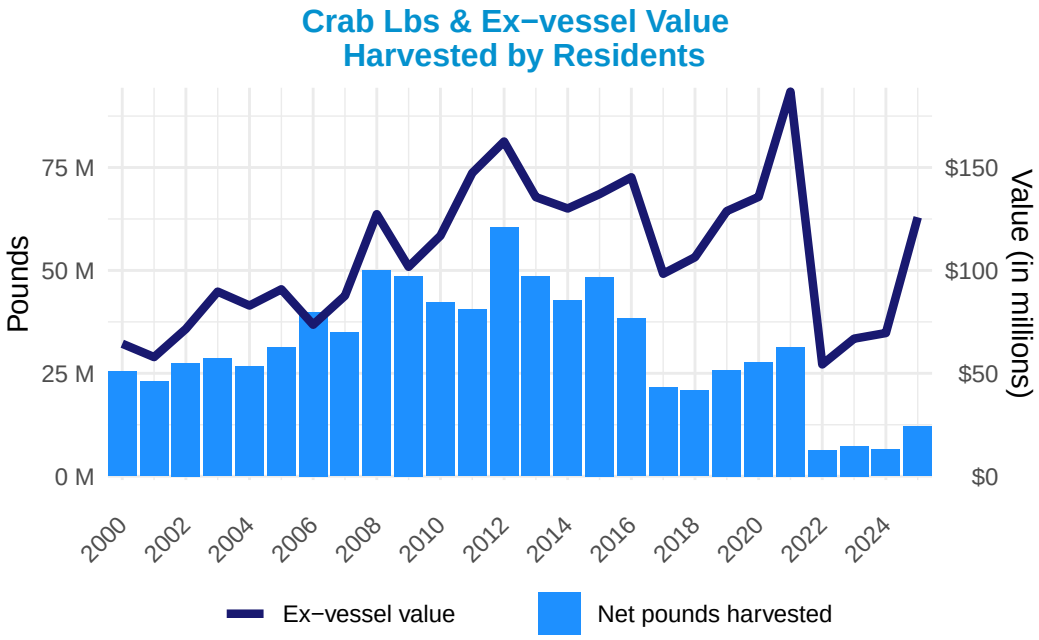
7.0.0.10. Groundfish Processing Engagement - LOW

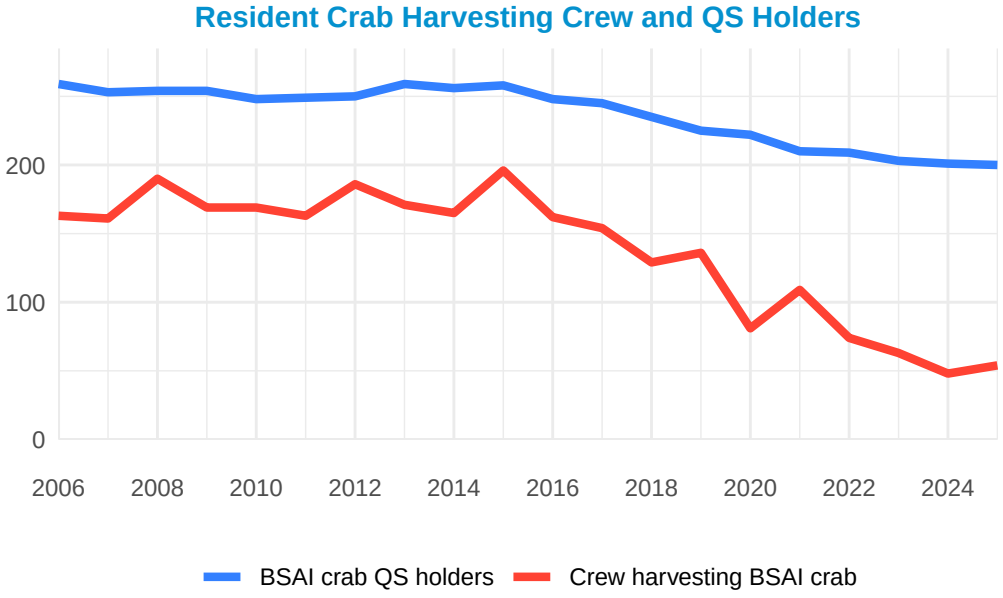
Despite a large number of groundfish processing companies headquartered in the Seattle MSA area, there is not a substantial amount of Alaska groundfish processing activity in Seattle to report as nearly all of the primary processing occurs at plants located in Alaska or at sea

7.0.0.11. Crab Harvesting Engagement - HIGH

Seattle's resident vessels harvesting BSAI crab fisheries saw a significant decline in both harvest volume and value in 2017 when harvest declined by 16.8 million pounds (44%) and $46.9 million (32%) from 2016. Harvest volumes steadily increased through 2021, but remained below 2016 levels. During this time, ex-vessel and first-wholesale prices were relatively high, resulting in historically high ex-vessel crab values. Closures of both Bristol Bay red king crab and Bering Sea snow crab fisheries in 2022 and 2023 dropped harvest and values to record lows. Ex-vessel values increased year-over-year since 2023, with slight increases in harvest volume.

The number of crew residing in Seattle MSA who engage in FMP crab fisheries has decreased steadily since 2015. In 2025, 54 crewmembers resided in Seattle MSA and engaged in the FMP crab fishery, a 17% increase from 2024 levels. Sharp declines in the number of crew began in 2019, likely as a result of travel restrictions associated with the COVID-19 pandemic, with a decrease of 73 crewmembers harvesting BSAI or 53% between 2019 and 2023. This number continued its downward trend through 2024, reaching a historical low (46 crew members). Similarly, Seattle MSA based quota share (QS) holders has been declining since 2015 when it was near its high of 258 QS holders to a new low of 200 in 2025.





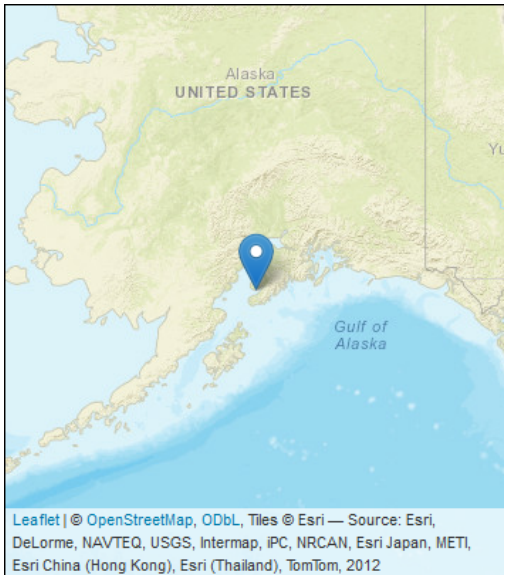
*Includes crew and quota holders in rationalized crab fisheries only

7.0.0.12. Crab Processing Engagement - LOW

Despite a large number of crab processing companies headquartered in the Seattle MSA area, there is not a substantial amount of Alaska crab processing activity in Seattle to report as nearly all of the primary processing occurs at plants located in Alaska or at sea.

8. Homer

8.0.0.1. Area Description & History



Homer is located on the north shore of Kachemak Bay on the southwestern edge of the Kenai Peninsula. This is the traditional territory of the Kenaitze people, a branch of Athabascan Native Peoples who speak Dena'ina. Today, fewer than 100 people speak this language and efforts to preserve it are led by the Tribe's Dena'ina Language and Culture Revitalization Project.[1] Historically, the Kenaitze had summer fish camps along the rivers and shores of Cook Inlet. In 1895, workers from the Alaska Gold Mining Company settled in the area and named the community after Homer Pennock, a gold mining company promoter.[2] Commercial fisheries began in the Cook Inlet in the mid-1800s with salmon and herring. Commercial exploitation of halibut and groundfish first extended into the Gulf of Alaska in the 1920s. The first year-round processing facility in Homer opened in 1954 specializing in frozen king crab and shrimp. The city government was incorporated in March 1964. Today, Homer is located in the Lower Cook Inlet state Fishery Management Area, Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf Federal Sablefish Regulatory Area 1. Homer is in House District 31, Senate District P. Homer was not included under the Alaska Native Claims Settlement Act (ANCSA). The Aleut Ninilchik Native Association is the primary Native Association active in the city.

8.0.0.2. Infrastructure & Transportation

Homer is often referred to as "The End of the Road," because it lies at the terminus of the Sterling Highway. The state owns and operates the Homer Airport, which has an asphalt runway, float plane basin, and a seaplane base at Beluga Lake. The Alaska Marine Highway and local ferry services provide water transportation.[3]

[1] Kenaitze Indian Tribe. (n.d.). *Home.* Kenaitze Indian Tribe. https://www.kenaitze.org/

[2] Armstrong, M. (2014, July 23). *Parks Day: Celebrating early Homer Spit history. Homer News.* https://www.homernews.com/life/parks-day-celebrating-early-homer-spit-history/

[3] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Homer, Alaska.* https://dcced.maps.arcgis.com/apps/MapJournal/index.html?appid=3c2b1529debe4bfdb4babe4038a6db2f

8. Homer

The Army Corps' May 2026 harbor study described increasing commercial and recreational use, severe congestion, inadequate moorage, and access constraints for larger vessels. Homer serves vessels operating throughout Southcentral and Western Alaska, so harbor demand reflects a broader regional fleet and multiple maritime industries.[4]

There are several medical facilities and 12 public schools in the Homer area. In 2026, school enrollment was 1,584 students, up from the historic low in 2020, likely due to the COVID-19 pandemic. likely due to the COVID-19 pandemic.[5] Road and other transportation access,[6] as well as the presence of schools and medical care, ensure that residents have access to necessary services and infrastructure that support community resilience.

8.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

According to the Alaska Department of Labor, Homer's population is currently 5,585. In 2021, population declined by 5.5% before increasing again in 2022. With increases in population, the proportion of the population over 65 has also increased, suggesting that older individuals are moving to Homer while the proportion of young children (under 5 years) is declining. Approximately 76.9%, on average, of the population identified as white between 2020 and 2024, down 3% from the 2010 to 2014 average, while approximately 6% of the population identified as American Indian or Alaskan Native, up 1% from the 2010 to 2014 average.

The percentage of the population 25 years and older with a high school diploma (or equivalent) or higher has remained stable since 2010, with an average of 95.7% of the population having a high school diploma or higher between 2020 and 2024. Additionally, the median household income (in 2024 USD) has remained stable between 2010 (~$69,000) and 2024 (~$74,500). Within this time period, however, the percentage of the population that lives below the poverty line has increased from 8% in 2010 to 11.8% in 2024, suggesting an increase in wealth disparity.

[4] US Army Corp of Engineers. 2025. Homer Navigation Improvements, AK Feasibility Study. Retrieved on 11/6/2026 https://www.poa.usace.army.mil/Portals/34/Update%20Review%20Plan%20Homer.pdf

[5] School enrollment statistics compiled from AK. Dept. of Education & Early Development. http://www.eed.state.ak.us/stats/

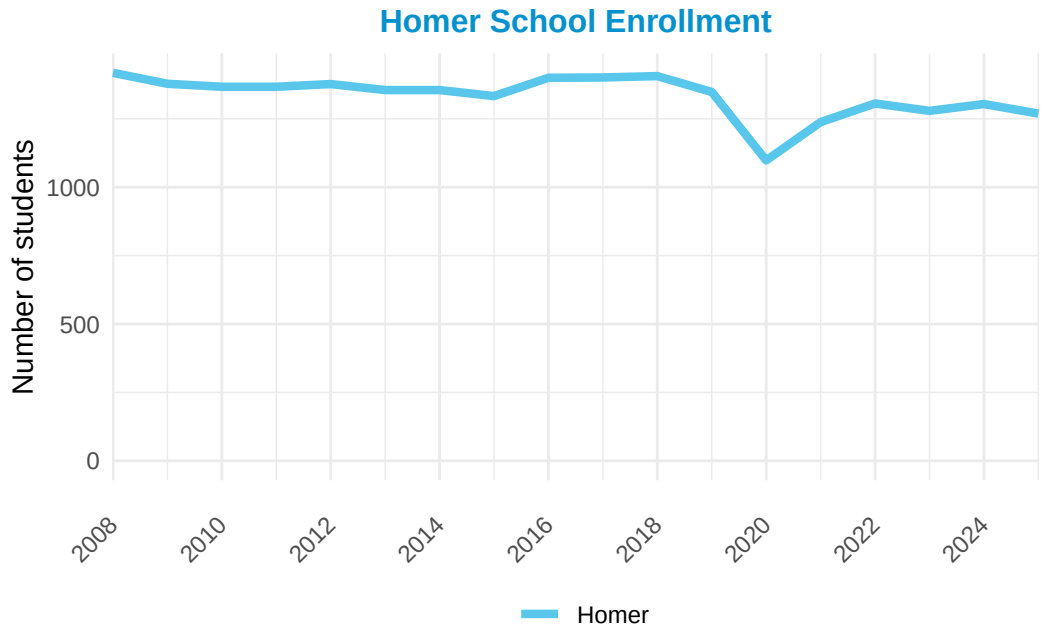
[6] Alaska Department of Commerce, Community, and Economic Development. (n.d.). *Road connection in community*. ArcGIS Open Data. https://dcra-cdo-dcced.opendata.arcgis.com/datasets/DCCED::road-connection-in-community/explore

8. Homer

Demographics	
Population	5585
Population in group housing	181
Median household income	74,449
Housing units	3,071
Percentages	
Male	52.2%
Female	47.8%
White	76.9%
American Indian or Alaska Native	5.5%
Black or African American	0.3%
Asian	2.4%
Native Hawaiian or Pacific Islander	0.9%
Hispanic or Latino	5.7%
Below poverty line	11.8%
High school diploma or higher	95.7%
Population under 5	4.3%
Population over 18	80.2%
Population over 65	22.1%

Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

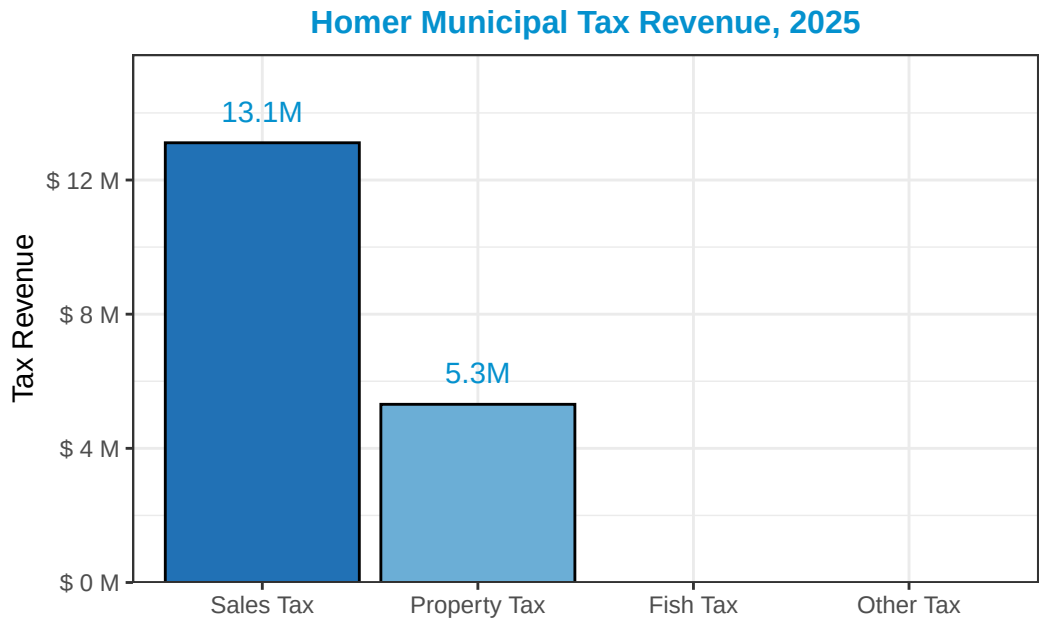
8.0.0.4.



8. Homer

8.0.0.5. Current Economy

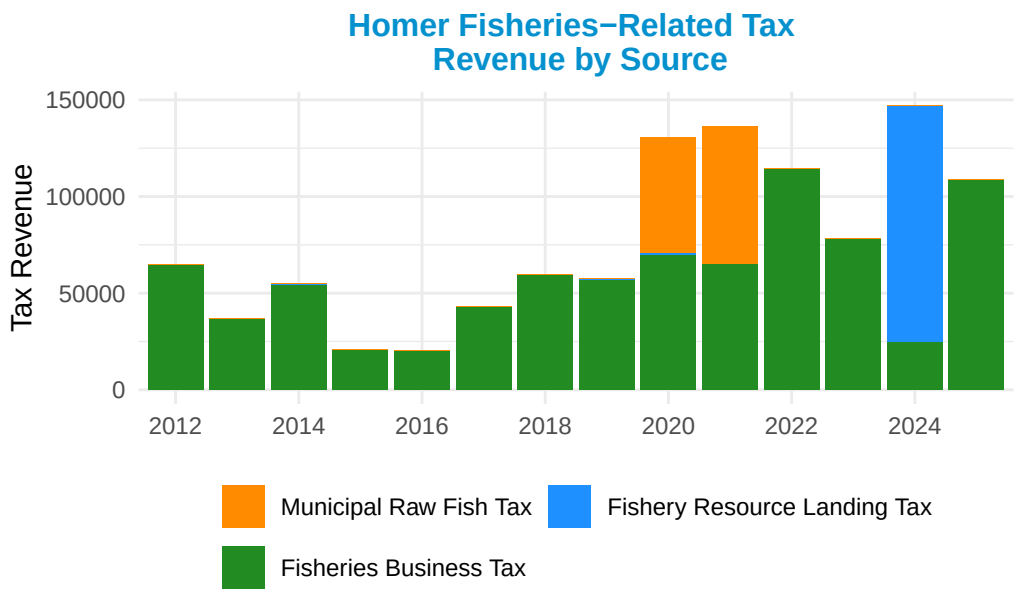
While commercial fishing has long been the mainstay of the Homer economy, tourism has become increasingly prominent.[7] In 2025, Homer generated $5.3M in property tax and 13.1M in sales tax.[8] These revenues support city services including education, sanitation, and transportation. These measures are important for understanding the current economic wellbeing of residents and indicate potential changes in their economic security. Additionally, these factors contribute to the community's ability to adapt to a range of ecological and socio-economic stressors.



[7] Alaska Community Survey, Alaska Fisheries Science Center 2013

[8] Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs. (2026). Alaska Taxable 2025: Municipal taxation—Rates and policies; full value determination (Vol. LXV). Office of the State Assessor. https://www.commerce.alaska.gov/dcra/admin/Taxable/ViewFile/2de31798-e2aa-42c9-8a50-43e1c7c6ddb8.

8. Homer



8.0.0.6. Climate Change Vulnerability and Adaptive Capacity

A community's exposure to climate-driven changes in surrounding ecosystems, along with its capacity to respond to those changes helps shape its vulnerability.

The City of Homer's Local Hazard Mitigation Plan (LHMP)[9] from 2022 describes the potential biophysical hazards of climate change as: sea level rise, coastal erosion, increased average annual maximum temperature, increased average annual precipitation, severe moisture deficit/drought, and wildfires. The plan further details these biophysical effects as:

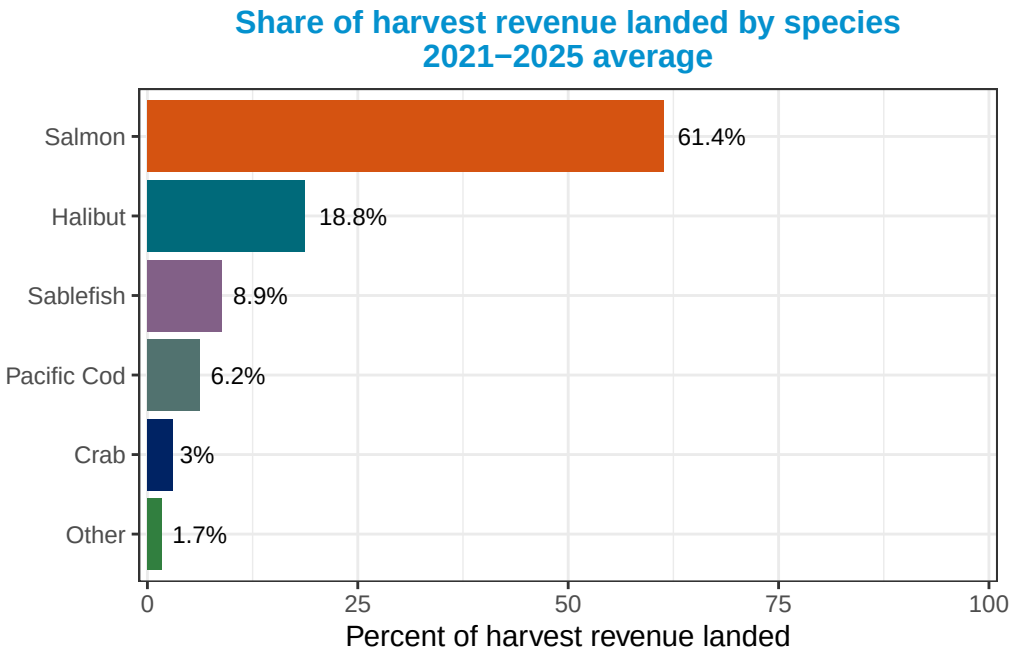
- Sea level rise: 15% of the critical facilities and infrastructure in the city are in the low-lying areas on the Homer Spit and may be at risk of inundation. Flooding due to sea level rise will cause destructive erosion; flooding; and soil contamination with salt; loss of habit for fish, birds, and plants; disruption and/or delay of transportation; and damages to homes and businesses on a more regular basis.
- Temperature and precipitation: SNAP temperature models show that Homer will experience a temperature increase of 5.3°F by the end of the century, while precipitation models show that for the same reporting period, Homer will see an average rainfall increase of 2.8 inches. In the summer, an increase in temperature will cause an increase in fire risk.
- Mega storms linked to climate change can cause severe flooding. Along the coast, deadly and destructive storm surges may push farther inland than they once did, which means more frequent nuisance flooding.

[9] City of Homer. (2018). City of Homer All All-Hazard Mitigation Plan. https://www.cityofhomer-ak.gov/sites/default/files/fileattachments/fire/page/42801/red_for_web_homer_ahmp_2018_update_final.pdf

8. Homer

The 2024 Alaska Center for Climate Assessment and Policy report documented the largest increases in summer precipitation in Homer and the community is experiencing an increase in winter storm events in The Gulf of Alaska.[10]

8.0.0.7. Fisheries and the City of Homer



The city of Homer is highly engaged in commercial fishing activities, including groundfish harvesting and processing. Homer fishers are diversified in commercial fisheries, including salmon, halibut, crab, groundfish, and herring. In recent years, a number of fishery downturns have affected the community.

Salmon. In 2020, and again in 2023, the Homer community experienced a closure of commercial Chinook salmon fisheries in Cook Inlet federal waters. In 2024, much of the Gulf of Alaska experienced substantially worse than projected pink salmon returns. The Lower Cook Inlet harvested just over 8,500 pink salmon, compared with an 11-year average of 600,000 pink salmon.[11] In turn, these events compound increased costs and decreased revenues during the COVID pandemic as well as the closure of the directed commercial Pacific cod fishery in the Gulf of Alaska in 2020, which greatly affected numerous fishermen in Homer.

Halibut remains a central fishery, but landed volume declined in 2025. Homer received approximately 2.88 million pounds of commercial IFQ halibut in 2025, the largest volume among Alaska

[10]Thoman, R., & McFarland, H. R. (Eds.). (2024). Alaska's changing environment 2.0. Alaska Center for Climate Assessment and Policy, International Arctic Research Center, University of Alaska Fairbanks. https://uaf-accap.org/wp-content/uploads/2023/04/Alaskas-Changing-Environment-2024.pdf

[11]Lopez, S. (2024, October 10). *After tough salmon season, Lower Cook Inlet fishermen say it will be a struggle to stay afloat*. KBBI. https://www.kbbi.org/local-news/2024-10-10/after-tough-salmon-season-lower-cook-inlet-fishermen-say-it-will-be-a-struggle-to-stay-afloat

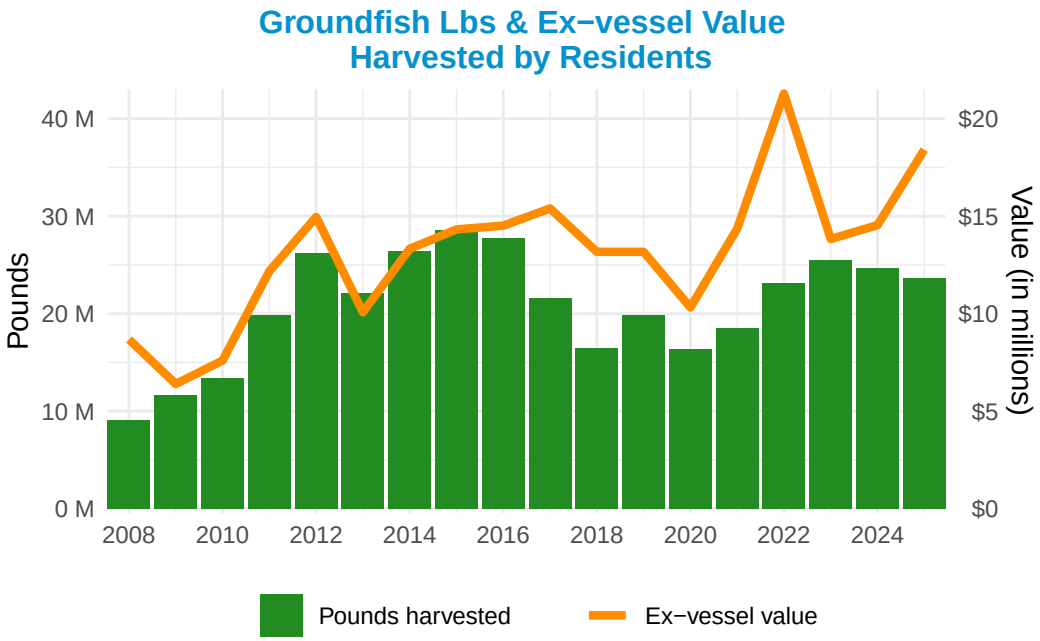
ports and approximately one-quarter of Alaska's directed commercial landings. However, Homer's volume fell about 19% from 2024 and 11% from 2023.[12]

Sablefish landings also declined, although market conditions showed improvement. Homer's IFQ sablefish landings decreased from approximately 814,000 pounds in 2023 to 704,000 pounds in 2025. Separately, April 2026 industry reporting described stronger halibut and sablefish prices and renewed optimism among Homer-based vessel and permit brokers. Higher prices may help offset lower volume, but do not establish that annual profits have recovered.[13]

8.0.0.8. Groundfish Harvesting Engagement - HIGH

Homer fishers are diversified in commercial fisheries, including salmon, halibut, crab, groundfish, and herring. The pounds of groundfish harvested decreased to 23.7M pounds (down by 4%) in 2025. Meanwhile, the ex-vessel value increased, bringing in $17.8M (up by 22%). On average, from 2021-2025, the majority of harvest revenue came from salmon (62%) (up by 1.1% from 2024), followed by halibut (19%) (down by 0.2% from 2024)

A number of fishing vessels use Homer as a base of fishing operations.[14][15] In 2025, 391 fishing vessels were registered to Homer residents, of which 103 operate in FMP groundfish fisheries (up from 88 in 2024). The number of Homer vessels peaked in 2015 at 410 vessels. Since then, the number has fluctuated year-to-year, declining to a historical low of 379 vessels in 2020, likely associated with the COVID-19 pandemic.



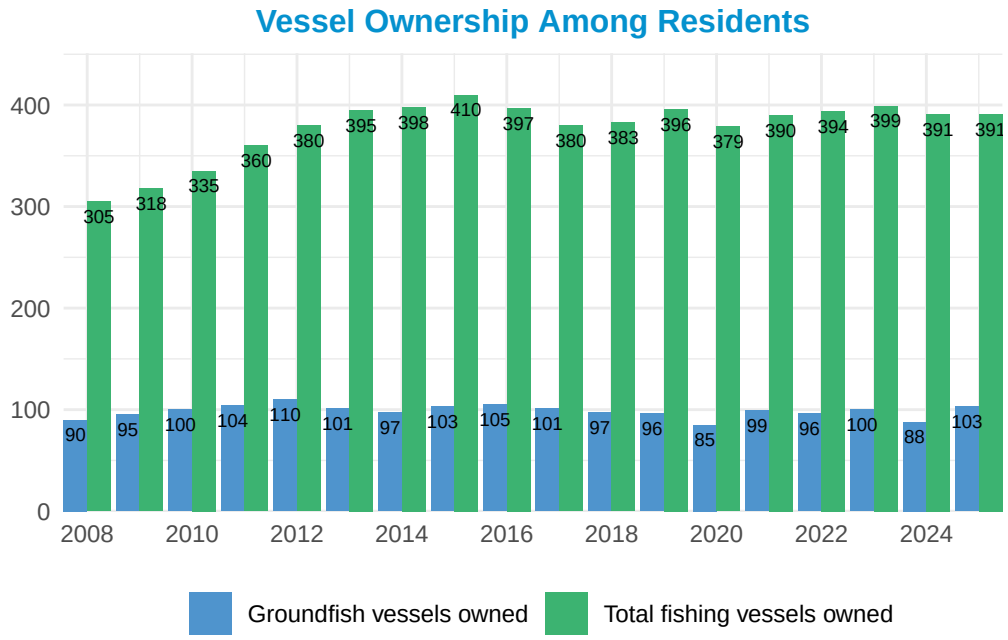
[12]NOAA - Fisheries Catch and Landings Reports in Alaska. IFQ Harvest by Port of Landing. Retrieved 11/06/2026 at https://www.fisheries.noaa.gov/sites/default/files/akro/26ifqport.htm

[13]NOAA - Fisheries Catch and Landings Reports in Alaska. IFQ Harvest by Port of Landing. Retrieved 11/06/2026 at https://www.fisheries.noaa.gov/sites/default/files/akro/26ifqport.htm

[14]Kenaitze Indian Tribe. (n.d.). *Home*. Kenaitze Indian Tribe. https://www.kenaitze.org/

[15]City of Homer. (2018). City of Homer All All-Hazard Mitigation Plan. https://www.cityofhomer-ak.gov/sites/default/files/fileattachments/fire/page/42801/red_for_web_homer_ahmp_2018_update_final.pdf

8. Homer

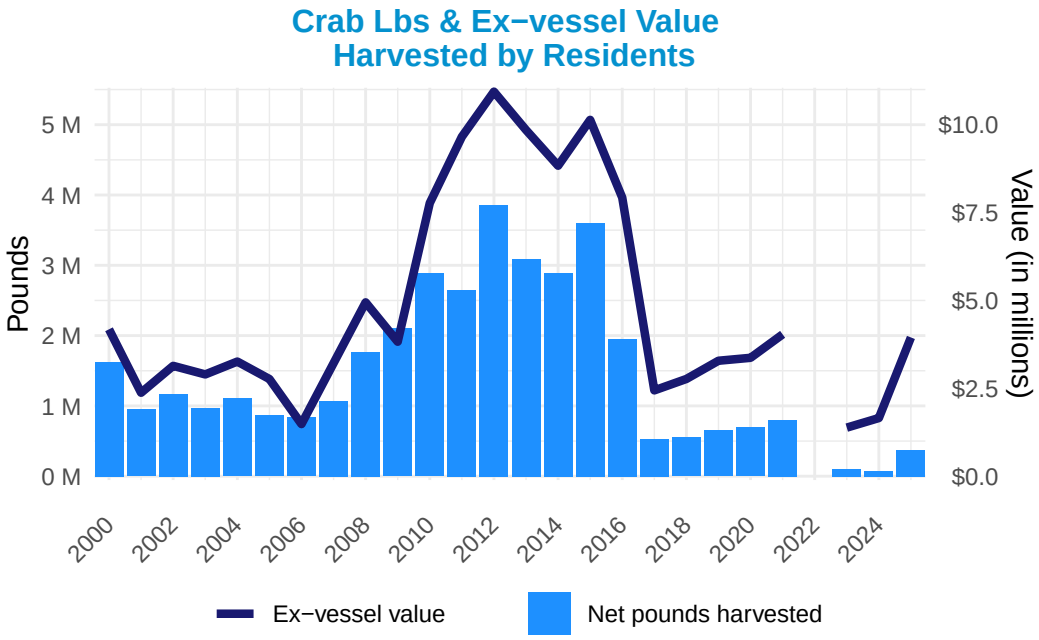


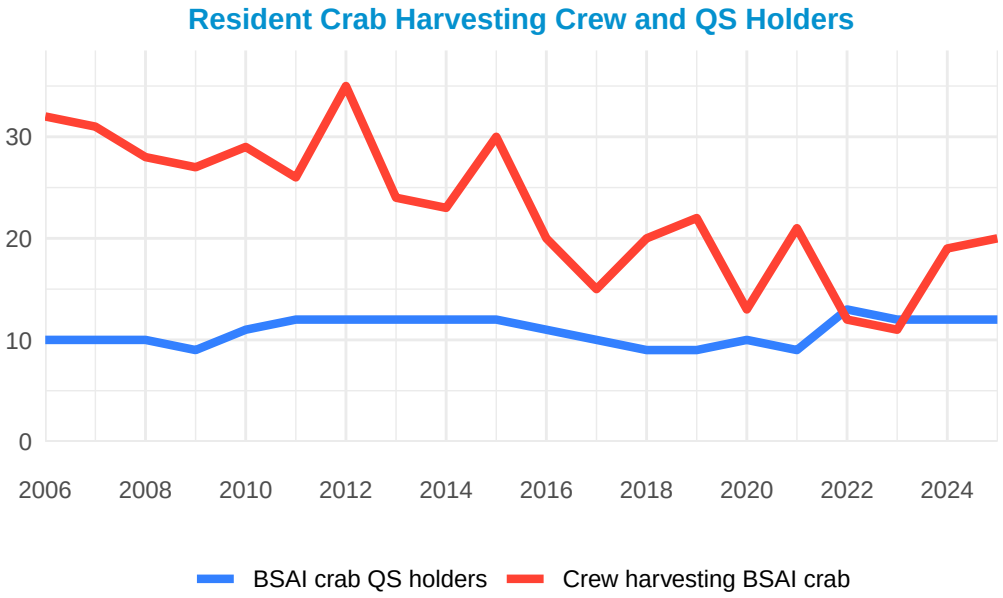
8.0.0.9. Crab Harvesting Engagement - MEDIUM

In 2025, Homer's resident vessels harvested 370.6K pounds (up by 409% from 2024) of BSAI crab with an ex-vessel value of $3.9M (up by 139% from 2024). The number of quota shareholders remained steady at 12 in 2025 (the same as 2024). The number of crew residing in Homer participating in FMP crab fisheries increased slightly after a continuous decline from 19 (2024) to 20 (2025).

Homer's resident vessels harvesting BSAI crab fisheries saw a dramatic decline in both harvest volume and associated ex-vessel value in 2016, 2017, and again in 2022. In 2016, BSAI harvests decreased by 1.6 million pounds (44%), and $2.2 million (22%) compared to 2015. In 2017, harvests fell again by 1.4 million pounds (73%) and $5.5 million in ex-vessel value (down 70%). BSAI crab fisheries began a gradual upward slope until 2022, when both pounds harvested and ex-vessel value plummeted further.

8. Homer





*Includes crew and quota holders in rationalized crab fisheries only

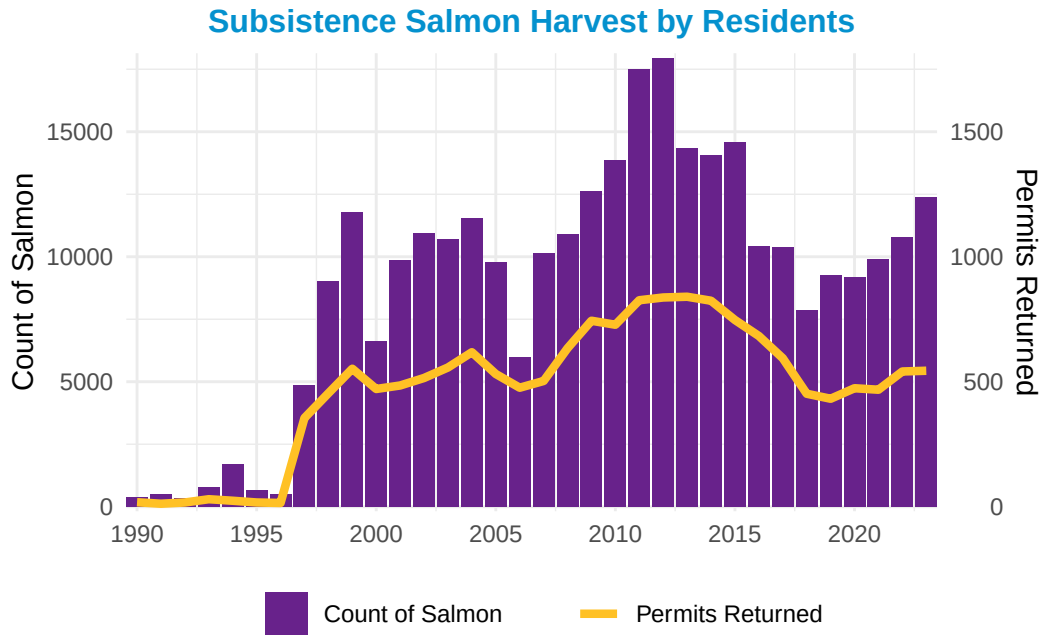
8.0.0.10. Subsistence and Personal Use Fishing

Although the Homer area is designated nonrural under federal subsistence regulations, and applicable state nonsubsistence-area designations, there are designated personal use areas near Homer. Subsistence fishing is allowed offshore in federal waters. In those areas where subsistence and person use fishing is allowed, these practices continue to support social networks and cultural identity, increased nutritional options, and contribute to food security in the region.

8. Homer

Historically, Homer residents have been highly engaged in subsistence with a widely diverse harvesting portfolio that included salmon, crab, bivalves, seabirds, and marine mammals. In 2023, the number of subsistence and personal use salmon permits was 574 (15% increase from 2020), harvesting a total of 12.4 thousand fish across all species of salmon, 90% of which were sockeye.[16] Many of these fishers have strong social networks in the area and participate in the subsistence economy through harvesting and sharing their catch.[17]

In 2022, the number of Halibut subsistence permits (SHARC) issued was 3, harvesting 182 pounds of halibut (a decrease of 70% compared to 2020). This could be due to the COVID-19 pandemic, which likely affected residents' ability to participate in the fishery.[18][19]



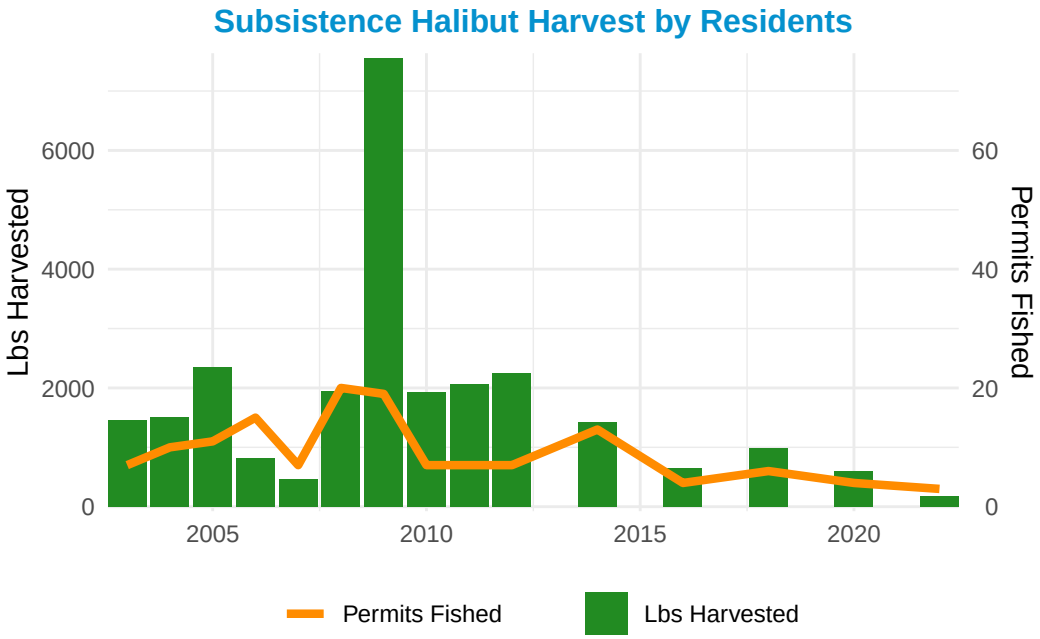
[16] Brown, Caroline L., T. Bembenic, M. Brown, H. Cold, J. Coleman, E. Donaldson, J. Egelhoff, B. Jones, J.M. Keating, L.A. Sill, M. Urquia, C. Wilcox, and T. Barnett. 2023. Alaska Subsistence and Personal use Salmon Fisheries 2020 Annual Report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 494, Anchorage.

[17] Brown, Caroline L., T. Bembenic, M. Brown, H. Cold, J. Coleman, E. Donaldson, J. Egelhoff, B. Jones, J.M. Keating, L.A. Sill, M. Urquia, C. Wilcox, and T. Barnett. 2023. Alaska Subsistence and Personal use Salmon Fisheries 2020 Annual Report. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 494, Anchorage.

[18] Alaska Department of Fish and Game Division of Subsistence. 2024. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

[19] Alaska Department of Fish and Game Division of Subsistence. 2014. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

8. Homer



8.0.0.11. Recreational Fishing Engagement

Homer is one of the three communities in Alaska that has been highly engaged in recreational fishing in all years (2004-2025) as well as highly engaged in commercial fishing (harvesting or processing), the others being Kodiak, and Sitka.

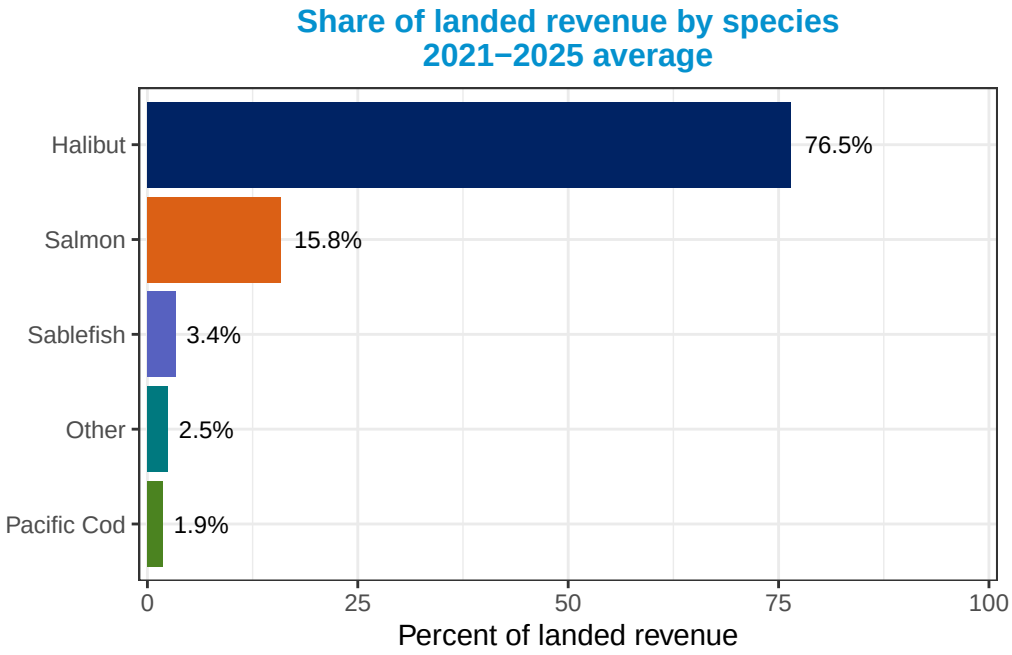
Recreational fisheries play an important role in Homer's economy, wellbeing, and culture. Sport fishing provides multiple benefits including as an additional food source, supporting the local economy through the money spent on lodging, guide services, equipment, and supplies, and contributes to individual well being.[20] In 2024, multiple Chinook sport fisheries were closed around Homer due to preseason projections of salmon returns.

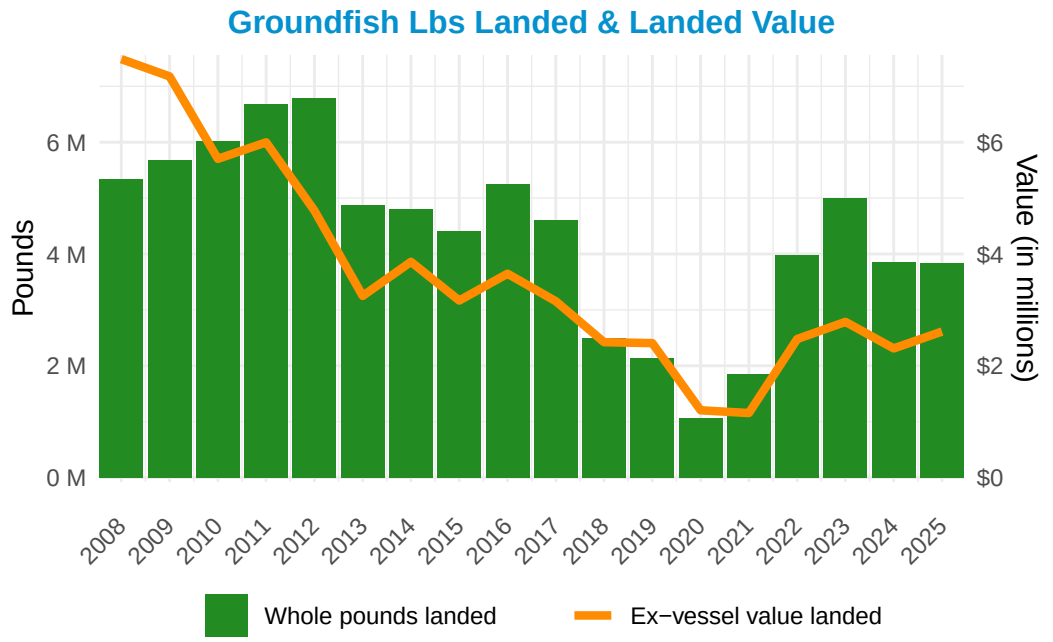
8.0.0.12. Groundfish Processing Engagement - HIGH

Although halibut dominates the processing sector (accounting for 76.5% of landed value on average from 2021-2025), Homer is one of the leading groundfish processing communities in Alaska. In 2025, Homer's processing sector processed 3.8M pounds of groundfish with an associated ex-vessel value of $2.6M. This represents a 0.3% decrease in pounds harvested and a 13% increase in ex-vessel value from 2024. In 2025, groundfish comprised 32% of total volume processed in Homer, a 0% decrease since last year, and 7% of processing revenue, down by 0% from last year. The number of processors increased in 2025 to 96, up from 95 processors in 2024.

[20] Alaska Dept. of Fish and Game. (2009). Economic Impacts and Contributions of Sportfishing in Alaska. https://www.adfg.alaska.gov/static/home/library/pdfs/sportfish/2007economic_impacts_of_fishing.pdf

8. Homer





8.0.0.13. Crab Processing Engagement - LOW

There is not a substantial amount of processing FMP-managed crab in Homer to report.

9. Akutan

9.0.0.1. Area Description & History

Akutan is located on Akutan Island, one of the Krenitzin Islands in the Fox Island group of the eastern Aleutians, 35 miles east of Unalaska and 766 miles southwest of Anchorage, with 14 square miles of land and 4.9 square miles of water. The area has been continuously inhabited by the Unangan people for at least 8,000 years.[1] Subsistence activities are essential for the year-round Unangan residents, who harvest salmon, cod, herring, and other species from local waters. Established as a fur storage and trading port in 1878 by the Western Fur & Trading Company (later acquired by the Alaska Commercial Company), Akutan gained further industry in 1912 with the Pacific Whaling Company's whale processing station across the bay. Commercial fishing started in the late 1800s, and today, Akutan hosts one of the world's largest shoreside processing plants. Crab fisheries began in 1930, accelerating in the 1950s as the Bering Sea king crab industry developed, peaking in the 1970s and early 1980s before declining.



While commercial fishing drives Akutan's formal economy, the Native Village of Akutan—geographically, demographically, and historically distinct from the processing facilities—is home to the year-round Unangan residents which is socially distinct from seafood employee residents. U.S. Census numbers the Akutan's population at 713 in 2000, 1,027 in 2010, and 1,589 in 2020; however, population fluctuates with seasonal fisheries employment. Interviews with the Traditional Council estimated permanent residents in 2000 to be only 80 individuals, and 100 in 2020. The bulk of the remaining balance of the population reside in company housing creating a divided community.[2]

Incorporated as a second-class city in 1979, Akutan falls under the jurisdiction of the Aleutians East Borough. The Akutan Corporation serves as the local ANCSA village corporation, with the Aleut Corporation as the regional corporation and the Aleutian Pribilof Islands Association as a

[1] Downs, M., & Henry, A. (2023). Baseline commercial fishing community profile updates: Akutan and Unalaska, Alaska. Prepared for the North Pacific Fishery Management Council. Wislow Research.

[2] Downs, M., & Henry, A. (2023). Baseline commercial fishing community profile updates: Akutan and Unalaska, Alaska. Prepared for the North Pacific Fishery Management Council. Wislow Research.

central Native association. Akutan is located in Federal Reporting Area 519, International Pacific Halibut Commission (IPHC) Regulatory Area 4B, and the Aleutian Islands Sablefish Regulatory Area. In 1992, residents successfully petitioned to join the Community Development Quota (CDQ) program through the Aleutian Pribilof Islands Community Development Association (APICDA), highlighting limited benefits from the local fishing facilities. APICDA identifies regional fishing ventures, infrastructure investment, and support for direct fisheries participation among its activities, including contributions to Akutan's boat harbor.[3]

9.0.0.2. Infrastructure & Transportation

Akutan's airport, located seven miles away on Akun Island, opened in 2012 and serves the community by helicopter. The state ferry provides weekly service from May to September. Akutan has a 100-foot public dock with moorage for 58 vessels. In 2024, the City of Akutan, the Aleutians East Borough, and the Army Corps of Engineers partnered to develop a new harbor, creating a 12-acre mooring basin for up to 57 large fishing vessels.[4]

Akutan's water comes from a stream and dam built in 1927, with sewage treated in a community septic tank.[5] Electricity is primarily hydro-powered with diesel backup, and heating relies on fuel oil and kerosene.

Trident Seafoods currently owns several commercial docks and processing facilities in Akutan; however in spring 2022, they began building a new processing facility in Unalaska that is scheduled to eventually replace the Akutan facilities in 2027.[6] These changes in regional processing are likely to significantly impact Akutan.

There is one school in Akutan, where enrollment rose from 17 to 20 students in 2022 to 24 in 2023, then decreasing to 16 in 2025, showing a substantial downturn. Enrollment fluctuates with fisheries employment, hitting the state minimum of 10 students in 2017. A school closure would greatly impact Akutan's social fabric and reduce access to educational and community resources.[7]

9.0.0.3. Demographics

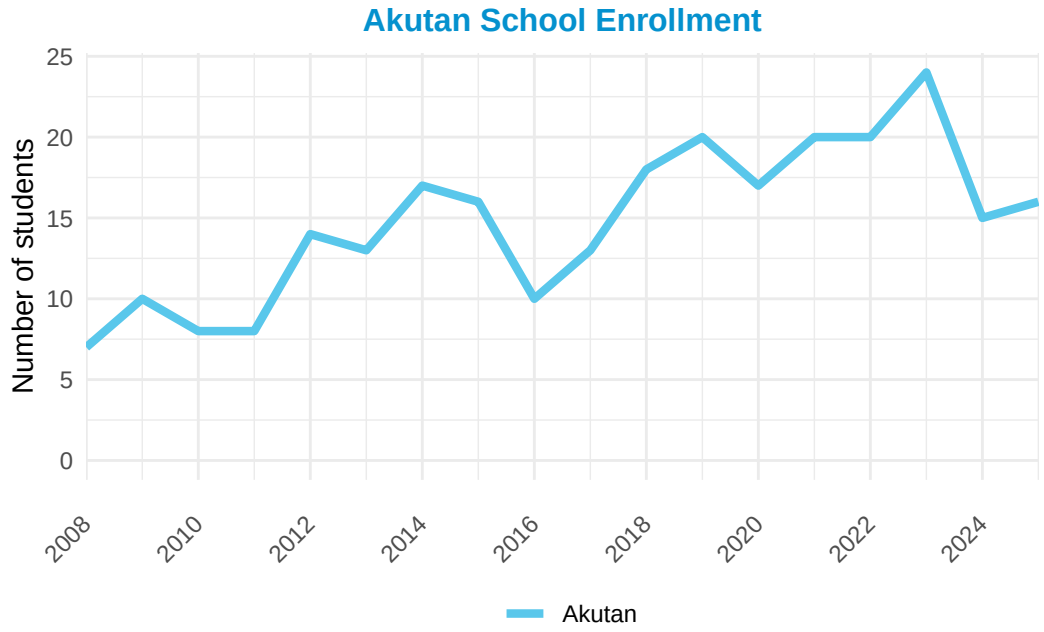
American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

[3] APICDA. (n.d.). Retrieved November 08, 2026 from https://www.apicda.com/
[4] APICDA. (n.d.). Akutan. Retrieved November 14, 2024 from https://www.apicda.com/communities/akutan/.
[5] Aleutian Pribilof Islands Association. (n.d.). Akutan. https://www.apiai.org/tribes/akutan/
[6] Greenly, T. (2023, July 28). *Trident's new processing plant in Unalaska will be the largest in North America.* Alaska Public Media. https://alaskapublic.org/2023/07/28/tridents-new-processing-plant-in-unalaska-will-be-the-largest-in-north-america/
[7] School enrollment statistics compiled from AK. Dept. of Education & Early Development: http://www.eed.state.ak.us/stats/

9. Akutan

Demographics	
Population	1573
Population in group housing	1476
Median household income	35,833
Housing units	91
Percentages	
Male	73.3%
Female	26.7%
White	27.8%
American Indian or Alaska Native	21.5%
Black or African American	13.5%
Asian	16.4%
Native Hawaiian or Pacific Islander	0%
Hispanic or Latino	15.7%
Below poverty line	20.2%
High school diploma or higher	76.3%
Population under 5	1.3%
Population over 18	95.8%
Population over 65	6.1%

Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.



9.0.0.4. Current Economy

Akutan's economy centers on commercial fishing and subsistence harvests, which are vital for year-round residents as a source of food, social structure, and cultural identity. Trident Seafoods' describes the Akutan plant as the largest seafood production facility in North America with a capacity to process over three million pounds daily and houses 1,400 employees during peak seasons.[8]

9.0.0.4.1. Tax

In 2024, the City of Akutan did not levy a standard municipal retail sales tax. Instead, the city implements a specialized 1.5% voter-approved tax that only applies to raw seafood sales and the importation of property for commercial processing. This generated $1.3M in 2025 in sales tax.[9] In that same year, the Aleutians East Borough (which includes Akutan) budgeted $4.0 million in raw fish tax revenue. Because processing operations are proprietary, the exact amount generated solely by the city or the local Trident Seafoods facility is not publicly disclosed, but it represents the largest source of local fisheries revenue.

Additionally, the Alaska Fisheries Business Tax is collected on businesses that process or export fisheries resources from Alaska. The tax revenue is shared with the incorporated city or organized borough where the processing took place. The tax rate depends on the type of processor and the type of fishery resource being processed: Floating processors - 5% for established processors, 3% for developing fishery resources; Salmon canneries - 4.5% for established; Shore-based processors - 3% for established processors, 1% for developing fishery resources.[10]

In June 2025, the region received a state fish tax disbursement of approximately $322,000, which local officials noted was roughly 60% of their typical 5-year average due to broader seafood market declines.[11] This was up from 2024 when the amount returned to Akutan was $217,807.54 (down 65%), a substantial decline in tax revenue for the municipality.[12] In 2023, Akutan received $358,462.45 in Shared Fisheries Tax (a 25% increase from the previous year). These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and well-being. These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and well-being.

[8] Trident Seafoods. (n.d.). *Our plants*. Trident Seafoods. Retrieved November 14, 2024 from https://www.tridentseafoods.com/about-us/our-facilities-and-global-reach/our-plants

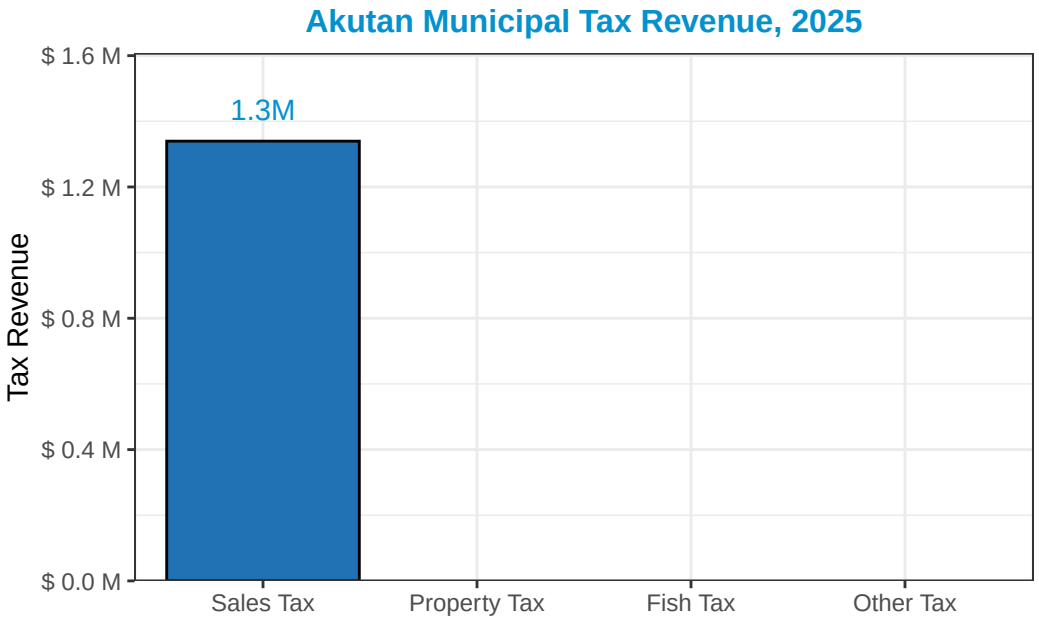
[9] Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs. (2026). Alaska Taxable 2025: Municipal taxation—Rates and policies; full value determination (Vol. LXV). Office of the State Assessor. https://www.commerce.alaska.gov/dcra/admin/Taxable/ViewFile/2de31798-e2aa-42c9-8a50-43e1c7c6ddb8

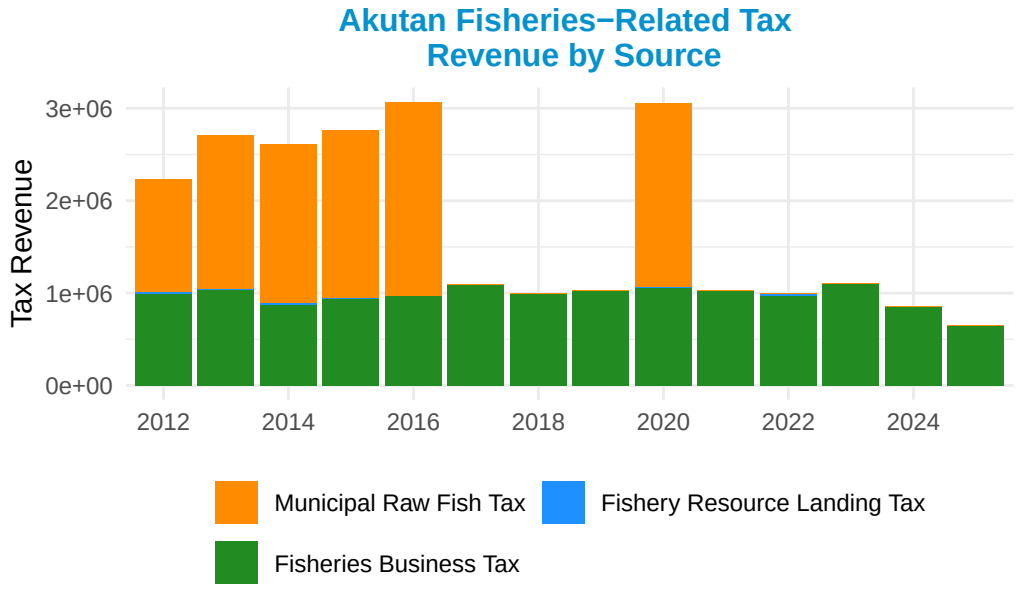
[10] Alaska Department of Revenue, Tax Division. (2025). Fiscal year 2025 shared taxes and fees annual report. https://tax.alaska.gov/programs/programs/reports/Annual/SharedTaxes/SharedTaxes.aspx?Year=2025

[11] Aleutians East Borough. (2025, September 11). Aleutians East Borough Assembly regular meeting [Meeting agenda/packet]. https://www.aleutianseast.org/wp-content/uploads/2025/09/September-11-2025-REgular-Meeting-Packet.pdf

[12] Alaska Department of Revenue, Tax Division. (2024). Fiscal year 2024 shared taxes and fees annual report. https://tax.alaska.gov/programs/documentviewer/viewer.aspx?1902

9. Akutan





9.0.0.5. Climate Change Sensitivity and Adaptive Capacity

The average temperature in the Aleutian islands region has increased by 2.8°F from 1974 to 2023.[13] The area is expected to continue to experience increased temperatures and precipitation, with less snow fall, and increased storm intensity. Record high marine temperatures in the eastern Aleutians

[13]Thoman, R. and H. R. McFarland, editors. Alaska's Changing Environment 2.0 (2024). Alaska Center for Climate Assessment and Policy, International Arctic Research Center, University of Alaska Fairbanks. uaf-iarc.org/communicating-change

have affected ecosystem linkages and commercial and subsistence fisheries. In recent years, there have been reports of high levels of paralytic shellfish toxins in mussels which are associated with warmer waters, near Akutan (up to 47 times safe levels).

9.0.0.6. Fisheries and the City of Akutan

Akutan is a highly rural island community that relies heavily on its one processing facility.[14] Pollock remains the foundation of processing activity, but the facility also handles cod, crab, halibut, and other species and produces surimi, roe, fishmeal, and fish oil. There are plans to move processing activity to Unalaska in the future; however there remains uncertainty surrounding future processing investment and location.

Akutan entered a halibut buying and tendering arrangement with St. Paul after the loss of St. Paul processing services due to the crab collapse and related closures. Established in 2024, St. Paul transports locally landed fish to Akutan for processing for production of halibut portions for distribution to St. Paul households.[15]

9.0.0.7. Subsistence Harvesting Engagement

Subsistence activities are important to the residents of Akutan.[16] Fish (primarily salmon, halibut, and cod) make up roughly 76% of major subsistence resources harvested in Akutan.[17] Beyond fish, Akutan households harvest and share a diverse mix of marine mammals, land mammals, marine invertebrates, birds/eggs, and wild plants.[18] Permits are not required for salmon subsistence harvest in Akutan: no harvest assessment programs are in place, and ADFG does not monitor salmon runs due to the absence of a commercial salmon fishery, creating uncertainty in subsistence harvest data.[19]

The most recent available subsistence harvest data from the Community Subsistence Information System (CSIS) is dated (2008); however it does provide some insight into subsistence use in the community. According to the 2008 CSIS data, 100% of households in Akutan used subsistence species, fish being the largest resource group (94%); of which salmon comprised 89%. Akutan harvested all five species of salmon, which together made up the largest component of Akutan subsistence harvest.[20]

There is scarce data available for subsistence salmon harvests. Those data available are limited due to confidentiality guidelines. In 2020, there were 50 SHARC card holders who reported an

[14] Himes-Cornell, A., & Kasperski, S. (2015). Assessing climate change vulnerability in Alaska's fishing communities. Fisheries Research, 162, 1–11. https://doi.org/10.1016/j.fishres.2014.09.010

[15] Pacific Seafood Processors Association. 9/22/2026. Retrived on 11/6/2026 at https://www.pspafish.net/

[16] Downs, M., & Henry, A. (2023). Baseline commercial fishing community profile updates: Akutan and Unalaska, Alaska. Prepared for the North Pacific Fishery Management Council. Wislow Research.

[17] Schmidt, J., & Berman, M. (2018). Adapting to Environmental and Social Change: Subsistence in Three Aleutian Communities.

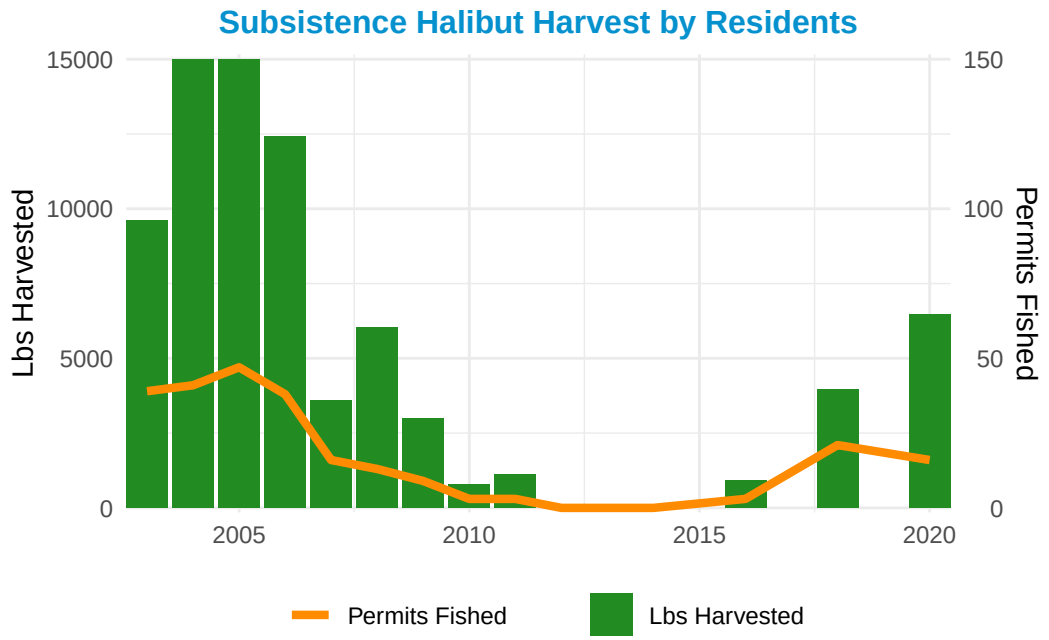
[18] Fall, J. A., Braem, N. S., Brown, C. L., Hutchinson-Scarbrough, L. B., Koster, D. S., & Krieg, T. M. (2013). Continuity and change in subsistence harvests in five Bering Sea communities: Akutan, Emmonak, Savoonga, St. Paul, and Togiak. Deep sea research part II: topical studies in oceanography, 94, 274-291.

[19] Downs, M., & Henry, A. (2023). Baseline commercial fishing community profile updates: Akutan and Unalaska, Alaska. Prepared for the North Pacific Fishery Management Council. Wislow Research.

[20] Alaska Department of Fish and Game. Community Subsistence Information System: CSIS. https://www.adfg.alaska.gov/sb/CSIS/

9. Akutan

estimated total of 157 whole fish and 6,458 pounds of halibut caught for subsistence purposes. Between 2022-2025, the number of only one active SHARC card holders reported was 1 or below each year.[21]

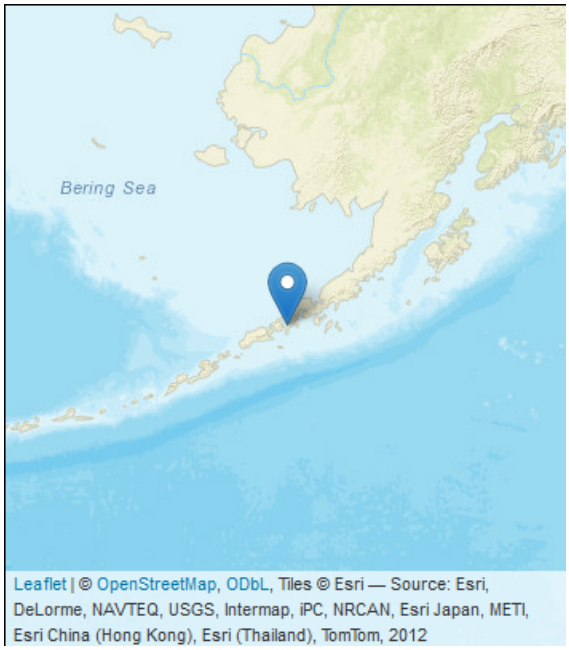


[21] Sill, L.A. and D. Koster. 2022. Subsistence Harvests of Pacific Halibut in Alaska, 2020. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 485, Anchorage.

10. King Cove

10.0.0.1. Area Description & History

King Cove (also known as Agdaaĝuxˆin Aleut) is located on the south side of the Alaska Peninsula, 18 miles southeast of Cold Bay and 625 miles southwest of Anchorage. It is located in the midst of a storm corridor, which often brings extreme fog and high winds. Historically, the Aleut people, the original inhabitants of the island, harvested salmon, cod, herring, and other species around King Cove. Subsistence harvest continues to be important among the island's Native population today. Unangam tunuu was the language traditionally spoken, however, today only about 109 individuals speak this language.[1] In 1911, Pacific American Fisheries built a salmon cannery, and in 1949, the city of King Cove was incorporated. The first settlers were Scandinavian, European, and Unangan fishers. Year round residents are largely Aleutic, with a large influx of temporary workers in March and again in June and July, driven by seafood processing employment. King Cove was included under the Alaska Native Claims Settlement Act (ANCSA), and is federally recognized as a Native Village. The Agdaaĝuxˆ Aleutian Pribilof Islands Association is the main Native Association active there today.



10.0.0.2. Infrastructure & Transportation

King Cove is accessible only by air and sea. A state-owned 3,360 foot gravel runway is available for flights. The State Ferry operates monthly between May and October, and uses one of three available docks. A deep water dock is also operational. The North Harbor provides moorage for 90 boats, and is ice-free all year. A new harbor and breakwater is under construction by the Corps of Engineers and Aleutians East Borough. Once completed, a new harbor will be operated by the

[1] APICDA. (n.d.). Aleut Culture. Retrieved November 8, 2024 from https://www.apicda.com/communities/aleutculture/

10. King Cove

Demographics	
Population	383
Population in group housing	0
Median household income	61,645
Housing units	455
Percentages	
Male	60.6%
Female	39.4%
White	11.5%
American Indian or Alaska Native	47.6%
Black or African American	0.3%
Asian	25.8%
Native Hawaiian or Pacific Islander	0%
Hispanic or Latino	5.7%
Below poverty line	10.6%
High school diploma or higher	93.9%
Population under 5	2.7%
Population over 18	82.6%
Population over 65	14.5%

Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

City, and will provide additional moorage for 60 to 150 vessels.[2] According to the municipality, all King Cove residents are connected to a water pipeline supplied by Ram Creek.

King Cove is one of the leaders of renewable energy in rural Alaska, and 2026 marked over 30 years of hydroelectric power for King Cove hydroelectric facilities. Hydropower generates 85% of King Cove's annual electricity from renewable sources.[3] The landfill is nearing capacity with plans to expand solid waste infrastructure from a USDA grant announced in 2018.[4] There is one local health clinic.

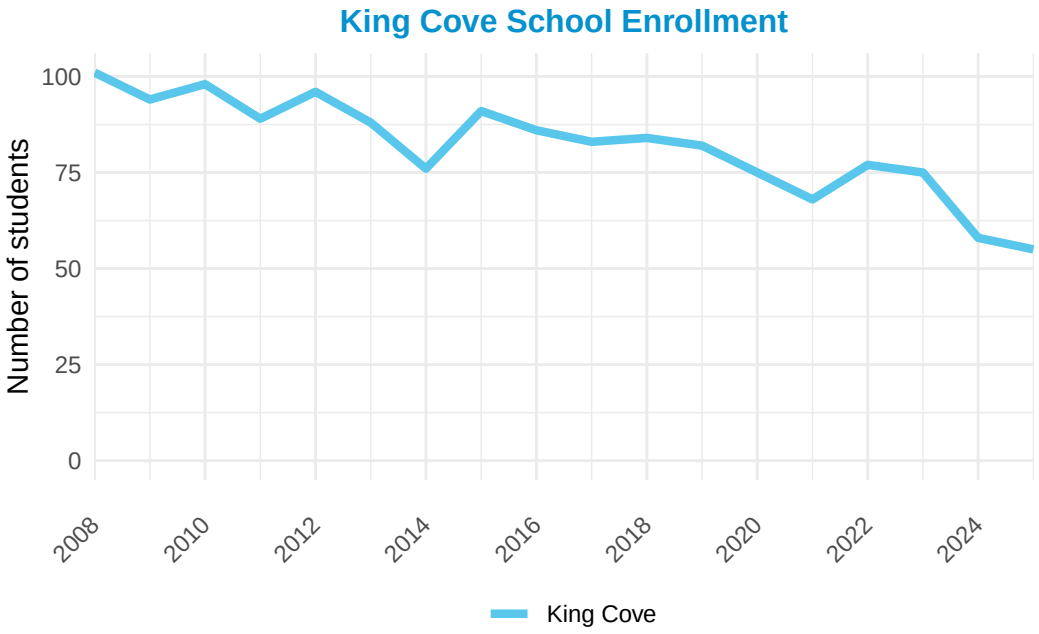
There is one school in King Cove (k-12) and enrollment continues on a steady decline since 2022. In 2025, enrollment dropped enrollment dropped from 77 to 55 students (down 5%).

10.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

[2]City of King Cove. (n.d.). About King Cove Alaska. Retrieved November 14, 2024 from https://cityofkingcove.com/about-king-cove-alaska/.
[3]Gilkes Case Study: Delta Creek Hydro, King Cove, Alaska, USA. 2026, Retrieved 11/06/2026 at https://www.gilkes.com/case-studies/king-cove/
[4]Huff, Jessie. (2018). USDA Helps Improve Solid Waste Infrastructure for the City of King Cove. USDA Rural Development. U. S. Department of Agriculture. https://www.rd.usda.gov/newsroom/news-release/usda-helps-improve-solid-waste-infrastructure

10. King Cove

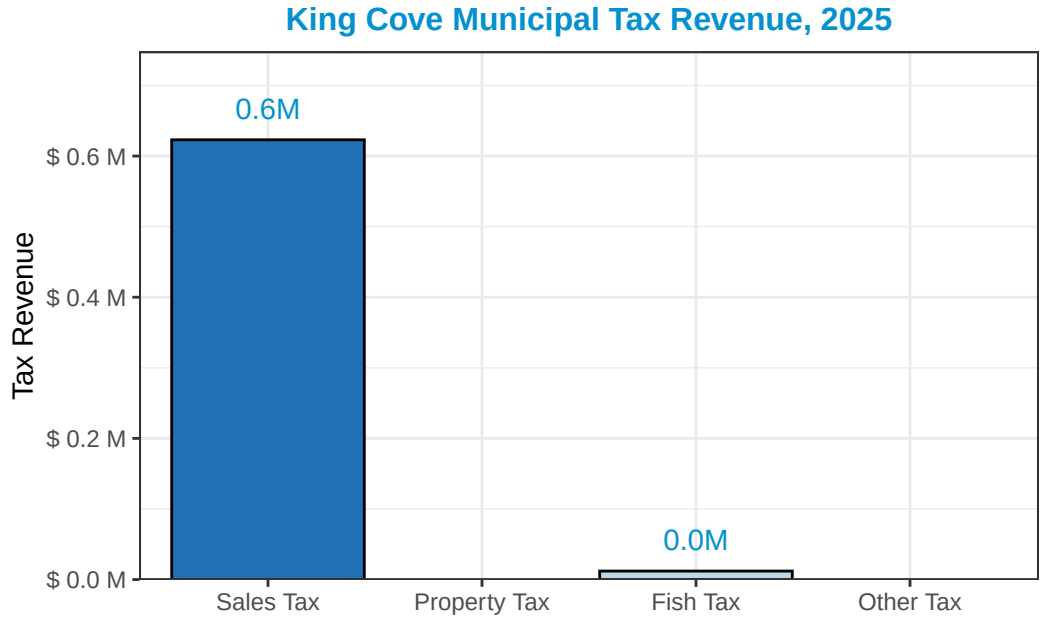

King Cove School Enrollment
Number of students
100
75
50
25
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
King Cove

10.0.0.4. Current Economy

King Cove's economy has depended almost entirely upon fishing and seafood processing. In January 2024, the processing facility closed directly affecting the community's socio-economic well-being. The closure interrupted a historically multispecies operation supporting salmon, groundfish, and crab fisheries. The plant was the main employer in the community, employing around 500 employees year round. The municipality's general fund relied heavily on fish taxes and sales taxes relating to fisheries. King Cove's raw shared fish tax collections peaked at $805,169 in 2023, but fell sharply down toward zero following the processor closure.[5] The facility also provided some city services including heating fuel for residents.

In 2025, the City of King Cove and the surrounding Aleutians East Borough passed a series of municipal resolutions to secure and manage their state-shared fisheries tax allocations under severe industry distress.[6]

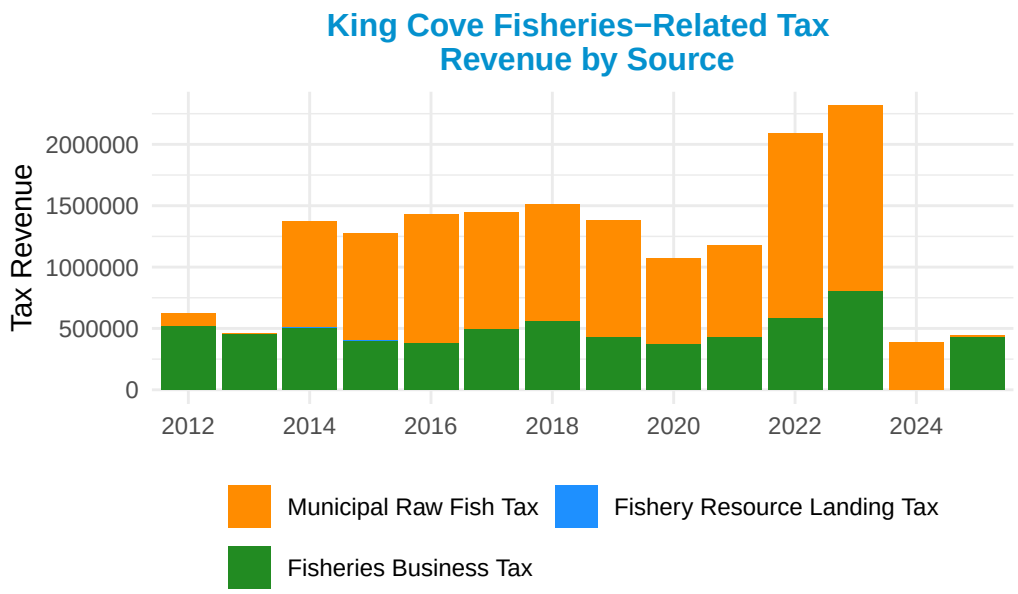
These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and wellbeing.



[5] Alaska Department of Revenue, Tax Division. (2026). Fiscal year 2025 shared taxes and fees annual report. https://tax.alaska.gov/programs/programs/reports/Annual/SharedTaxes/SharedTaxes.aspx?Year=2025

[6] Aleutians East Borough Assembly. (2025). Resolution 25-31: A resolution of the Aleutians East Borough Assembly adopting an alternative allocation method for the FY25 Shared Fisheries Business Tax Program and certifying that this allocation method fairly represents the distribution of significant effects of fisheries business activity in FMA 2: Aleutians Islands Area Aleutians East Borough Resolution 25-31.

10. King Cove



10.0.0.5. Climate Change Vulnerability and Adaptive Capacity

The average temperature in the Aleutian islands region has increased by 2.8°F from 1974 to 2023.[7] The area is expected to continue to experience increased temperatures and precipitation, with less snow fall, and increased storm intensity. Record high marine temperatures in the eastern Aleutians have affected ecosystem linkages and commercial and subsistence fisheries.

In summer of 2023, the Knik Tribe found high levels of paralytic shellfish toxins (PSTs) in shellfish collected from King Cove, Sand Point, and Chignik Lagoon. Harmful Algal Blooms (HABs) are increasing in Alaska and are thought to be linked to a changing climate. Several HABs have been detected since. PSP toxins measured in blue mussels, snails, and butter clams collected from King Cove, Sand Point, and Unalaska were frequently above the FDA limit for safe consumption, sometimes as much as 100 times.[8] The Agdaagux Tribe of King Cove has their own shellfish monitoring system to reduce the risk associated with HABs and shellfish harvests.[9]

10.0.0.6. Fisheries and the City of King Cove

Historically, King Cove has been highly engaged with commercial processing within the groundfish and crab fisheries; however the plant closure in 2024 dramatically affected the community's well-

[7] Thoman, R. and H. R. McFarland, editors. Alaska's Changing Environment 2.0 (2024). Alaska Center for Climate Assessment and Policy, International Arctic Research Center, University of Alaska Fairbanks. uaf-iarc.org/communicating-change

[8] National Centers for Coastal Ocean Science. (2020, November 2). *NCCOS supports Alaska Native efforts to detect paralytic shellfish toxins in Aleutian Islands and Alaska Peninsula.* NOAA. Retrieved November 8, 2024, from https://coastalscience.noaa.gov/news/nccos-supports-alaska-native-efforts-to-detect-paralytic-shellfish-toxins-in-aleutian-islands-and-alaska-peninsula/

[9] Alaska Native Tribal Health Consortium. (n.d.) *Climate Change.* Retrieved November 8, 2024 from https://www.anthc.org/wp-content/uploads/2015/12/11ClimateChange_2012-2.pdf.

being. The prolonged loss of local processing continues to affect fishers, municipal finances, and community life. Climate-related factors such as warming oceans and changing weather patterns have been noted by residents as affecting their harvests of salmon in particular.[10] As climate driven effects on fisheries continue, King Cove residents are exposed to continued disruptions in livelihoods and subsistence activities.

10.0.0.6.1. Local Adaptive Capacity

King Cove overall has very high limitations on its adaptive capacity. This is due to aging housing and infrastructure, disruption in the processing sector and reduced economic opportunity, and a portion of the population who are more vulnerable to shocks and disasters. In addition, the FEMA National Risk Index identified that the Aleutians East region has very low levels of community resilience.[11] King Cove residents have limited capacity to adapt to climate risks and recover rapidly.

10.0.0.7. Subsistence Harvesting Engagement

Overall, subsistence activities play a very important role in cultural characteristics and food security. Residents of King Cove are engaged in halibut and salmon subsistence fishing. Historically, subsistence harvesting engagement has been high in King Cove (salmon and shellfish in particular). Residents gather foods like clams, mussels, sea urchins, chitons, seaweeds, greens, and herbs from the intertidal zones.[12] Reliance on subsistence may increase to support food security concerns with the closure of commercial seafood processing; however, recent years have shown declines in key subsistence fisheries.

Subsistence halibut shows a steady decline in both the number of fish harvested and the number of active SHARC permits since 2004. In 2026, there were 10 SHARC holders, showing a steady increase in recent years. Salmon subsistence (in all species) shows a decline in both active subsistence permits and the estimated number of salmon harvested.[13]

A study conducted by the Alaska Sustainable Salmon Fund in 2016 showed that the harvesting, processing, sharing and consumption of salmon, especially sockeye, was culturally essential for King Cove residents.[14] Many households also met their subsistence needs by holding commercially harvested salmon for home use. In King Cove, nearly all households (91%) were found to use

[10] Aleutian & Bering Climate Vulnerability Assessment. https://legacy.aoos.org/wp-content/uploads/2011/05/Unalaska-workshop-9.18.14-with-results-and-note-3.pdf

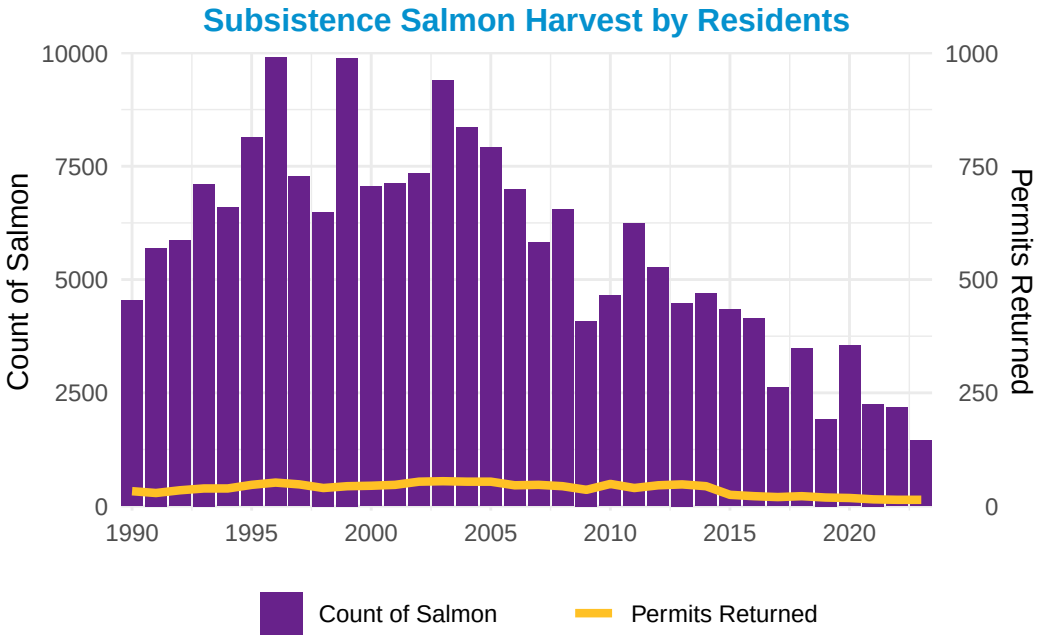
[11] Federal Emergency Management Agency. (n.d.). *National Risk Index: Aleutians East Borough, Alaska.* Retrieved November 13, 2024, from https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C02013

[12] Bureau of Indian Affairs. (n.d.). *Alaska subsistence program.* U.S. Department of the Interior. Retrieved November 8, 2024, from https://www.bia.gov/service/alaska-subsistence-program#:~=The%20Branch%20of%20Fisheries%2C%20Wildlife,natural%20resources%20for%20subsistence%20uses.

[13] Keyse, M. D., G. Spalinger, and A. L. Brewster. 2025. 2024 South Alaska Peninsula salmon annual management report and 2023 subsistence fisheries in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands management areas. Alaska Department of Fish and Game, Division of Commercial Fisheries, Fishery Management Report No. 25-27, Anchorage.

[14] Alaska Sustainable Salmon Fund. (n.d.). *Subsistence Salmon Fishery Harvest Monitoring in Cold Bay, King Cove, and Sand Point.* Retrieved November 8, 2024, from http://akssf.org/default.aspx?id=3444#:~:text=Point%2C%20March%202017-,Subsistence%20Salmon%20Fishery%20Harvest%20Monitoring%20in%20Cold%20Bay%2C%20King%20Cove,in%20the%20Alaska%20Peninsula%20Area

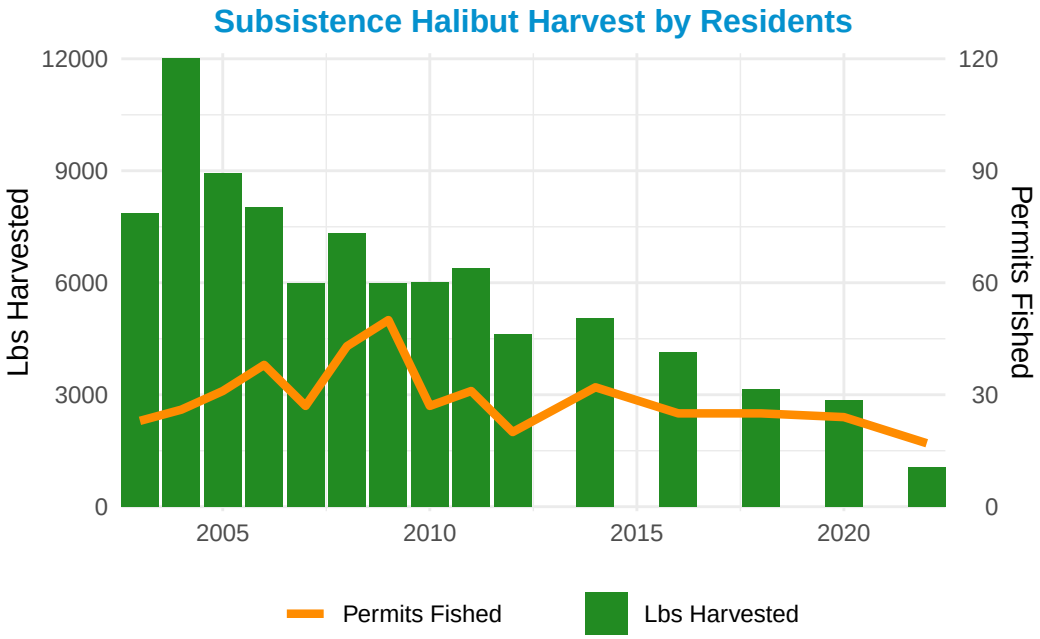
salmon, with 75% attempting to harvest and 59% receiving salmon from others.[15] Overall, it was the most widely utilized wild resource by harvested weight. Changes and weather patterns, rising sea levels, and warming oceans were some of the environmental factors which had recently impacted residents' ability to harvest salmon. However, economic and social factors, such as access to funds to buy equipment and the influence of local canneries, also affected residents' harvest patterns.[16]



[15] Alaska Sustainable Salmon Fund. (n.d.). *Subsistence Salmon Fishery Harvest Monitoring in Cold Bay, King Cove, and Sand Point.* Retrieved November 8, 2024, from http://akssf.org/default.aspx?id=3444#:~:text=Point%2C%20March%202017-,Subsistence%20Salmon%20Fishery%20Harvest%20Monitoring%20in%20Cold%20Bay%2C%20King%20Cove,in%20the%20Alaska%20Peninsula%20Area

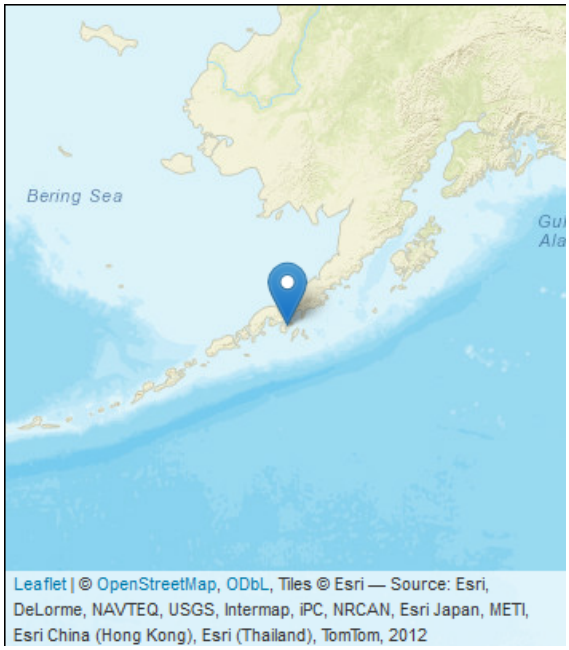
[16] Alaska Sustainable Salmon Fund. (n.d.). Subsistence Salmon Fishery Harvest Monitoring in Cold Bay, King Cove, and Sand Point. Retrieved November 8, 2024, from http://akssf.org/default.aspx?id=3444#:~:text=Point%2C%20March%202017-,Subsistence%20Salmon%20Fishery%20Harvest%20Monitoring%20in%20Cold%20Bay%2C%20King%20Cove,in%20the%20Alaska%20Peninsula%20Area

10. King Cove


Subsistence Halibut Harvest by Residents
Lbs Harvested
Permits Fished
12000
9000
6000
3000
0
120
90
60
30
0
2005
2010
2015
2020
Permits Fished
Lbs Harvested

11. Sand Point

11.0.0.1. Area Description & History



Sand Point, also known as Qagun Tayagungin, is situated on Popof Island, off the southern coast of the Alaska Peninsula. Prior to the arrival of Europeans, the population of Aleuts in the region is estimated to have ranged between 12,000-20,000 people. Historically, the Aleut people harvested salmon, cod, herring, and other species around Sand Point. Following arrival, the population of Aleuts declined by 80-90% as a result of disease, warfare, malnutrition, and forced labor as sea otter hunters. The Aleut people traditionally spoke Unangam tunuu; however today fewer than 100 individuals speak this language.[1] The settlement of Sand Point was founded in 1898 as a cod fishing outpost and incorporated in 1946. Sand Point is home to one of the largest fishing fleets in the Aleutian Chain. Fisheries employs a number of seasonal workers each year. Included under the Alaska Native Claims Settlement Act (ANCSA), Sand Point has three native tribes: The Qagan Tayagungin Tribe of Sand Point Village, the Native Village of Unga, and Pauloff Harbor Village. The main Native Associations and Corporations active in the area include: Qagan Tayagungin Tribe, Unga Tribe, Pauloff Harbor Tribe, Shumagin Corporation, Unga Corp., and Sanak Corp.

11.0.0.2. Infrastructure & Transportation

Sand Point has an airport with a 5,200 foot paved runway and daily flights to Anchorage. Marine facilities include a 25-acre boat harbor with four docks, 134 boat slips, a harbormaster office, barge off-loading area, and a 150-ton lift. Regular barge services supply the community. The state ferry operates between Sand Point and Unalaska, Akutan, False Pass, Cold Bay, and King Cove between May and October. Medical services are provided by the Sand Point Community Health Clinic. Since 2024, only one passenger airline services Sand Point.

[1] University of Alaska Fairbanks, Alaska Native Language Center. (n.d.). *Aleut (Unangam Tunuu)*. Retrieved November 13, 2024, from https://www.uaf.edu/anlc/languages-move/aleut.php

11. Sand Point

Demographics	
Population	583
Population in group housing	128
Median household income	81,563
Housing units	503
Percentages	
Male	56.9%
Female	43.1%
White	18.1%
American Indian or Alaska Native	42.3%
Black or African American	0.8%
Asian	16.2%
Native Hawaiian or Pacific Islander	2.1%
Hispanic or Latino	9.5%
Below poverty line	14.9%
High school diploma or higher	90%
Population under 5	2.7%
Population over 18	84.7%
Population over 65	16.7%

Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

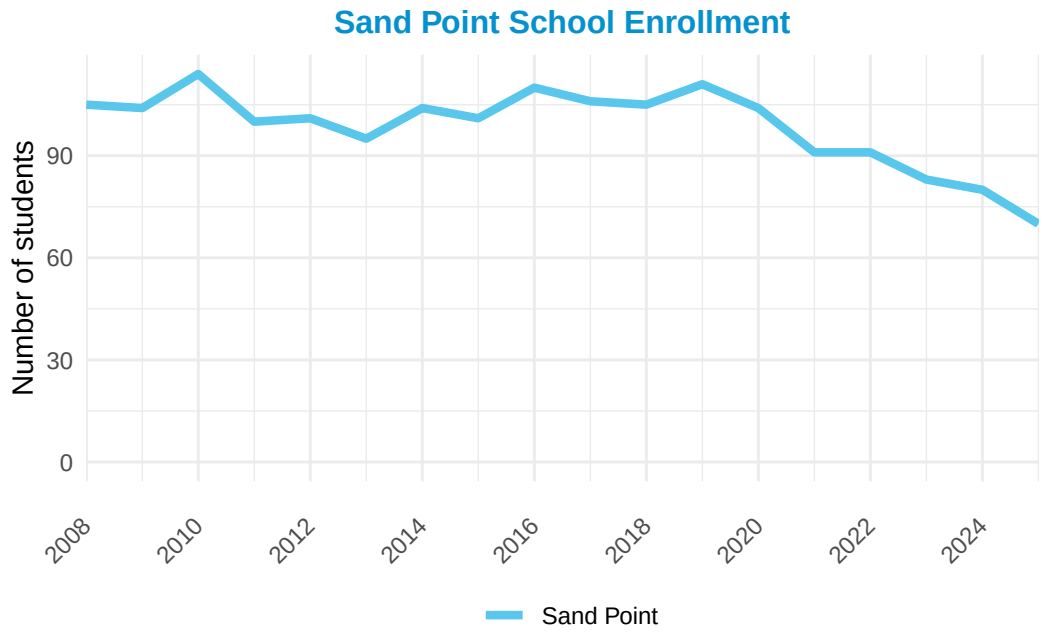
At the Aleutians East Borough Schools located in Sand Point, student enrollment decreased by 21% since 2008, with a peak in 2010 of 114 students. Since 2019, enrollment has continued to decline with 70 students in 2025.[2]

11.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

[2]School enrollment statistics compiled from AK. Dept. of Education & Early Development. Retrieved November 14, 2024 from http://www.eed.state.ak.us/stats/

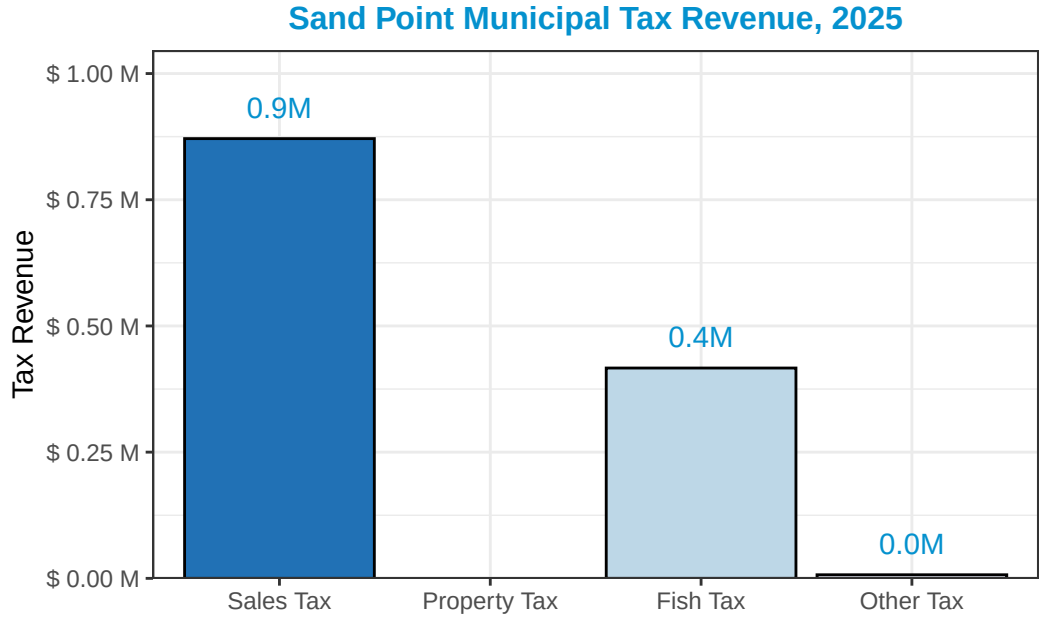
11.0.0.4.


Sand Point School Enrollment
Number of students
90
60
30
0
2008
2010
2012
2014
2016
2018
2020
2022
2024
Sand Point

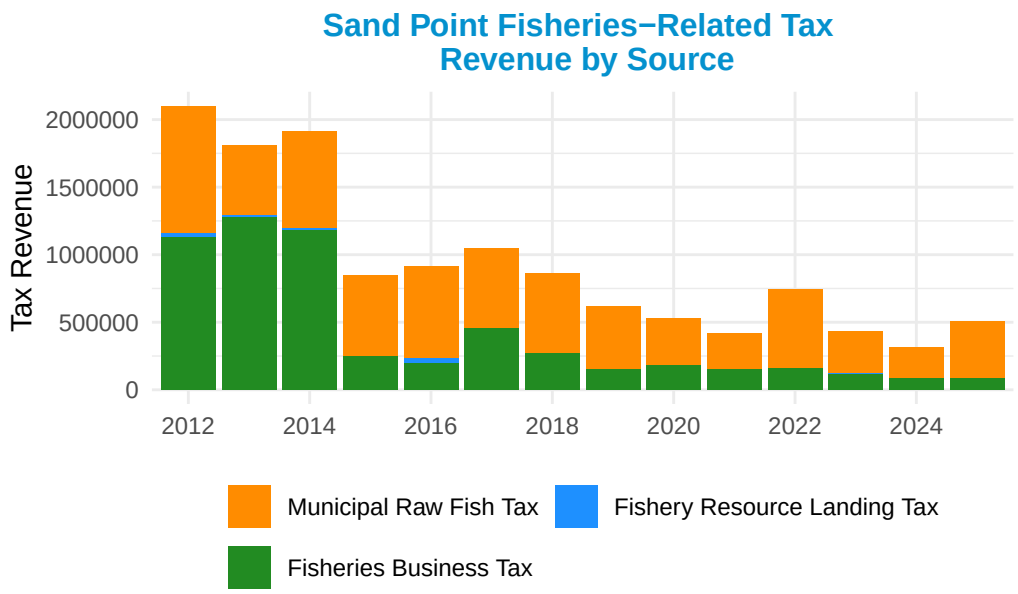
11.0.0.5. Current Economy

Sand Point's economy is primarily based on commercial fishing and processing, with Trident Seafoods being a top employer. The Aleutians East Borough communities, including Sand Point, have been deeply affected by fluctuations in the seafood industry resulting from low prices and higher costs and reductions in the processing sector. In addition to the seafood industry, local employers in Sand Point include the Aleutians East Borough School District, local government offices, the Shumagin Corporation, Peninsula Airways, and the State of Alaska.

In 2025, the City of Sand Point received $103,140.96 in total state-shared fisheries tax payments—consisting of $88,953.93 from the Alaska Department of Revenue (DOR) direct shared fisheries business tax and $14,187.03 from the Alaska Department of Commerce, Community, and Economic Development (DOCCED / DCRA) offshore shared fish tax program.[3] These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and wellbeing.



[3]Sandpoint City Council. (2025, October 21). City council meeting amended agenda. City of Sandpoint. https://mccmeetings.blob.core.usgovcloudapi.net/sndpointid-pubu/MEET-Agenda-9bc4e265d6c94692b0e80e1fb73c18aa.pdf



11.0.0.6. Climate Change Vulnerability and Adaptive Capacity

The average temperature in the Aleutian islands region has increased by 2.8°F from 1974 to 2023.[4] The area is expected to continue to experience increased temperatures and precipitation, with less snow fall, and increased storm intensity. Record high marine temperatures in the eastern Aleutians have affected ecosystem linkages and commercial and subsistence fisheries. Shorefast ice offers some protection from winter storms.[5]

A 2025 study identified coastal communities along the southeastern Bering Sea (specifically Sand Point and False Pass) as vulnerable to climate driven changes in fisheries such as Pacific cod.[6]

11.0.0.7. Sand Point and Fisheries

Sand Point is highly reliant on fisheries resources. As these fisheries continue to respond to a changing climate, Sand Point residents are vulnerable to disruptions which will affect their livelihoods and subsistence activities.

Sand Point has retained an important processing operation during regional restructuring. Trident retained the Sand Point facility while selling several other Alaska facilities in 2024. Its current

[4]Thoman, R. and H. R. McFarland, editors. Alaska's Changing Environment 2.0 (2024). Alaska Center for Climate Assessment and Policy, International Arctic Research Center, University of Alaska Fairbanks. uaf-iarc.org/communicating-change

[5]Thoman, R. and H. R. McFarland, editors. Alaska's Changing Environment 2.0 (2024). Alaska Center for Climate Assessment and Policy, International Arctic Research Center, University of Alaska Fairbanks. uaf-iarc.org/communicating-change

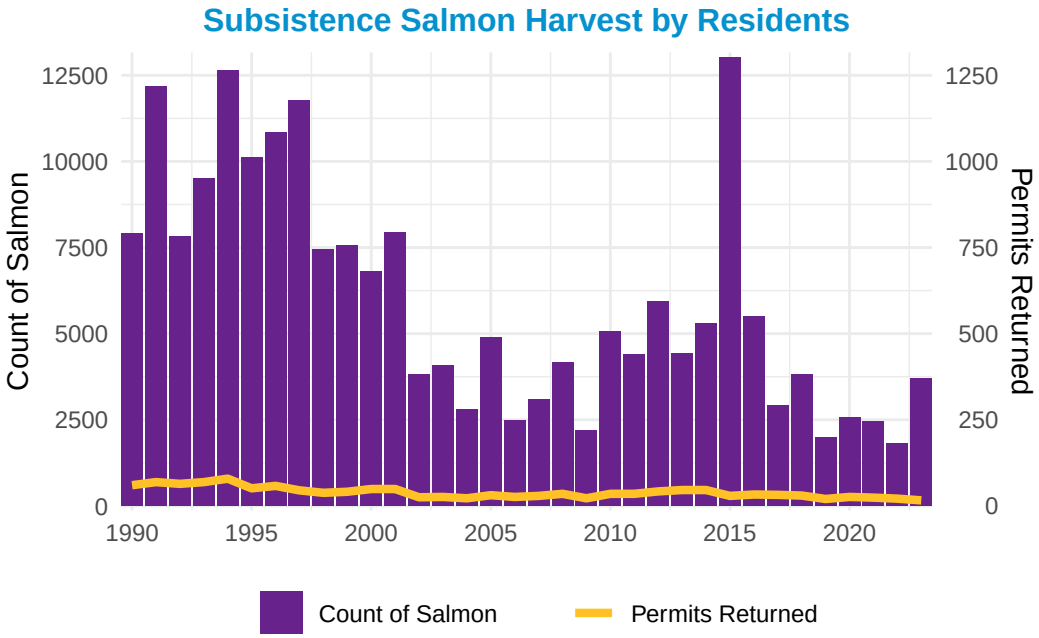
[6]Stone, S. E., Wise, S., Harte, M., Holsman, K., & Ciannelli, L. (2025). Socioeconomic risk of coastal Alaskan fishing communities to climate-driven changes in Pacific cod distributions. ICES Journal of Marine Science, 82(7), fsaf127.

facility description identifies a year-round, multispecies operation supporting salmon, cod, pollock, halibut, sablefish, and crab.

11.0.0.8. Subsistence Harvesting Engagement

Residents of Sand Point rely heavily on subsistence, including salmon, cod, rockfish, and Dungeness and king crab. According to Alaska Dept. of Fish and Game data, their subsistence harvests of halibut have increased since 2012, while their harvests of salmon have decreased.[7][8] This is concerning, given that a study conducted by the Alaska Sustainable Salmon Fund in 2016 showed that the harvesting, processing, sharing and consumption of salmon, especially sockeye, was culturally essential for Sand Point residents. Many households reported meeting their subsistence needs by keeping salmon from their commercial harvests for home use. This same study showed 97% of Sand Point households used salmon, with 68% of households attempting to harvest and 66% receiving salmon from others.

In recent years, changes in weather patterns, rising sea levels, and warming oceans have affected residents' ability to harvest salmon.[9] Economic and social factors, such as access to funds to buy equipment and the influence of local canneries, also affected residents' harvest patterns.[10]



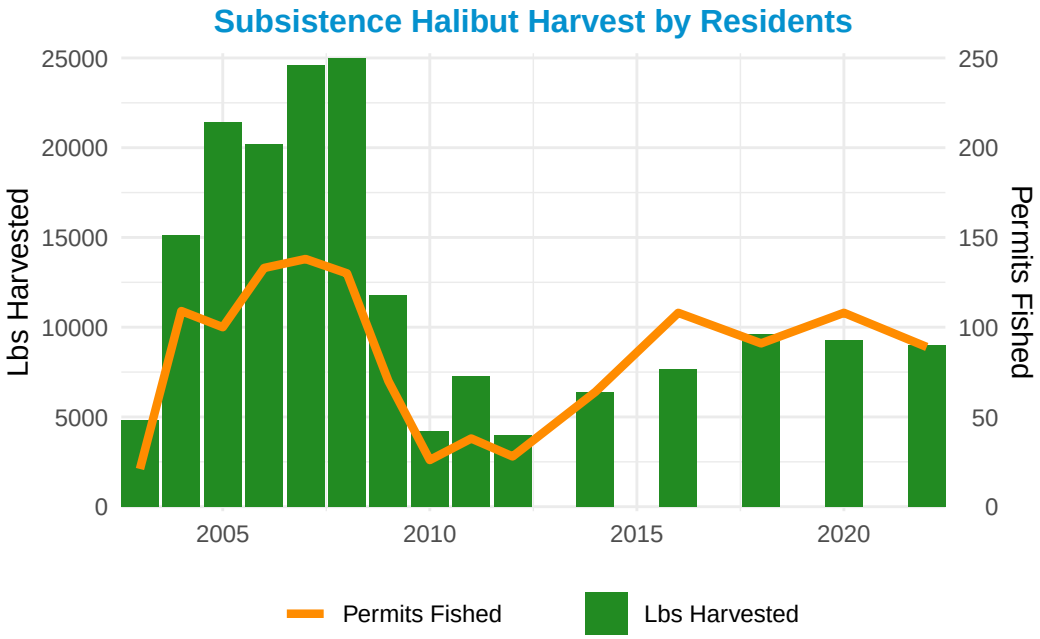
[7]Alaska Department of Fish and Game Division of Subsistence. 2023. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

[8]Alaska Department of Fish and Game Division of Subsistence. 2022. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

[9]Hutchinson-Scarbrough, Lisa. (2019). Subsistence Salmon Fishery Harvest Monitoring in Cold Bay, King Cove, and Sand Point. Alaska Sustainable Salmon Fund June 2019 Completion Report. ADF&G, Division of Subsistence. https://s3-us-west-1.amazonaws.com/akssfapm/APM_Uploads/2015/44210/.pdf/CR_6_2019.pdf

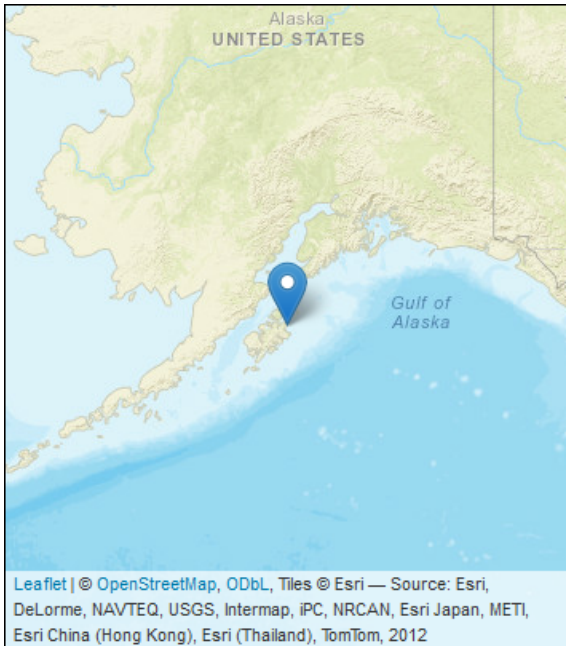
[10]Hutchinson-Scarbrough, Lisa. (2019). Subsistence Salmon Fishery Harvest Monitoring in Cold Bay, King Cove, and Sand Point. Alaska Sustainable Salmon Fund June 2019 Completion Report. ADF&G, Division of Subsistence. https://s3-us-west-1.amazonaws.com/akssfapm/APM_Uploads/2015/44210/.pdf/CR_6_2019.pdf

11. Sand Point



12. Kodiak Island Borough

12.0.0.1. Area Description & History



The largest island in the Gulf of Alaska, Kodiak Island, is approximately 25 miles across the Shelikof Straight from the Katmai Coast and 90 miles southwest of the Kenai Peninsula. Kodiak Island has been inhabited for the past 8,000 years by the Alutiiq peoples who traditionally harvested fish, marine invertebrates, and marine mammals on the Island. A majority of the Alaska Native population living in Kodiak today are Alutiiq. Their language is Alutiiq, which is one of the "Esk-Aleut" languages and is closely related to Central Yup'ik.[1] Russians established a fur trading settlement at Chiniak Bay in the late 1700s. In 1882 a fish cannery opened in the Karluk spit, sparking further commercial development. Today, Kodiak Island communities are highly reliant on both commercial and subsistence fishing. The majority of commercial vessels and seafood processing plants are in Kodiak City, which is Alaska's second largest commercial fishing port in volume of seafood landed. There are two main harbors in Kodiak City: St. Paul Harbor and St. Herman Harbor which is the larger of the two. While the majority of the population on Kodiak Island live in Kodiak City, there are seven other island communities including Akhiok, Port Lions, Larsen Bay, Old Harbor, Karluk and Ouzinkie. Kodiak Island communities are administered under the Kodiak Island Borough. Native Associations active in the area include the Natives of Kodiak, Inc., Koniag, Inc., and the Kodiak Area Native Association. Kodiak is located in Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf of Alaska Sablefish Regulatory Area.

12.0.0.2. Infrastructure & Transportation

Kodiak Island Borough is accessible by air and sea, but transportation options vary considerably among communities. Kodiak Airport provides mainland connections and regional air service, while Kodiak Municipal Airport and seaplane facilities support additional aviation activity. Regional

[1] Alutiiq Museum. (n.d.). *Alutiiq and other Alaskan languages.* Retrieved November 19, 2024, from https://alutiiqmuseum.org/alutiiq-people/language/lessons/alutiiq-and-other-alaskan-languages/

flights serve all six outlying villages, although weather can disrupt travel. The Alaska Marine Highway connects Kodiak with Homer and other coastal communities. Service frequency varies seasonally and with vessel availability; western routes extend along the Alaska Peninsula and Aleutian Islands. The Port of Kodiak includes two boat harbors and three deep-water piers serving fishing vessels, ferries, cargo ships, and other marine traffic. Approximately 140 miles of state roads serve the island's eastern road system, but the six outlying villages are not connected to Kodiak City by road. Village clinics, community health aides, visiting providers, and telehealth support local healthcare. Residents may need to travel to Kodiak or Anchorage for services unavailable locally, making reliable transportation essential to healthcare access. Waterfront investment remains essential to fishing fleet access. October 2026 reporting identified a federal award of more than $26 million toward replacement of St. Herman Harbor, with substantial additional funding still needed.[2]

12.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

Kodiak Island borough has experienced substantial declines in population since the early 2000s.[3] While this trend holds for Kodiak City itself, the population declines in Kodiak Island borough communities have led to concerns over school enrollment and stability. Total K-12 school enrollment for Kodiak Island communities has decreased by approximately 25% between 2015 and 2025. Larsen Bay School closed in 2018, and Karluk school closed in 2019 due to low enrollment. Notably, Port Lions has increased year-over-year since 2021, from 14 students to 30 students.

The loss of fisheries access and participation for Kodiak City and Island communities over the last three decades has profoundly affected the economic underpinning of these communities and ways of life that existed for thousands of years.[4][5][6] These losses have compounded across multiple generations, who have lost connection to these resources and knowledge of harvesting practices.[7][8][9]

[2]Sullivan, D., Murkowski, L., & Begich, N. (2026, October 26). Alaska delegation announces nearly $105 million for six critical port infrastructure projects across Alaska [Press release]. Office of Congressman Nick Begich. house.gov

[3]Alaska Department of Labor and Workforce Development. (2024). *Alaska Historical Population Estimates by Place, 2000-2010 and 2010-2020*. Retrieved from https://live.laborstats.alaska.gov/pop/index.cfm

[4]Carothers, C. (2010). Tragedy of commodification: Displacements in Alutiiq fishing communities in the Gulf of Alaska. Mast, 9(2), 95-120.

[5]Carothers, Courtney. "Fisheries privatization, social transitions, and well-being in Kodiak, Alaska." Marine Policy 61 (2015): 313-322.

[6]Ringer, D., Carothers, C., Donkersloot, R., Coleman, J., & Cullenberg, P. (2018). For generations to come? The privatization paradigm and shifting social baselines in Kodiak, Alaska's commercial fisheries. Marine Policy, 98, 97-103.

[7]Carothers, C. (2010). Tragedy of commodification: Displacements in Alutiiq fishing communities in the Gulf of Alaska. Mast, 9(2), 95-120.

[8]Carothers, Courtney. "Fisheries privatization, social transitions, and well-being in Kodiak, Alaska." Marine Policy 61 (2015): 313-322.

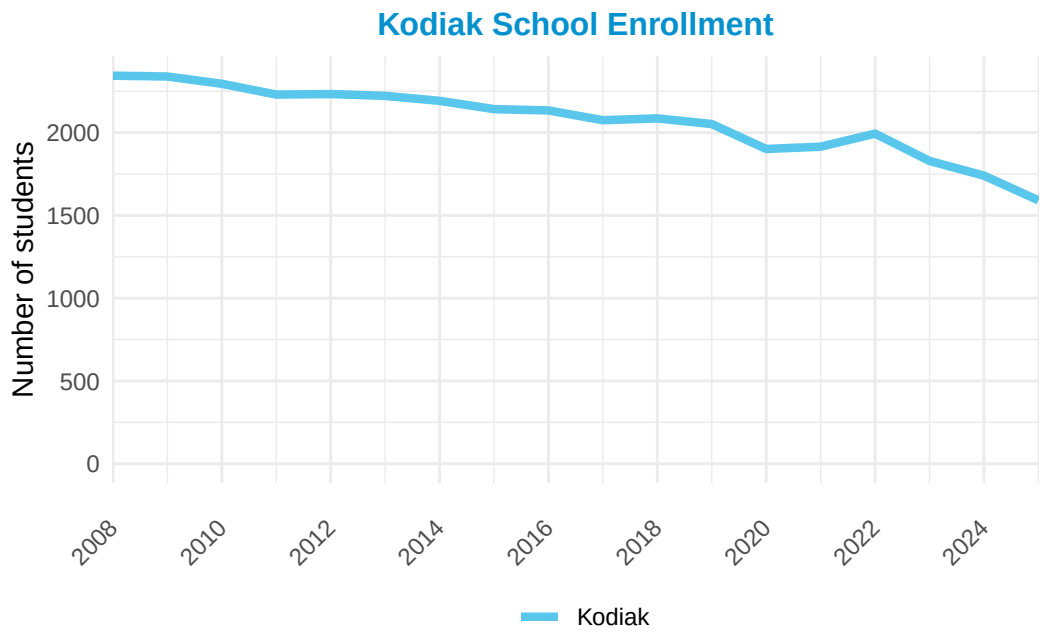
[9]Ringer, D., Carothers, C., Donkersloot, R., Coleman, J., & Cullenberg, P. (2018). For generations to come? The privatization paradigm and shifting social baselines in Kodiak, Alaska's commercial fisheries. Marine Policy, 98, 97-103.

12. Kodiak Island Borough

	Kodiak	Akhiok	Karluk	Larsen Bay	Old Harbor	Ouzinkie	Port Lions
Demographics							
Population	63	31	5238	30	186	102	168
Population in group housing	0	0	164	0	0	0	0
Median household income	85,139	NA	90,292	37,188	30,000	NA	46,250
Housing units	70	28	2,044	98	153	82	130
Percentages							
Male	58.1%	69.7%	52.6%	44.8%	54.3%	41.9%	52.7%
Female	41.9%	30.3%	47.4%	55.2%	45.7%	58.1%	47.3%
White	0%	0%	36.3%	34.5%	8%	9.3%	24%
American Indian or Alaska Native	62.5%	97%	5.5%	9.7%	72.8%	58.1%	52%
Black or African American	3.8%	0%	0.1%	0.7%	0%	0%	0%
Asian	24.4%	0%	43.3%	4.8%	0%	0%	0%
Native Hawaiian or Pacific Islander	0%	0%	0.3%	0%	1.2%	0%	0%
Hispanic or Latino	0%	0%	8.7%	41.4%	0%	0%	14%
Below poverty line	17.5%	0%	7.5%	29.7%	56.2%	22.1%	20.7%
High school diploma or higher	73%	85%	89.2%	93.6%	87.9%	94.7%	92.2%
Population under 5	6.3%	0%	3.2%	2.8%	6.8%	0%	9.3%
Population over 18	87.5%	100%	79.9%	91.7%	75.3%	87.2%	78.7%
Population over 65	1.9%	24.2%	19.4%	13.8%	11.7%	25.6%	33.3%

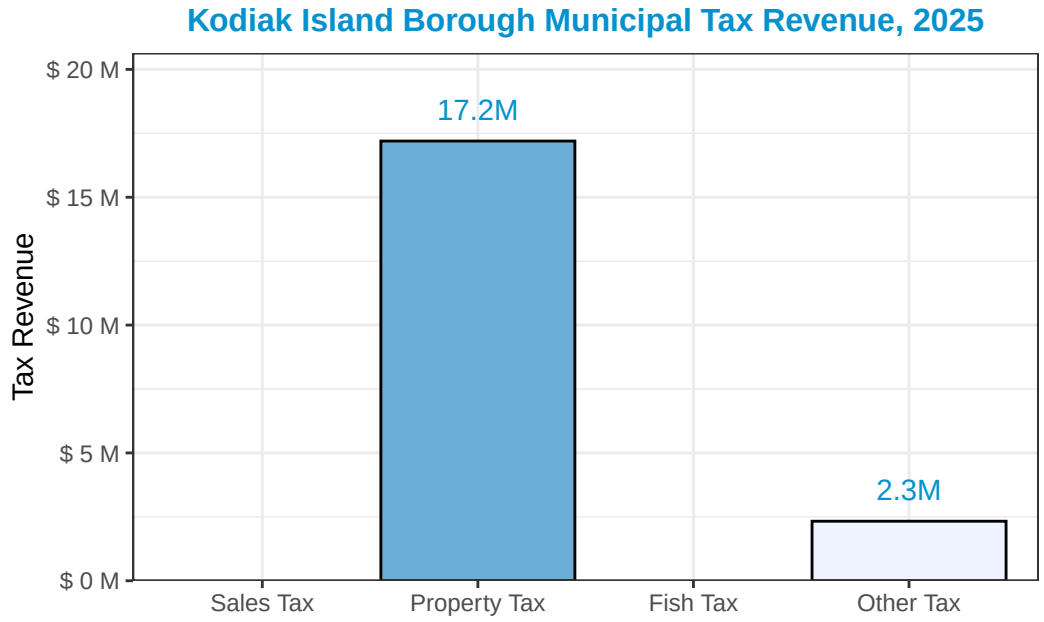
Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

12.0.0.4.

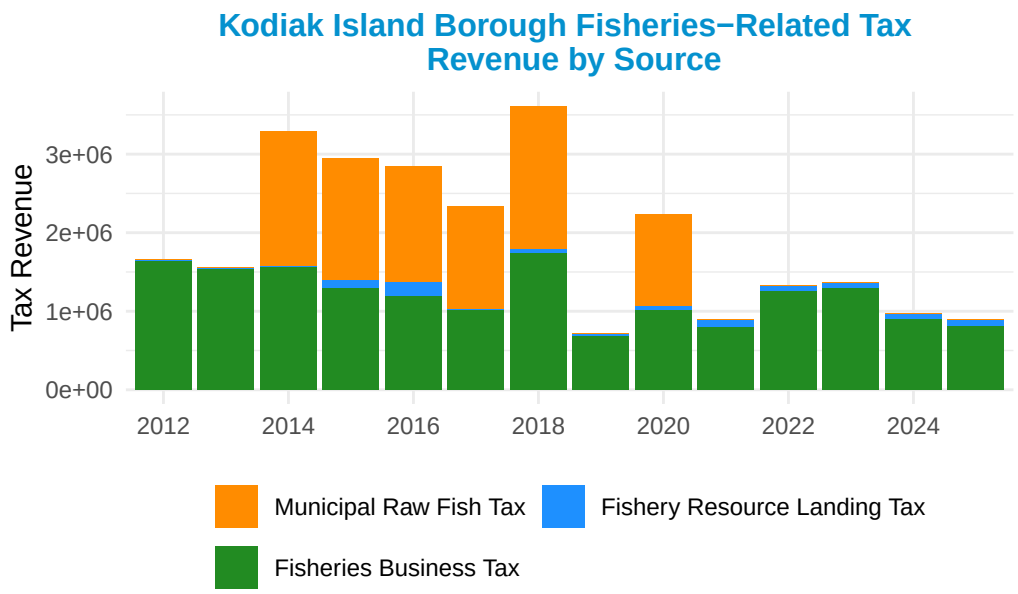


12.0.0.5. Current Economy

Commercial fishing, seafood processing, and commercial fishing support services are the major industries contributing to the local economy in Kodiak. The U.S. Coast Guard station and hospital are also significant employers. Other industries include retail services and government. Tourism is growing, including increases in sport fishing and hunting, hiking, and kayaking. In 2025, the Kodiak Island Borough collected $19.5M in tax revenue, the vast majority of which ($17.2M) was from property taxes. Fisheries-related tax revenues for the Kodiak Island Borough amounted to $898.8K in 2025. These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and wellbeing.



12. Kodiak Island Borough



12.0.0.6. Climate Change Vulnerability and Adaptive Capacity

A community's exposure to the biophysical effects of climate change, which include effects to the biological organisms and physical landscape surrounding them, aids in determining their vulnerability. Biophysical risks to the Gulf of Alaska as a whole include sea level rise, coastal erosion, extreme weather events, changes in precipitation (rates, timing, and snowpack), increasing landslides and avalanches, and increased storm severity.

The Gulf of Alaska is experiencing marine heatwaves, ocean acidification, and shifts in species abundance and migration patterns of marine species. These changes will affect likely impact fisheries and fishers across sectors.[10]

In its 2025 hazard management plan, the Kodiak Island Borough identified a number of hazards that could affect the Borough: earthquakes, erosion (riverine), flood, landslides/debris flow, tsunamis, volcanic hazards, weather (severe), dam failure, technological (fuel tank rupture, hazardous chemical releases, etc.), pandemic, and climate change. The Borough updated its hazard management plan in 2025 to formally identify climate change as a potential hazard via increased frequency and intensity of natural disasters on the island, including those listed above.[11]

[10] Markon, C., Gray, S., Berman, M., Eerkes Eerkes-Medrano, L., Hennessy, T., Huntington, H. P., Littell, J., McCammon, M., Thoman, R., & Trainor, S. F. (2018). Chapter 26: Alaska. Impacts, Risks, and Adaptation in the United States: The Fourth National Climate Assessment, Volume II . U.S. Global Change Research.https://doi.org/10.7930/NCA4.2018.CH26

[11] Kodiak Island Borough. (2025). Kodiak Archipelago multi-jurisdictional hazard mitigation plan. https://www.kodiakak.us/DocumentCenter/View/12652

12.0.0.7. Kodiak Island Borough and Fisheries

Kodiak Island Borough is highly reliant on a large variety of fisheries resources which will be differently affected by climate driven change. Residents are highly engaged in harvesting and processing within the groundfish fishery, and moderately engaged in harvesting and processing within the crab fishery, as well as subsistence and recreational fisheries disaggregated by groundfish and crab species, Kodiak Island borough is highly engaged in harvesting and processing of GOA Pacific cod and pollock and moderately engaged in harvesting BSAI Pacific cod and pollock, Bristol Bay red king crab, and snow crab. While remaining highly engaged, there are important fluctuations across fisheries. For example, Kodiak halibut IFQ landings declined from 2023 to 2025, from approximately 1.93 million pounds (2023) to 1.71 million (2025), while sablefish landings increased from 4.30 million to 8.18 million pounds during the same period.

Both recreational and subsistence fishing are very important in the borough. Kodiak Island communities harvest salmon and halibut for commercial and subsistence purposes. These resources support household food security, particularly in smaller communities where access to store goods is limited and goods more expensive. Kodiak Island Borough Residents were also impacted by the 2022 closure of both the Snow crab fishery and the Bristol Bay Red King crab fisheries due to concerns over population levels which have struggled due to warming oceans..[12][13]

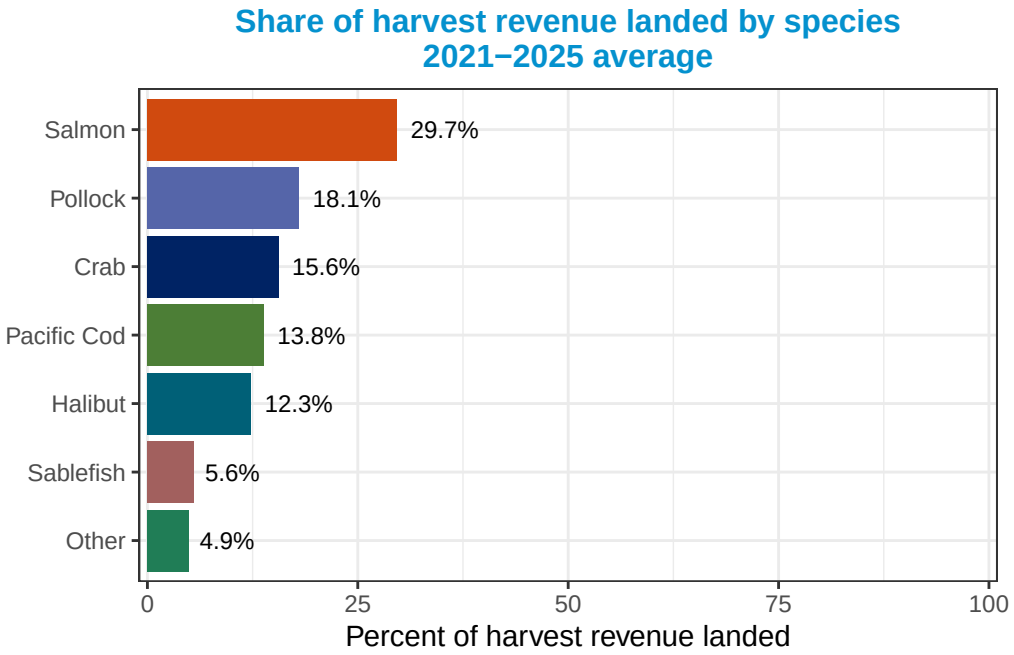
In 2024, the closure of the processing facility in Larsen Bay and the sale of the Trident processing facility in Kodiak further compounded this volatility, leaving many fishersmen without a buyer for their fish and the community of Larsen Bay without an important revenue source.

The decline of Pacific cod following the 2014 to 2016 marine heatwave and the ultimate closure of the fishery had a devastating impact on the local jig fleet that is highly reliant on Pacific cod. Increased volatility across numerous salmon species and runs, mostly recently with a significantly lower than expected pink salmon return, have also greatly undermined the gillnet and seine salmon fleets on the Island.

[12] Szuwalski, C. S., Aydin, K. Y., Fedewa, E. J., Garber-Yonts, B., Litzow, M. A., & Palof, K. J. (2023). The collapse of eastern Bering Sea snow crab. *Science, 382*(6668), 306–310. https://doi.org/10.1126/science.adf6035

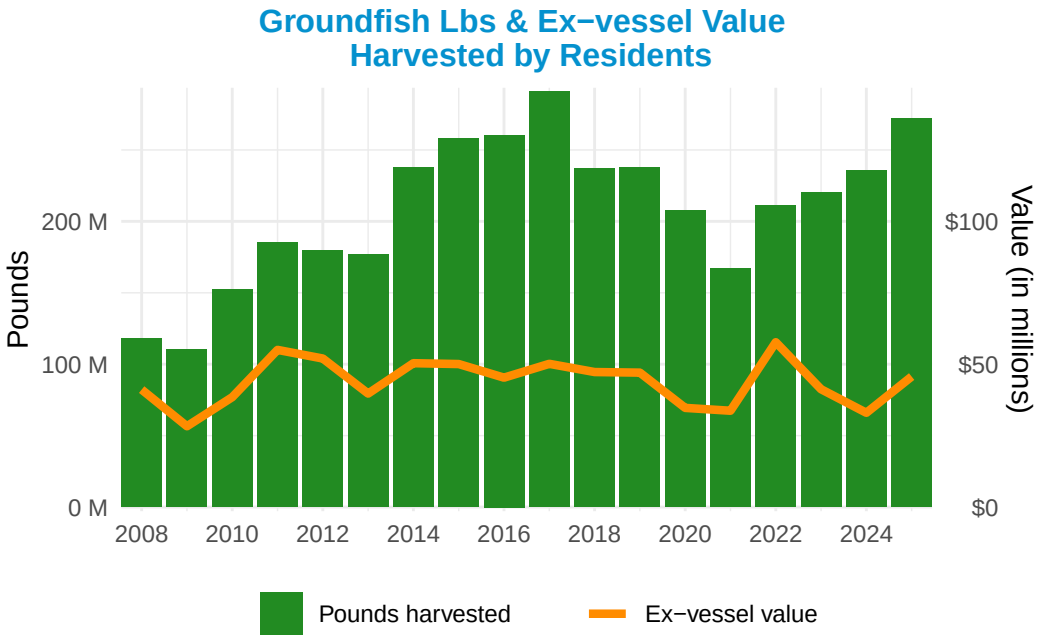
[13] Alaska Department of Fish and Game. (2022, October 10). *2022/23 Bristol Bay red king crab season closed.* Retrieved November 20, 2024, from https://www.adfg.alaska.gov/static/applications/dcfnewsrelease/1441166194.pdf

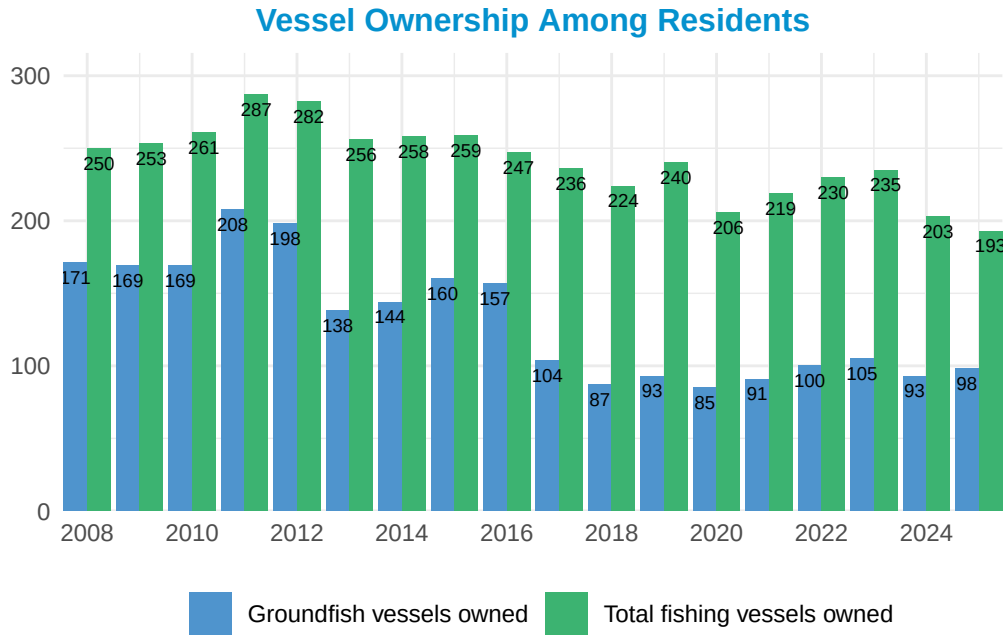
12.0.0.8. Groundfish Harvesting Engagement - HIGH



Kodiak Island borough has a diversified fisheries profile, with groundfish making up about 41% of total fisheries harvest revenue over the last five years, on average. In 2025, the volume of groundfish harvest was 270.7M pounds with an associated ex-vessel value of $45.3M. Compared to 2024, the harvest volume for groundfish increased by 35.6M pounds (or up by 15.2%) and values increased by $12.6M (up by 38.4%).

Resident ownership of fishing vessels decreased by 10 vessels in 2025 from 2024, while groundfish fishing vessels owned by Kodiak Island residents increased by 5 vessels. Smaller communities on Kodiak Island are often most severely impacted by shifts in fisheries participation since there are relatively few participants remaining in these communities and additional losses can mean the difference between a connection to commercial fisheries or the lack thereof.





12.0.0.9. Crab Harvesting Engagement - MEDIUM

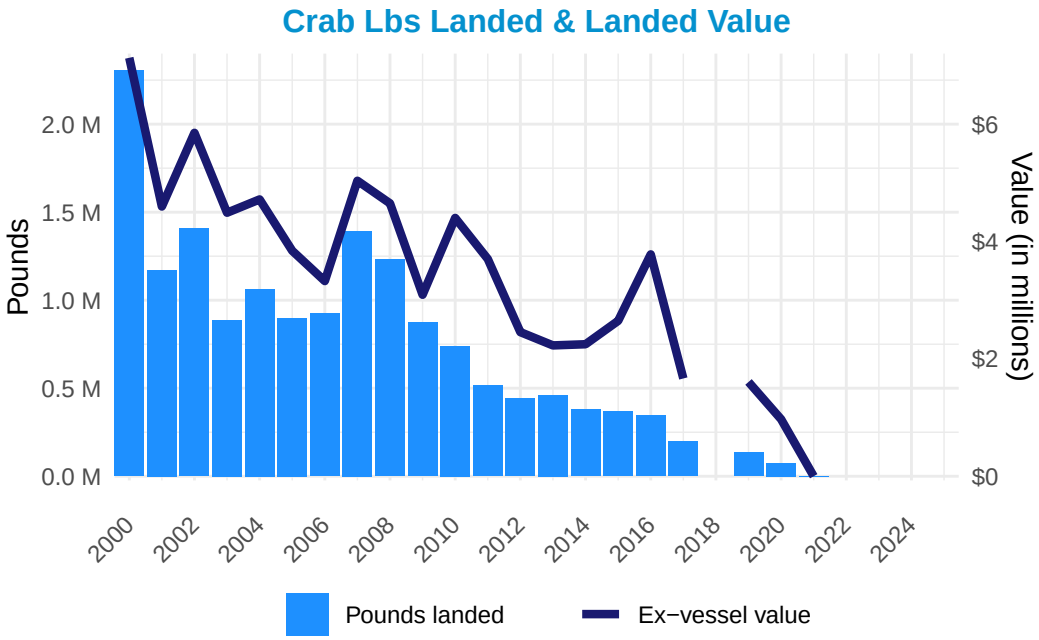
Kodiak Island's resident vessels harvesting BSAI crab fisheries have seen drastic declines since 2012.

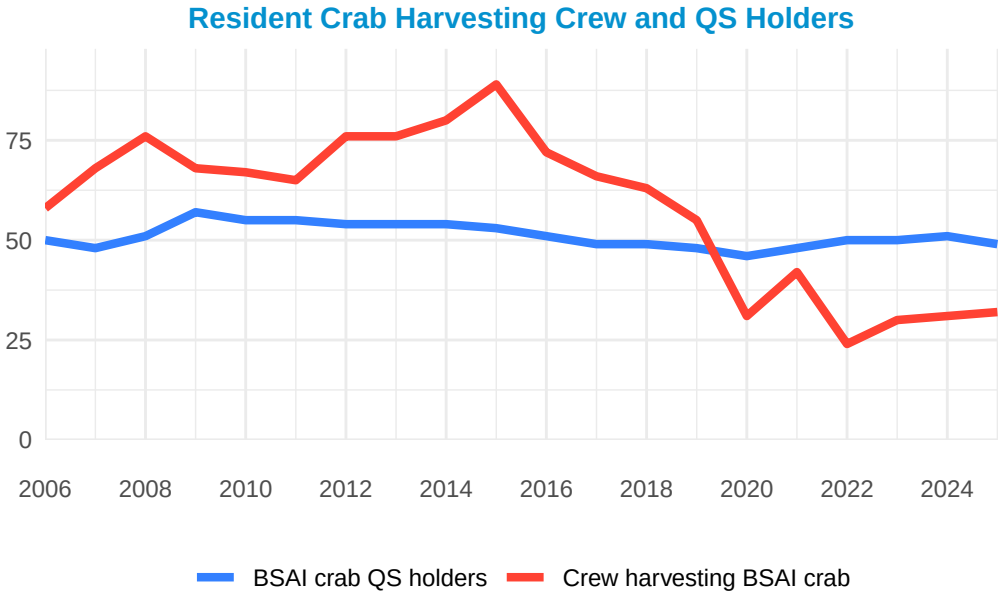
After a slight increase in pounds harvested and values for Kodiak fishers from 2018 to 2021, the closure of the Bering Sea snow crab fishery precipitated near zero volumes and values for Kodiak crab fishers.

12. Kodiak Island Borough

Within the BSAI crab fisheries, the number of crew living in Kodiak Island communities has declined significantly since 2015 (from a peak of 89 in 2015 to a low of 24 in 2022), with some interannual variation over the last several years. Since the historical low in 2022, the number of crew living in Kodiak Island communities has increased, or remained relatively stable, each subsequent year.

The number of resident crab quota shareholders has declined or remained unchanged each year between 2009 and 2020 to a historical low (45 quota shareholders). Since 2020, however, the number of resident crab quota shareholders has increased each year to 50 in 2024. As of 2025, there were 49 quotashare holders residing in Kodiak Island communities, slightly down from 2024 counts.



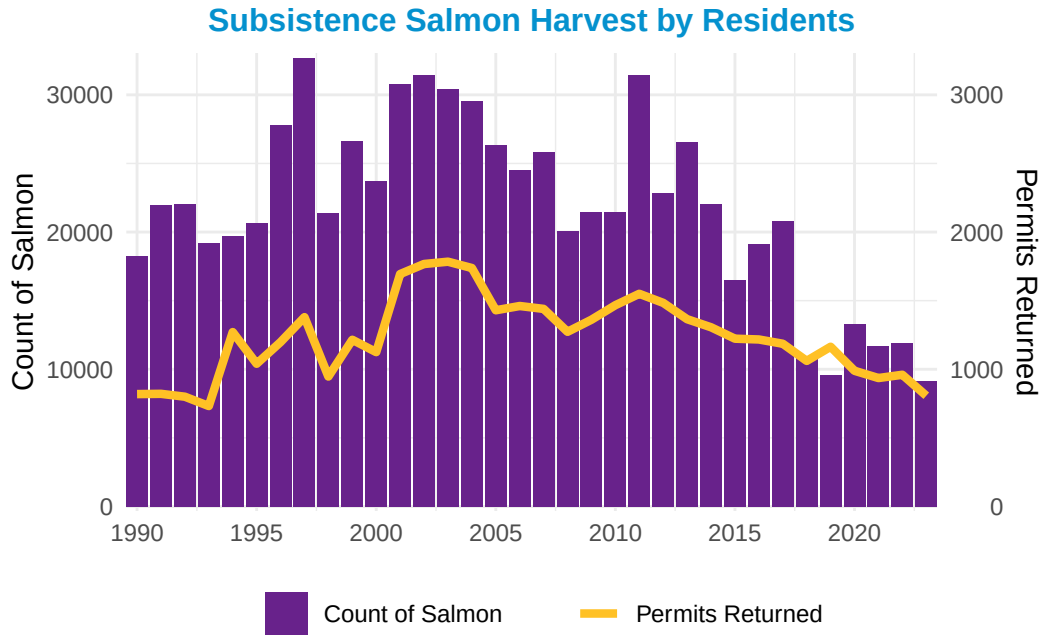


*Includes crew and quota holders in rationalized crab fisheries only

12.0.0.10. Subsistence Harvesting Engagement

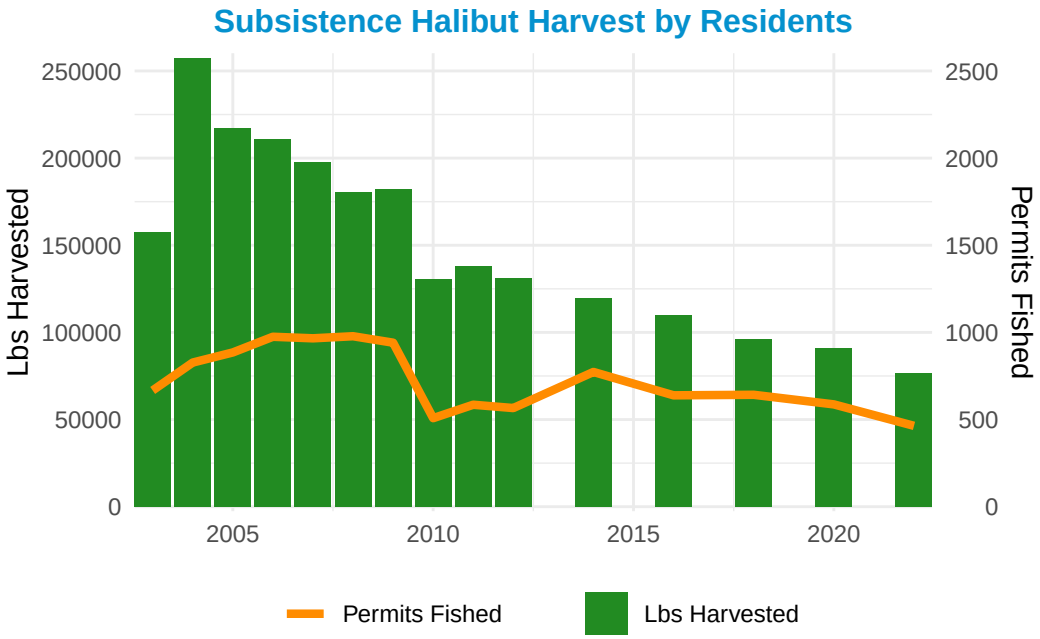
Subsistence harvests contribute substantially to food supplies in Kodiak Island Borough, although amounts vary among communities. ADF&G household surveys estimated annual wild-food harvests of 239 pounds per person in Larsen Bay, 370 pounds in Akhiok, and 579 pounds in Old Harbor in 2018. These estimates include fish, wildlife, marine invertebrates, and plants; salmon accounted for the largest harvest category in each community. The estimates describe particular communities and survey years and should not be interpreted as a current borough-wide average.

Kodiak Island communities also participate in salmon and halibut subsistence harvests. Trends across all communities from 2015-2025 indicate that harvests of halibut have decreased in recent years, while salmon harvests have declined with interannual variability. NOAA's annual registration lists identified 585 SHARC holders associated with the Kodiak rural-community and Sun'aq tribal categories in 2023, 588 in 2024, and 553 in 2025. These figures represent certificate holders rather than active harvesters.[14]



[14] https://www.fisheries.noaa.gov/alaska/commercial-fishing/permits-and-licenses-issued-alaska#subsistence-halibut

12. Kodiak Island Borough



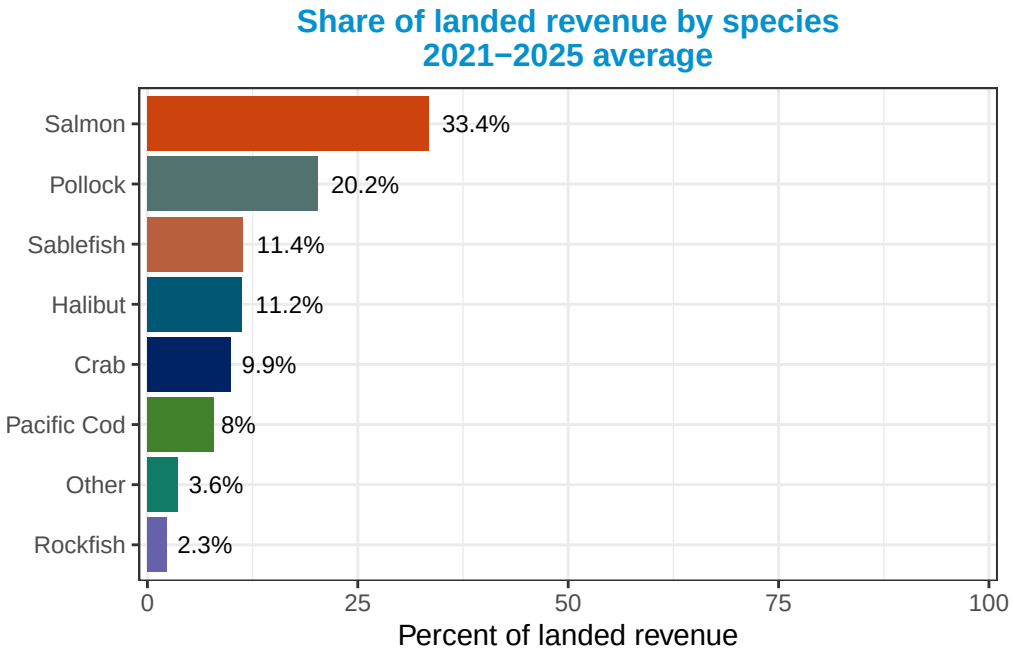
12.0.0.11. Recreational Fishing Engagement

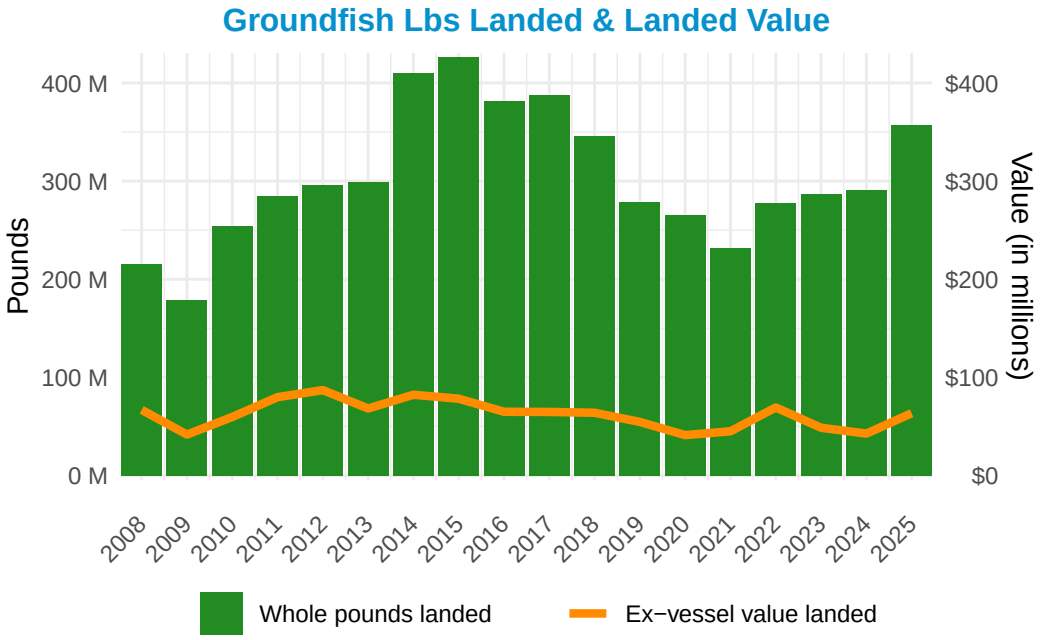
Kodiak is one of the four communities in Alaska that has been highly engaged in recreational fishing in all years 2004-2025 as well as highly engaged in commercial fishing (harvesting or processing), the others being Homer, Seward, and Sitka. Kodiak's recreational fishing engagement level has been relatively constant over this period relative to other communities.

12.0.0.12. Groundfish Processing Engagement - HIGH

Overall, Kodiak facilities processed 357.3M whole pounds of groundfish worth $63.5M in 2025. When compared to 2024, the volume of groundfish processed 66.4M pounds (up by 22.8%) and the value increased by $20.8M (up by 48.6%). The consistent change in trends between volume and value reflects the current state of the seafood market for many groundfish and salmon species.

Several multi-species processors operate in Kodiak City. Over the past five years, groundfish made up an average of 42% of the total first-wholesale value of all species landed. Although the bulk of processing occurs in Kodiak City, smaller Kodiak communities are involved in seafood processing as well. Salmon holds the majority share of revenue landed in Kodiak Island Borough in over the past five years, on average, at 33.4%, followed by pollock at 20.2%.

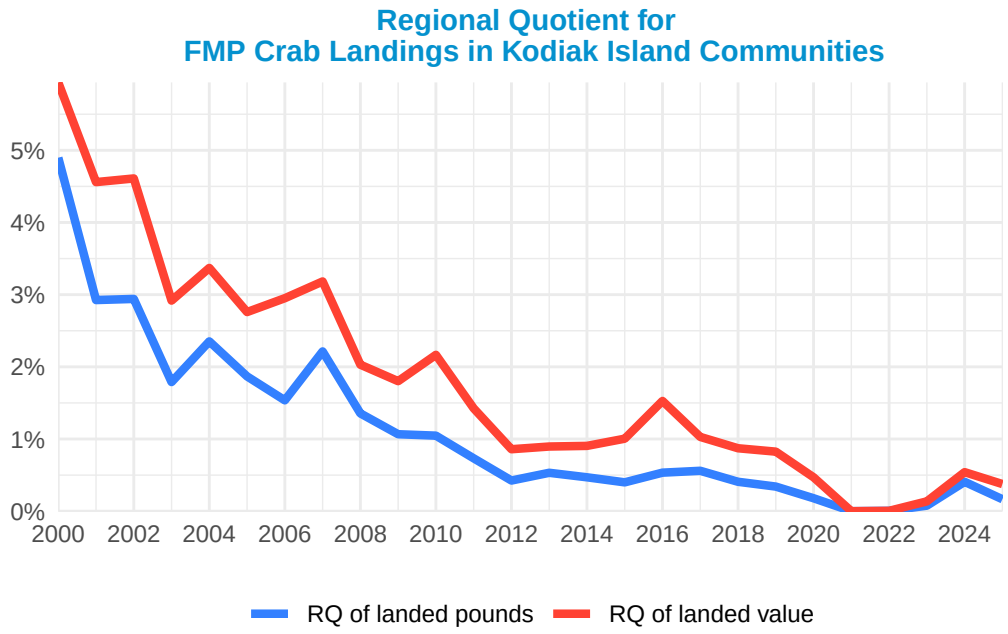




12.0.0.13. Crab Processing Engagement - MEDIUM

Due to confidentiality concerns, some processing data are restricted and therefore can only be shown as general trends. In order to show the general processing trends for crab FMP, the processing regional quotient (RQ) is presented here. The RQ for pounds and revenue landed in Kodiak show a steady decline over the past two decades, indicating a decrease in participation in the crab processing sector, and in recent years the closure of the snow crab fishery.

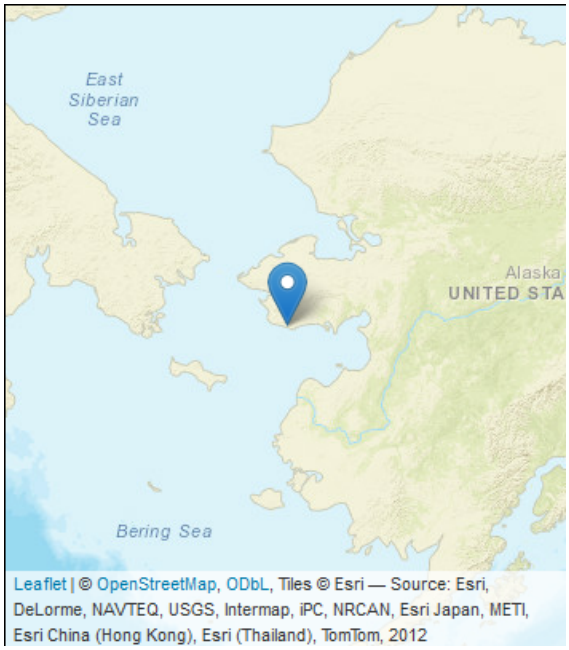
12. Kodiak Island Borough



13. Nome

13.0.0.1. Area Description & History

Nome is located on the south coast of the Seward Peninsula. Malemiut, Kauweramiut, and Unalikmiut Iñupiat have occupied the area for thousands of years. Nome served as a supply center for Russian whaling and trade in the mid 1800s. Its population grew rapidly after gold was discovered in 1898, and the city incorporated in 1901. Commercial halibut and groundfish fishing extended into the Bering Sea region in 1928. Commercial king crab fisheries began in the 1950s, and Norton Sound was an early center of activity. Nome is located in Pacific Halibut Fishery Regulatory Area 4E and the Bering Sea Sablefish Regulatory Area.



Nome serves as a regional center for supply, services, and transportation in the Norton Sound and Bering Strait region, and many government offices are located there. Nome was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. Four federally-recognized Tribes are located within the City of Nome: the Nome Eskimo Community, Solomon Tribal Council, King Island Native Community, and Council Traditional Council. Two Native Corporations are active in the area, including Bering Straits Native Corporation and Sitnasuak Native Corporation.

13.0.0.2. Infrastructure & Transportation

Nome is accessible by air and sea with two-state operated airports. Norton Sound Health Corporation operates the Nome Health Center and Norton Sound Regional Hospital, which provides acute care and medevac services. Other facilities include state and local government offices, the U.S. Coast Guard, the University of Alaska Fairbanks Northwest Campus, the Katirvik Cultural Center, a public library, and maritime support services.

Following a 2020 feasibility study, Nome moved forward with a deepwater port expansion. The project will improve access for larger vessels and support navigation safety, cargo transport, and

emergency response. It also has implications for national security and local employment.[1] In 2025, Kiewit Infrastructure West Co. received a $399.4 million contract to carry out the first of three phases. [2]

Nome has four schools.[3] Enrollment has remained fairly stable over the past decade, with a 1% increase in school enrollment between 2024 and 2025.

13.0.0.3. Demographics

We use American Community Survey (ACS) 5-year estimates to describe selected demographic characteristics. These estimates combine five years of survey responses . They should be interpreted with caution for small Alaska communities, as small sample sizes can be small, resulting in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

Nome was the most populous city in Alaska at the turn of the 20th century but the community shrunk after the conclusion of its gold rush in 1909. More recently, Nome's population declined overall , from 3,699 in the 2020 Census to an estimated 3,401 in July 2025, with a small increase in 2023. Just over half of Nome residents identify as American Indian or Alaska Native, and the city serves as a regional hub for surrounding Alaska Native villages. A demographic forecast presented to the city in 2025 projects continued decline through 2050, and suggests that economic activity associated with the port expansion could help stabilize or increase the population.[4]

[1] Port of Nome. (2024). Strategic Development Plan Update - Phase A Background & Engagement. https://www.nomealaska.org/sites/default/files/fileattachments/port_of_nome/page/12402/2024-05-13_pon_strategic_plan_update_-_phase_a_final.pdf

[2] U.S. Army Corps of Engineers, Alaska District, "USACE Awards Construction Contract for Portion of Port of Nome Modification Project," U.S. Army Corps of Engineers, [January 2025], https://www.poa.usace.army.mil/Media/News-Releases/Article/4276752/usace-awards-construction-contract-for-portion-of-port-of-nome-modification-pro/

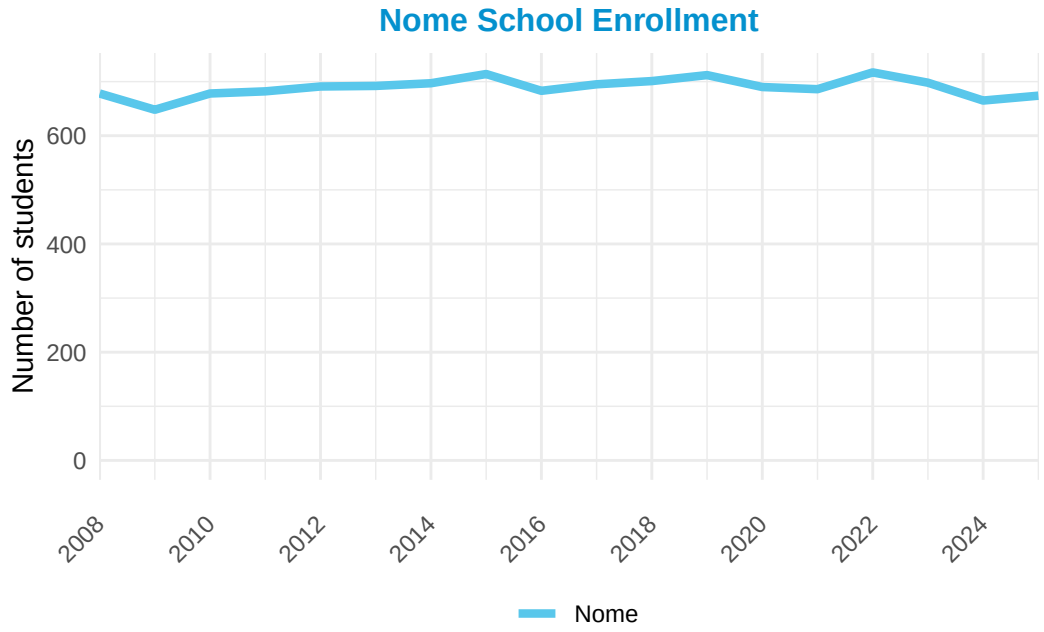
[3] U.S. Army Corps of Engineers, Alaska District, "USACE Awards Construction Contract for Portion of Port of Nome Modification Project," U.S. Army Corps of Engineers, [January 2025], https://www.poa.usace.army.mil/Media/News-Releases/Article/4276752/usace-awards-construction-contract-for-portion-of-port-of-nome-modification-pro/

[4] Port of Nome. (2024). Strategic Development Plan Update - Phase A Background & Engagement. https://www.nomealaska.org/sites/default/files/fileattachments/port_of_nome/page/12402/2024-05-13_pon_strategic_plan_update_-_phase_a_final.pdf

13. Nome

Demographics	
Population	3401
Population in group housing	250
Median household income	113,646
Housing units	1,514
Percentages	
Male	48.2%
Female	51.8%
White	24.3%
American Indian or Alaska Native	51.1%
Black or African American	1.6%
Asian	3.2%
Native Hawaiian or Pacific Islander	0%
Hispanic or Latino	2.7%
Below poverty line	8.8%
High school diploma or higher	94.4%
Population under 5	8.4%
Population over 18	70.5%
Population over 65	8.4%

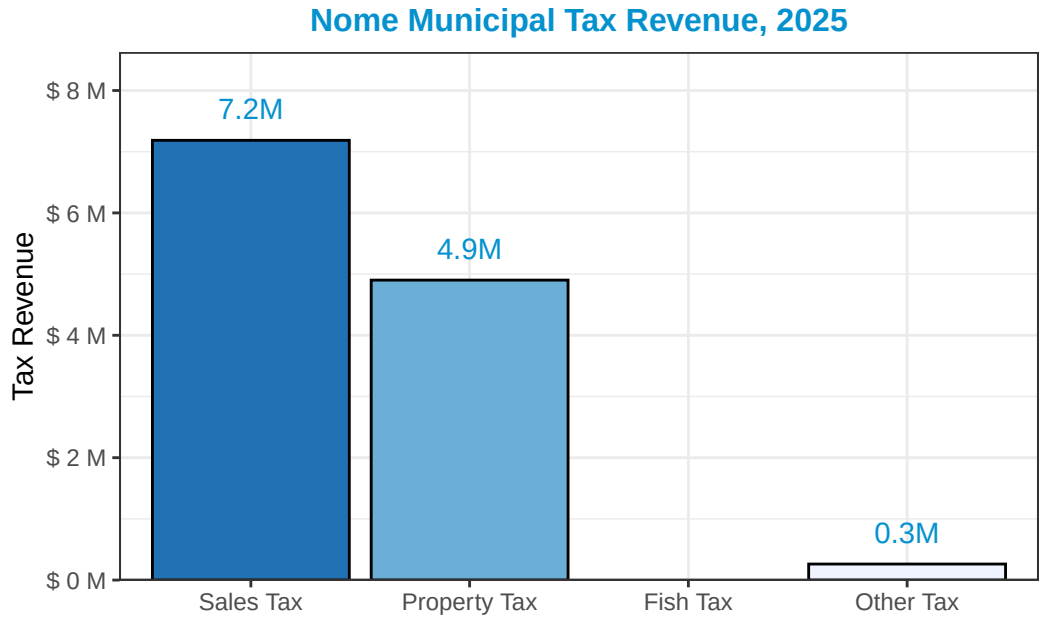
Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.



13.0.0.4. Current Economy

Nome's economy is based on public sector employment and fishing. Nome is home to Kawerak, Inc., the Native non-profit organization serving the Bering Strait region, and to the Norton Sound Economic Development Corporation. Many residents engage in commercial fishing and subsistence activities.

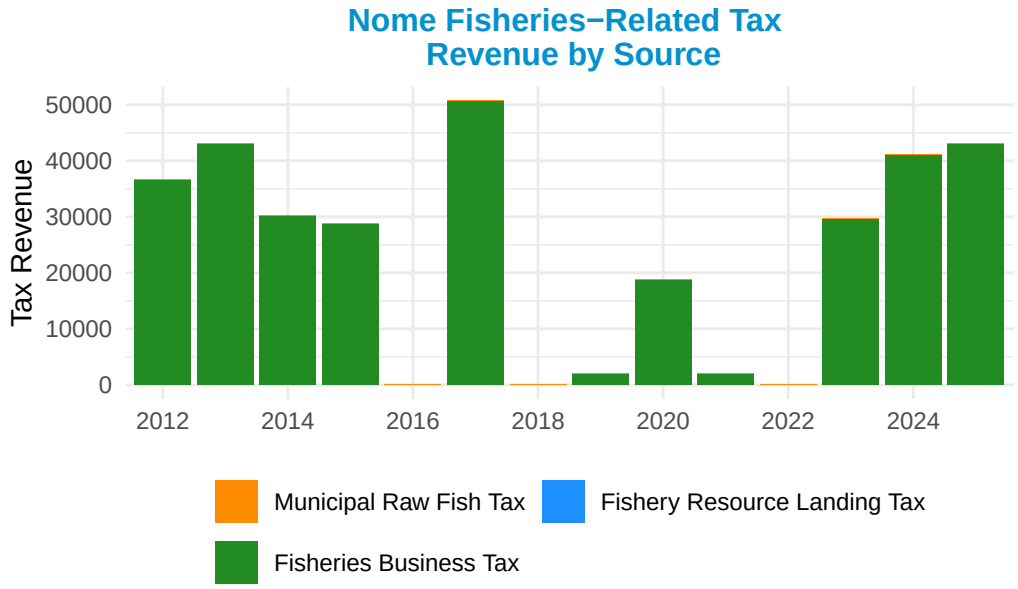
In 2025, Nome reported $43.0K in shared and municipal total fishery-related taxes.[5] This represents a return of total fish tax value to historically comparable levels. Fishery-related tax revenue was $1,977 in 2021 and $0 in 2022 due to fishery closures. In 2024, per capita income in Nome was estimated at $45,340 (2024 USD; up3% since 2019), and in 2024, the median household income was estimated at $113,646.[6] The five-year estimated percentage of the population living below the poverty line from 2020 to 2024 increased from 7.5% to 8.8%.[7]



[5]Port of Nome. (2024). Strategic Development Plan Update - Phase A Background & Engagement. https://www.nomealaska.org/sites/default/files/fileattachments/port_of_nome/page/12402/2024-05-13_pon_strategic_plan_update_-_phase_a_final.pdf

[6]U.S. Census Bureau. (2026). *American Community Survey 5-Year Estimates, 2020-2024*. U.S. Department of Commerce. Retrieved from https://www.census.gov/data

[7]U.S. Census Bureau. (2026). *American Community Survey 5-Year Estimates, 2020-2024*. U.S. Department of Commerce. Retrieved from https://www.census.gov/data



13.0.0.5. Climate Change Vulnerability and Adaptive Capacity

A community's exposure to the climate-related change in its ecosystem and physical environment is one factor that shapes its vulnerability . Observed climate change impacts in the city of Nome include warmer temperatures, increased storminess, changes in sea ice, less snow and more rain in the winter, rainier summers, shallower creeks, and permafrost thaw. These changes pose several risks relating to public health and safety, subsistence, infrastructure, and have led to increased shipping in the area.[8]

Nome's exposed location on Norton Sound makes it vulnerable to coastal flooding. In September 2022, storm surge from the remnants of Typhoon Merbok caused severe flooding and pushed water levels in Nome to their highest since 1974.[9] As Nome manages these coastal hazards, the city and the U.S. Army Corps of Engineers are expanding the port to accommodate larger vessels, improve navigation safety, and support cargo transport and emergency response.[10]

13.0.0.6. Fisheries and the City of Nome

Reliance on fishery resources affected by climate change may influence a community's degree of vulnerability to climate driven disruption. Nome is highly engaged in commercial crab harvesting

[8]Federal Emergency Management Agency. (n.d.). *National Risk Index: Nome Census Area, Alaska.* Retrieved November 13, 2024, from https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C02180

[9]Flood waters receding after storm batters western Alaska. (2022). CTV News. https://www.ctvnews.ca/climate-and-environment/flood-waters-receding-after-storm-batters-western-alaska-1.6074038?utm_medium=email&utm_source=govdelivery

[10]Wolfe, R.J., J.A. Fall, V. Fay, S. Georgette, J. Magdanz, S. Pedersen, M. Pete and J. Schichnes. 1986. The role of fish and wildlife in the economies of Barrow, Bethel, Dillingham, Kotzebue, and Nome. ADF&G, Div. of Subsistence Tech. Paper No. 154. Juneau, AK.

and processing. . Subsistence fishing is central to food access and cultural wellbeing, while recreational fishing plays only a small role. Warmer conditions can make salmon harder to preserve, and changes in sea ice can limit safe access to customary harvesting areas.[11] [12]

13.0.0.6.1. Local Adaptive Capacity

According to the National Risk Index, Nome has a very high susceptibility to the adverse impacts of natural hazards and a very low ability to prepare for or adapt to changing conditions.[13] This is important to consider when designing management policies for the fisheries resources this community depends on because drastic shifts may hinder their ability to stay highly engaged in a particular fishery. For example, there are indications that Nome residents shifted from targeting Norton Sound red king crab to Pacific cod in response to fisheries closures in 2020, although further research is needed to examine this potential shift in target species.

13.0.0.7. Groundfish Harvesting Engagement - LOW

Among commercial fisheries in Nome, groundfish engagement has changed significantly over the 5-year period. Pacific cod accounted for an unusually large share of Nome's commercial harvest in 2020 and 2021 as the shares for crab and halibut fell. Cod represented 54% of pounds harvested and 21% of harvest revenue in 2020, rising to 78% of pounds and 41% of revenue in 2021. Its share declined beginning in 2022 and fell below 0.1% of both harvest volume and revenue in 2024. In 2025, the share of harvest volume and revenue attributed to Pacific cod remains below 0.1%, although it has increased from 2024. The harvest revenue figure groups species to protect confidentiality.

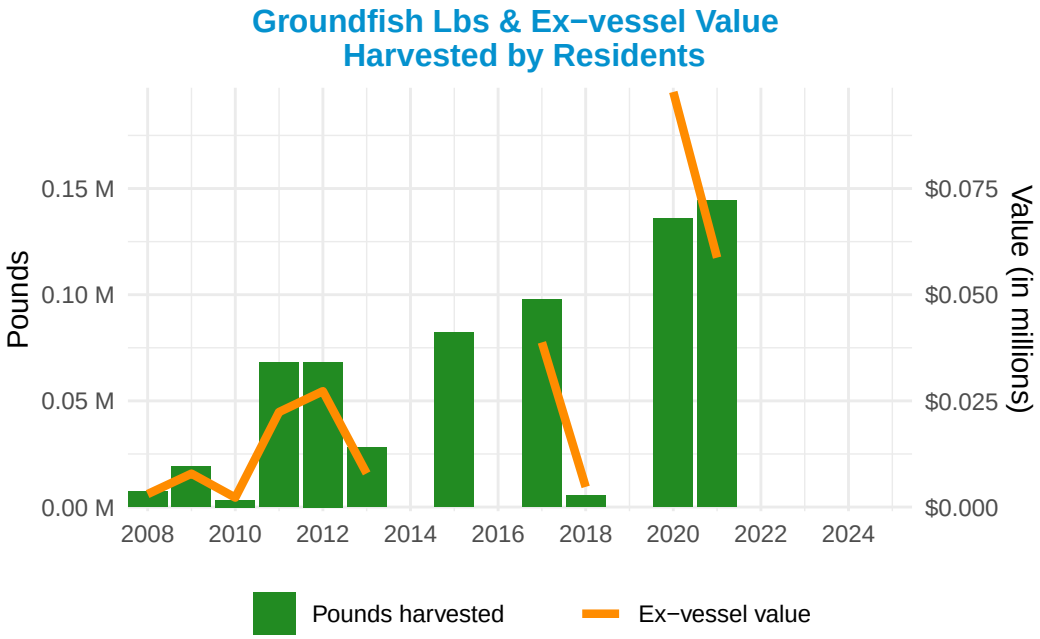
Given that increases in harvests of Pacific cod occurred during years with no crab harvesting activity, it is possible Nome fishers attempted to compensate for the crab declines by engaging more in the groundfish fishery. Additional social science research with commercial fishing fleets could illuminate decision-making processes under the dynamic conditions and stressors observed since 2020.

[11] Wolfe, R.J., J.A. Fall, V. Fay, S. Georgette, J. Magdanz, S. Pedersen, M. Pete and J. Schichnes. 1986. The role of fish and wildlife in the economies of Barrow, Bethel, Dillingham, Kotzebue, and Nome. ADF&G, Div. of Subsistence Tech. Paper No. 154. Juneau, AK.

[12] Federal Emergency Management Agency. (n.d.). *National Risk Index: Nome Census Area, Alaska.* Retrieved November 13, 2024, from https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C02180

[13] Federal Emergency Management Agency. (n.d.). *National Risk Index: Nome Census Area, Alaska.* Retrieved November 13, 2024, from https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C02180

13. Nome



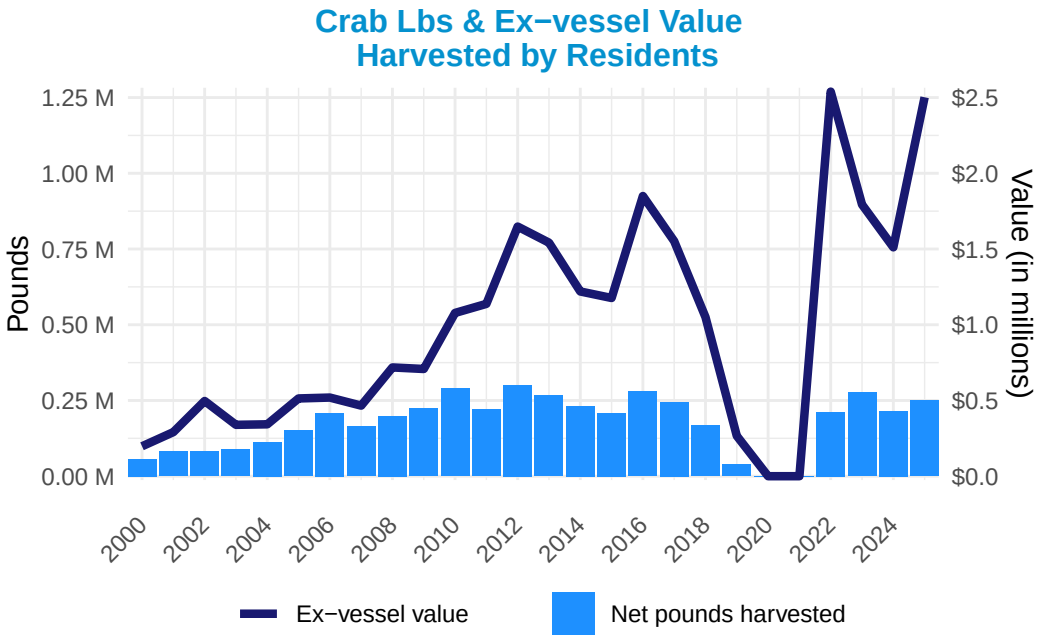
13.0.0.8. Crab Harvesting Engagement - HIGH

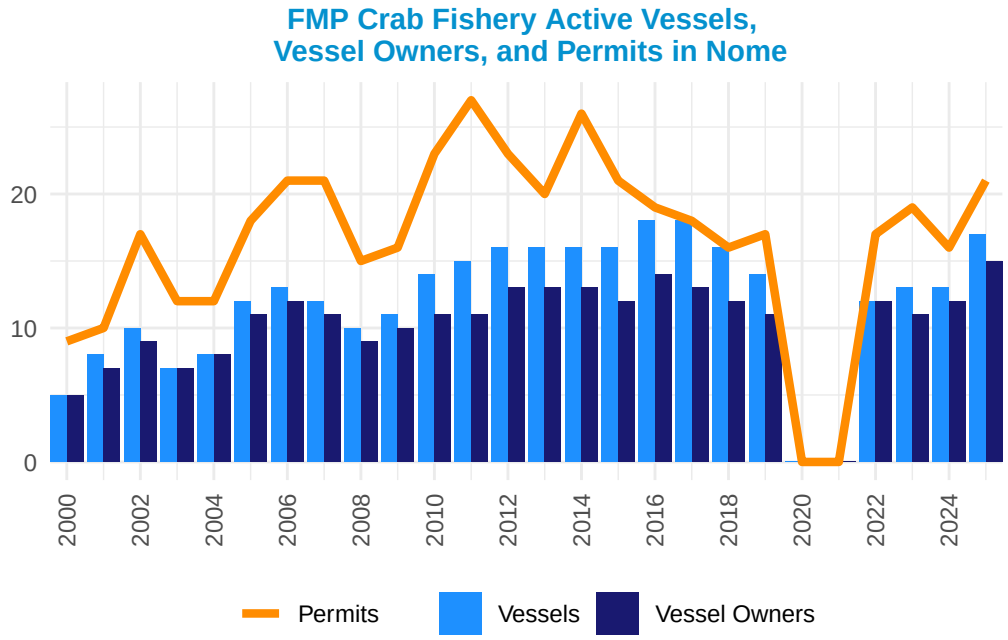
The Norton Sound red king crab fishery has experienced closures, delayed openings, and lower catch limits in recent years. In 2020, the state closed both the winter and summer commercial Norton Sound red king crab fisheries because of low stock abundance. The fisheries reopened in 2021, but Norton Sound Seafood Products declined to buy crab for a second year to support stock recovery. The winter commercial fishery recorded a small harvest, while the summer fishery recorded none. Winter subsistence crabbing continued.[14]

Separately, there was no harvest and value of BSAI crab in 2020 and 2021 from Nome-registered vessels. Crab harvesting engagement rebounded in 2022 and 2023. In 2022, the number of crab vessels registered in Nome returned to levels seen in previous years and ex-vessel value of landed catch witnessed a record high in 2022. In 2025, a return to historical ex-vessel value was observed, with crab vessels harvesting 250.2K pounds of BSAI crab with an associated value of $2.5M. Nome crab fishers participate through state-issued king crab permits and the Community Development Quota fishery. Only selected data are publicly available because of confidentiality requirements. Norton Sound Seafood Products was established in 1995 and processes red king crab, salmon, and halibut.

[14]Menard, J., J. M. Leon, J. Bell, L. Neff, and K. Clark. 2022. 2021 Annual management report Norton Sound Sound–Port Clarence Area and Arctic –Kotzebue management area s. Alaska Department of Fish and Game, Fishery Management Report No. 22 22-27, Anchorage.

13. Nome





Due to confidentiality concerns, only select data are available.

13.0.0.9. Subsistence Harvesting Engagement

Salmon, tomcod, crab, and seal are important wild foods for Alaska Native households in Nome. Harvesting, preserving, and sharing these foods help sustain cultural practices and maintain access

to locally harvested food.[15][16] Available records show that subsistence halibut harvests have fluctuated since 2008, with a recent low in 2022. Subsistence salmon harvest reached a recent low in 2021. Earlier research documented that some Nome residents shifted to other fishing areas when restrictions limited their usual salmon harvest opportunities.[17][18]

In the Nome Subdistrict, the reported subsistence salmon harvest rose from 3,206 fish in 2023 to 5,406 in 2024. A larger pink salmon harvest drove the increase, while chum and coho harvests declined. The Nome River missed its odd-year pink salmon escapement goal in 2025 for the first time since the goal was established in 2005.[19]

In 2026, subsistence salmon fishing continued under the regular schedule in the Nome Subdistrict, while weak returns prevented commercial openings. The Nome River again missed its pink salmon escapement goal, and the Eldorado River chum return was historically low. Final 2026 subsistence salmon harvest estimates were unavailable in ADF&G's October season summary.[20]

Across Norton Sound, subsistence red king crab harvests averaged 2,873 pounds in summer and 8,844 pounds in winter from 2016 to 2020. In 2021, harvests fell to 1,723 pounds in summer and 6,941 pounds in winter.[21] In 2026, subsistence fishers across the region reported retaining 5,025 male red king crab in winter and 95 in summer.

[15] Menard, J., J. M. Leon, J. Bell, L. Neff, and K. Clark. 2022. 2021 Annual management report Norton Sound Sound–Port Clarence Area and Arctic –Kotzebue management area s. Alaska Department of Fish and Game, Fishery Management Report No. 22 22-27, Anchorage.

[16] Alaska Department of Fish and Game Division of Subsistence. 2021. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

[17] Alaska Department of Fish and Game Division of Subsistence. 2021. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset

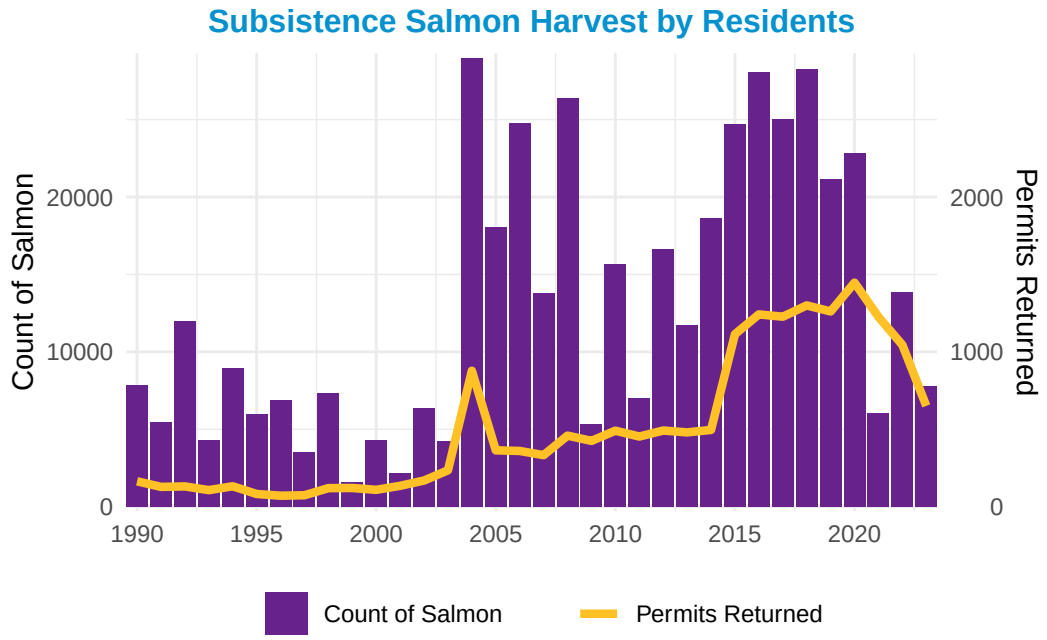
[18] Magdanz et al. 2003. Subsistence Salmon Fishing by Residents of Nome, Alaska, 2001

[19] Alaska Department of Fish and Game. (2025, November). Norton Sound and Port Clarence stock status and fishery overview: A report to the Alaska Board of Fisheries, November 2025 (Special Publication No. 25-14). Alaska Board of Fisheries Meeting Information

[20] Alaska Department of Fish and Game. (2025, November). Norton Sound and Port Clarence stock status and fishery overview: A report to the Alaska Board of Fisheries, November 2025 (Special Publication No. 25-14). Alaska Board of Fisheries Meeting Information

[21] Menard, J., J. M. Leon, J. Bell, L. Neff, and K. Clark. 2022. 2021 Annual management report Norton Sound Sound–Port Clarence Area and Arctic –Kotzebue management area s. Alaska Department of Fish and Game, Fishery Management Report No. 22 22-27, Anchorage

13. Nome



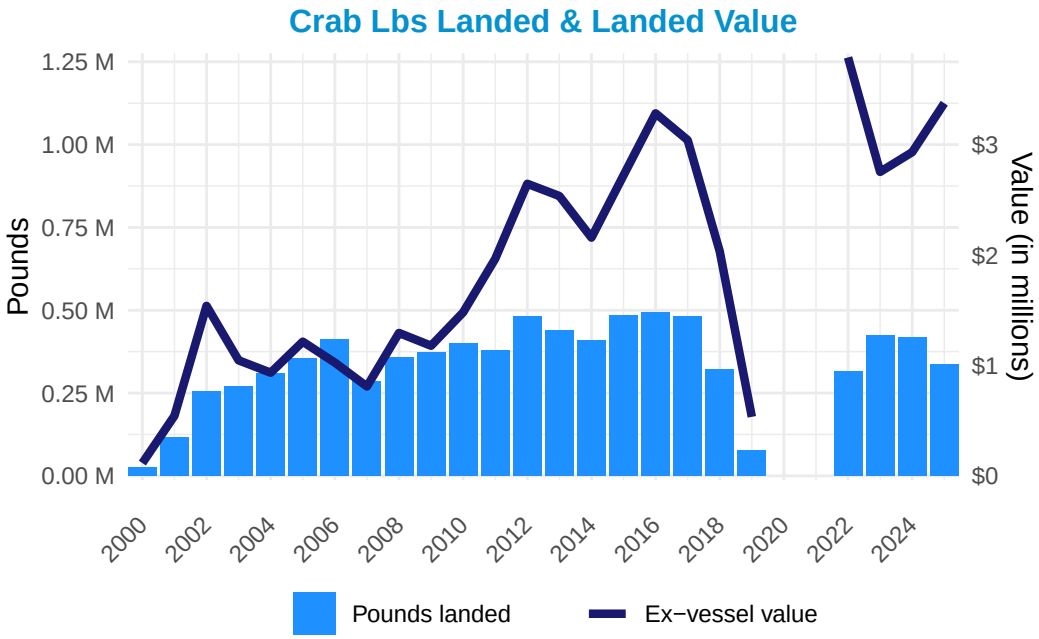
13.0.0.10. Groundfish Processing Engagement - LOW

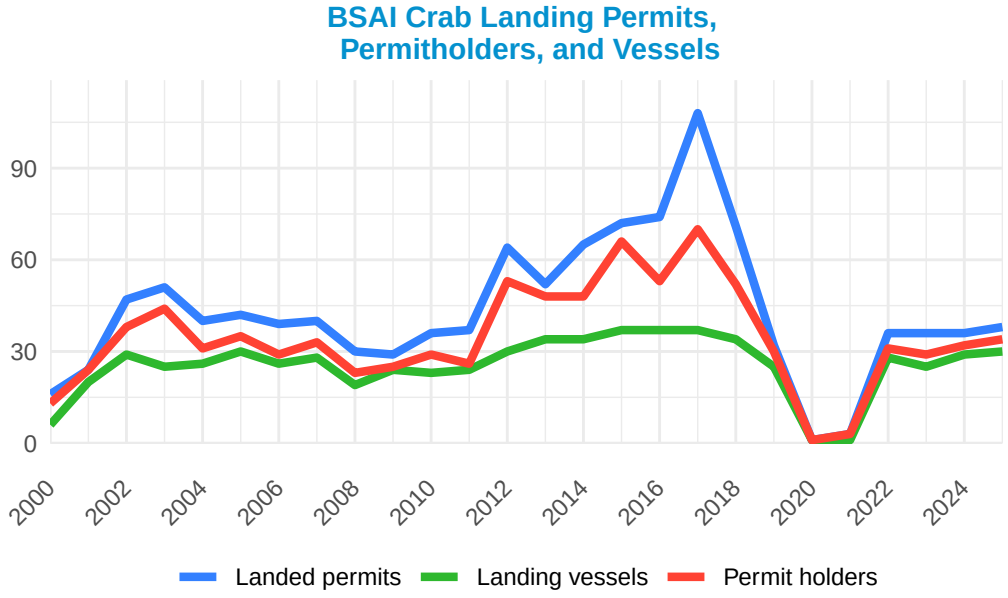
Between 2019 and 2021, Pacific cod landings in Nome increased by 584% by weight and 230% by landed value. By 2024, landed volume had fallen 99% from its 2021 level. Groundfish processing engagement remained low throughout this period. In 2025, landed volume and value for Pacific cod has increased from 2024, but remains significantly below the historical high in 2021 and is less than 0.1% of total volume and value share. The landed revenue figure groups species to protect confidentiality.

13.0.0.11. Crab Processing Engagement - HIGH

Nome is highly engaged in the crab processing sector, although processors have faced year-to-year vulnerability in crab production. The number of crab buyers in the region dropped from 8 to 3 in 2019 and remained low until 2022, when buyers returned to pre-closure levels (8 in 2024 and 9 in 2025). In 2025, Nome processed 337.5K net pounds of crab with an associated value of $3.4M. Norton Sound Seafood Products processes red king crab, salmon, and halibut.

13. Nome

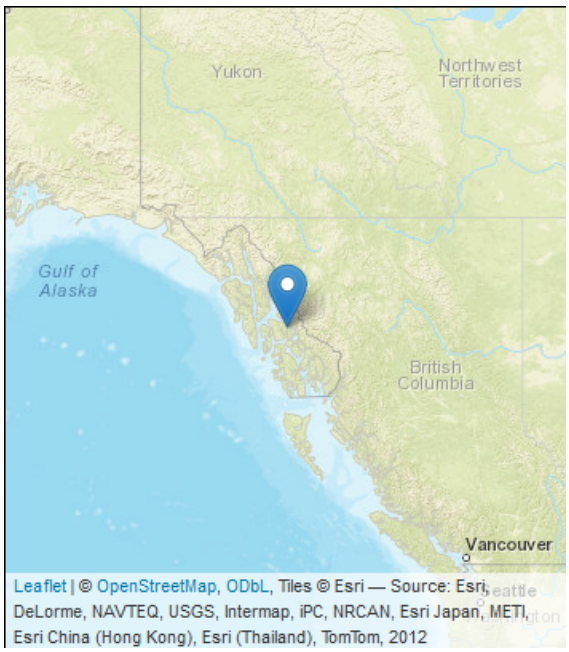




*Permits counted are CFEC gear operator permits

14. Petersburg

14.0.0.1. Area Description & History



Historically utilized by Tlingits as a fish camp, Petersburg is located on the northwest end of Mitkof Island. In the 1800s, Norwegian immigrants settled in the area and built a cannery, sawmill, and dock. Alaska's first shrimp processor, Alaska Glacier Seafoods, was founded in 1916. In 2013, the City and Borough of Petersburg was incorporated.[1] The community maintains a mixture of Tlingit and Scandinavian history. It is known as "Little Norway" for its history and annual Little Norway Festival during May. As in many Alaskan communities, subsistence harvest, particularly of salmon, halibut, shrimp, and crab, is important. Petersburg has participated in commercial fisheries since the late 1800s. Commercial harvest of salmon began in the late 1870s and soon after, a commercial fishery began for halibut, with sablefish targeted as a secondary fishery. Although salmon continues to be a vitally important fishery, Petersburg has a diversified fleet that participates across numerous State and Federal fisheries. The number of Petersburg City residents living in group quarters is approximately 187,[2] although this is not directly associated with fisheries. Petersburg is located in Pacific Halibut Fishery Regulatory Area 2C and Federal Statistical and Reporting Area 659. Petersburg is in House District 35, Senate District R. Native Associations and Corporations active there today include the Petersburg Indian Association.

14.0.0.2. Infrastructure & Transportation

Petersburg is accessible by air and water. The community is serviced twice daily by Alaska Airlines with flights to Juneau and Seattle as well as charter services, and seaplanes. The Alaska Marine Highway provides a regular ferry service. Petersburg is on the mainline route which connects

[1] City and Borough of Petersburg. (n.d.). Boundary Map and Boundary Description. Retrieved November 15, 2024 from https://www.petersburgak.gov/comdev/page/borough-map-and-boundary-description

[2] Alaska Department of Labor. (2026). Alaska Population Estimates: Cities and Census Designated Places (CDPs), 2020 to 2025. https://live.laborstats.alaska.gov/data-pages/alaska-population-estimates

Bellingham to Southeast Alaska. Harbor facilities include a petroleum wharf, barge terminals, three harbors with moorage for 700 boats, a launch, and haul-out. There is no deep-water dock for large ships such as cruise ships. Water in Petersburg is sourced from a 200-million gallon water reservoir. There are three schools. Enrollment reached a historic low in 2021, which likely occurred due to the COVID19 pandemic.[3] Since 2021, school enrollment increased year-over-year until 2023. In 2024, school enrollment declined by 7 students (-1.5%) from 2023 enrollment levels, but increased (+13 students) in 2025.

14.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

Petersburg's population has steadily increased year-over-year since 2014 to 3,070 (5% increase from 2014). With slight increases in population between 2014 and 2022, the proportion of the population over 65 has more than doubled during the same time period while the proportion of younger individuals (under 5 years) is declining. Approximately 64% of the population, on average, identified as white between 2020 and 2024, while approximately 8% of the population identifies as American Indian or Alaskan Native.

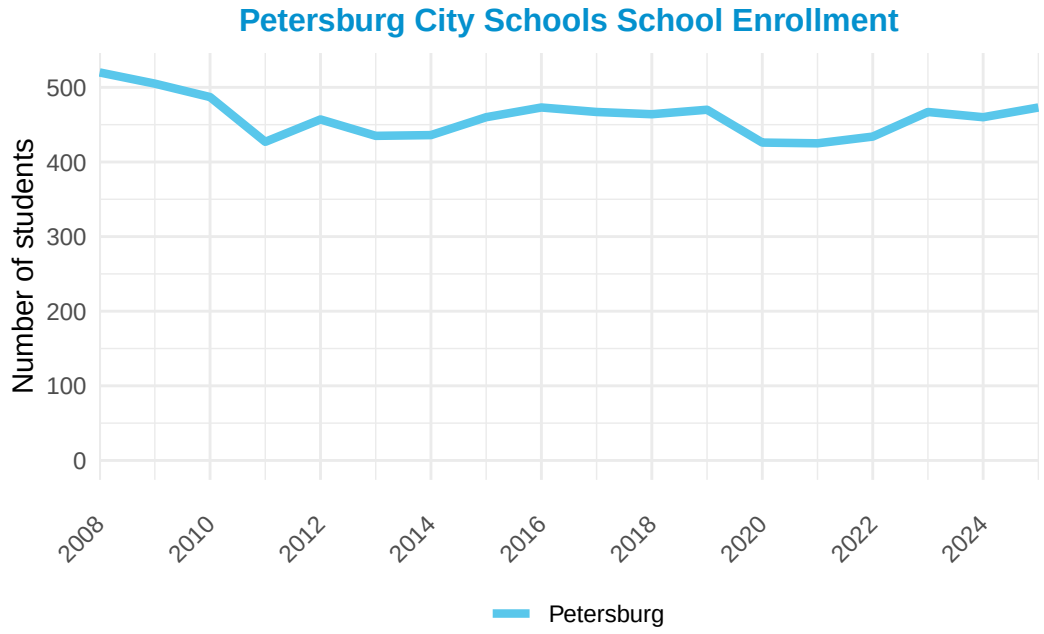
The percentage of the population with a high school diploma (or equivalent) or higher has decreased since 2010. Between 2020 and 2024, an average of 91% of the population 25 and older stated that they had a high school diploma or higher, down approximately 5% from the 2010 to 2014 average. Additionally, the median household income (in 2024 USD) has decreased from 2010 (~$84,000) to 2024 (~$71,369). Within this time period the percentage of the population that lives below the poverty line has decreased from 10% in 2010 to 7% in 2024.

[3]School enrollment statistics compiled from AK. Dept. of Education & Early Development. Retrieved November 14, 2024 from http://www.eed.state.ak.us/stats/

14. Petersburg

Demographics	
Population	3070
Population in group housing	183
Median household income	71,369
Housing units	1,507
Percentages	
Male	53.1%
Female	46.9%
White	64.1%
American Indian or Alaska Native	8.1%
Black or African American	1.4%
Asian	13.1%
Native Hawaiian or Pacific Islander	0.2%
Hispanic or Latino	4%
Below poverty line	6.8%
High school diploma or higher	90.6%
Population under 5	5.1%
Population over 18	81%
Population over 65	23.7%

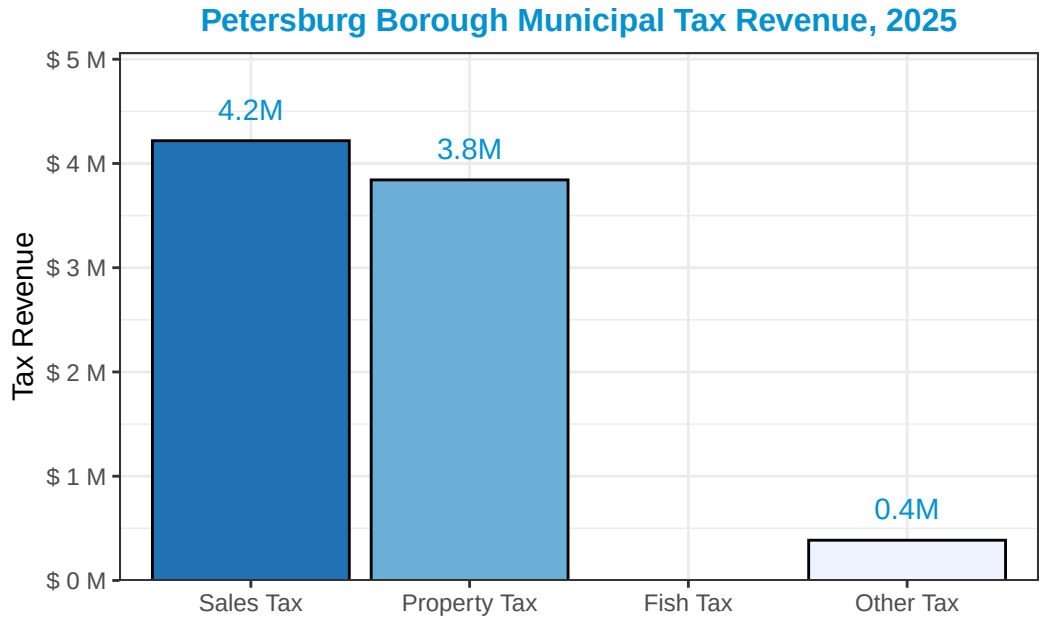
Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.



14.0.0.4. Current Economy

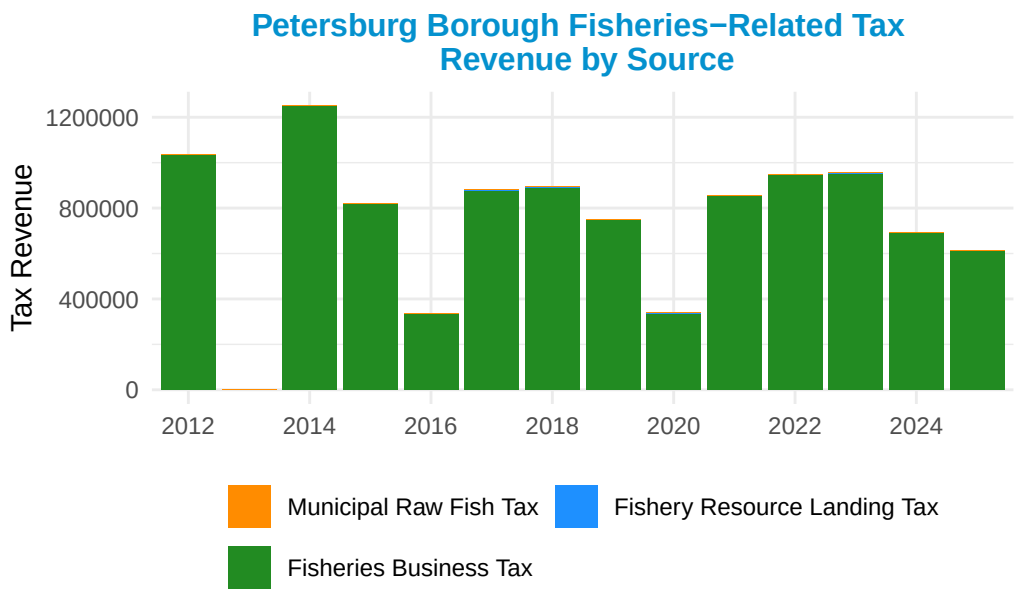
Historically, Petersburg's economy was based on commercial fishing and timber. Today, Petersburg is one of the top-ranking fishing ports in the U.S. Petersburg does not levy a separate municipal raw fish tax at the docks. Instead, its fish tax revenue comes from the State of Alaska's shared tax programs. In 2024-2025 The Petersburg Borough collected $694,774 in shared state fisheries taxes which includes $690,755 from the Fisheries Business Tax (raw fish tax) and $4,019 from the Shared Fisheries Landing Tax.[4] These revenues support basic city services such as education, sanitation, transportation, and other services.

The estimated per capita income in Petersburg for 2020-2024 was $42,950 (down 8% since 2015) and the median household income $75,125 down 16% since 2015), measured in 2024 USD. The percentage of the population living below the poverty line has decreased (~3%) since 2015.[5] These measures are important for understanding the current economic wellbeing of residents and indicate potential social and economic changes. Additionally, these factors contribute to the community's ability to adapt to stressors such as food security and environmental stressors.



[4]Petersburg Borough Assembly. (2026, April 29). Borough Assembly work session meeting minutes: FY2027 budget work session. Petersburg Borough. <usgovcloudapi.net>

[5]U.S. Census Bureau. (2021). Petersburg Borough. Retrieved from https://www.census.gov/quickfacts/ petersburgboroughalaska



14.0.0.5. Climate Change Vulnerability and Adaptive Capacity

14.0.0.5.1. Exposure to Biophysical Effects of Climate Change

A community's exposure to the biophysical effects of climate change, which include effects to the biological organisms and physical landscape surrounding them, can determine their vulnerability. Biophysical risks to the Gulf of Alaska as a whole include sea level rise, coastal erosion, extreme weather events, changes in precipitation (rates, timing, and snowpack), increasing landslides and avalanches, and increased storm severity. Similar to other areas of Alaska, Southeast Alaska is already experiencing increasing temperatures and changes in precipitation patterns, including receiving less snow and more rain. Changes have also been observed in forest habitats, including declines of yellow cedar trees, and marine habitats, ocean acidification and increased prevalence of invasive species. These impacts are currently and will continue to impact human health in various ways.[6]

In 2018, the community of Petersburg integrated climate change as a hazard to the community within its hazard management plan, noting that "climate change has the potential to aggravate natural disasters along the coastline and rivers, particularly flooding and erosion."[7] The plan further details other local concerns around climate change including sea level rise, impacts on king salmon, more fog and rain, and new species migrating to the community while other species leave.

[6] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

[7] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

14.0.0.5.2. Dependence on Fisheries Affected by Climate Change

As of 2025, Petersburg is highly engaged in harvesting and processing in the groundfish fishery. Prior to 2025, Petersburg was moderately-high in groundfish processing. Petersburg fishers also participate in diverse State fisheries including salmon and crab, making them susceptible to recent volatility in salmon returns and long-term implications of ocean acidification on crab.

Tourism for recreational fishing is also a substantial part of the local economy. The community is also highly engaged in subsistence fishing, particularly for salmon and crab species, but also for certain species of groundfish including rockfish, sablefish and cod. Given this, Petersburg is overall highly dependent on fisheries resources that will be impacted by climate change. Therefore, as this community is impacted by a changing marine environment, their ability to fish for commercial, recreational, and subsistence purposes will be affected. Residents are highly concerned about impacts to several key species, including salmon, shellfish, eulachon, herring and halibut.[8] Community residents are also concerned about the potential implications of invasive European green crab on marine habitat and native crab species, as this species is now present in Southeast Alaska waters.[9]

14.0.0.5.3. Local Adaptive Capacity

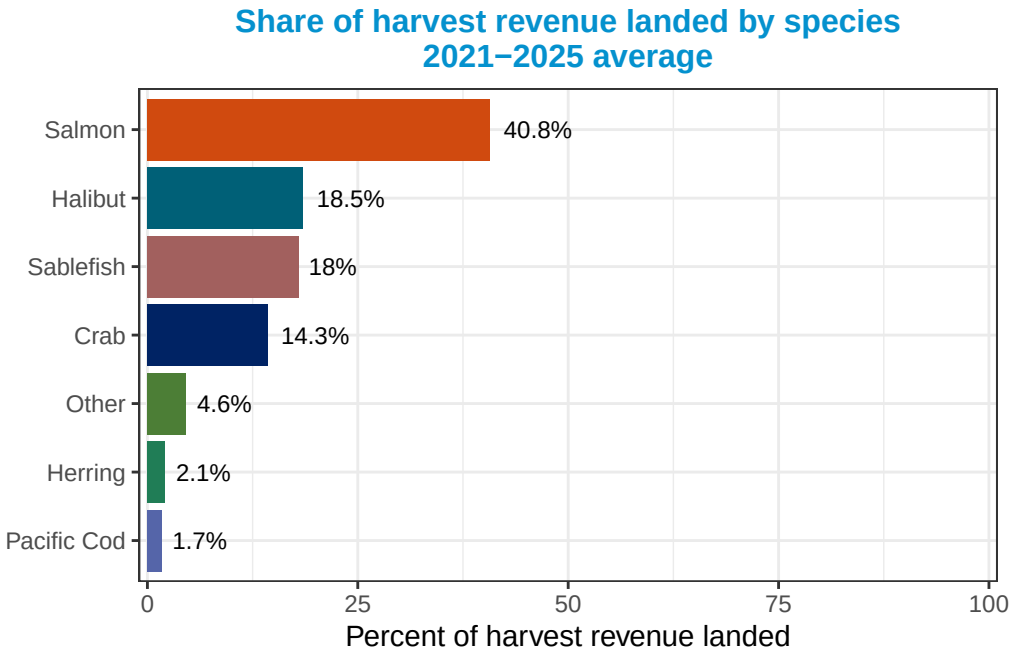
FEMA's National Risk Index rates Petersburg as having very low community resilience,[10] meaning they have a very low ability to adapt to changing conditions and withstand and recover rapidly from disruptions.

[8] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

[9] KFSK. (2024, August 26). Petersburg mobilizes against invasive green crabs on Alaska's shores. https://www.kfsk.org/2024/08/26/petersburg-mobilizes-against-invasive-green-crabs-on-alaskas-shores/

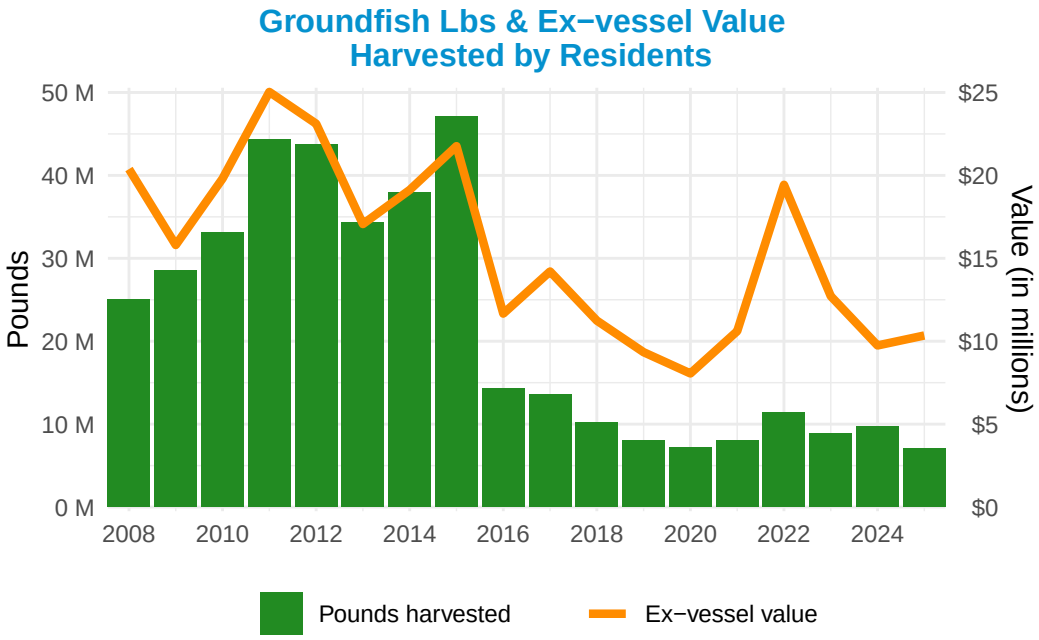
[10] Federal Emergency Management Agency. (n.d.). *National Risk Index: Petersburg Borough, Alaska*. Retrieved November 13, 2024, from https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C02195

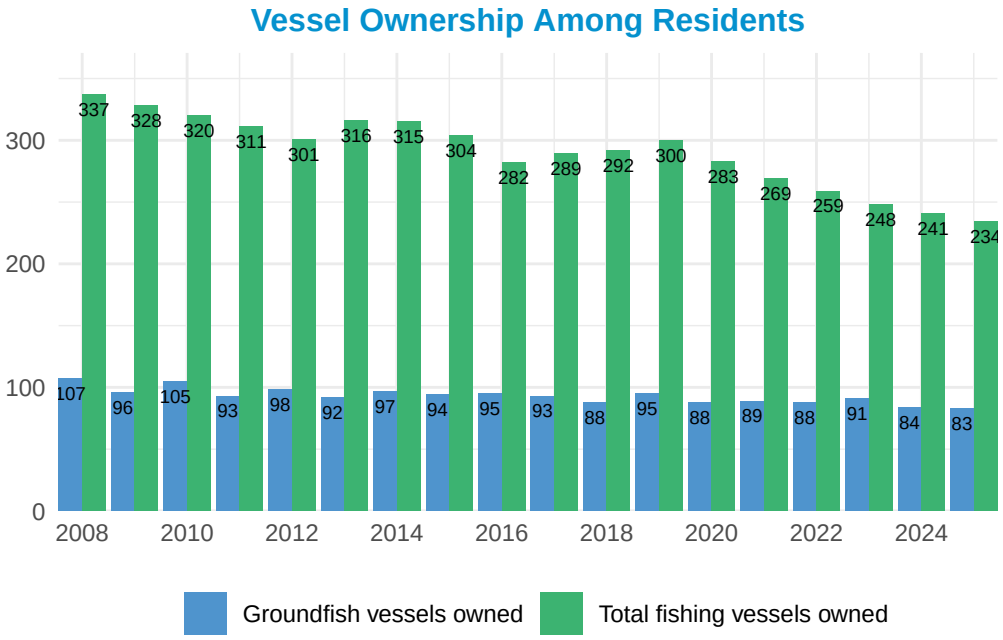
14.0.0.6. Groundfish Harvesting Engagement - HIGH



While highly engaged in groundfish fisheries, Petersburg brings harvest revenue from a diverse range of fisheries: 41% of revenue from commercial salmon harvest, 19% from halibut, and 14% from federal crab fisheries. The volume of groundfish harvested by residents in 2025 was 7.1M pounds with an associated revenue of $10.3M. Since 2008, groundfish harvested by Petersburg vessels have decreased 72% in volume and 49% in associated revenue. Pacific cod harvests decreased slightly in 2025 compared to 2024, from 3.4M to 2.8M; this marks a -8% decrease from the five-year low of 3 million in 2020.

The number of fishing vessels owned by Petersburg residents decreased by 35 vessels from 2021 to 2025 (decreased by 13%). During the same time period, the total number of groundfish vessels registered to Petersburg residents also decreased from 89 to 83 (decreased by 7%), reaching a new historical low on record.





14.0.0.7. Crab Harvesting Engagement - LOW

There is not a substantial amount of crab harvesting activity in Petersburg to report.

Due to confidentiality concerns, only select data are available.

14.0.0.8. Subsistence Harvesting Engagement

Residents of Petersburg are moderately to highly engaged in subsistence harvesting, with 76% of residents utilizing at least one species of crab for subsistence.[11] Rockfish, sablefish and cod are the most utilized groundfish species, according to the most recent data from 2000, and Dungeness, Tanner and Red King Crab are the most widely utilized crab species. Salmon and halibut are also both very important to the community for subsistence and cultural purposes.

Traditionally, salmon provided the foundation for almost all aspects of cultural life for the Tlingit and Haida peoples living in the region.[12] Today, salmon continues to represent an important tribal cultural connection to their homeland and provides a valuable economic and nutritional resource for residents.[13] In 2018, harvests of King salmon were restricted by the Alaska Dept. of Fish and Game, and in 2023, Petersburg saw a significant decline in the number of salmon harvested.[14] This is concerning for residents who rely heavily on this resource.

Finally, halibut is also a key subsistence resource for residents, and harvests had remained consistent in recent years, but decreased to 30.4 thousand pounds harvested in 2022.[15] However, concern exists over impacts from climate change on this species' population given that size-at-age has decreased significantly in recent years for this species.[16]

[11] Alaska Department of Fish & Game Division of Subsistence. (2024). 2000 Petersburg Harvest Data. Community Subsistence Information System, Subsistence Community Profile Dashboard. Retrieved November 14, 2024 from https://adfg.maps.arcgis.com/apps/dashboards/c5a783dd9f9049efb6489cce9fc38319.

[12] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

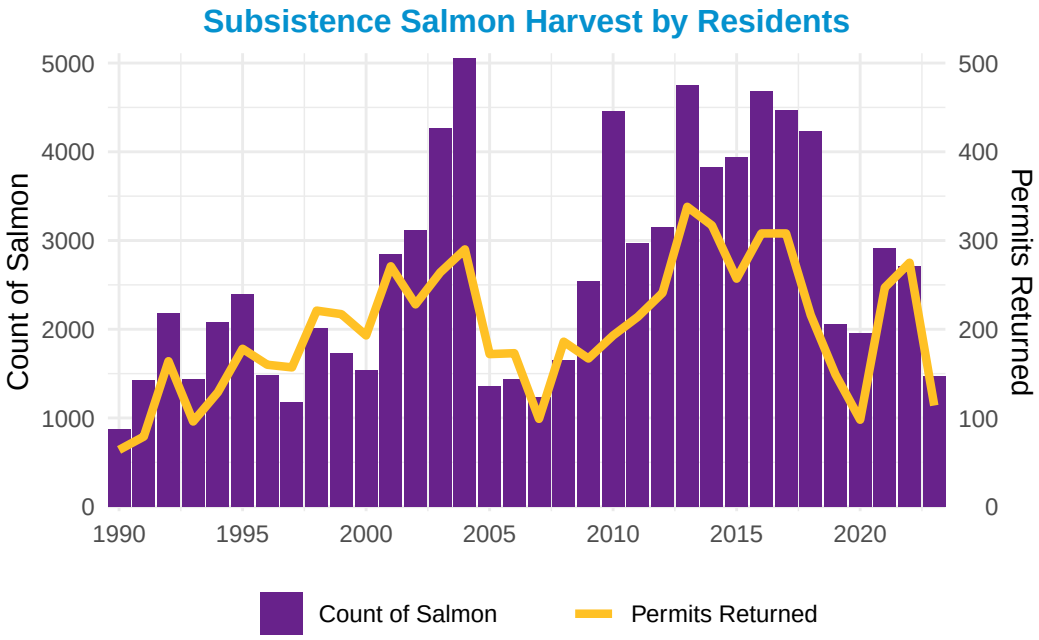
[13] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

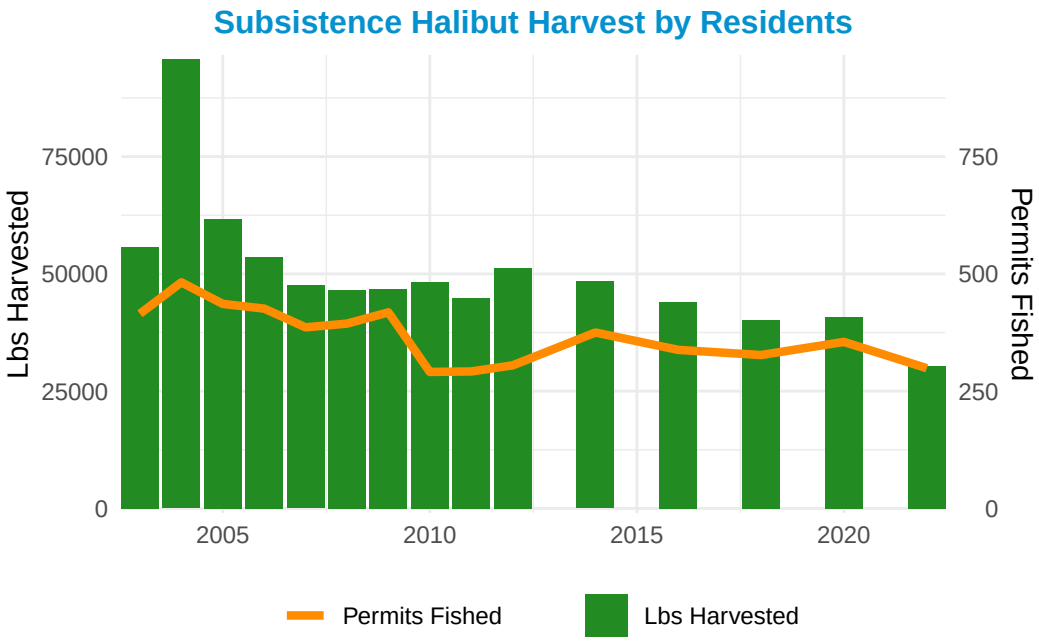
[14] Alaska Department of Fish and Game Division of Subsistence. 2021. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

[15] Alaska Department of Fish and Game Division of Subsistence. 2011. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

[16] Alaska Department of Fish and Game Division of Subsistence. 2011. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

14. Petersburg



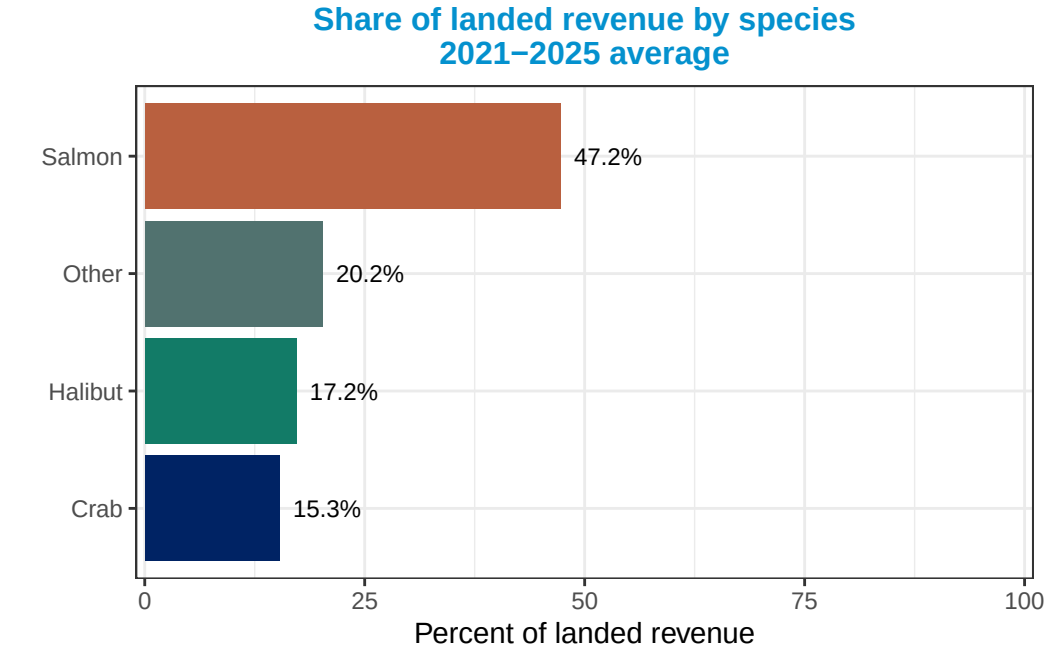


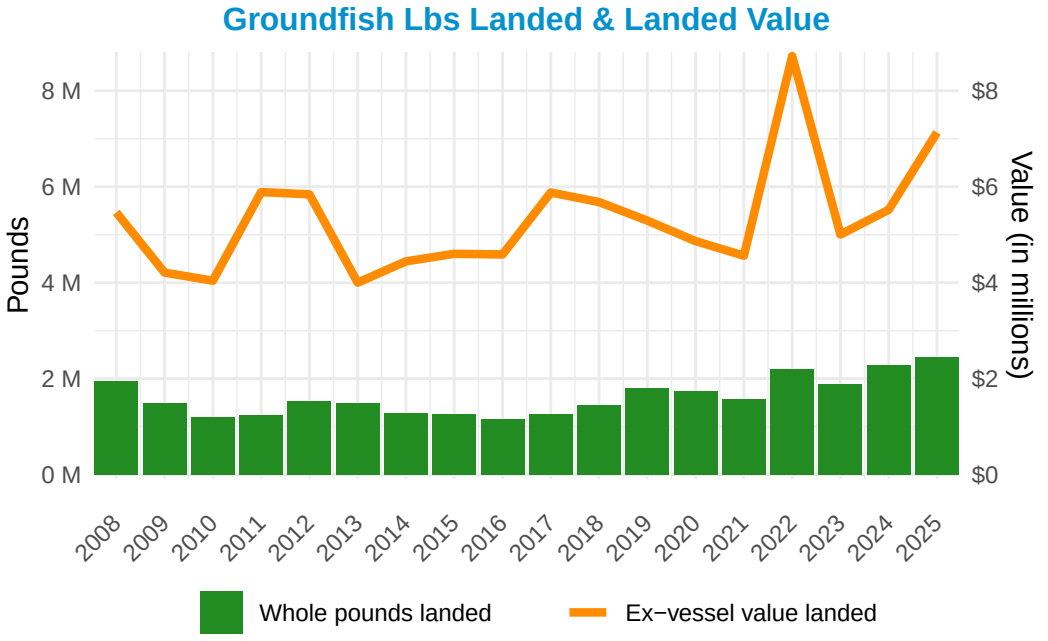
14.0.0.9. Groundfish Processing Engagement - HIGH

The processing sector in Petersburg is dominated by salmon fisheries accounting for approximately47% of the landed revenue. Across the last five years, crab fisheries accounted for 15% of landed revenue, halibut accounted for 17%, and other fish accounted for 20%. In 2025, Petersburg had a total of 91 seafood processing facilities, landing a total of 33.4M pounds of fish at a value of $51.5M. Of those facilities, 12 processed groundfish, landing a total of 2.5M pounds of

groundfish with an associated value of $7.1M. Compared to 2021, this marks a 55.1% increase in volume and a 56.3% increase in value.

In March 2025, Sitka-based Silver Bay Seafoods acquired a 50% ownership stake in OBI Seafoods from Cooke Aquaculture subsidiary Icicle Seafoods and assumed full operational management of all OBI plants. The deal created an equal partnership with the Bristol Bay Economic Development Corporation (BBEDC).





14.0.0.10. Crab Processing Engagement - LOW

Available data are insufficient to characterize substantial processing engagement in the crab fisheries covered by ACEPO. Confidentiality restrictions limit reporting.

15. Saint Paul

15.0.0.1. Fishing Engagement

Fisheries engagement extends beyond local harvesting and processing: exchanges of seafood, equipment, labor, and knowledge help sustain households and relationships across commercial and subsistence activities. Following the snow crab collapse and processing disruptions, the Central Bering Sea Fishermen's Association (CBSFA), St. Paul's Community Development Quota organization, helped maintain local halibut fishing through buying and tendering services, waterfront support, and processing partnerships. Its seafood distribution program also supports household food access and Elders, demonstrating how commercial fisheries benefits circulate through the community. Complementing these efforts, St. Paul's Tribal Government established the Bering Sea Research Center and acquired a research vessel to support community-led science and economic diversification. These responses illustrate the community's efforts to sustain fisheries relationships, cultural continuity, and wellbeing despite reduced crab-related activity—contributions not fully represented by ACEPO's commercial engagement indices.

15.0.0.2. Area Description & History

St. Paul is located on the southern tip of St. Paul Island, the largest of the Pribilof Islands, located north of the Aleutians in the Bering Sea. The native community name is Tanaxˆ Amixˆ, and the native language spoken is Unangan Aleut. The traditional homeland of the Unangan Aleut is the Aleutian Islands and Siberia; however hunters traveled to the Pribilof Islands for seasonal hunting for centuries. In 1788, the Russian-American Company enslaved and relocated Aleut families from Siberia, Atka, and Unalaska, to hunt for fur seals and their descendants continue to live on St. Paul today.[1] During World War II, the US government evacuated the Pribilof Islands and forced Unangax̂ residents to Funter Bay on Admiralty Island as part of the emergency evacuation of residents from the Bering Sea. In 1983, Congress passed the Fur Seal Act Amendments, which ended



[1] National Marine Fisheries Service (NMFS). (2022). *Final Environmental Impact Statement for Halibut Amendment 123: Appendix 1.* U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). https://media.fisheries.noaa.gov/2022-11/halibut-amd-123-feis-appendix1.pdf

government control of the seal harvest, and the St. Paul economy transitioned to commercial fisheries. The local commercial halibut fishery began in 1981 and a Trident Seafoods crab processing plant was built in 1989.

The Aleut Community of St. Paul Island is the community's federally recognized Tribal government. Other regional and local organizations include the Aleut Corporation, Aleutian Pribilof Islands Association, and Tanadgusix Corporation, which manages land and owns several companies that provide services. The Central Bering Sea Fishermen's Association (CBSFA) represents St. Paul through the Western Alaska Community Development Quota (CDQ) Program.

St. Paul is located within Pacific Halibut Fishery Regulatory Area 4C, Federal Statistical and Reporting Area 513, and the Bering Sea Sablefish Regulatory Area.

15.0.0.3. Infrastructure & Transportation

St. Paul is accessible by air and water, and has scheduled commercial flights. There is a State-owned gravel runway that is 6,500 feet, as well as a breakwater, with 700 feet of dock space. Most freight arrives by barge with approximately six cargo ships arriving from Seattle each year. Water is supplied by wells and an aquifer, and is piped to all households.

There is one local health clinic that provides health services to residents. With the closures of Bering Sea snow crab fisheries in October and Bristol Bay king crab fishery closures, budgetary cuts threaten medical services.[2]

There is one school in St. Paul with a reported enrollment of 51 students in 2025, five fewer than the preceding year. School enrollment remains a concern, as the only other school in the Pribilof Islands (located on St. George Island) closed in 2018.

15.0.0.4. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates. Additional references were examined to more accurately describe St. Paul's resident population. [3][4][5][6]

[2] Nelson, M. (2023, January 19). *Bering Sea crab crash jeopardizes St. Paul Island's emergency medical services.* KUCB. https://www.ktoo.org/2023/01/19/bering-sea-crab-crash-jeopardizes-st-paul-islands-emergency-medical-services/

[3] U.S. Census Bureau. (2020). *Decennial Census of Population and Housing.* PROFILE OF GENERAL POPULATION AND HOUSING CHARACTERISTICS. U.S. Department of Commerce. Retrieved from https://www.census.gov

[4] U.S. Census Bureau. (2026). *American Community Survey 5-Year Estimates, 2020-2024.* U.S. Department of Commerce. Retrieved from https://www.census.gov/data

[5] Alaska Department of Education & Early Development. (2023). *District enrollment totals for Alaska public school districts.* Retrieved from https://education.alaska.gov/data-center

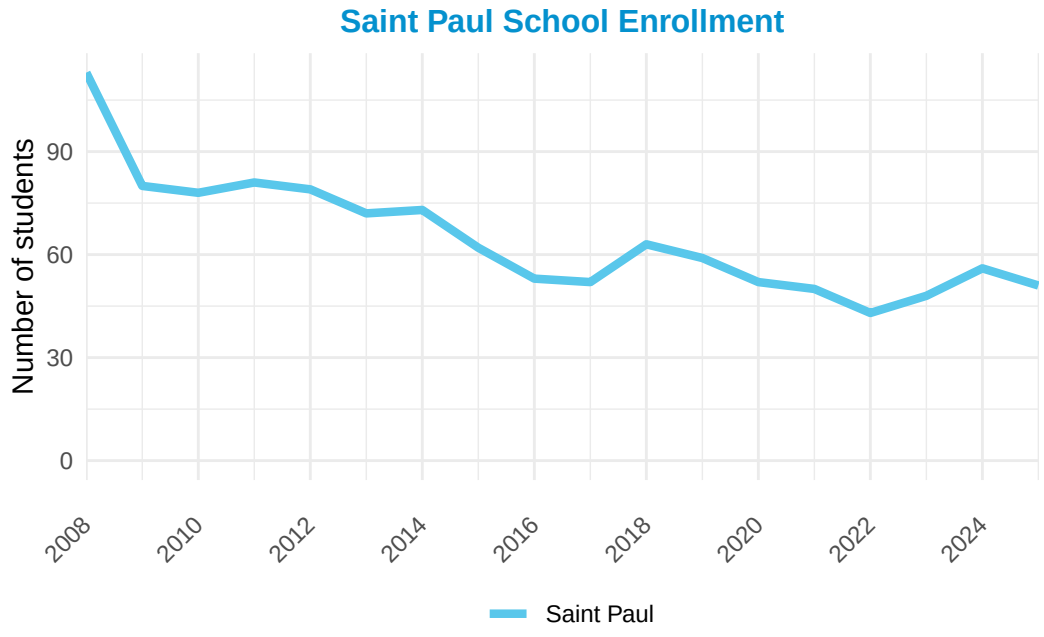
[6] Aleut Community of St. Paul Island. (2023). St. Paul Comprehensive Economic Development Strategy (CEDS): Public Review Draft. Retrieved from https://www.aleut.com/wp-content/uploads/2023/12/St-Paul-CEDS-Public-Review-Draft-Dec2023.pdf

15. Saint Paul

Demographics	
Population	390
Population in group housing	37
Median household income	158,438
Housing units	102
Percentages	
Male	81%
Female	19%
White	25.7%
American Indian or Alaska Native	64.6%
Black or African American	0%
Asian	0.5%
Native Hawaiian or Pacific Islander	0%
Hispanic or Latino	0%
Below poverty line	25.1%
High school diploma or higher	96.6%
Population under 5	6.6%
Population over 18	85.4%
Population over 65	10.8%

Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

St. Paul's population is predominantly Alaska Native, with an estimated 64.6% of residents identifying as American Indian or Alaska Native. The population has declined in recent years and is under transition given the recent commercial fisheries closures.



15.0.0.5. Current Economy

St. Paul's economy remains closely connected to fisheries through harvesting, seafood infrastructure, CDQ investments, and municipal revenues. Government employment, tourism, research, and other activities provide additional income, but alternatives to fisheries remain limited. A 2023 community survey found that 36% of respondents had experienced difficulty finding employment during the preceding five years.[7] St. Paul describes its economic vision as *An Unangan community of healthy, resilient people working together to sustain a robust ocean based economy* and identifies six goals:[8]

1. Support, protect, and create new fisheries opportunities
2. Cultivate marine resources to enhance existing natural resources and create new export opportunities for St. Paul
3. Develop the Bering Sea Research Center into a leading mariculture, climate change, and coastal resilience research center
4. Grow St. Paul Island into a culturally and ecologically unique tourism destination
5. Advance St. Paul Island's status as a gateway to the Arctic, while highlighting regional research capabilities including infrastructure, expertise, capacity, and the workforce to support an overall mission of improving and understanding and response within the Bering Sea and Arctic region
6. Strengthen infrastructure and improve quality of life to create a healthy foundation for residents and businesses to thrive and stay.[9]

In response to the revenue crisis, the city proposed additional taxes on selected goods, services, and rentals to help maintain municipal operations.xx Tax-sharing arrangements associated with crab processed elsewhere provide another source of support, as discussed below.[10] The loss of crab processing substantially reduced local employment and fisheries-related revenues. The 2025 tax data report $79,444 in local raw fish taxes, compared with $16,687 in 2024 and $3.34 million in 2022. [11]

[7] Aleut Community of St. Paul Island. (2023). St. Paul Comprehensive Economic Development Strategy (CEDS): Public Review Draft [PDF]. Retrieved from https://www.aleut.com/wp-content/uploads/2023/12/St-Paul-CEDS-Public-Review-Draft-Dec2023.pdf

[8] Aleut Community of St. Paul Island. (2023). *St. Paul Comprehensive Economic Development Strategy (CEDS): Public Review Draft* [PDF]. Retrieved from https://www.aleut.com/wp-content/uploads/2023/12/St-Paul-CEDS-Public-Review-Draft-Dec2023.pdf

[9] Aleut Community of St. Paul Island. (2023). *St. Paul Comprehensive Economic Development Strategy (CEDS): Public Review Draft* [PDF]. Retrieved from https://www.aleut.com/wp-content/uploads/2023/12/St-Paul-CEDS-Public-Review-Draft-Dec2023.pdf

[10] City of Saint Paul. (2023, December 20). City proposes tax increases in 2024 due to 0% tax revenue from crab tax increase. https://stpaulak.com/2023/12/20/city-proposes-tax-increases-in-2024-due-to-0-tax-revenue-from-crabtax-increase/

[11] Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs. (2025). Alaska taxable [Annual report].

15.0.0.6. Climate Change Vulnerability and Adaptive Capacity

15.0.0.6.1. Exposure to Biophysical Effects of Climate Change

Changes in Bering Sea temperatures, seasonal sea ice, precipitation, and coastal conditions affect St. Paul's ecosystems, infrastructure, and harvesting activities. Research documents residents' observations of coastal erosion, including damage to dunes, roads, and culturally and ecologically important places.[12] Changing ocean conditions can also affect marine safety and access to resources. When fishing grounds or species distributions shift, harvesters may face longer travel distances and increased costs. St. Paul's remoteness and dependence on marine resources make these changes consequential for livelihoods, food access, and cultural practices.[13][14]

15.0.0.6.2. Dependence on Fisheries Affected by Climate Change

St. Paul's exposure extends beyond direct participation in a particular fishery. Crab processing historically generated employment, municipal revenue, and services that also supported the local halibut fleet and other businesses. Consequently, the snow crab collapse affected multiple interconnected activities. Commercial and subsistence halibut fishing remain important, while changes in marine food webs, species distributions, and ocean chemistry create additional uncertainty. These pressures interact with market conditions, processing availability, and the costs of operating in a remote location.[15][16]

15.0.0.6.3. Local Adaptive Capacity

St. Paul's remoteness, limited economic alternatives, housing constraints, and dependence on fisheries-related infrastructure can restrict its ability to respond to disruptions.[17][18][19] At the same time, Tribal leadership, CBSFA's CDQ resources, local knowledge, sharing networks, and partnerships provide important capacities for adaptation. These capacities are evident in efforts to sustain halibut fishing, distribute seafood, maintain waterfront services, and expand community-led research. National vulnerability or resilience indices should be interpreted alongside these locally specific strengths and constraints rather than treated as definitive measures of community capacity.

[12] Tran, J., Divine, L. M., & Heffner, L. R. (2021). "What are you going to do, protest the wind?": Community perceptions of emergent and worsening coastal erosion from the remote Bering Sea community of St. Paul, Alaska. Environmental Management, 67(1), 43-66

[13] Himes-Cornell, A., & Kasperski, S. (2015). Assessing climate change vulnerability in Alaska's fishing communities. Fisheries Research, 162, 1-11.

[14] Herman-Mercer, N. M., Laituri, M., Massey, M., Matkin, E., Toohey, R. C., Elder, K., … & Mutter, E. (2019). Vulnerability of subsistence systems due to social and environmental change. Arctic, 72(3), 258-272

[15] Himes-Cornell, A., & Kasperski, S. (2015). Assessing climate change vulnerability in Alaska's fishing communities. Fisheries Research, 162, 1-11

[16] Herman-Mercer, N. M., Laituri, M., Massey, M., Matkin, E., Toohey, R. C., Elder, K., … & Mutter, E. (2019). Vulnerability of subsistence systems due to social and environmental change. Arctic, 72(3), 258-272

[17] Aleut Community of St. Paul Island. (2023, December). St. Paul CEDS Public Review Draft: December 2023. Aleut Community of St. Paul Island.https://www.aleut.com/wp-content/uploads/2023/12/St-Paul-CEDS-Public-Review-Draft-Dec2023.pdf

[18] Himes-Cornell, A., & Kasperski, S. (2015). Assessing climate change vulnerability in Alaska's fishing communities. Fisheries Research, 162, 1-11

[19] Herman-Mercer, N. M., Laituri, M., Massey, M., Matkin, E., Toohey, R. C., Elder, K., … & Mutter, E. (2019). Vulnerability of subsistence systems due to social and environmental change. Arctic, 72(3), 258-272

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Ecotourism, reindeer harvesting and local government jobs provide additional sources of income. The 2022 collapse of Bering Sea crab and subsequent fisheries closures dramatically affected St. Paul.

Government (including Tribal, state, and federal governments) is the largest employment category on the island. A 2023 community survey found 36% of residents had experienced some difficulty finding a job in the last 5 years.[20] High food and fuel costs are priority concerns for the community. A recent Food Security Assessment found that 63% of St. Paul residents purchase some of their food online, and 97% of residents identified costs as a barrier to purchasing healthy foods.[21]

St. Paul continues to be proactive in exploring economic opportunities for the community, including the feasibility of a salmon hatchery on the island, and the economic viability of the local reindeer population. In 2020, the St. Paul Island Visitor Development Study was completed, and the St. Paul Island Tour program restarted in 2022 after a pause in operations due to COVID-19. In 2024, Iḷisaġvik College announced plans to create a satellite campus on St. Paul Island to offer education and training opportunities and classes to St. Paul residents.

A proposed red king crab hatchery advanced through permitting in 2026. The Bering Sea Fisheries Research Foundation submitted a complete application in August for a St. Paul facility intended to support Bristol Bay red king crab enhancement.[22]

CBSFA uses Trident's St. Paul dock and support infrastructure to receive local halibut and transport it to Akutan for processing.

In 2025, St. Paul generated $79,444 from a raw fish tax of 2-3.5% ,depending on species. This represents an increase from the $16,687 in raw fish taxes collected in 2024, but was a significant reduction from the $3.34 million collected in 2022. With the loss of associated taxes from seafood processing, St. Paul's municipal budget has been severely impacted. In 2024, the City Council passed three ordinances proposing new taxes on alcohol, marijuana and tobacco products, rental of vehicles for non-residents, and long-term room rentals to compensate for the loss in fisheries-related tax.[23]

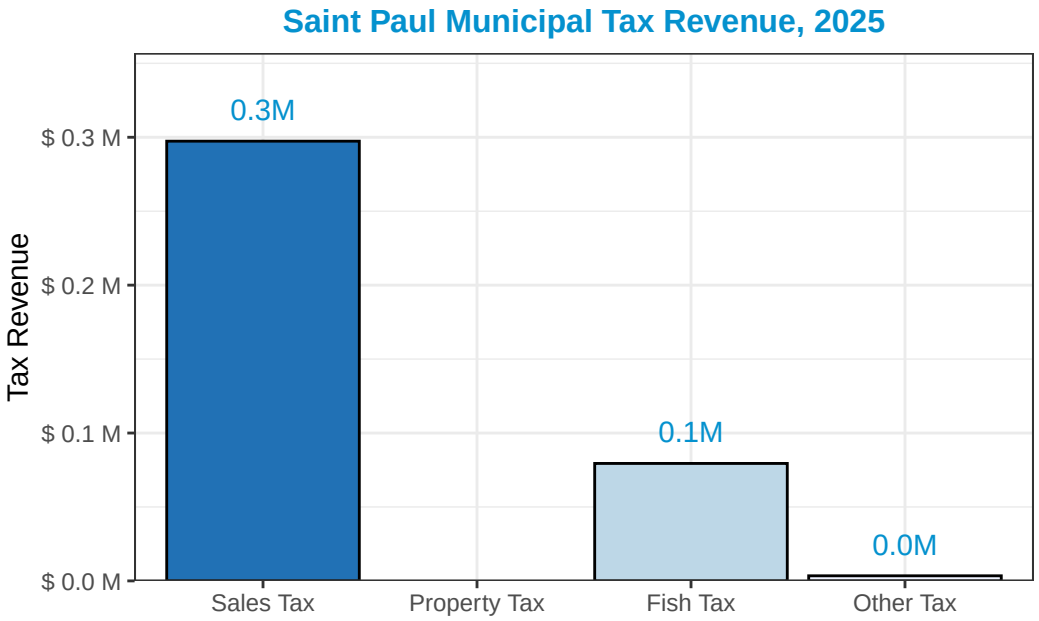
The American Community Survey 5-year estimates for 2020-2024 place the median household income in St. Paul at$158,438, with a margin of error of ±$61,365. With the closures of Bering Sea snow crab and Bristol Bay king crab fisheries, St.Paul's economy, which is 90% dependent on snow crab, is facing an estimated $2.7 million downturn.

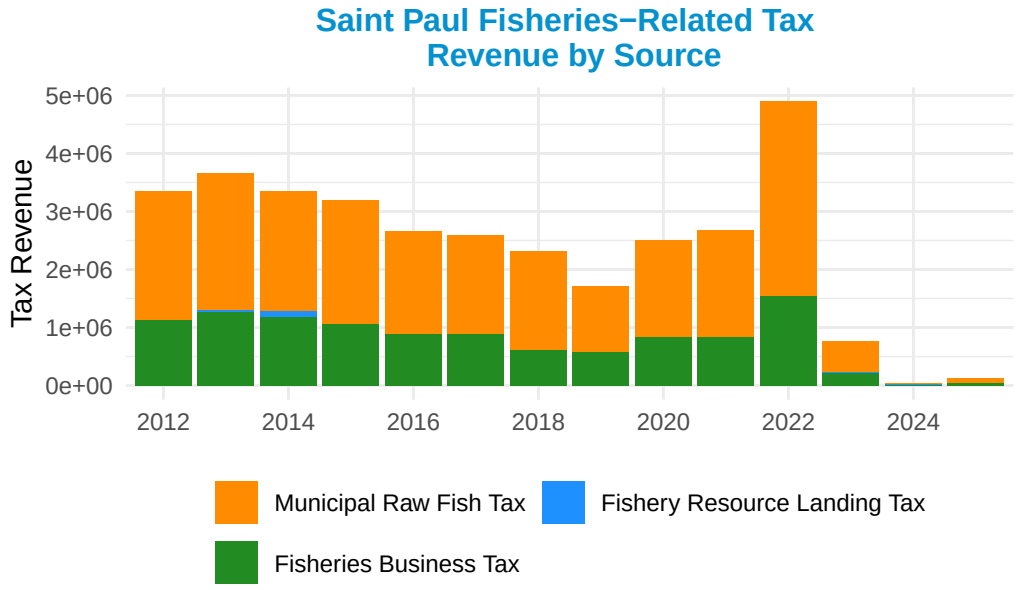
[20] Aleut Community of St. Paul Island. (2023). *St. Paul Comprehensive Economic Development Strategy (CEDS): Public Review Draft* [PDF]. Retrieved from https://www.aleut.com/wp-content/uploads/2023/12/St-Paul-CEDS-Public-Review-Draft-Dec2023.pdf

[21] Alaska Food Policy Council. (2023). *Food security task force report: Final 2023.03.03*. Alaska Food Policy Council. https://www.akfoodpolicycouncil.org/wp-content/uploads/2024/09/2023_Food_Security_Task_Force_Report_Final_2023.03.03.pdf

[22] Alaska Department of Fish and Game. (2026, October 5). Notice of public hearing — meeting on the proposed issuance of private nonprofit hatchery permit for Bering Sea Fisheries Research Foundation's proposed Saint Paul hatchery [Press release]. Alaska Department of Fish and Game.

[23] City of Saint Paul. (2023, December 20). *City proposes tax increases in 2024 due to 0% tax revenue from crab tax increase*. https://stpaulak.com/2023/12/20/city-proposes-tax-increases-in-2024-due-to-0-tax-revenue-from-crabtax-increase/





15.0.0.7. Groundfish and Crab Harvesting Engagement

Halibut is the primary species harvested commercially by St. Paul residents, while federally-managed groundfish fisheries account for less than one percent of harvest. Since 2003, the Central Bering Sea Fishermen's Association (CBSFA) has purchased halibut from local fishermen through its subsidiary, 170 Degrees West, LLC, and partnered with Trident Seafoods for processing and marketing. Following the cessation of processing at Trident's St. Paul facility in 2022, CBSFA

established a buying and tendering operation in 2024, allowing locally harvested halibut to continue being landed and purchased in St. Paul before being transported by tender vessel to Trident's processing facility in Akutan.[24][25][26][27]

15.0.0.8. Subsistence Harvesting Engagement

St. Paul residents continue to engage in subsistence harvest for a number of species including seals, sea lions, walrus, halibut and other fish, marine invertebrates, birds, bird eggs, plants, and berries.[28][29] Northern fur seals or Laaaqudan are an important cultural and subsistence resource, and used for food, clothing, and art.[30] Subsistence harvest of fur seals in the Pribilof Islands was first regulated by the Fur Seal Act which was modified by NMFS in 2019. In 2000, the Aleut Community of St. Paul Tribal Government (ACSPI) entered into a co-management agreement with NMFS under Section 119 of the Marine Mammal Protection Act to provide for the conservation and co-management of laaqudan, qawan or Steller sea lions (Eumetopias jubatus), and isuĝin or harbor seals (Phoca vitulina).[31]

Island residents are highly engaged in subsistence fishing and continue to fish for halibut for commercial and subsistence purposes; however data suggests that subsistence halibut may be on the decline as well. In 2025, St. Paul reported 4 subsistence halibut (SHARC) permits issued but no permits fished. This shows a decline from previous years, although available data is inconsistent.

[24] Central Bering Sea Fishermen's Association (CBSFA). (n.d.). Local Halibut Fishery. https://cbsfa.com/halibut.html

[25] Central Bering Sea Fishermen's Association (CBSFA). (n.d.). 57DN, 170W and Village Cove Seafoods. https://cbsfa.com/seafood.html

[26] Central Bering Sea Fishermen's Association (CBSFA). (2024). 2023 Annual Report, Chairman's Letter. https://cbsfa.com/pdf/2023_annual_report.pdf

[27] Parker, P. (2026, September 23). Saint Paul Island's Halibut Fleet Rebounds With Record Prices After Years of Disruption. SeafoodNews. Reproduced by the Pacific Seafood Processors Association. https://www.pspafish.net/post/wednesday-september-23-2026

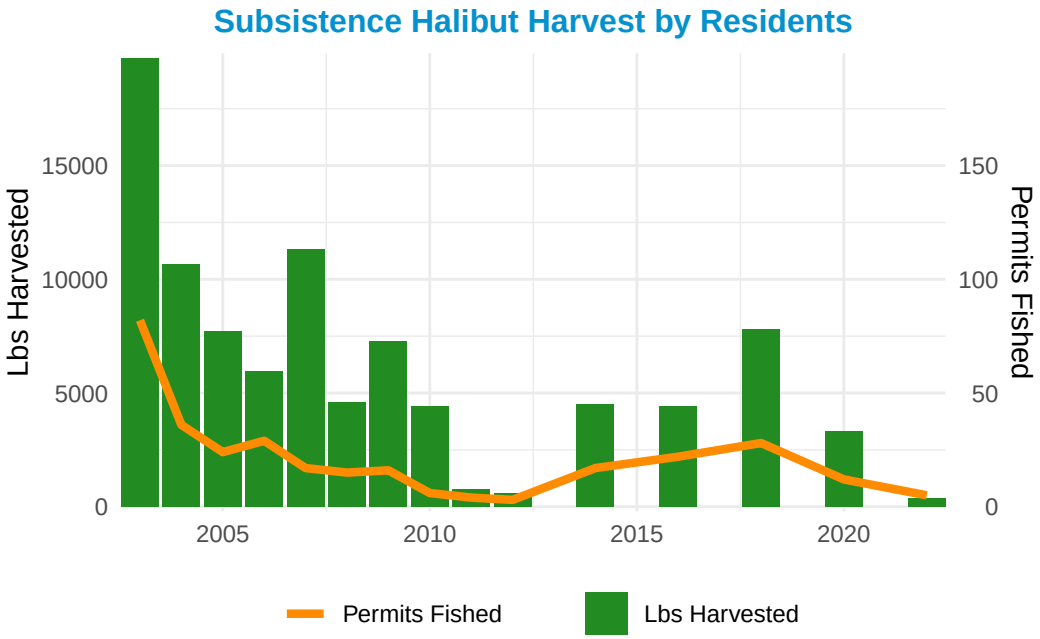
[28] Fall, J. A., Braem, N. S., Brown, C. L., Hutchinson-Scarbrough, L. B., Koster, D. S., & Krieg, T. M. (2013). Continuity and change in subsistence harvests in five Bering Sea communities: Akutan, Emmonak, Savoonga, St. Paul, and Togiak. Deep sea research part II: topical studies in oceanography, 94, 274-291.

[29] Zavadil, P., et al. 2011. Bering Sea Project, Subsistence Harvest Monitoring Results for St. Paul Island, Alaska from 1999 to 2009.. Version 1.0. UCAR/NCAR - Earth Observing Laboratory. https://doi.org/10.5065/D6HX19PZ. Accessed 20 Mar 2024.

[30] L.M. Divine, P.I. Melovidov, A.P. Lestenkof, V. Padula, M. Malavansky Jr., E. R. Malavansky, D.A. Bristol Kushin, and H. Hellen. 2023 Subsistence harvest of juvenile laaqudan (northern fur seals, Callorhinus ursinus) on St. Paul Island, Alaska in 2022. Aleut Community of St. Paul Island, Tribal Government, Ecosystem Conservation Office. St. Paul Island, Pribilof Islands, Alaska. 13 pp.

[31] L.M. Divine, P.I. Melovidov, A.P. Lestenkof, V. Padula, M. Malavansky Jr., E. R. Malavansky, D.A. Bristol Kushin, and H. Hellen. 2023 Subsistence harvest of juvenile laaqudan (northern fur seals, Callorhinus ursinus) on St. Paul Island, Alaska in 2022. Aleut Community of St. Paul Island, Tribal Government, Ecosystem Conservation Office. St. Paul Island, Pribilof Islands, Alaska. 13 pp.

15. Saint Paul



15.0.0.9. Groundfish Processing Engagement - LOW

Available data indicate limited groundfish processing activity in St. Paul. Confidentiality restrictions limit reporting. This classification does not capture benefits received through CBSFA's broader groundfish allocations and investments.

15.0.0.10. Crab Processing Engagement - PROCESSING FACILITIES CLOSED

Historically, the majority of processing activity in St. Paul has been for crab, which accounted for 92% of ex-vessel revenue in St. Paul between 2008 and 2025, with halibut accounting for 7%. Trident Seafoods operated the island's only major shore-based processing plant, which was among the largest crab processing facilities in the world.[32] Under the Bering Sea and Aleutian Islands Crab Rationalization Program, a portion of the crab harvest is designated as North Region shares, which generally must be delivered to and processed in the North Region. Because Trident's St. Paul plant was the region's only major shore-based processor, these delivery requirements helped sustain crab processing activity and associated employment and tax revenue on the island.[33]

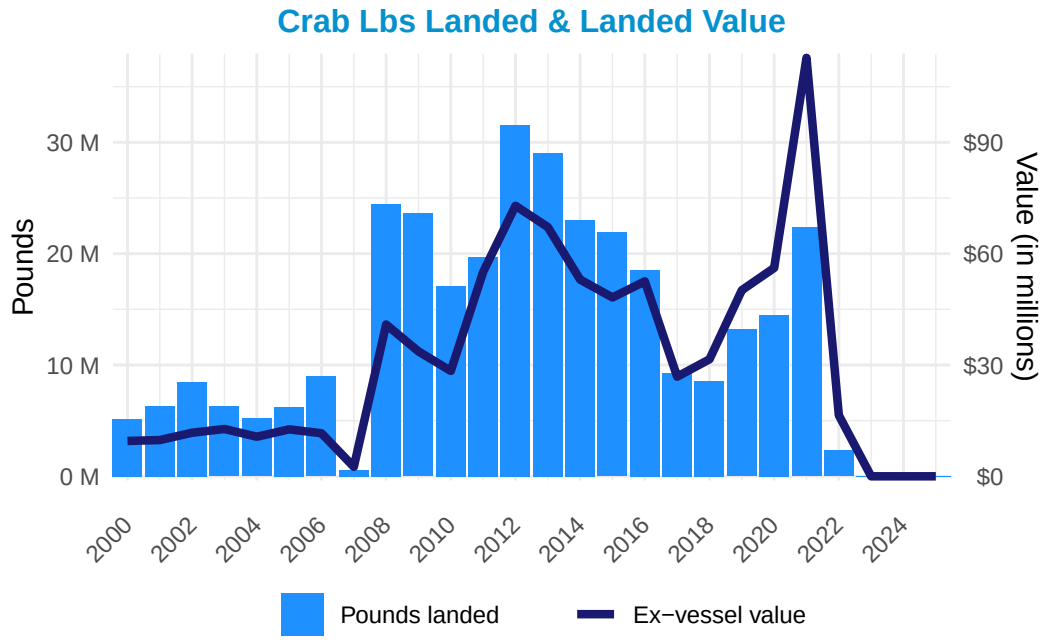
Between the 2008-2025 period, crab landings saw a peak of 31.5 million pounds in 2012, valued at $72.9 million in ex-vessel revenue. Landings subsequently declined to 8.6 million pounds in 2018 before rebounding to 22.3 million pounds in 2021. Ex-vessel revenue also peaked at $112.8 million in 2021, reflecting substantially higher average prices. In 2022, crab landings fell sharply to just

[32] Alaska Department of Environmental Conservation (ADEC). 2024. Trident Seafoods – Saint Paul Facility, Alaska Pollutant Discharge Elimination System Permit Fact Sheet, Section 2.1.4. https://dec.alaska.gov/media/v42bkbjf/ak0053490-pd-fs-20240807.pdf

[33] National Marine Fisheries Service (NMFS). 2024. Crab Rationalization Program Frequently Asked Questions and Small Entity Compliance Guide. NOAA Fisheries, Alaska Regional Office. https://www.fisheries.noaa.gov/s3/2024-11/crab-rationalization-FAQ-SECG.pdf

2.3 million pounds, valued at $16.4 million—a decline of 90% in volume and 85% in value from the previous year. The number of vessels delivering crab to St. Paul also fell from 57 in 2021 to 21 in 2022, coinciding with the collapse of the Bering Sea snow crab fishery and the cessation of processing at Trident Seafoods' St. Paul plant.[34]

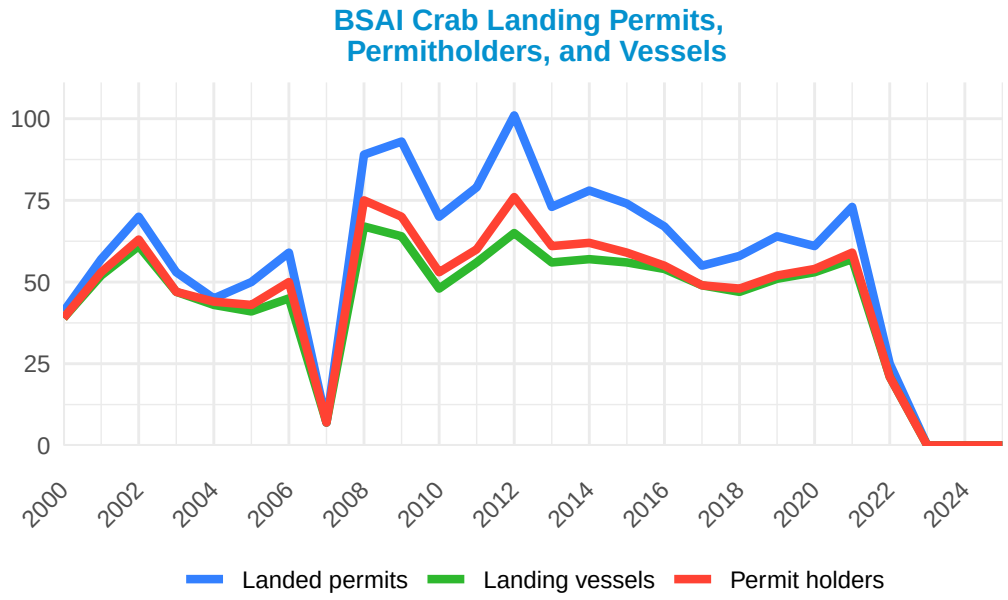
Although the snow crab fishery reopened for the 2024/25 season, the allowable harvest was too small to justify reopening Trident's plant. In January 2025, St. Paul and Unalaska entered into an agreement allowing North Region-designated snow crab to be delivered to processors in Unalaska/Dutch Harbor instead. Under this arrangement, St. Paul continues to receive the equivalent of its 3.5% local seafood tax and associated state fisheries business tax revenues from these deliveries, despite the processing taking place elsewhere.[35] While this arrangement preserves an important source of municipal revenue, St. Paul no longer receives the direct employment and other local economic benefits associated with operating its crab processing plant.



[34] NOAA Fisheries. 2025. "Alaskan Communities Use Flexibility in Snow Crab Fishery Regulations for Economic Relief." https://www.fisheries.noaa.gov/feature-story/alaskan-communities-use-flexibility-snow-crab-fishery-regulations-economic-relief

[35] City of Unalaska. 2024. Memorandum Regarding Resolution 2024-53: St. Paul Agreement. December 27, 2024. https://www.unalaska.gov/sites/default/files/fileattachments/mayor_and_city_council/meeting/10357/02_resolution_2024-53_st._paul_agreement.pdf

15. Saint Paul

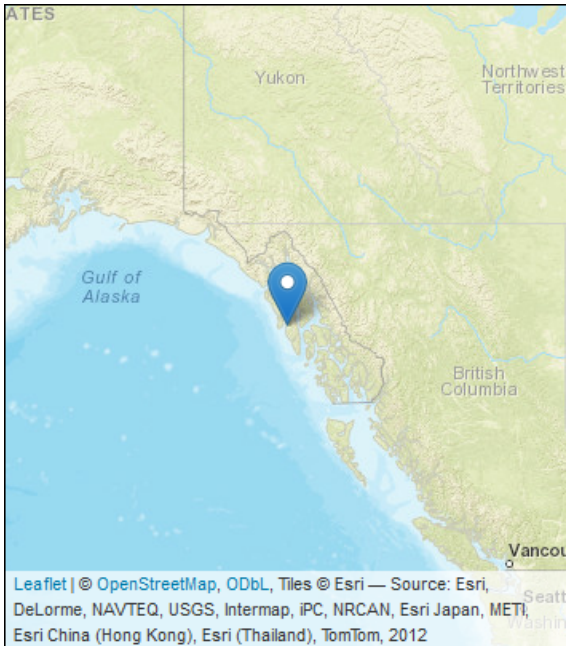


*Permits counted are CFEC gear operator permits

16. Sitka

16.0.0.1. Area Description & History

The location of Sitka was settled by the Tlingit several thousand years ago, with the name deriving from the Tlingit Shee At'iká, meaning "People on the Outside of Shee (now Baranof Island)." A Russian expedition arrived in 1741. Russian colonization, including the 1804 battle with the Kiks.ádi Tlingit, reshaped the settlement. By 1808, Sitka was the capital of Russian America and remained Alaska's administrative center under U.S. governance until the capital moved to Juneau in 1906. Fur trading and fish canning were mainstays in the town's growth. In 1878, Sitka became the site of one of the first canneries in Alaska, although the Sitka cannery closed after only two seasons of operation. During the early 1900s, gold mines flourished, and the city was incorporated in 1913. During World War II, the US Navy built an air base on Japonski Island with 30,000 military personnel. Sitka has approximately 1,800 seasonal workers each year: this annual peak in population is mostly driven by fisheries and tourism.



The Tlingit people and other residents have historically used a wide variety of marine resources. Subsistence harvests continue to be vital to many, and salmon is an important resource economically and culturally. Sitka was included under the Alaska Native Claims Settlement Act and is recognized as a Native Village.[1] Salmon, herring, groundfish, halibut, and dive fisheries are the main commercial fisheries residents participate in. Pacific cod and lingcod are also harvested in SE Alaska under state regulations. Demersal rockfish are caught as bycatch. A small directed fishery for flatfish (other than halibut) has also taken place, but effort has declined. Pacific halibut fisheries in SE Alaska are managed by the International Pacific Halibut Commission. Sitka is located in Pacific Halibut Fishery Regulatory Area 2C and Federal Statistical and Reporting Area 650.

[1] U.S. Congress. (1971). *Alaska Native Claims Settlement Act of 1971*, Pub. L. No. 92-203, 85 Stat. 688.

16.0.0.2. Infrastructure & Transportation

Sitka is accessible by air and sea, with scheduled passenger flights, regional aviation services, ferries, barges, and other marine transportation. Flight and ferry schedules vary seasonally, and weather can disrupt travel and freight deliveries.

The City and Borough operates five boat harbors—Crescent, Sealing Cove, ANB, Thomsen, and Eliason—supporting commercial fishing, charter, recreational, and visiting vessels. The harbors support 1,350 slips and can handle vessels up to 300 feet. Harbor amenities include a tidal grid, gear work float, and drive-down loading area. The municipal Port Facility, or City Wall, accommodates vessels up to 300 feet long. The privately operated Sitka Sound Cruise Terminal provides additional large-vessel infrastructure.

Water is drawn from a reservoir treated, stored, and piped to nearly all homes. There are two hospitals and coastguard medical facilities. SouthEast Alaska Regional Health Consortium's (SEARHC) Mt. Edgecumbe Medical Center provides emergency, inpatient, diagnostic, and specialty services. Its new facility represents a substantial healthcare investment, with SEARHC announcing the transition of services to the new hospital in June 2026.

Sitka has seven schools; enrollment has decreased year-over-year since 2013 (excluding a small increase in enrollment between 2020 and 2021). Between 2024 and 2025, however, school enrollment increased by 17%, the largest interannual percentage increase since 2012 and 2013.

16.0.0.3. Demographics

The population of Sitka has been declining and aging over the last decade. This is reflected in school enrollment numbers for the community, which have been steadily declining. The number of fisheries participants in the community has also decreased over this time period.[2] Simultaneously, food prices in the community have increased substantially, relative to a national reference point.[3] The combination of these factors–declining fisheries participation, an aging demographic, and increasing food prices-is straining local food sharing networks in the community as there are fewer fishers able to supply fish for community residents but an increasing demand for these fish.[4]

The median household income (2020-2024) was estimated at $101,727 (in 2024 USD), a 12% increase from 2019 levels. In the same period, however, the per capita income in Sitka was estimated to be $47,990 (in 2024 USD), a decrease of 4% from 2019 levels. The percentage of the population living below the poverty line has declined by approximately 1% since 2019.

[2]Szymkowiak, M., & Kasperski, S. (2021). Sustaining an Alaska coastal community: integrating place based well-being indicators and fisheries participation. Coastal Management, 49(1), 107-131.

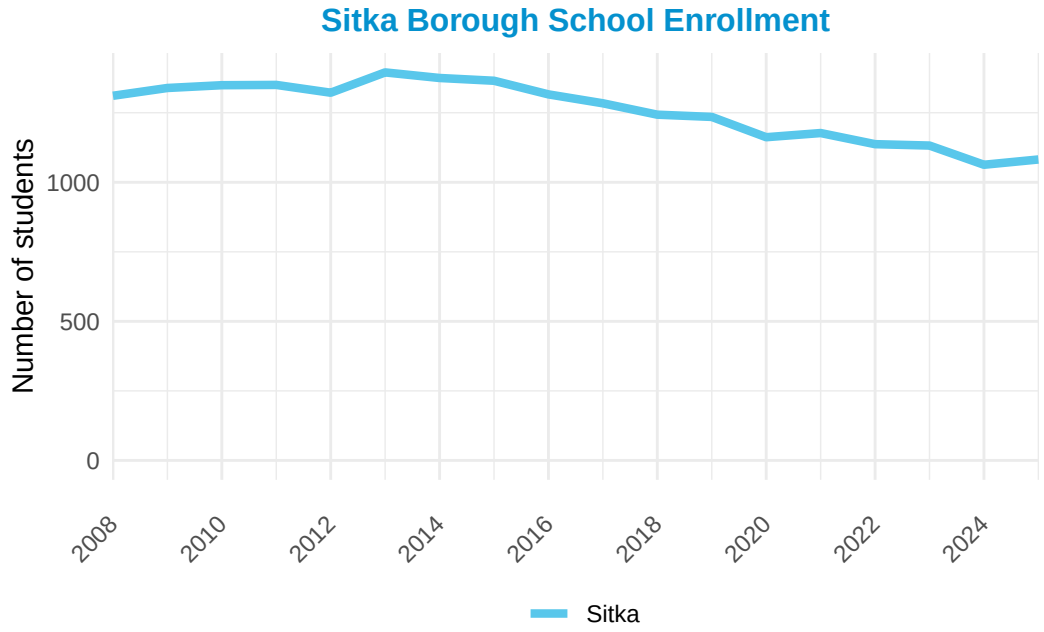
[3]Szymkowiak, M., & Kasperski, S. (2021). Sustaining an Alaska coastal community: integrating place based well-being indicators and fisheries participation. Coastal Management, 49(1), 107-131.

[4]Szymkowiak, M., & Kasperski, S. (2021). Sustaining an Alaska coastal community: integrating place based well-being indicators and fisheries participation. Coastal Management, 49(1), 107-131.

16. Sitka

Demographics	
Population	8032
Population in group housing	378
Median household income	101,727
Housing units	4,161
Percentages	
Male	50.9%
Female	49.1%
White	58.6%
American Indian or Alaska Native	7.7%
Black or African American	0.5%
Asian	8.6%
Native Hawaiian or Pacific Islander	1.2%
Hispanic or Latino	9.6%
Below poverty line	7.5%
High school diploma or higher	94.9%
Population under 5	4.4%
Population over 18	80.8%
Population over 65	17.7%

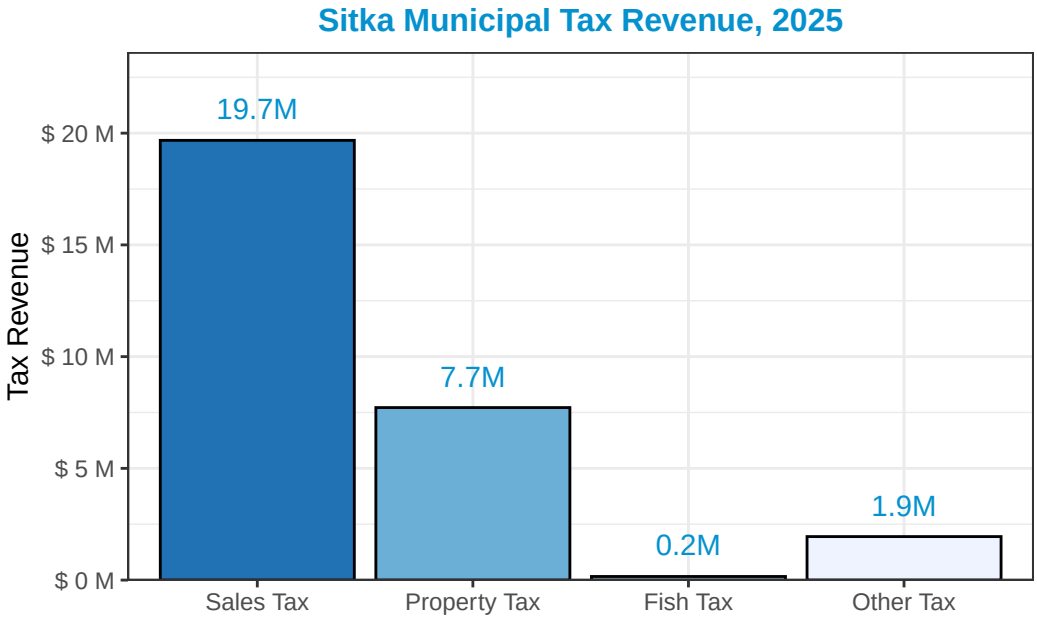
Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.



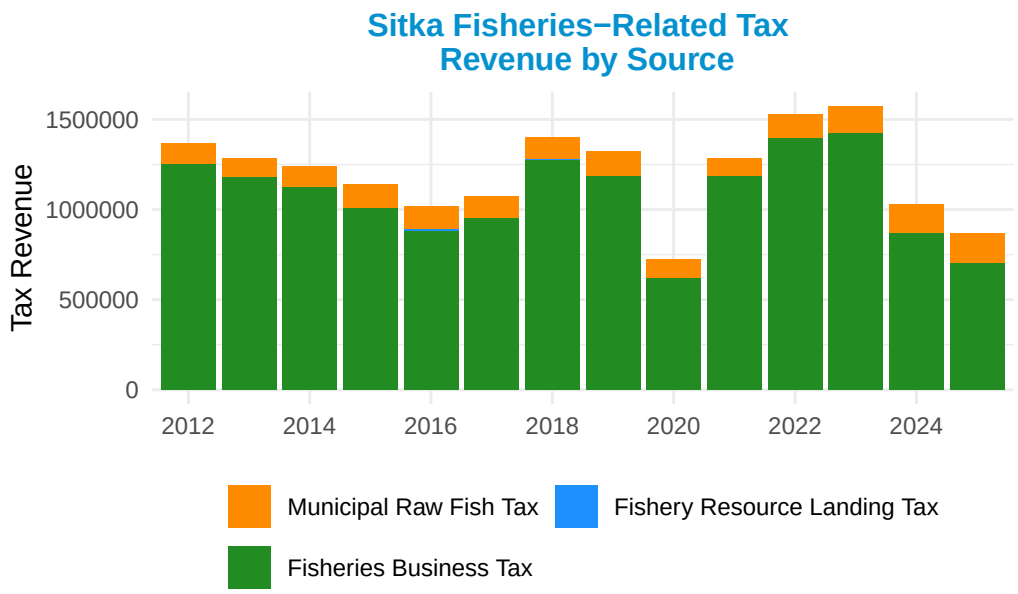
16.0.0.4. Current Economy

Sitka's economy includes commercial fishing and processing, tourism, government, healthcare, retail, and transportation. The seafood industry is a major employer. Community leaders reported that Sitka's economy primarily relies on natural resource-based industries such as fishing, ecotourism (e.g. whale watching, kayaking), and sport hunting and fishing. The waterways of Southeast Alaska are an important resource for the tourism industry and the lifestyle of local residents alike.

In 2025, Sitka generated $866,104 in total fishery related taxes (including shared and municipal).[5] The community generated approximately $29.5M in total tax revenue, including property, sales, fish, and other taxes. These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and wellbeing.



[5] Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs. (2026). Alaska Taxable 2025: Municipal taxation—Rates and policies; full value determination (Vol. LXV). Office of the State Assessor. https://www.commerce.alaska.gov/dcra/admin/Taxable/ViewFile/2de31798-e2aa-42c9-8a50-43e1c7c6ddb8.



16.0.0.5. Climate Change Vulnerability and Adaptive Capacity

Sitka's vulnerability to climate change reflects its exposure to environmental hazards, dependence on affected resources, and capacity to respond. Relevant pressures include warming air and ocean temperatures, changing rainfall and snowpack, ocean acidification, and rainfall-triggered landslides. Relative sea-level change varies locally and should not be described as uniform sea-level rise across Southeast Alaska.

Reports indicate that temperatures have risen 1.56 degrees Celsius in Sitka since 1827.[6] Changes have also been observed in forest habitats, including declines of yellow cedar trees, and marine habitats, including ocean acidification and increased prevalence of invasive species. These impacts are currently and will continue to impact human health in various ways.[7] The community's hazard management plan (2010) outlines a series of risks–severe weather, wildland fire, flood/erosion, snow/avalanche–that, although not explicitly addressed in the plan as such, will be exacerbated by climate change.

The fatal 2015 landslides demonstrated the consequences of extreme rainfall. Local adaptation now includes the Sitka Landslide Risk Dashboard, which combines observed and forecast rainfall with historical landslide information to communicate risk and support preparedness. The dashboard is a nongovernmental resource hosted by the Sitka Sound Science Center; it does not issue automated alerts.

[6] Wendler, G., Galloway, K. & Stuefer, M. On the climate and climate change of Sitka, Southeast Alaska. Theor Appl Climatol 126, 27–34 (2016). https://doi.org/10.1007/s00704-015-1542-7

[7] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

16.0.0.5.1. Dependence on Fisheries Affected by Climate Change

Sitka's commercial, recreational, and subsistence activities depend on a diverse range of marine resources. This diversity provides different harvesting opportunities, but environmental changes may affect species, fisheries, and households unevenly. Salmon, halibut, sablefish, rockfish, herring, and shellfish support overlapping economic, nutritional, and cultural relationships.[8][9] [10]

In 2026, ADF&G reported that subsistence and sport shrimp fisheries remained closed in specified portions of West Crawfish Inlet and Crawfish Inlet. In Hoonah Sound, sport shrimp fishing remained closed, while a limited subsistence fishery continued.

Conversely, ADF&G increased subsistence and sport sockeye limits at Redoubt Bay and Lake during 2026. These contrasting actions demonstrate why changing opportunities should be described by species, location, and season. Restrictions alone do not establish that climate change caused a stock decline.

16.0.0.5.2. Local Adaptive Capacity

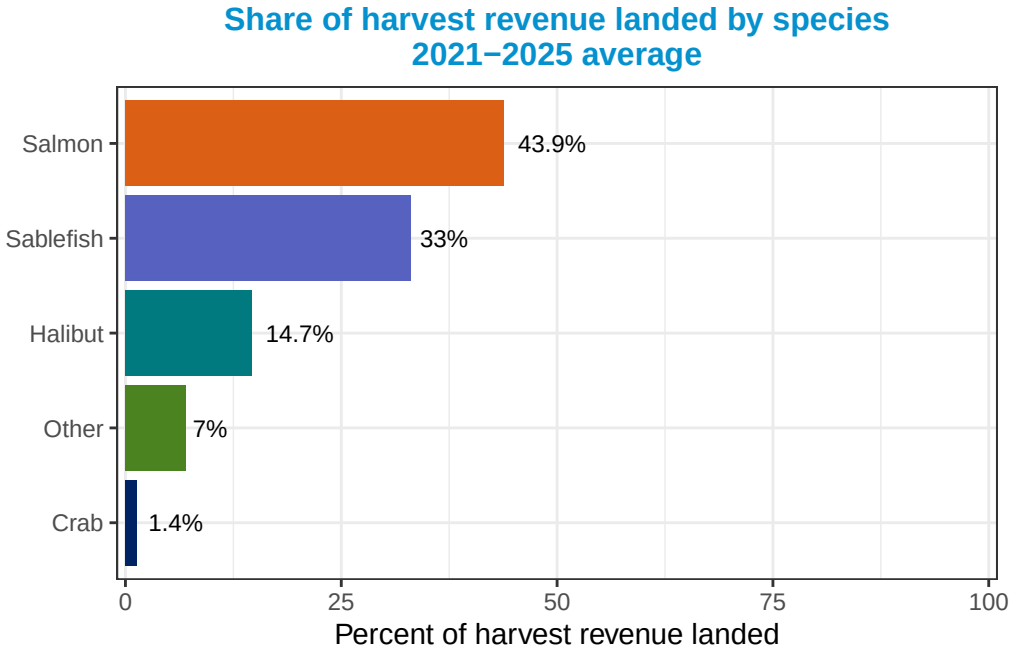
Sitka's adaptive capacity includes marine infrastructure, healthcare services, research organizations, Tribal institutions, and knowledge-sharing networks. Its diversified economy may provide alternatives during fisheries disruptions, although access to those alternatives differs among households.

[8] Szymkowiak, M., & Kasperski, S. (2021). Sustaining an Alaska coastal community: integrating place based well-being indicators and fisheries participation. Coastal Management, 49(1), 107-131.

[9] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

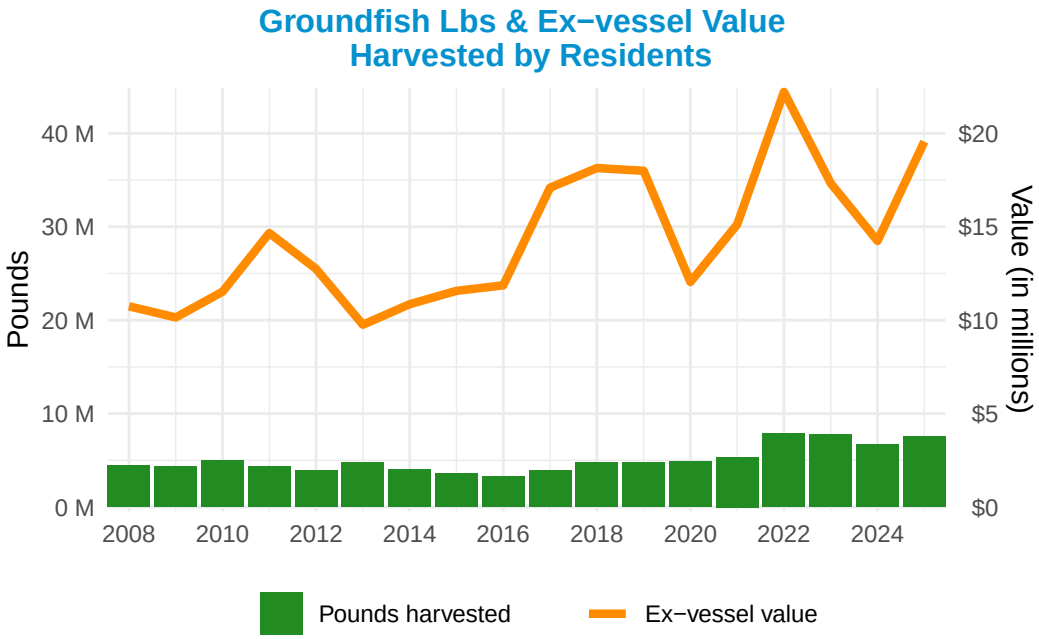
[10] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

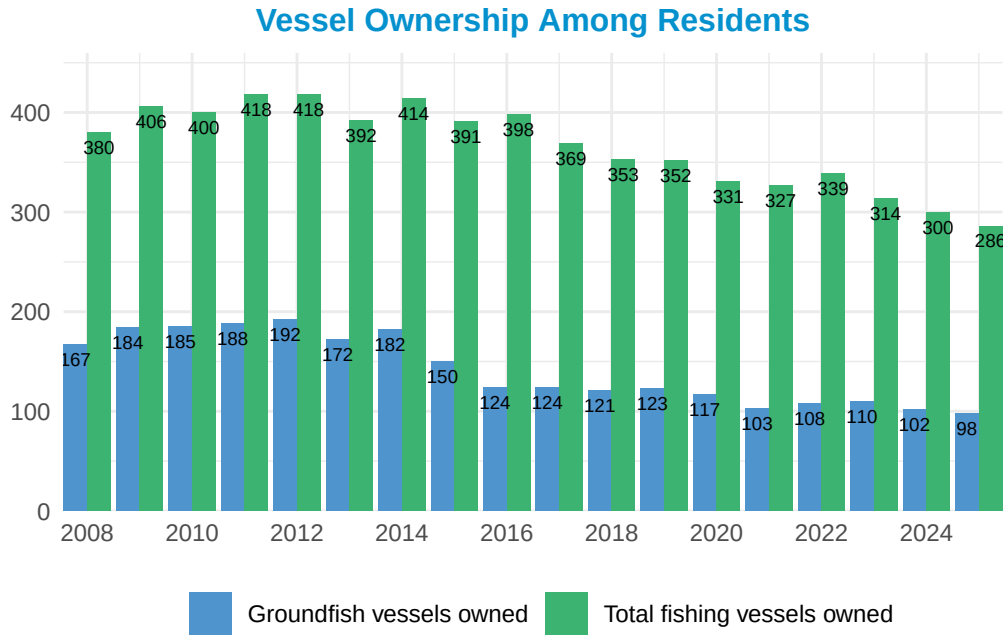
16.0.0.6. Groundfish Harvesting Engagement - HIGH



Fishing vessels associated with Sitka harvested 7.6 million whole pounds of groundfish worth $18.8 million ex-vessel in 2025. Salmon nevertheless accounted for approximately 44% of harvesting revenue, averaged over the preceding five years. Groundfish volume increased between 2021 and 2023, largely through sablefish activity, declined in 2024, and rebounded in 2025. Sitka residents participate in state-managed sablefish fisheries under applicable limited-entry requirements and federal fisheries through the Individual Fishing Quota Program.

The number of participating groundfish vessels owned by residents declined to 98 in 2025, approximately 49% below the 2012 peak of 192 and 11% below the 2023 count of 110. These figures describe participating vessels, rather than all vessels using Sitka's harbors. Residents reportedly owned 286 fishing vessels across fisheries in 2025.





16.0.0.7. Crab Harvesting Engagement - N/A

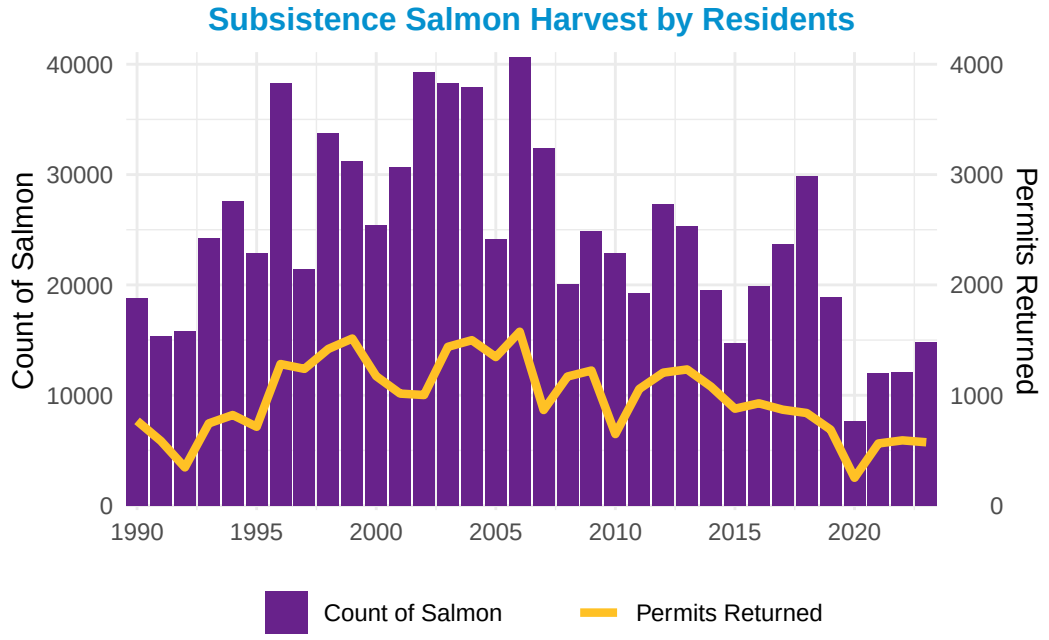
Available data are insufficient to characterize substantial commercial engagement in the crab fisheries covered by ACEPO. Confidentiality restrictions limit reporting. This designation does not imply that crab harvesting is unimportant to residents.

16.0.0.8. Subsistence Harvesting Engagement

The community of Sitka is highly engaged in subsistence fishing within the groundfish and crab fisheries, particularly for rockfish, greenling, lingcod, and Dungeness crab, which are the most widely utilized species from these fisheries. According to the CSIS database, Sitka harvested approximately 22.42 pounds of groundfish per capita in 2013 (best available data). This represents a significant nutritional source for residents.

Sitka residents are also highly engaged in subsistence harvests of halibut and salmon, according to Alaska Dept. of Fish and Game data. The most recent data in 2023 shows an increase in subsistence salmon participation and harvests in 2023 to 574 permits.[11] Traditionally, salmon provided the foundation for almost all aspects of cultural life for the Tlingit and Haida peoples living in the region. Today, it continues to represent an important tribal cultural connection to their homeland and provides a valuable economic and nutritional resource for residents.

Subsistence harvest of halibut remained relatively constant in recent years, while salmon participation declined precipitously from a peak of 1,234 permits (2013) to a low of 252 in 2020.[12] Concern exists over impacts from climate change on this species given that size-at-age has decreased significantly in recent years for this species.[13]

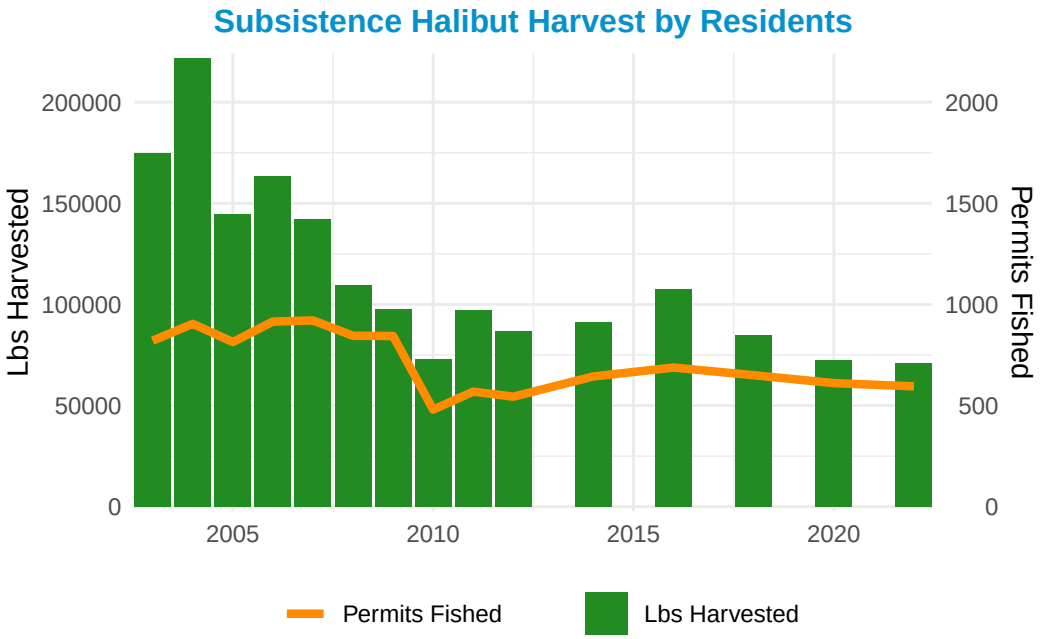


[11] Alaska Department of Fish and Game Division of Subsistence. 2021. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

[12] Alaska Department of Fish and Game Division of Subsistence. 2011. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

[13] Central Council of the Tlingit & Haida Indian Tribes of Alaska. (n.d.). Climate Change Adaptation Plan. Retrieved from https://www.ccthita.org/services/community/environmental/documents/T&HClimateChangeAdaptationPlan.pdf

16. Sitka



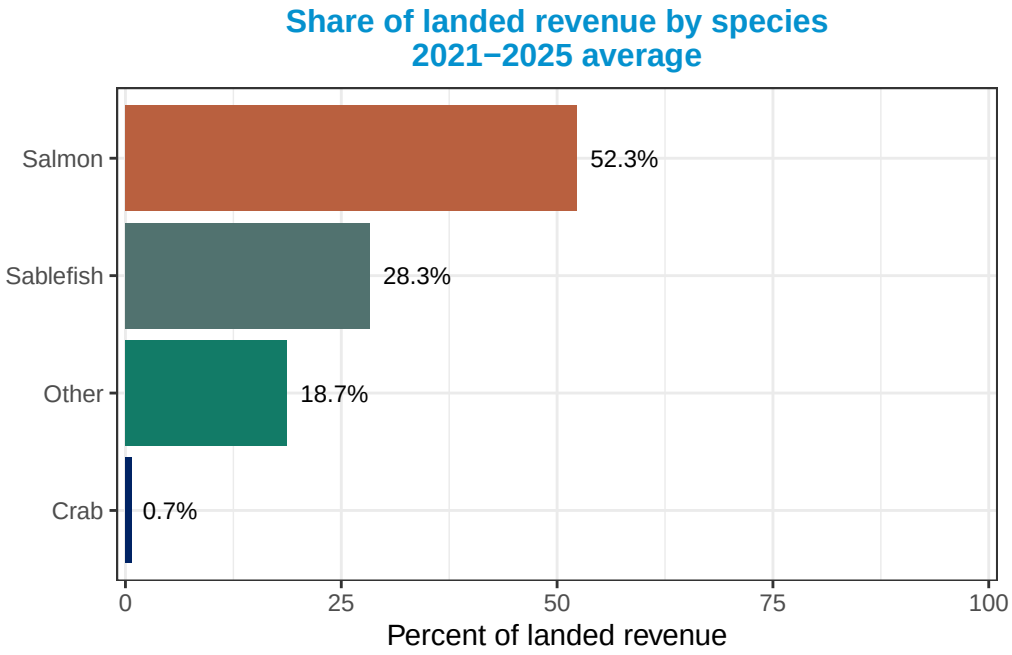
16.0.0.9. Recreational Fishing Engagement

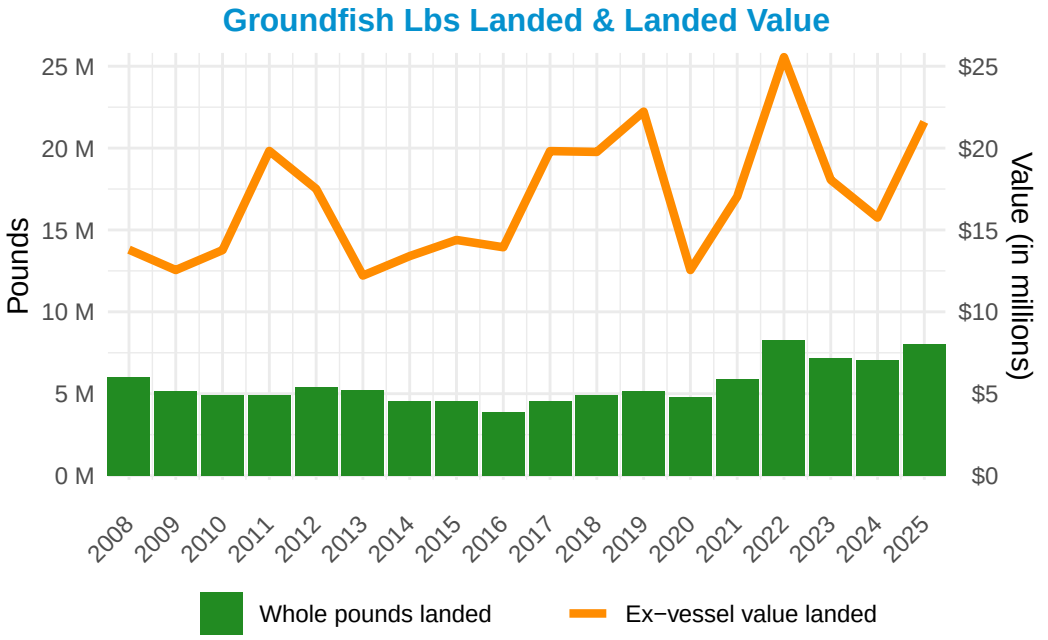
Sitka is one of the four communities in Alaska that has been highly engaged in recreational fishing in all years 2004-2025 as well as highly engaged in commercial fishing (harvesting or processing), the others being Homer, Kodiak, and Seward. Sitka consistently ranks fifth or sixth most highly engaged Alaska community in recreational fishing for most of the 2000s, alternating between Wasilla.

16.0.0.10. Groundfish Processing Engagement - HIGH

The majority of processing activity over the past five years is for salmon (52.3%) on average, although sablefish made up 28.3% of total processing revenue. In 2025, three processing facilities in Sitka processed Pacific cod, eight processed rockfish, and five processed sablefish. Together they landed 8.0M pounds, with an associated value of $21.6M. This marks a increase of 1.0M pounds and $5.8M from 2024 levels.

16. Sitka



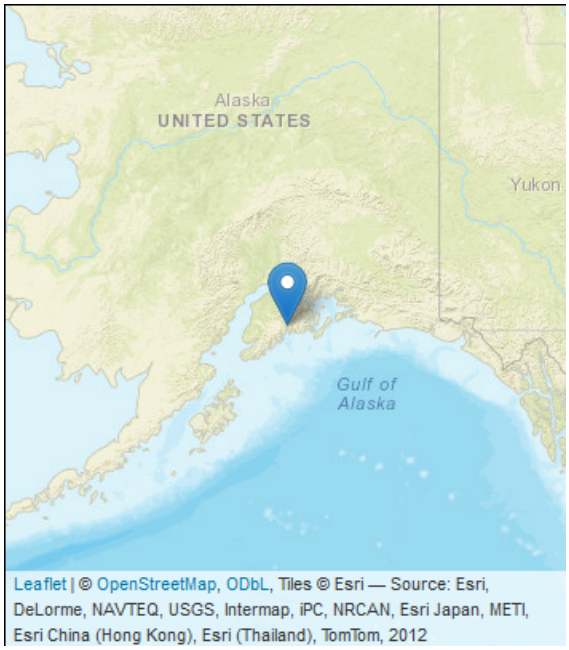


16.0.0.11. Crab Processing Engagement - N/A

Available data are insufficient to characterize substantial processing engagement in the crab fisheries covered by ACEPO. Confidentiality restrictions limit reporting.

17. Seward

17.0.0.1. Area Description & History



Seward is located at the head of Resurrection Bay on the Kenai Peninsula, and is the gateway to the Kenai Fjords National Park. Seward's namesake comes from William H. Seward, the U.S. Secretary of State who arranged the purchase of Alaska from Russia in 1867. Seward's earliest residents were the Unegkurmiut, a subgroup of the Alutiiq Chugash. The City was founded in 1903 and Seward has become an important transport and supply center for Interior Alaska as an ice-free, deep-water harbor. Seward was incorporated in 1912, and became a strategic military port during WWII. Seward was not included under the Alaska Native Claims Settlement Act, although the Qutekcak Native tribe is active in the area and seeking federal recognition. Qutekcak translates from the Alutiiq language as "Big Beach." Qutekcak was a prehistoric Alaska Native mixing area, serving as a crossroads for the various Alutiiq and Sugpiaq groups residing in the region. The first commercial salmon fishery in Prince William Sound (PWS) developed along the Copper River Delta around 1900. Commercial exploitation of halibut and groundfish first extended into the Gulf of Alaska (Gulf) in the 1920s. During this time, herring became increasingly valued for oil and meat, and a number of fish reduction plants were also built. Commercial crab fisheries began to develop in the Gulf in the 1930s. The marine waters at the outlet of Resurrection Bay are included within Federal Statistical and Reporting Area 630, Pacific Halibut Fishery Regulatory Area 3A, and the Central Gulf Sablefish Regulatory Area. In addition to federal groundfish fisheries that take place in the Central and Eastern Gulf, state groundfish fisheries take place in the inland waters of Cook Inlet and PWS for rockfish, lingcod, pollock, sablefish, and Pacific cod.

17.0.0.2. Infrastructure & Transportation

Seward is accessible by air, water, highway and rail. Bus and other commercial trucking services are available daily from Anchorage. The deep water port remains ice-free year round, and services cruise ships and other cargo barges from Seattle. The small boat harbor has slips for 650 boats. All

17. Seward

Demographics	
Population	2526
Population in group housing	709
Median household income	85,481
Housing units	1,195
Percentages	
Male	58.6%
Female	41.4%
White	84.1%
American Indian or Alaska Native	8.1%
Black or African American	2.7%
Asian	0.5%
Native Hawaiian or Pacific Islander	1%
Hispanic or Latino	2.1%
Below poverty line	9.3%
High school diploma or higher	94.3%
Population under 5	7.1%
Population over 18	76.9%
Population over 65	15%

Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

water, waste collection, and power services are offered through the City and the Borough. Medical services in Seward are provided by the Providence Seward Medical Center. ADF&G and NMFS both have offices in Seward. Seward has 3 schools, where student enrollment has decreased by 13% since 2008.[1] Additionally, Seward schools experienced an 18% enrollment decrease between 2019 and 2020,[2] which is likely a result of the COVID19 pandemic, although enrollment numbers have not recovered to historical levels.

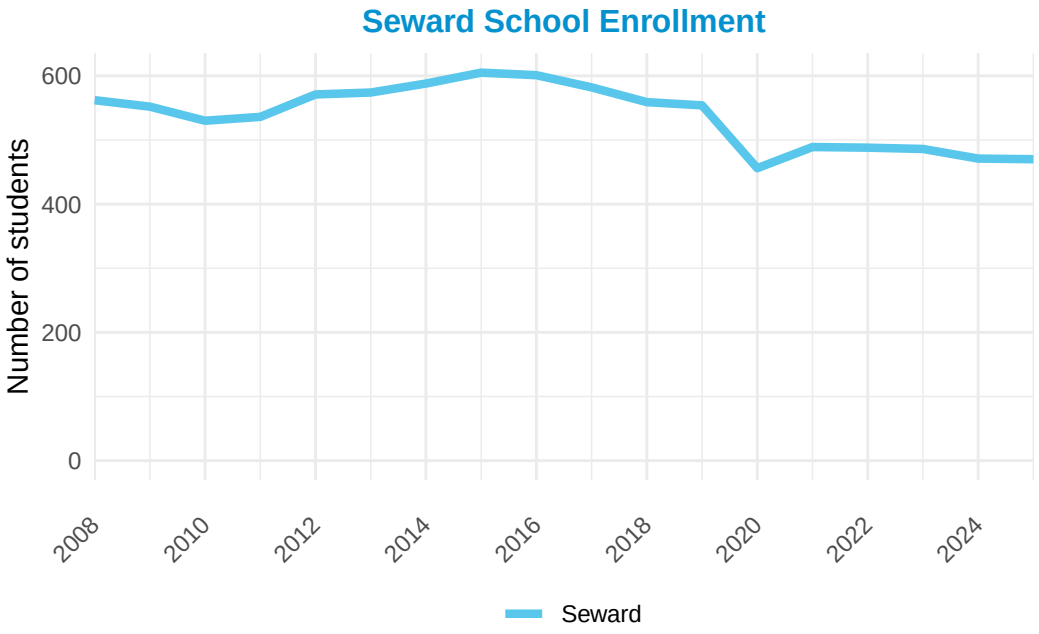
17.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

[1] School enrollment statistics compiled from AK. Dept. of Education & Early Development. Retrieved October 2026 at http://www.eed.state.ak.us/stats/

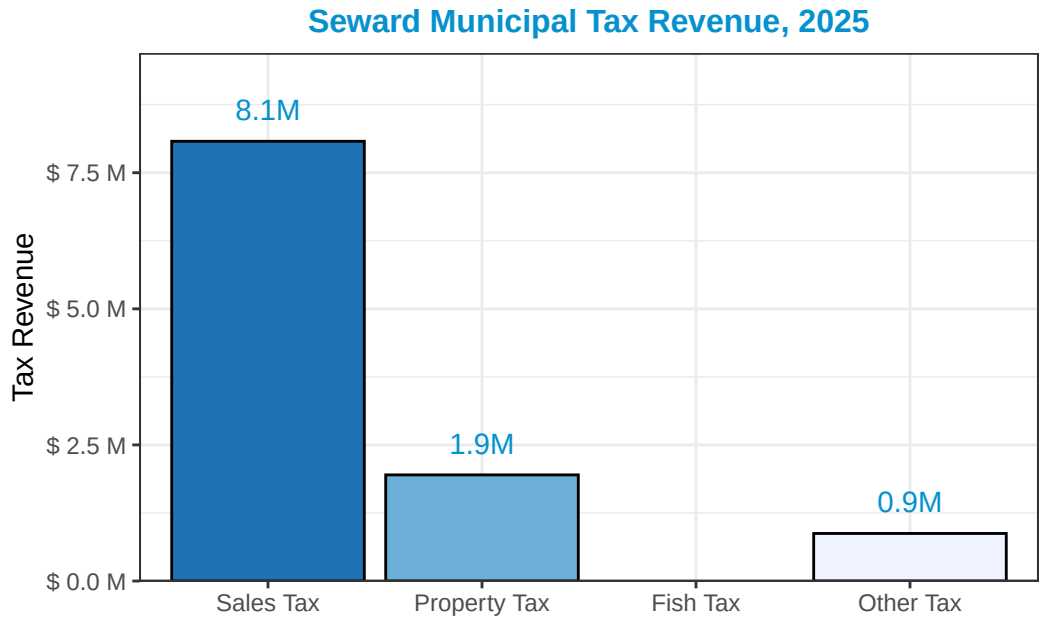
[2] School enrollment statistics compiled from AK. Dept. of Education & Early Development. Retrieved October 2026 at http://www.eed.state.ak.us/stats/

17. Seward


Seward School Enrollment
600
400
200
0
Number of students
2008
2010
2012
2014
2016
2018
2020
2022
2024
Seward

17.0.0.4. Current Economy

Seward's economy is shaped by its role as a transportation hub. The economy is diversified and includes commercial fishing and processing, shipping, coal export, employment through the state prison, and tourism fueled by its proximity to Kenai Fjords National Park. In 2025, Seward generated $156,243 in total fishery related taxes (including shared and municipal).[3] The overall amount of total fish taxes collected in 2025 decreased by 31% from 2024.[4] These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and wellbeing. In 2024, per capita income in Seward was estimated to be $33,987[5] and the median household income was estimated to be $85,481.[6] This represents a 22% increase and a 4% decrease in these measures respectively compared to 2019. The percentage of the population living below the poverty line has decreased by 11% since 2019.[7]



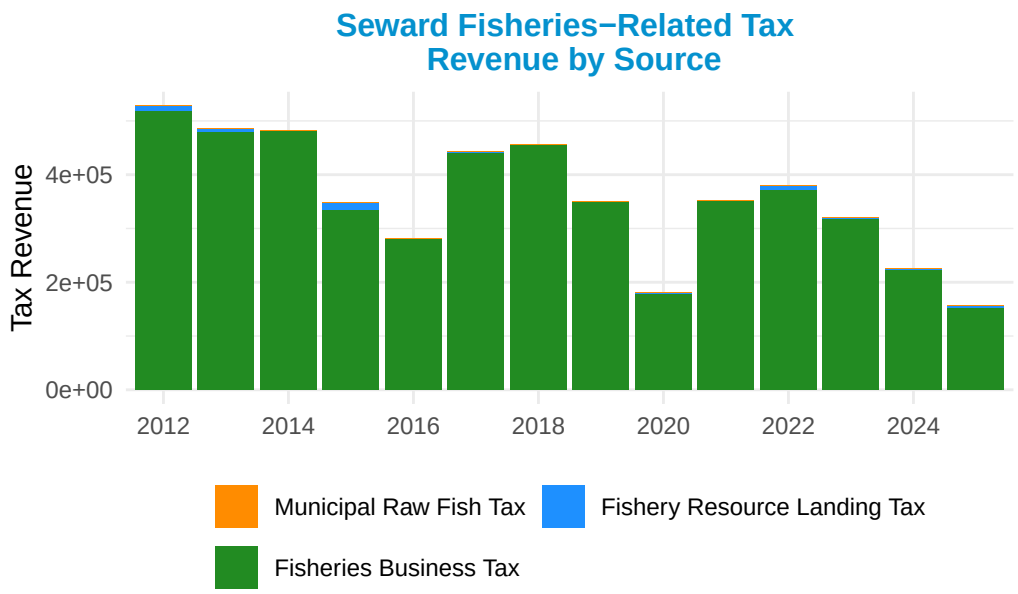
[3]U.S. Census Bureau. (2025). American Community Survey 5-Year Estimates, 2020-2024. U.S. Department of Commerce. Retrieved from https://www.census.gov/data

[4]U.S. Census Bureau. (2025). American Community Survey 5-Year Estimates, 2020-2024. U.S. Department of Commerce. Retrieved from https://www.census.gov/data

[5]U.S. Census Bureau. (2025). American Community Survey 5-Year Estimates, 2020-2024. U.S. Department of Commerce. Retrieved from https://www.census.gov/data

[6]U.S. Census Bureau. (2025). American Community Survey 5-Year Estimates, 2020-2024. U.S. Department of Commerce. Retrieved from https://www.census.gov/data

[7]U.S. Census Bureau. (2025). American Community Survey 5-Year Estimates, 2020-2024. U.S. Department of Commerce. Retrieved from https://www.census.gov/data



17.0.0.5. Climate Change Vulnerability and Adaptive Capacity

17.0.0.5.1. Exposure to Biophysical Effects of Climate Change

A community's exposure to the biophysical effects of climate change, which include effects to the biological organisms and physical landscape surrounding them, aids in determining their vulnerability. Biophysical risks to the Gulf of Alaska as a whole include sea level rise, coastal erosion, extreme weather events, changes in precipitation (rates, timing, and snowpack), increasing landslides and avalanches, wildfire risk, and increased storm severity. Seward was recently included in the Kenai Peninsula Borough's multi-jurisdictional hazard mitigation plan (HMP) which was published in 2024.[8] The HMP identifies hazards and assesses their potential impacts for Seward, including descriptions of the likely effects of climate change on flooding and erosion, wildfires, earthquakes, severe weather events, tsunamis/seiches, volcanoes, and avalanches/landslides. In the HMP risk assessment, Seward was the only community assessed to score an "extreme high risk" rating with reference to flooding hazards. The HMP highlights that the Seward-Bear Creek Flood Service Area (SBCFSA) was established in 2003 to address this risk by requiring ongoing mitigation and improvements to reduce the impacts of flooding in Seward. Seward is vulnerable to increasing glacial lake outburst flooding as the Snow Glacier near the community has thinned. Over the last 20 years, these floods have become "more frequent, peaked more rapidly, and have had generally higher peaks."[9] The community has also experienced landslides in recent years, which can be exacerbated by extreme weather events. A community forum from 2019 on the topic of a climate action plan indicates that residents are concerned about flooding, droughts, wildfires, sea level rise,

[8] Kenai Peninsula Borough Office of Emergency Management, 2024 Multi-Jurisdictional Hazard Mitigation Plan (2024), https://info.kpb.us/pages/all-hazard-mitigation-plan.

[9] Beebee, R. A. (2022). *Recent history of glacial lake outburst floods, analysis of channel changes, and development of a two-dimensional flow and sediment transport model of the Snow River near Seward, Alaska* (Scientific Investigations Report No. 2022-5099). U.S. Geological Survey. https://doi.org/10.3133/sir20225099

and various impacts of climate change on ocean health including acidification, toxic algae blooms, glacial melts, and increased shipping and tourism.[10]

17.0.0.5.2. Dependence on Fisheries Affected by Climate Change

Reliance on fisheries resources which are being impacted by climate change can determine how vulnerable a community is to disruption from climate change. The community of Seward is moderately engaged in processing within the groundfish fishery. In addition, nearby Kenai Fjords National Park is a popular destination for recreational fishers, with 28 active sport fish guide businesses, making this an important part of the community's culture and economy. However, residents appear to be only moderately engaged in subsistence fishing within the groundfish and crab fisheries in comparison to other communities. The most widely utilized species include rockfish, greenling, lingcod, and King crab. The community is only moderately engaged in halibut subsistence fishing, but highly engaged in salmon subsistence fishing. Given this, Seward is overall moderately dependent on fisheries resources that will be impacted by climate change. Therefore, as this community is impacted by a changing marine environment, the community's well-being will be significantly affected.

17.0.0.5.3. Local Adaptive Capacity

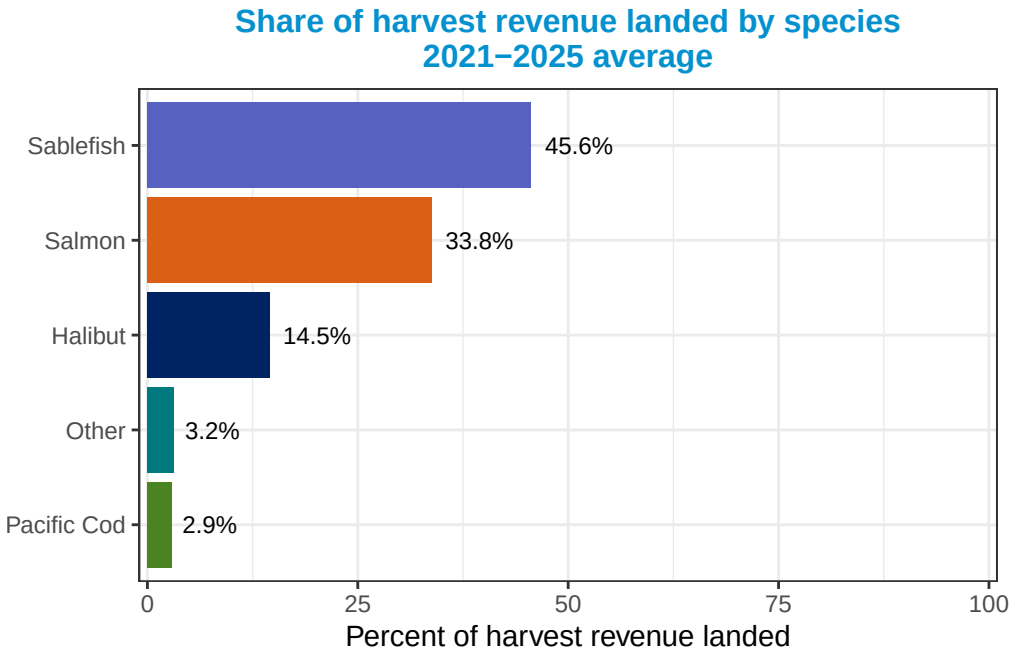
The FEMA National Risk Index also rates Seward as having very low community resilience, meaning they have a very low ability to adapt to changing conditions and withstand and recover rapidly from disruptions.[11] However, in October 2024, the City of Seward was awarded a $45.7 million grant by the Environmental Protection Agency (EPA) to fund a public-private partnership to provide shore power to the Port of Seward.[12] This project brings partners together to create a green port that will enable cruise vessels to connect to the city's local grid for electrical power instead of using diesel generators. This grant and the future it promises for Seward residents point to new adaptation pathways being forged by city leadership.

[10] PACAB Climate Action Plan Public Forum. (2019). https://www.cityofseward.us/home/showpublisheddocument/1612/637060950125430000

[11] Federal Emergency Management Agency. (n.d.). *National Risk Index: Kenai Peninsula Borough, Alaska.* Retrieved November 13, 2024, from https://hazards.fema.gov/nri/report/viewer?dataLOD=Counties&dataIDs=C02122

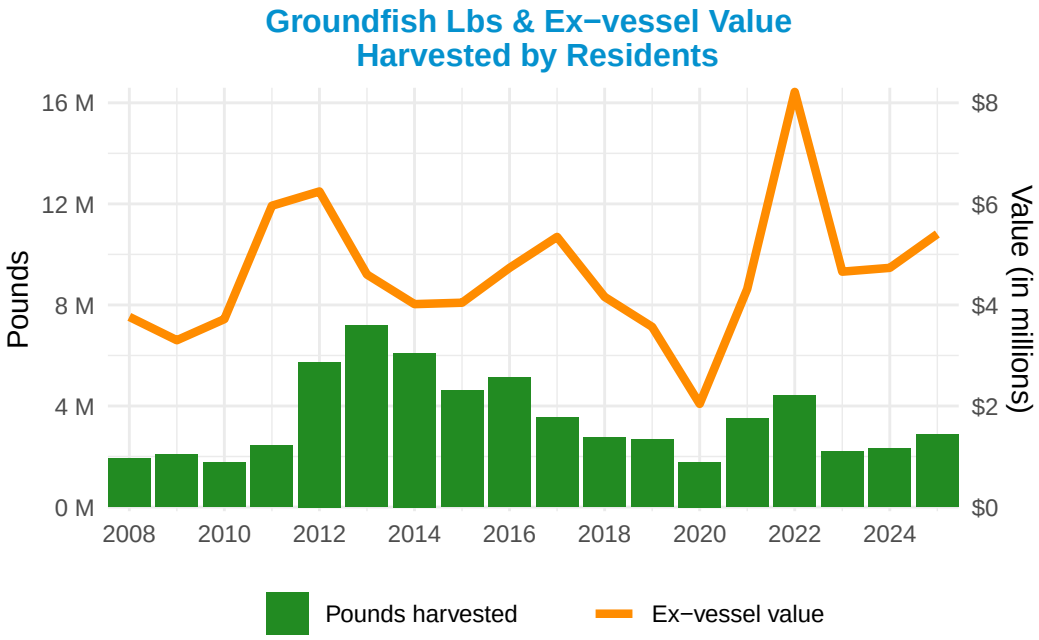
[12] City of Seward, "City of Seward Awarded $45.7 Million EPA Grant to Implement Shore Power at Port of Seward," October 29, 2024, https://www.cityofseward.us/Home/Components/News/News/1942/16

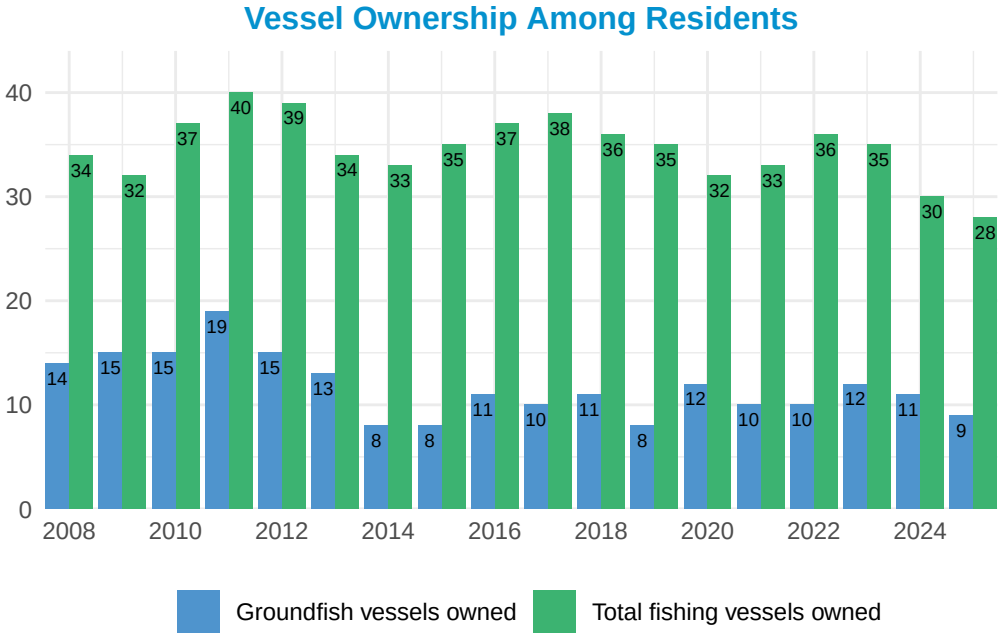
17.0.0.6. Groundfish Harvesting Engagement - LOW



Seward residents participate in several fisheries. In 2025, about 50% of ex-vessel value harvested by residents was from groundfish fisheries, primarily sablefish, while 11% was from halibut fisheries, and 36% from salmon. In 2025, vessels owned by Seward residents harvested over 2.8M pounds of groundfish with an associated value of approximately $5.4M. In 2021 and 2022, both pounds harvested and associated ex-vessel value of groundfish harvests increased briefly after a sharp decline in 2020, potentially due to the COVID19 pandemic. Declines in groundfish harvests were observed again in 2023, with a 50% decrease in volume harvested and 43% decrease in associated value, but have slightly increased 23% in volume and 14% in value in 2025.

Between 2008 and 2019, the number of groundfish vessels owned by Seward residents fluctuated, peaking in 2011 at 19 vessels. In 2020, despite significant decreases in pounds harvested, the number of groundfish vessels increased to 12 and have remained between 10 and 12 in until 2024. In 2025, the number of groundfish vessels owned by Seward residents decreased to a total of 9 vessels and the total number of fishing vessels owned by residents decreased to 28.





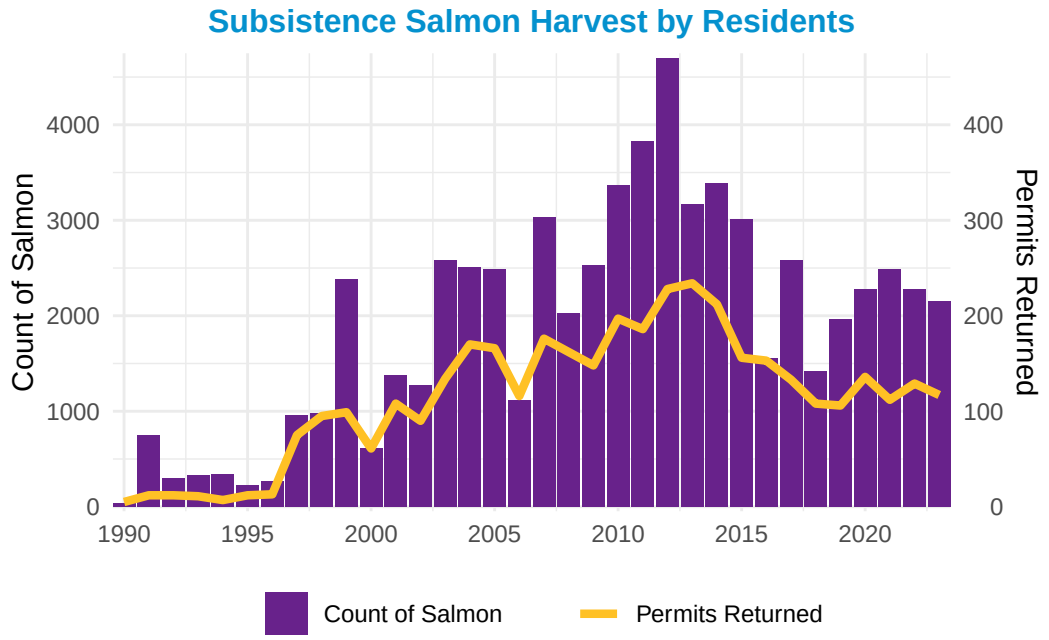
17.0.0.7. Crab Harvesting Engagement - N/A

There is not a substantial amount of crab harvesting activity in Seward to report.

Due to confidentiality concerns, only select data are available.

17.0.0.8. Subsistence Harvesting Engagement

Residents of Seward are moderately engaged in subsistence fishing in groundfish and crab fisheries, according to the most recent comprehensive ADF&G household subsistence survey in 2001.[13] The most popular groundfish species was rockfish, greenling and lingcod, while the most widely utilized crab species were king crabs. Similarly, residents are only moderately engaged in subsistence halibut harvests. Recorded harvests of subsistence halibut by Seward residents shrank to 0 in the most recent year that data was available, 2022.[14] By contrast, Seward residents recorded increasing harvests of salmon for subsistence from 1999 until 2012, when an estimated total of over 4.7K salmon were harvested on 276 permits. Subsistence salmon harvests generally declined from 2012 to 2017 (2.5K salmon harvested on 161 permits), and between 2019 and 2023 held steady between 2K and 2.4K salmon harvested annually. The same upward trends were observed in the nearby Kenai Peninsula community of Homer, which also saw peak harvest in 2012 followed by subsequent decline and stabilization to pre-2012 levels.[15]



17.0.0.9. Recreational Fishing Engagement

Seward has been highly engaged in recreational fishing in each year between 2005 and 2025. Unlike other communities that were highly engaged in all years of the study period (2003-2025), Seward was not highly engaged in 2003 and 2004. The relative recreational engagement score for Seward has declined in 2024 and 2025.

[13] Alaska Department of Fish and Game Division of Subsistence. 2022. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

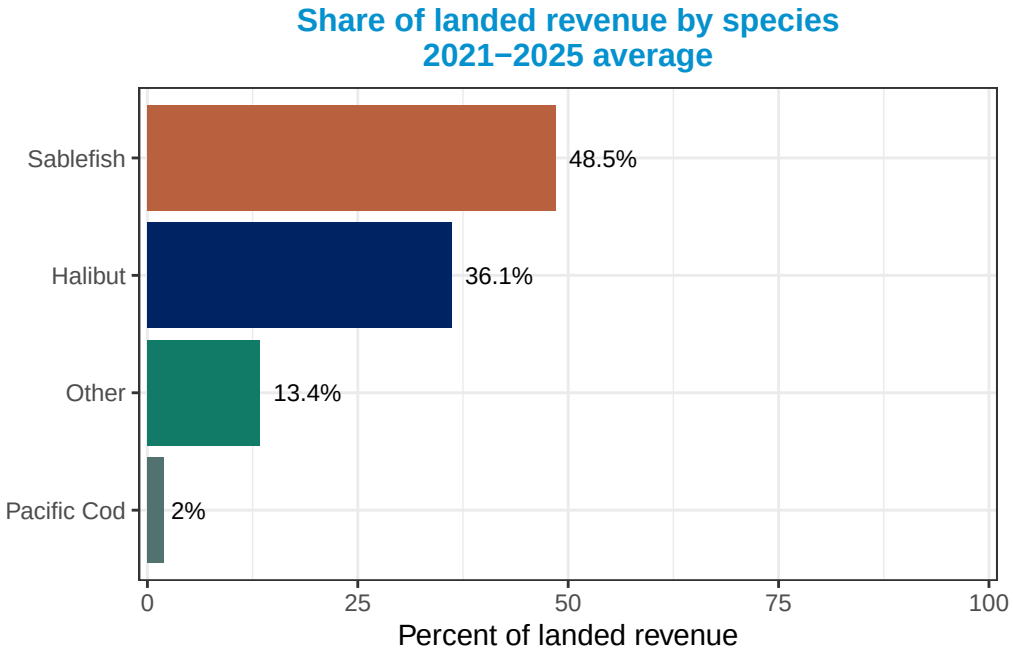
[14] Alaska Department of Fish and Game Division of Subsistence. 2022. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

[15] Alaska Department of Fish and Game Division of Subsistence. 2023. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

17.0.0.10. Groundfish Processing Engagement - MEDIUM-HIGH

In 2025, there were five processing plants in Seward that processed groundfish.[16] Vessels landed 9.3M whole pounds with an associated value of $13.9M. This shows a recent trend of increased groundfish landings and value from 2021 to 2025, compared with the same metrics from 2018 to 2020.

Seward's seafood processing industry has undergone significant consolidation since 2020, reflecting broader restructuring of Alaska's seafood processing sector. In 2020, Icicle Seafoods and Ocean Beauty Seafoods merged their Alaska salmon and Gulf of Alaska groundfish operations to form OBI Seafoods, bringing Icicle's Seward processing facility under the new company.[17] In 2025, Silver Bay Seafoods acquired Icicle's ownership interest in OBI and assumed management of its processing operations, including the Seward plant.[18] Additional consolidation occurred in 2025 when Pacific Seafood initiated the acquisition of Polar Seafoods and announced plans to relocate and consolidate its Seward processing operations at the former Polar Seafoods facility in the Seward Marine Industrial Center.[19] These developments reflect both increased corporate concentration and changes in the organization of Seward's physical processing infrastructure.

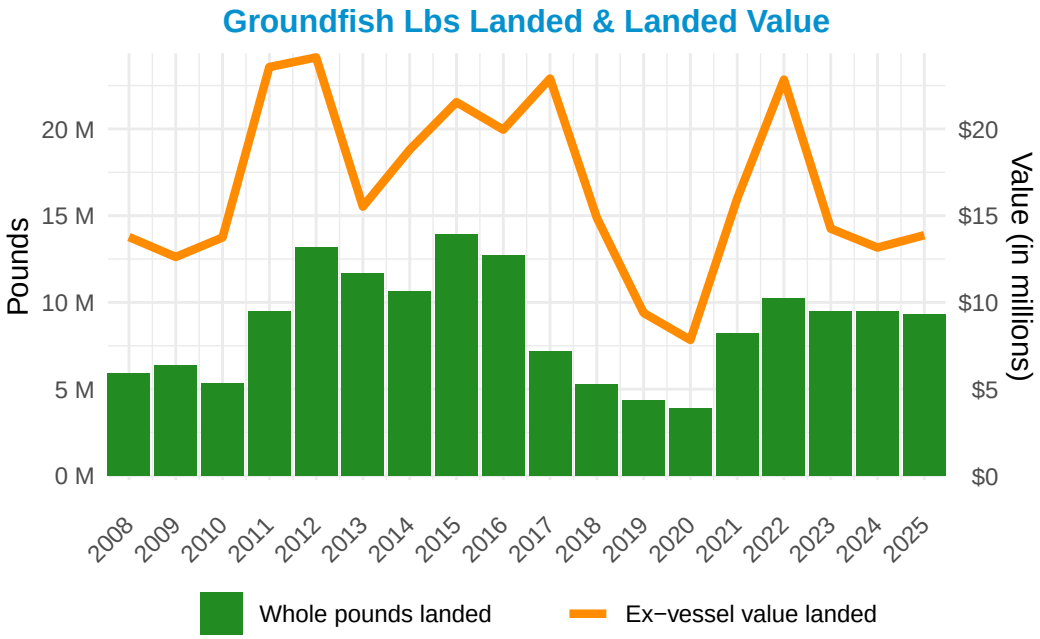


[16] McKinley Research Group. (2026). Valdez Fisheries Development Association economic impact report. Prepared for Valdez Fisheries Development Association. https://www.valdezfisheries.org/wp-content/uploads/VFDA-Economic-Impact-Report-2026-Final.pdf

[17] McKinley Research Group. (2026). Valdez Fisheries Development Association economic impact report. Prepared for Valdez Fisheries Development Association. https://www.valdezfisheries.org/wp-content/uploads/VFDA-Economic-Impact-Report-2026-Final.pdf

[18] Silver Bay Seafoods & Bristol Bay Economic Development Corporation. (2025, March 18). Silver Bay Seafoods and Bristol Bay Economic Development Corporation announce partnership to strengthen Alaska seafood industry [Press release]. https://bbedc.com/wp-content/uploads/2025/03/FINAL-PRESS-RELEASE-Silver-Bay-and-BBEDC-Announce-Partnership-to-Strengthen-Alaska-Salmon-Industry.pdf

[19] City of Seward. (2025, September 8). Seward City Council meeting packet (Resolution 2025-085). https://www.cityofseward.us/home/showpublisheddocument/5334/638926024129700000



17.0.0.11. Crab Processing Engagement - N/A

There is not a substantial amount of crab processing activity in Seward to report.

Due to confidentiality concerns, only select data are available.

18. Unalaska

18.0.0.1. Area Description & History



Unalaska overlooks Iliuliuk Bay and Dutch Harbor on Unalaska Island in the Aleutian Chain. The area has been inhabited for thousands of years by the Unangan. When commerce with Russian fur traders began in 1759, more than 3,000 Unangan lived in 24 settlements on Unalaska and Amaknak Islands. The City of Unalaska was incorporated in March 1942. In the early 20th century, seafood processing of salmon, herring, and cod was established. By the 1940s, the military presence in the region overshadowed commercial fishing, and Dutch Harbor was mostly repurposed as a naval port. After World War II, halibut, salmon, and king crab fisheries began in the 1960s, bringing an economic boom in the 1970s. When king crab stocks collapsed in the early 1980s, Unalaska began to transition to groundfish fisheries. Today, Unalaska's International Port of Dutch Harbor is the top commercial fishing port in the nation by volume. An estimated 2,500 seasonal workers come to Unalaska for fisheries employment each year.[1] The population of Unalaska reaches its annual peak between January and April each year (during Pollock "A" Season). Unalaska was included under the Alaska Native Claims Settlement Act (ANCSA) and is federally recognized as a Native village. The active Native Corporations are Ounalashka Corporation and Aleut Corporation. The area is included in Federal Statistical and Reporting Area 610, Pacific Halibut Fishery Regulatory Area 4A, and the Western Gulf of Alaska Sablefish Regulatory Area. Unalaska is in House District 37, Senate District S.

18.0.0.2. Infrastructure & Transportation

Unalaska is serviced by daily scheduled flights from Anchorage. The state ferry operates bi-weekly from Homer between May and September. There are six marine facilities in Unalaska which include

[1] Himes-Cornell, A., K. Hoelting, C. Maguire, L. Munger-Little, J. Lee, J. Fisk, R. Felthoven, C. Geller, and P. Little. 2013. Unalaska. In *Community Profiles for North Pacific Fisheries – Alaska: Aleutian and Pribilof Islands* (pp. 237–260). NOAA Technical Memorandum NMFS-AFSC-259, Volume 6. National Marine Fisheries Service. https://apps-afsc.fisheries.noaa.gov/REFM/Socioeconomics/Projects/communityprofiles/Regional_Aleutian_and_Pribilof_Islands.pdf

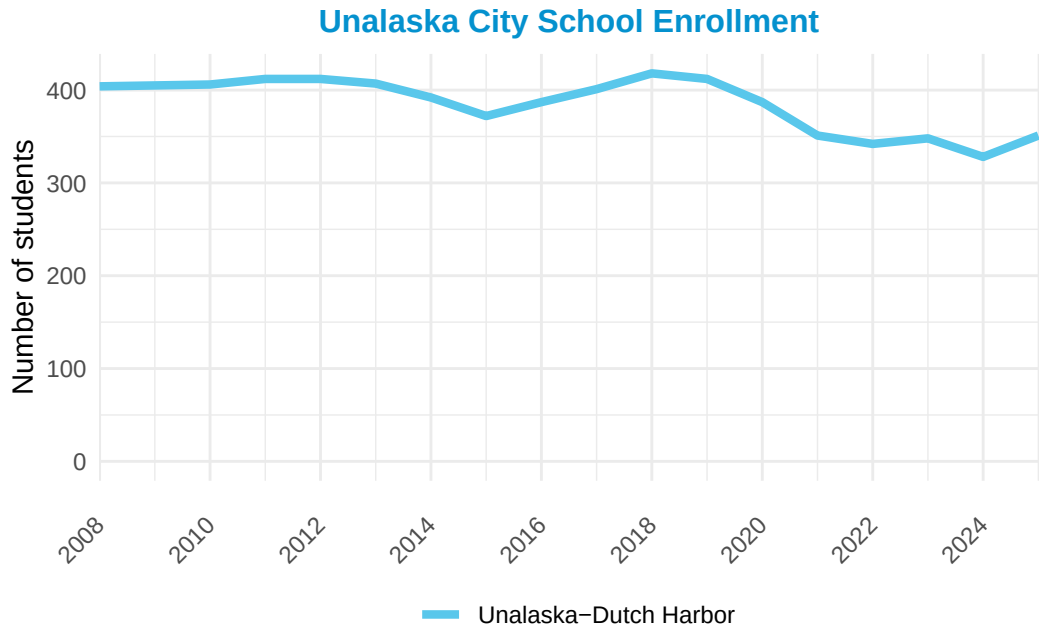
10 docks, three operated by the city.[2] Dutch Harbor has 5,200 ft. of moorage and 1,232 ft. of floating dock, accommodating vessels up to 200 feet, and 238 moorage slips. The Unalaska Marine Center and U.S. Coast Guard Dock offer cargo, passenger, and other port services. All homes and onshore fish processors are served by the City's piped water system. All on-shore processors generate their own electrical power. Unalaska has two schools; enrollment has slowly trended downwards since peaking in 2018.[3]

18.0.0.3. Demographics

American Community Survey (ACS) 5-year estimates, which we draw on to present selected demographic data, should be interpreted with caution for small Alaska communities, as small sample sizes can result in substantial margins of error. Additionally, seasonal population fluctuations and temporary workers may not be fully reflected in the estimates.

In 2024, 2,577 of the 4,099 residents of Unalaska lived in group quarters, which is associated with processor housing.[4] This was just above the mean population over the 1990-2024 period which has stayed roughly stable around this population level.

For the 2020-2024 period, median household income in Unalaska was estimated to be $131,964 and the percentage of people living below the poverty line was estimated to be 10%.[5]



[2] Aleutian Pribilof Islands Association. (n.d.). Unalaska. https://www.apiai.org/tribes/unalaska/

[3] School enrollment statistics compiled from AK. Dept. of Education & Early Development. Retrieved November 14, 2024 at http://www.eed.state.ak.us/stats/

[4] Alaska Department of Labor. (2023). Alaska Population Estimates: Cities and Census Designated Places (CDPs), 2020 to 2023. https://live.laborstats.alaska.gov/data-pages/alaska-population-estimates

[5] U.S. Census Bureau. (2023). *American Community Survey 5-Year Estimates, 2018-2022.* U.S. Department of Commerce. Retrieved from https://www.census.gov/data

18. Unalaska

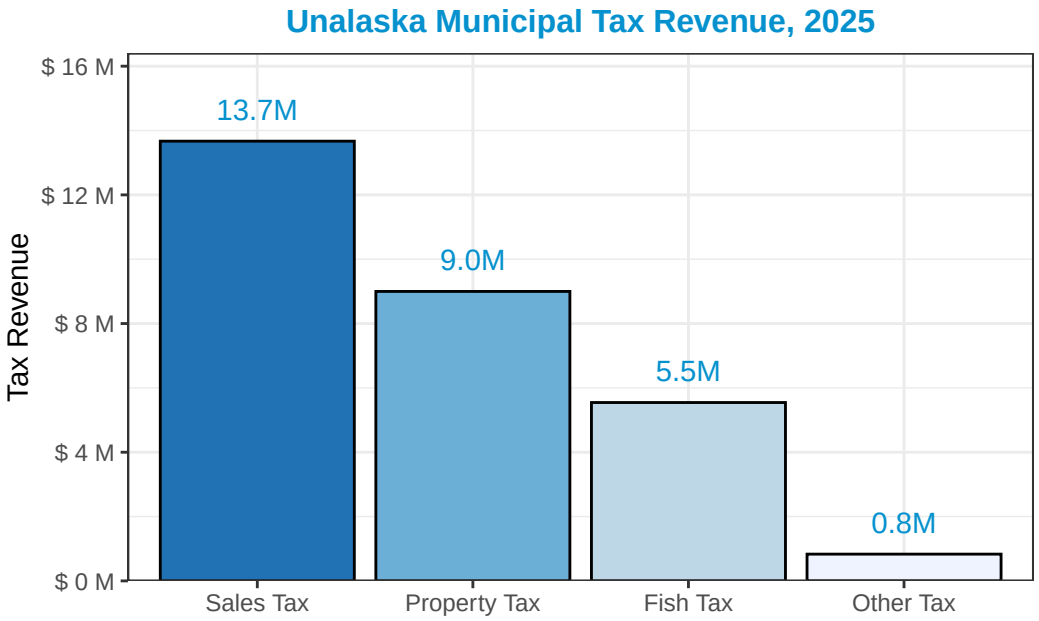
Demographics	
Population	4099
Population in group housing	2577
Median household income	131,964
Housing units	1,001
Percentages	
Male	69.8%
Female	30.2%
White	22.4%
American Indian or Alaska Native	2.3%
Black or African American	8%
Asian	45.5%
Native Hawaiian or Pacific Islander	1.9%
Hispanic or Latino	13.6%
Below poverty line	9.6%
High school diploma or higher	89.9%
Population under 5	2%
Population over 18	91.2%
Population over 65	5.1%

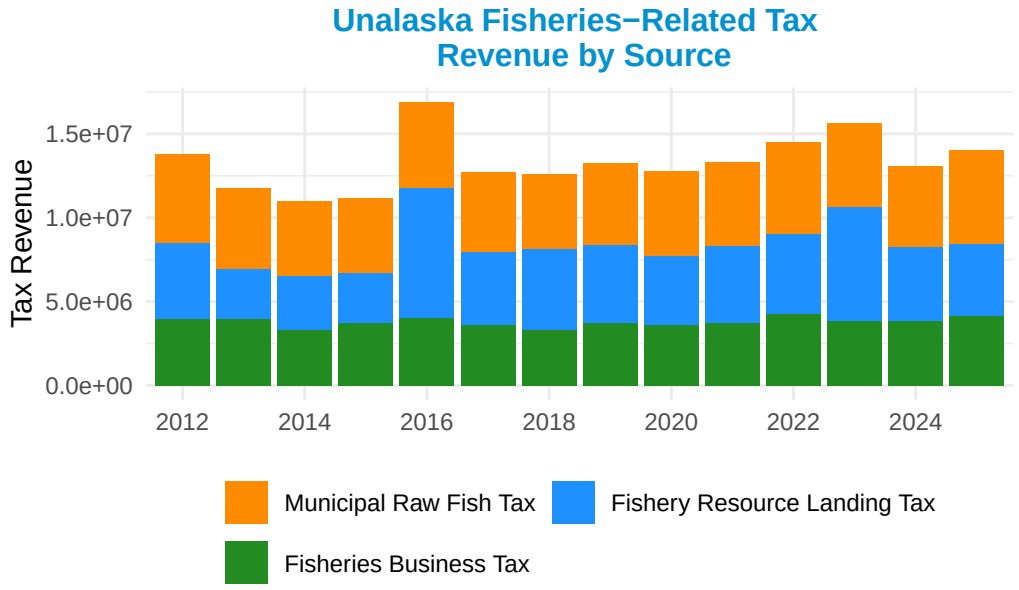
Source:
*Source: US Census Bureau American Community Survey 5-year estimates (2020-2024). Population and group housing estimates sourced from Alaska Department of Labor, 2025.

18.0.0.4. Current Economy

Unalaska's economy is based on commercial fishing, fish processing, and fleet services, such as maintenance, trade, repairs, fuel, and transportation. Processors provide employment, and seasonal workers are brought in during peak seasons. In 2025, Unalaska generated $29.0M in municipal tax revenue, of which $14.0M was fishery related taxes (including shared and municipal). The overall amount of total fish taxes reported in 2025 increased by 7.1% compared with 2024.[6] These revenues support basic city services such as education, sanitation, transportation, etc. and are important indicators of community health and wellbeing.

[6]Tax data from AK. Dept. of Revenue, Annual Reports 2008 2008-2021. Retr.' 06/30/2022 from http://tax.alaska.gov/programs/sourcebook/index.aspx aspx; Dept. of Commerce AK Taxable Database, AK Division of Community & Regional Affairs. Retr.'10/2022 https://www.commerce.alaska.gov/dcra/dcrarepoext/Pages/AlaskaTaxableDatabase.aspx





18.0.0.5. Climate Change Vulnerability and Adaptive Capacity

18.0.0.5.1. Exposure to Biophysical Effects of Climate Change

A community's exposure to the biophysical effects of climate change, which include effects to the biological organisms and physical landscape surrounding them, aids in determining their vulnerability. The Aleutian islands are expected to experience increased temperatures and precipitation, and increased summer storminess. Similar to other Alaska communities, they will be impacted by

reduced sea ice as well.[7] In 2021, the Aleutians experienced an uncharacteristically warm winter and Unalaska had its rainiest February on record. These trends mirror those that are predicted for the region.[8] However, in comparison to other Alaska communities, Unalaska has a low risk of exposure to the biophysical effects of climate change.

18.0.0.5.2. Dependence on Fisheries Affected by Climate Change

Reliance on fisheries resources which are being impacted by climate change can determine how vulnerable a community is to disruption from climate change. Unalaska has high engagement with processing in both the groundfish and crab fisheries, Residents are also highly engaged in subsistence fishing of various species of groundfish and crab as well, with most households utilizing at least some subsistence fisheries resources. Overall, Unalaska is highly dependent on fisheries resources which will be impacted by climate change. As abundance and location of species continue to shift, Unalaska residents will likely be severely impacted by these shifts and any commensurate fisheries closures. Recently, Unalaska island has been impacted by several subsistence salmon closures.[9] The Aleutian islands also have a history of being impacted by overexploitation of natural resources on which they depend for subsistence and other uses, specifically sea otters and Stellar sea lions.[10]

18.0.0.6. Groundfish Harvesting Engagement - LOW

Unalaska commercial fishers are diversified in commercial fisheries, including halibut, crab, groundfish, and salmon. Salmon remains the most abundant and valuable species. However, a wide range of fishing vessels use Unalaska as a base of fishing operations. Fishing vessels owned by Unalaska residents continued a downward trend from a peak of 25 in 2010 to 8 in 2025 (68% decrease). Similarly, ownership of groundfish vessels continued to decline and reached a historical low of 2 in 2022 and 2023. In 2024 and 2025, ownership of groundfish vessels increased to 5, returning to 2021 levels. The pounds of groundfish harvested has steadily declined since 2014, with a sharp decline in 2018. Compared to 2014, the volume harvested has decreased by 8.7M pounds (86%) while the ex-vessel value has decreased by about $2.4M in the same time period (77%).

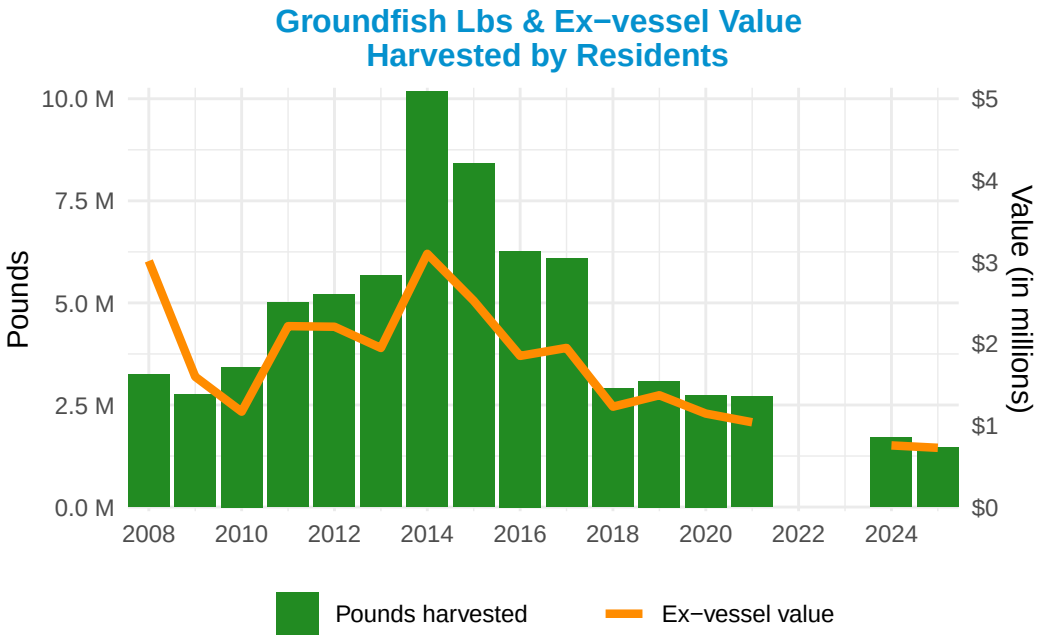
[7] Aleutian & Bering Climate Vulnerability Assessment Assessment-ABCVA. Unalaska Lecture & Community Discussion Discussion-September 2014

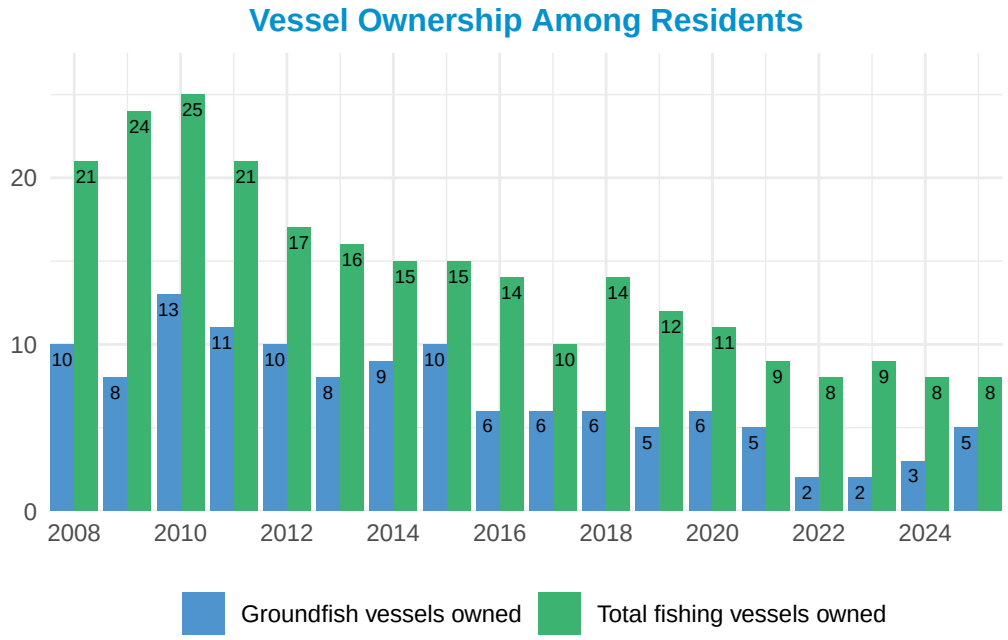
[8] Aleutian & Bering Climate Vulnerability Assessment Assessment-ABCVA. Unalaska Lecture & Community Discussion Discussion-September 2014

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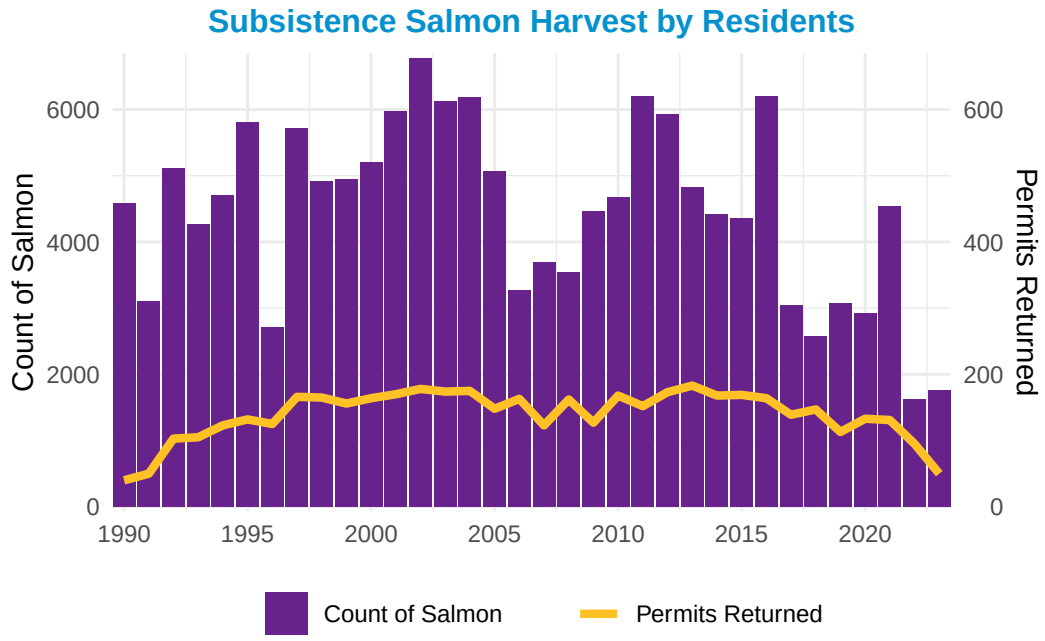


18.0.0.7. Crab Harvesting Engagement - LOW

There is not a substantial amount of crab harvesting activity among vessels owned by residents of Unalaska to report. *Due to confidentiality concerns, only select data are available.*

18.0.0.8. Subsistence Harvesting Engagement

Residents of Unalaska are almost universally engaged in subsistence fishing, with 96.8% of all households utilizing fisheries resources (according to the most recent data available).[11] The most common species include salmon, halibut, crabs (King crab, Tanner crab and Dungeness crab), cod, and rockfish. The high per capita harvest rates of both groundfish and crab indicate that residents of Unalaska rely on these species as key sources of nutrition in their diets. According to more recent data on their halibut and salmon subsistence harvesting practices from the Alaska Dept. of Fish and Game, trends indicate that engagement in subsistence fishing for these two species has declined in recent year.[12][13] Given that there have also been recent salmon subsistence fishing closures in the area, it is likely that these closures and declines in the salmon population more generally have impacted their ability to harvest as much as years past.[14]



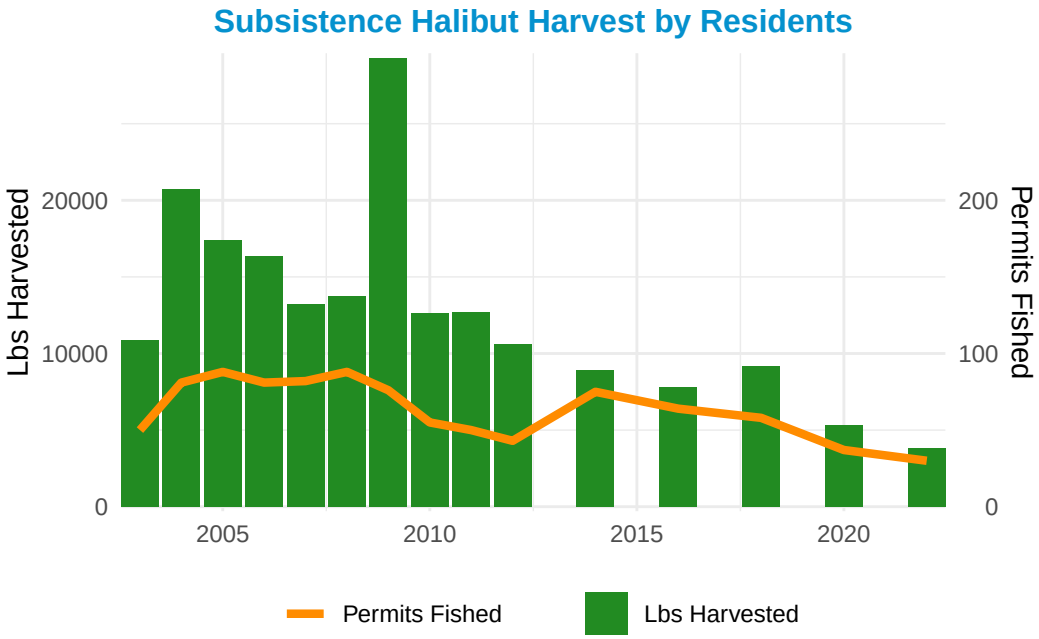
[11] Alaska Department of Fish & Game Division of Subsistence. (2024). 2020 Unalaska Harvest Data. Retrieved November 14, 2024 from https://adfg.maps.arcgis.com/apps/dashboards/c5a783dd9f9049efb6489cce9fc38319

[12] Alaska Department of Fish and Game Division of Subsistence. 2021. Alaska Subsistence Fisheries Database. Data compiled by Alaska Fisheries Information Network in the Alaska Community Profiling Dataset.

[13] Alaska Department of Fish and Game Division of Subsistence. 2011. Pacific Halibut Subsistence Data. Data compiled by Alaska Fisheries Information Network in Alaska Community Profiling Dataset.

[14] U.S. Department of the Interior. https://www.doi.gov/subsistence/karac/closures

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18.0.0.9. Groundfish Processing Engagement - HIGH

Although the majority of Unalaska residents depend on income derived directly from the commercial fishing and fish processing industry, few residents have ownership interest in major seafood-related firms. Many of the largest shoreside fish processors are wholly- or partially-owned by Japanese interests (Alyeska[15], Westward[16], and Unisea[17]). Many other large processor vessels (motherships), or floating processors are owned by non-Alaskan firms[18][19], although CDQ groups have some ownership interests as well.[20] Unalaska has a total of 13 seafood processing plants, five of which process groundfish. The vast majority of landings in Unalaska over the last five years is pollock at 46.8%; Pacific cod accounts for about 4.9%, and crab 42.9%. In 2025, Unalaska processed 921.1M pounds of groundfish with an associated landed value of $144.2M. This is a 3% increase in volume from 2019 (up 27.6M pounds) but a decrease in landed value (down $12.4M or 8%).

[15] Maruha Nichiro Corporation. (2020). *Corporate profile 2020.* Retrieved from https://www.maruha-nichiro.com/who_we_are/pdf/corporate_profile_en_202007.pdf

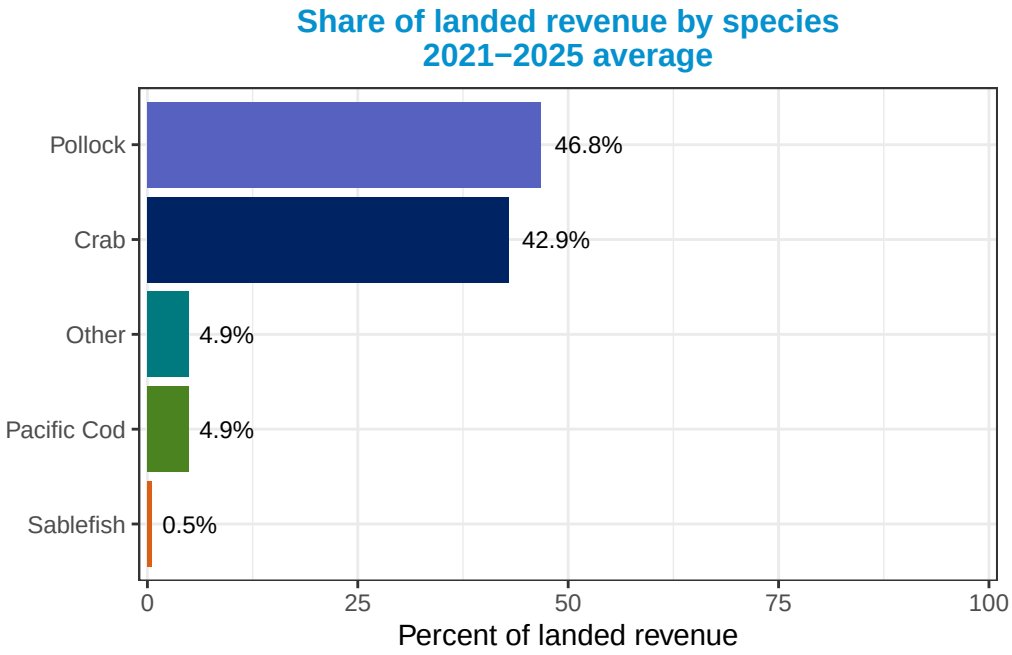
[16] Maruha Nichiro Corporation. (2020). *Corporate profile 2020.* Retrieved from https://www.maruha-nichiro.com/who_we_are/pdf/corporate_profile_en_202007.pdf

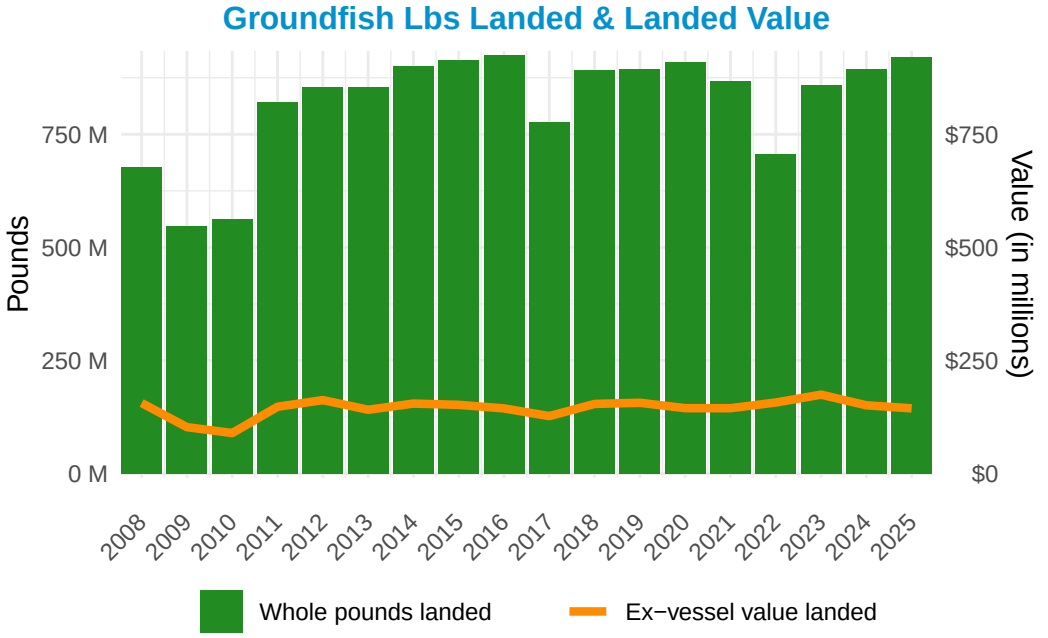
[17] Nissui Corporation. (n.d.). *Global Network (Overseas).* Retrieved November 20, 2024, from https://www.nissui.co.jp/english/corporate/group/overseas.html#tab

[18] Phoenix Processor Limited Partnership. (n.d.). *Home.* Retrieved November 20, 2024, from https://www.pplp.fish/

[19] McKenney, H. (2022, January 14). *New owner to take over Unalaska fish processing plant.* KUCB. Retrieved November 20, 2024, from https://www.kucb.org/industry/2022-01-14/new-owner-to-take-over-unalaska-fish-processing-plant

[20] Seaman, T. (2022, October 21). *CDQ group takes control of Golden Alaska pollock mothership after two catcher boat deals.* Undercurrent News. Retrieved November 20, 2024, from https://www.undercurrentnews.com/2022/10/21/cdq-group-takes-control-of-golden-alaska-pollock-mothership-after-two-catcher-boat-deals/

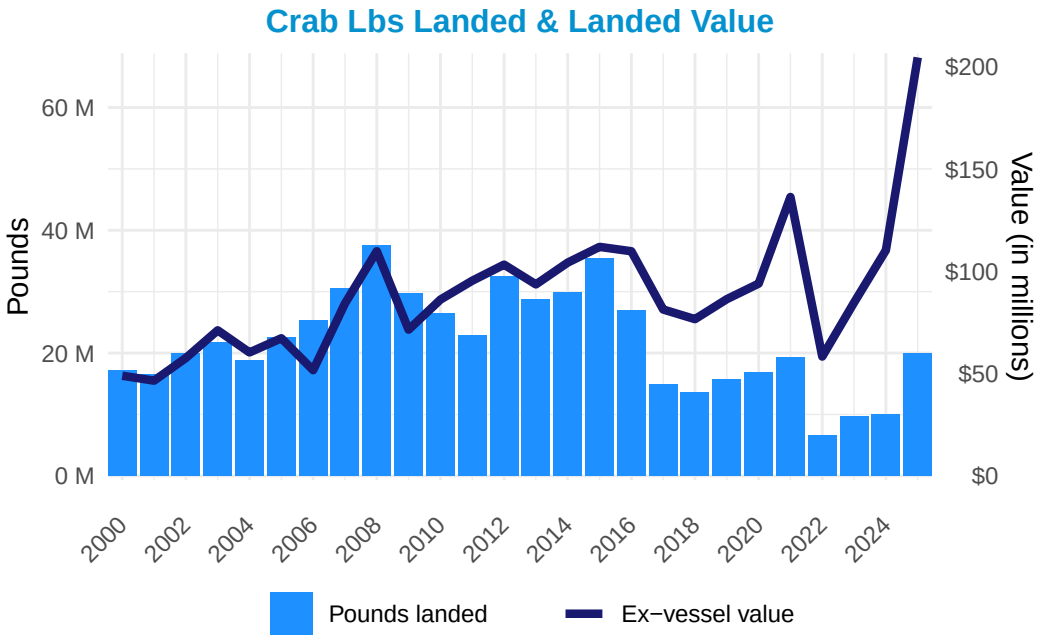


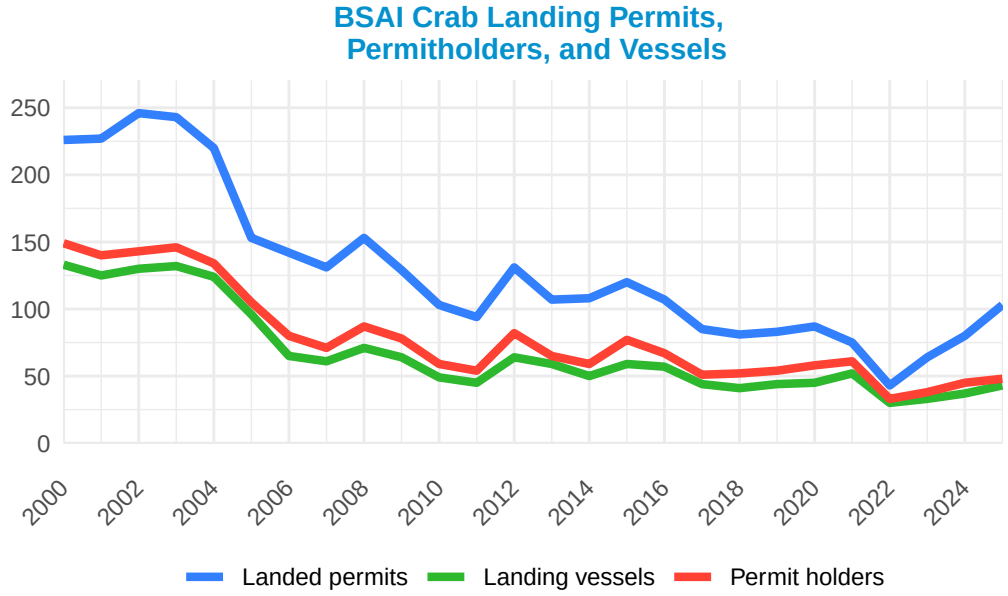


18.0.0.10. Crab Processing Engagement - HIGH

Unalaska is highly engaged in the crab processing sector. In 2025, 13 Unalaska processors processed 20.0M pounds of crab with an associated value of $204.5M. This marks a 28% increase (4.3M pounds) in volume landed since 2019, yet a 137% increase in landed value (up $118.1M). The amount of BSAI crab processed in the region reached a peak of 37.5 million pounds (with a value of $110 million) in 2008, but the total value reached a historical high in 2025.

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*Permits counted are CFEC gear operator permits

19. Available Data

Selected data produced as part of ACEPO are available through the AKFIN Reports Portal.

19.1. Public Reports

Public reports provide data that meet aggregation standards for reporting of non-confidential data.

- Groundfish and crab harvesting and processing engagement indices
- Groundfish harvesting and processing regional quotient
- Crab harvesting and processing regional quotient
- Tax revenue for highly engaged Alaska communities
- Fisheries tax revenue for highly engaged Alaska communities
- School enrollment for highly engaged Alaska communities

19.2. Confidential Reports

Confidential reports require a log-in and are available to users authorized through NOAA Fisheries and the State of Alaska to view confidential fisheries data. Contact jean.lee@noaa.gov if you are interested in accessing these reports.

- Groundfish harvesting and processing regional quotient (confidential)
- Crab harvesting and processing regional quotient (confidential)

20. Past Reports

Below is an archive of past ACEPO reports.

- ACEPO Report 2025
- ACEPO Report 2024
- ACEPO Report 2023
- ACEPO Report 2021