STOCK ASSESSMENT AND FISHERY EVALUATION REPORT FOR THE GROUNDFISH FISHERIES OF THE GULF OF ALASKA AND BERING SEA/ALEUTIAN ISLANDS AREA:

ECONOMIC STATUS OF THE GROUNDFISH FISHERIES OFF ALASKA, 2023

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November 06, 2023

Dear Reader,
This preliminary report of the "Economic Status of the Groundfish Fisheries Off Alaska" is compiled for the express purpose of the November, 2023 meeting of the Groundfish Plan Teams. A final version of this report will be subsequently prepared for the February, 2024 meeting of the North Pacific Fishery Management Council. The data contained within this report are the most recent data available. At the time this report was compiled, data continue to be finalized and validated. In some cases, numbers in the final draft of this report may change from those presented in this preliminary draft. As we finalize and validate the data in this report, the Economic and Social Sciences Research Program welcomes any feedback from readers regarding the data.

This report will be available at:
www.fisheries.noaa.gov/alaska/ecosystems/economic-status-reports-gulf-alaska-and-bering-sea-aleutian-islands

Time series and plots of data presented in this report are available at:
https://reports.psmfc.org/akfin/f?p=501:2001

Regarding a change in the title of this annual report series: effective calendar year 2022, the formal subtitle of this report references the year of the stock assessment cycle for which it is issued: ECONOMIC STATUS OF THE GROUNDFISH FISHERIES OFF ALASKA, 2023. This reverses a discrepancy between the year-designation of annual editions of other document series associated with the annual Stock Assessment of Fishery Evaluation Report, including the Ecosystem Status Report, and that used previously for the Economic Status report. The title change is made solely to clarify document referencing; no changes in the scope or content of this or future editions of the report are implied.

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Chapter 1

Economic Status of Groundfish Fisheries of the BSAI, 2022: Summary

The Economic SAFE report contains detailed information about economic aspects of the groundfish fisheries, including figures and tables, economic performance indices, 2022 product price and ex-vessel price projections, year-to-date information on volume and value, an Amendment 80 fishery economic data report (EDR) summary, and market profiles for the most commercially valuable species. Data tables are organized into four sections: (1) All Alaska, (2) BSAI, (3) GOA, and (4) Pacific halibut. The figures and tables in the report provide estimates of total groundfish catch, groundfish discards and discard rates, prohibited species catch (PSC) and PSC rates, the ex-vessel value of the groundfish catch, the ex-vessel value of the catch in other Alaska fisheries, the gross product value of the resulting groundfish seafood products, the number and sizes of vessels that participated in the groundfish fisheries off Alaska, vessel activity, and employment on at-sea processors. Generally, the data presented in this report cover 2018-2022, but limited catch and ex-vessel value data are reported for earlier years to illustrate the rapid development of the domestic groundfish fishery since the 1980s and to provide a more complete historical perspective on catch. The data behind the tables from this and past Economic SAFE reports is available online at: https://reports.psmfc.org/akfin/f?p=501:2001.

The commercial FMP groundfish fisheries off Alaska had a total catch of 1.87 million metric tons (mt) in 2022 (including catch in federal and state waters) (Figure 3.1 and Table 4.1), a decrease of 7 % from 2021. Groundfish accounted for 83 % of Alaska's 2022 total catch (Table 4.6). Total catches of Alaska's FMP groundfish fisheries increased in 2022 for sablefish, Pacific cod, and the flatfish and rockfish species complexes, and decreased for pollock and Atka mackerel (Table 4.1). The contributions of the major groundfish species or species groups to the total catch are depicted in Figure 3.1.

The aggregate ex-vessel value of the FMP groundfish fisheries off Alaska was $944.71 million, which was 46% of the ex-vessel value of all commercial fisheries off Alaska in 2022 (Table 4.3). [1] After adjustment for inflation, the real ex-vessel value of FMP groundfish increased $138.42 million in

[1]The data required to estimate net benefits to either the participants in fisheries or the Nation, such as cost or quota value (where applicable) data, are not available. Unless otherwise noted 'value' should be interpreted as gross revenue.

2022 and the aggregate real ex-vessel price increased 27% to $0.24 per pound (Table 4.6). Nominal pollock ex-vessel prices increased 25% to $0.17 per pound in the Bering Sea and Aleutian Islands (BSAI), and 36% to $0.17 per pound in the Gulf of Alaska (GOA) (Tables 4.13 and 4.31). Pacific cod nominal ex-vessel prices increased 22% to $0.42 per pound in the BSAI, and increased 25% to $0.49 per pound in the GOA. Among the other species that are the focus of the shoreside ex-vessel fisheries: GOA flatfish ex-vessel price increased 47%, GOA rockfish prices increased 18%, and GOA sablefish prices increased 14% (in nominal terms). For BSAI FMP groundfish in aggregate, the change in price was larger than the change in catch (Figures 5.6, 5.10), while in the GOA, prices and catch were both increasing with the change in catch the more dominant of the two. For other fisheries in Alaska, halibut, and herring, ex-vessel revenues increased and salmon, and shellfish ex-vessel revenues decreased (Table 4.6).

The gross value of the 2022 groundfish catch after primary processing (first-wholesale) was $2.6 billion (Table 4.7), an increase of 13% in real terms from 2022. This change was the combined effect of a 14% increase in the real aggregate 2022 first-wholesale price to $1.56 per pound which was offset by aggregate production volumes decreasing 1% to 755.5 thousand mt (Table 4.7). In the BSAI, aggregate first-wholesale value increased 15% and value was increasing for nearly all species including, pollock, Pacific cod, sablefish, rockfish, and flatfish (Table 4.17). The average first-wholesale price for all products was increasing for most species (Table4.18). In the GOA, aggregate first-wholesale value increased (54%) with increases in value for all species except for flatfish (Table 4.35). Prices were increasing for most species with the exception of some flatfish species (Tables 4.34 and 4.36)

The first-wholesale value of Alaska's FMP groundfish fisheries accounted for 50% of Alaska's total first-wholesale value from commercial fisheries (Table 4.7). First-wholesale value of Alaska's fisheries products other than FMP groundfish fisheries totaled $2.59 billion, most of which ($2.03 billion) came from Pacific salmon. Pacific salmon value decreased 1% due to a decline in production, though year-over-year prices increased. Pacific halibut fisheries, which are concentrated in the Gulf of Alaska, saw a modest increase of 0.8% in value in 2022 to $165.5 million as a result of an increase in price, which offset a decline in volume.

The groundfish fisheries off Alaska are an important segment of the U.S. fishing industry. In 2021, it accounted for 52% of the weight of total U.S. domestic landings and 17% of the ex-vessel value of total U.S. domestic landings (Fisheries of the United States, 2021). Alaska fisheries as a whole (including salmon, halibut, herring, and shellfish) accounted for 63% of the weight of total U.S. domestic landings and 46% of the ex-vessel value of total U.S. domestic landings.

With the exception of the annual economic census Economic Data Report program in BSAI Crab and Amendment 80 catch share programs, NOAA Fisheries collects only limited data on employment in the fisheries off Alaska. The most direct measure available based on data collected across all at-sea processing vessels and catcher vessels in FMP groundfish fisheries is aggregate labor input as represented by the aggregate number of 'crew weeks' accrued. These data indicate that in 2022 crew weeks for both sectors decreased in 2022 by 2 %, totaling 105,161.5, with the majority of them (89,138) occurring in the BSAI groundfish fisheries (Tables 4.25, 4.43, 4.26, and 4.44). In the BSAI, the months with the highest employment correspond with the peak of the pollock seasons in February-March and July-September. In the Gulf of Alaska, crew weeks peak June-August driven largely by hook-and-line catcher vessels targeting sablefish and Pacific cod fisheries.

1.1 Report Card Metrics for the Alaska Commercial Groundfish Fisheries off Alaska 1993-2022

The purpose of the report card metrics is to give a broad overview of the economic health of Alaska's FMP groundfish fisheries (Figure 1.1). The metrics cover the years 1993-2022 to help elucidate trends and provide historical context to the current state of the fishing industry. In general, these metrics focus on FMP groundfish fisheries, which are also the focus of this economic status report. As a result, halibut and salmon are not well represented by these metrics (except that the share of shoreside value for the top 5 ports does include salmon and halibut). The economic report card includes 9 items[2]:

1) Real first-wholesale revenue[3] index which measures changes in the first-wholesale revenue produced by all FMP groundfish species in Alaska using 2020 as the base year (value=100).

2) Real first-wholesale price index, which measures changes in first wholesale prices produced from all FMP groundfish species in Alaska using 2020 as the base year (value=100).

3) Production volume divided by total catch, where total catch is inclusive of discards and PSC. This metric approximates a recovery rate of product relative to total extractions across all FMP groundfish species.

4) The effective global share of Alaska pollock and cod catch, defined as the average shares of global catch volume weighted by Alaska first-wholesale revenue shares. This metric demonstrates how large the Alaska pollock and cod fisheries are relative to the global supply of these species which provides information as to the potential influence of changes in Alaska catches on global prices for these species.

5) Real effective exchange rate index, which is an average of foreign currencies to U.S. dollar exchange rate weighted by fisheries exports to each country.[4] The Alaska seafood industry exports approximately 80% of it's groundfish products. This metric provides information about how exchange rates are impacting Alaska groundfish producers across all of their export partners.

6) Ratio of ex-vessel over first-wholesale revenues. This revenue share is a function of a number of different factors including the value added from processing, bargaining power, global prices, and processing and harvesting costs.

7) Real first wholesale revenue per fishing week, where fishing weeks are defined as the number of vessels active in each week of the year, and is a productivity-related metric that can be thought of as revenue per unit effort.

8) Alaska resident share of FMP groundfish shoreside ex-vessel value, where residency is determined by the owner address of delivering vessels. This metric measures the share of gross FMP groundfish revenues staying in Alaska versus those going to vessel owners in other states.

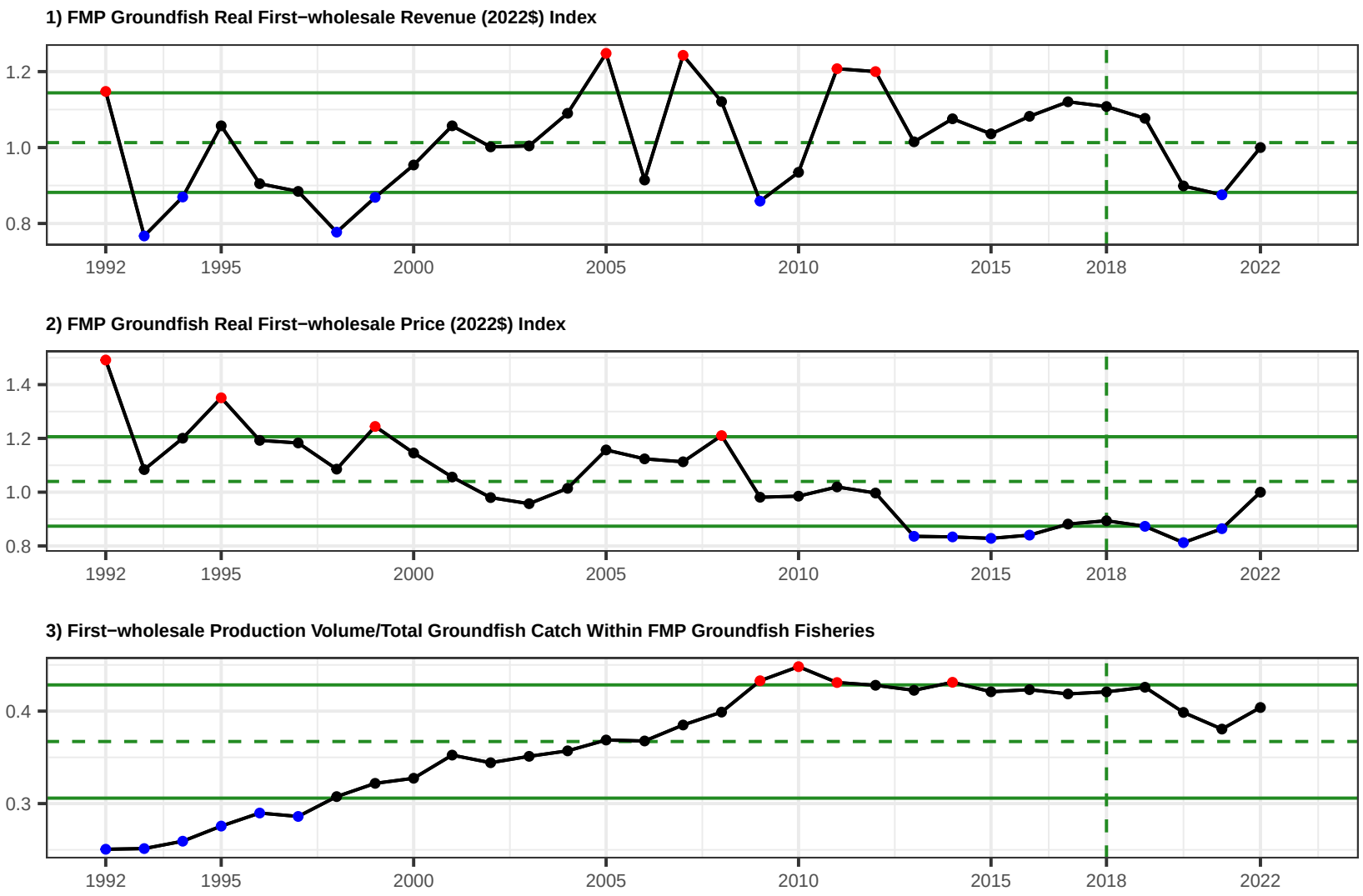
[2]Metrics 1, 2, and 7 are adjusted for inflation using the GDP chain-type price index. For Metric 6 ex-vessel revenues are deflated using the Personal Consumption Expenditures chain-type price index. See the the Overview Section 2.2.6 for references.

[3]The revenue from the sale of fish products after primary processing.

[4]Increases in this index indicate that exports are more expensive for foreign buyers which puts downward pressure on prices received by Alaska producers.

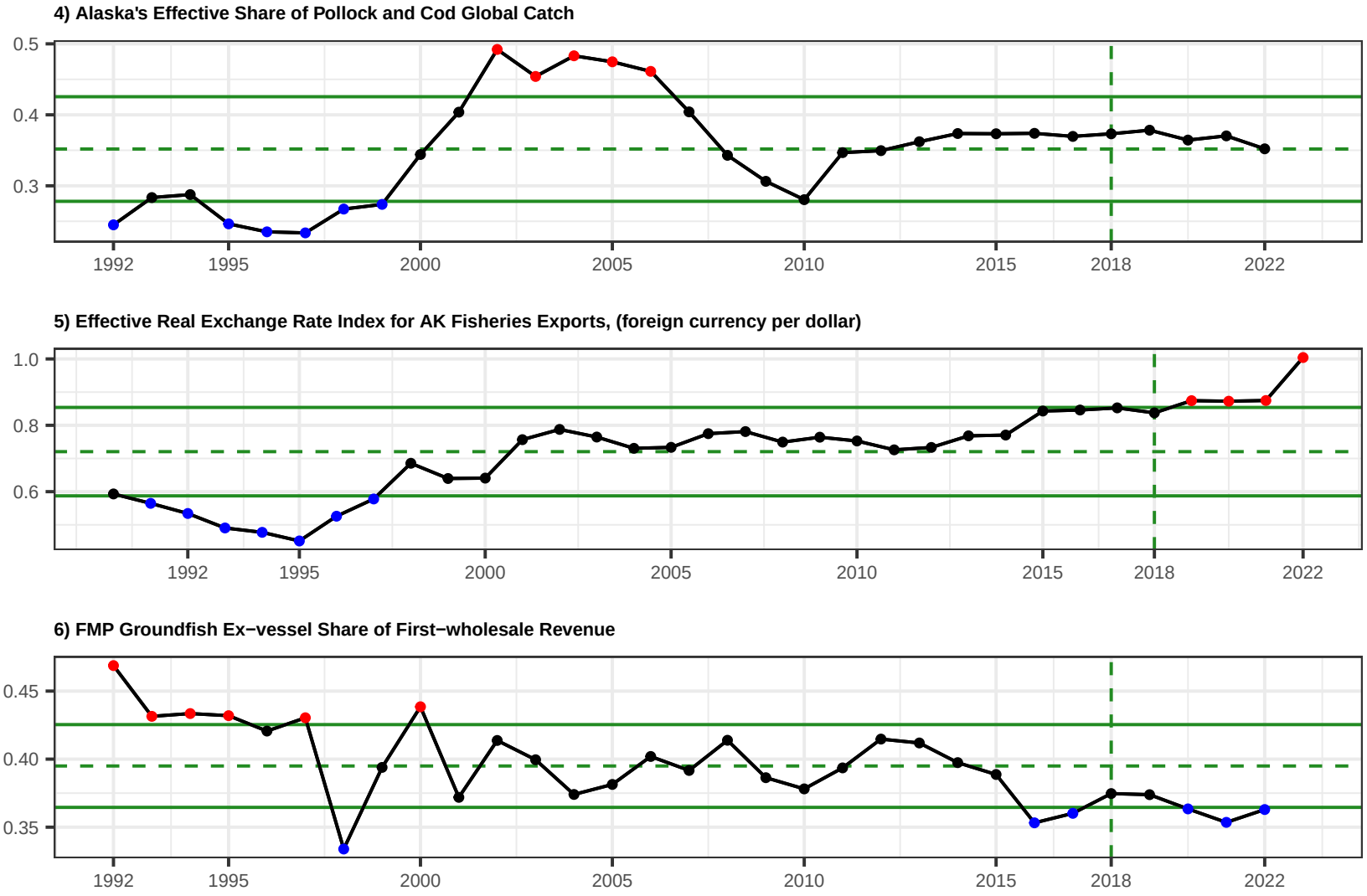
9) Share of shoreside all Alaska fisheries ex-vessel value for the top 5 ports, which is not limited to just FMP groundfish to provide a more comprehensive account of community revenues. This metric measures the degree of concentration of landings across Alaska communities.

The real first wholesale value index (panel 1) and real first wholesale price index (panel 2) both increased to nearly their respective long-term averages in 2022, largely recovering from the drop in both indices observed in 2020 and 2021. The earlier decline in wholesale value was driven by a combination of downward pressure on prices associated with COVID-related market disruptions and TAC reductions in some key groundfish fisheries; during 2022, TACs largely increased with the notable exception of substantial reductions in BSAI and GOA pollock, while gains in real first wholesale prices substantially drove the increase in the first wholesale value index. Production per-unit-catch increased in 2022, partially reversing a downward trend obeserved in the previous two years (panel 3). Globally, Alaska has a significant effective share of pollock and cod at approximately 40%, which has remained stable since 2014 (panel 4). The effective real exchange rate index increased to a historical high during 2022, remaining above the upper standard-deviation bound for a fourth consecutive year, signaling ongoing exchange rate pressure on Alaska fish product export prices (panel 5). The ratio of ex-vessel to wholesale revenues dropped significantly in 2016 as a result of low ex-vessel prices, particularly for pollock, and has remained at a relatively low range in recent years, and in 2022 increased slightly but remained below the lower 1-standard deviation bound (panel 6). Revenue per-unit-effort (measured by fishing weeks) increased to a historic high in 2022, continuing the levels at or above the margin of one standard deviation above the long-run average observed since 2017 (panel 7). The share of shoreside revenue to AK residents reversed a 5-year downward trend in 2022, recovering to near the long-term average after falling to a historical low in 2021 (panel 8). Roughly 63% of the shoreside revenues were concentrated in the top 5 key ports in 2022, following a historical high reached in 2020, and maintaining a general trend of relatively greater geographic concentration of revenues compared to the long-term history of this indicator (panel 9).



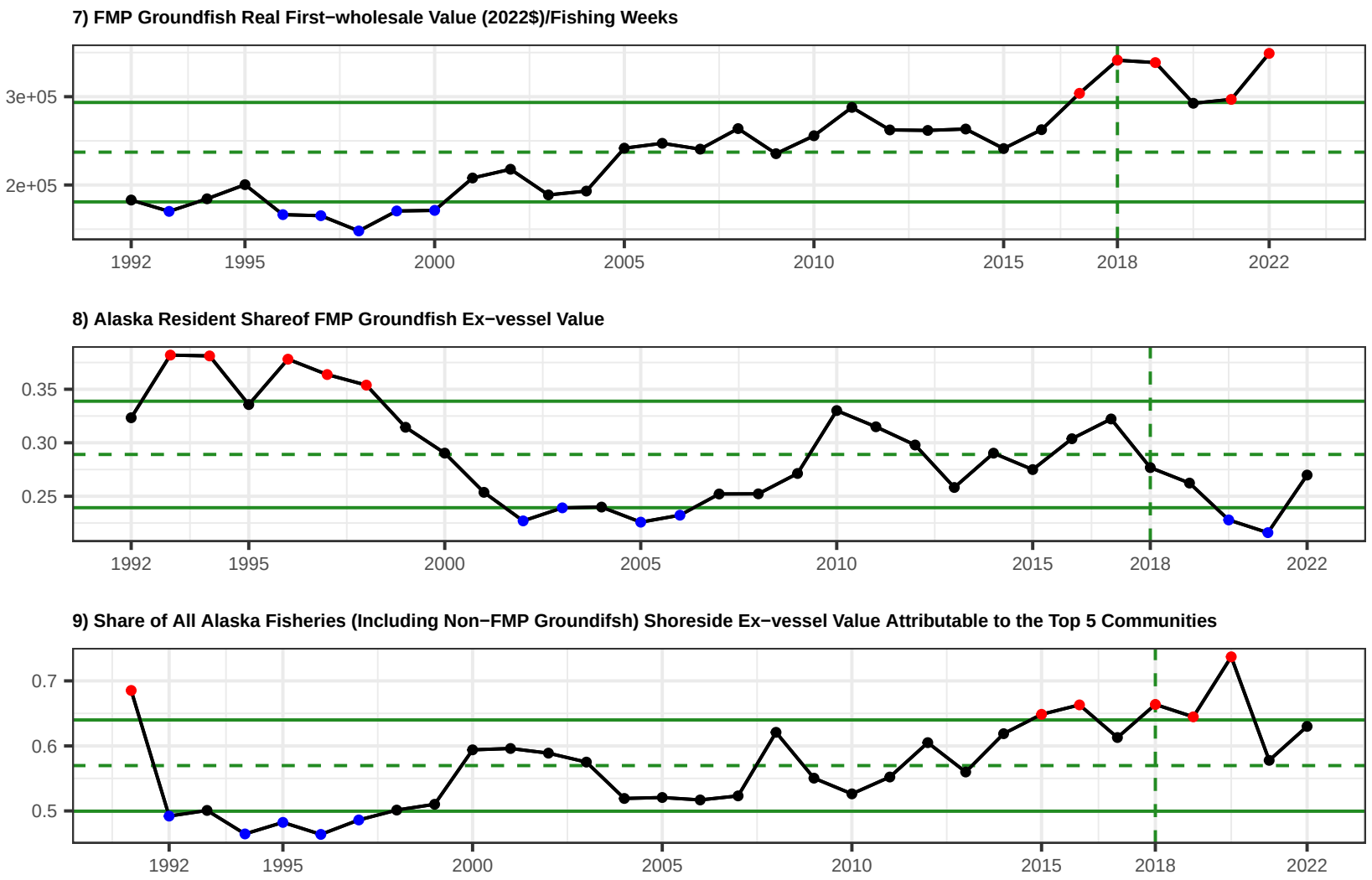
Note: See Figure 1.3 for footnotes.

Figure 1.1: Economic report card metrics



Note: See Figure 1.3 for footnotes.

Figure 1.2: Economic report card metrics continued.



Note: Green horizontal lines show the mean (dashed) and 1 standard deviation (solid) for the 1992−present reference period. Green vertical line indicates the past five years. Color of plotted values indicates values within (black), above (red), and below (blue) one standard deviation of the mean.

Figure 1.3: Economic report card metrics continued.

Chapter 2

Overview of Economic Status Report, 2023

2.1 Introduction

This report presents the economic status of groundfish fisheries off Alaska in terms of economic activity and outputs using estimates of catch, discards, prohibited-species catch (PSC), ex-vessel prices and value (i.e., revenue), effort (as measured by the size and level of activity of the groundfish fleet), and the first wholesale production volume and gross value of (i.e., F.O.B. Alaska revenue from) processed products.[1] The catch, ex-vessel value, fleet size, and activity data reported here reflect the fishing industry activities that are accounted for in the groundfish landings and production reports, North Pacific groundfish and halibut observer data, and the State of Alaska Commercial Operator's Annual Reports. Catch data in this report are sourced from the NMFS Alaska Regional Office (AKRO) catch-accounting system (CAS), which is used for in-season monitoring of groundfish and PSC quotas. The data descriptions, qualifications, and limitations noted in this overview of the fisheries and the footnotes to the tables are critical to understanding the information in this report. This report updates last year's report (Fissel et al. 2020) and is intended to serve as a reference document for those involved in making decisions with respect to conservation, management, and use of Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) groundfish fishery resources.

In addition to catch that is counted against a federal Total Allowable Catch (TAC) quota (i.e., managed under a federal Fishery Management Plan (FMP)), estimates provided in some of the following tables may include catch from other Alaska groundfish fisheries (as indicated by the footnotes). The distinction between catch managed under a federal FMP and catch managed by the State of Alaska is not merely a geographical distinction between catch occurring in the U.S. Exclusive Economic Zone (EEZ) and catch occurring in Alaska state waters (3-mile limit). The State of Alaska maintains authority over some rockfish fisheries in the EEZ of the GOA, for example, and parallel fisheries in state waters are managed under federal FMPs. It is not always possible, depending on data source(s), to definitively identify a unit of catch, or associated units, such as revenue or price, as being part of a federal FMP or otherwise, as noted in the footnotes. Additionally, unless explicitly indicated, phrases such as ''groundfish fisheries off Alaska" or ''Alaska

[1] F.O.B. refers to the value (or price) excluding transportation costs. The acronym, F.O.B. stands for ''Free On Board".

groundfish", as used in this report, should not be construed to include any category of state or federally managed fishery or to refer to any specific geographic area. These and similar phrases may describe groundfish from both Alaska state waters and the federal EEZ off Alaska, groundfish managed only under federal FMPs, or managed under the authority of both NMFS and the state of Alaska.

The BSAI and GOA groundfish fisheries are widely considered to be among the best managed fisheries in the world. These fisheries produce high levels of catch, ex-vessel revenue, processed product revenue, exports, employment, and other measures of economic activity while maintaining ecological sustainability of the fish stocks. However, the data required to estimate the success of these management policies with respect to net benefits to either the participants in these fisheries or the Nation, such as cost or quota value data (where applicable), are not available for many of the fisheries.

The remainder of this report is structured as follows: Section 2.2 gives a verbal description and important information for understanding the economic data tables in Section 4. Section 5 examines the economic performance of the North Pacific groundfish fisheries through market indices.

2.2 Description of the Economic Data Table

2.2.1 Groundfish and Prohibited Species Catch Data Description

Data Sources

Total catch estimates in the groundfish fisheries off Alaska are generated by NMFS from data collected through an extensive fishery observer program and from information provided through required industry reports of harvest and at-sea discards. The North Pacific Observer Program (Observer Program), based at the NMFS Alaska Fisheries Science Center (AFSC), has had a vital role in the management of North Pacific groundfish fisheries since the late 1980s. Observer data are collected by NMFS-trained observers and provide scientific information for managing the groundfish fisheries and minimizing bycatch. Industry-reported data consists of catch and processed product amounts that are electronically recorded and submitted to NMFS through the Interagency Electronic Reporting System, known as eLandings. Observer information and industry reports are integrated into a NMFS application called the Alaska Catch Accounting System (CAS), which is used directly in managing fisheries.

The primary purpose of the CAS is to provide estimates of total catch for FMP species (including prohibited species) in the groundfish and halibut fisheries and allow the in-season monitoring of catch against the TACs and PSC limits. The harvests of groundfish in Federal waters are governed under fishery management plans (FMPs) that are specific to the Bering Sea and Aleutian Islands (BSAI) and Gulf of Alaska (GOA) regions. The groundfish TACs are established and monitored in terms of total catch, which is the sum of retained and discarded catch. In addition, the FMPs describe policy for setting bycatch limits for some species, such as halibut and salmon, whose retention is prohibited in the groundfish fisheries; bycatch of these species is referred to as Prohibited Species Catch (PSC).

In the CAS, at-sea sample and census data collected by observers are used to create discard and PSC rates (a ratio of the estimated discarded catch to the estimated total catch in sampled hauls). For trips that are unobserved, the discard and PSC rates are applied to industry-supplied landings of

retained catch. Expanding on the observer data that are available, the extrapolation from observed vessels to unobserved vessels is based on varying levels of aggregated data. Data are matched based on processing sector (e.g., catcher/processor or catcher vessel), week, target fishery, gear, and federal reporting area. Further detail on the estimation procedure is available in Cahalan et al. (2014). With the exception of Pacific halibut PSC, all estimated at-sea discard is assumed to have 100% mortality. Halibut mortality rates are updated every three years based on the estimated condition of halibut sampled by observers (Williams 2012). These rates are applied to the total estimated halibut discards (for a gear type, FMP area (GOA or BSAI), fishery, and year).

Groundfish Catch Tables

The catch presented throughout these tables is total catch which includes retained and discarded catch. Catch data are sourced from the CAS. Catch for all Alaska including state and federal catches is displayed in Table 4.1. Retained catch for just FMP-managed groundfish is provided in Table 4.6 presents catch and real ex-vessel value by species and area (BSAI, GOA, and All Alaska). Tables 4.10 and 4.27 provide additional information for the BSAI and GOA, respectively, with aggregation of gear types and species specific catch data for flatfish and rockfish. Tables 4.11, 4.12, 4.28, 4.29 and 4.30 provide estimates of total catch by species, gear, and target species for the BSAI and GOA, respectively. In general, the species or species complex accounting for the largest proportion of retained catch on the trip or haul is considered the target species, with two exceptions. A target of pelagic pollock is assigned only if 95% or more of the total catch is pollock. In the BSAI, if flatfish species (flathead, rock, and yellowfin sole, and other flatfish) represent the largest amount of retained catch, then a target of yellowfin sole is assigned if this species represents at least 70% of the combined flatfish retained catch; otherwise, the flatfish species accounting for the greatest amount of retained flatfish catch is assigned as the target. Beginning in 2011, Kamchatka flounder was broken out from arrowtooth flounder in the BSAI. As such, the "other flatfish'', and/or arrowtooth flounder target categories may not be directly comparable between 2011 and prior years in the historical catch data available online.

Groundfish Discards and Discard Rates

Discarded catch is the unretained catch of species that a vessel is, in general, legally able to target and retain (and thus does not include PSC). Discards are included in a vessel's total catch. Discards can occur for various reasons and in a variety of ways such as discarding of non-targets species, fish falling off of processing conveyor belts, dumping of large portions of nets before bringing them on-board the vessel, dumping fish from the decks, size sorting by crewmen, and quality-control. Discard rates can be high for non-target species. For the most common species (e.g. pollock and cod) retention requirements reduce the amount of discards for these species. The discard rate is the percent of total catch of a species that is discarded. Details on discard estimation can be found in Cahalan et al. (2014). The discards in the groundfish fisheries have received significant management attention by NMFS, the Council, Congress, and the public at large. Table 4.4 presents CAS estimates of discarded groundfish catch and discard rates (calculated as the percent of total catch that is discarded) by gear, area, and species for years 2018-2022.

Prohibited-Species Catch

Prohibited-species catch (PSC) is the catch of species that a vessel is prohibited from targeting and retaining due to their economic value to users outside the FMP groundfish fisheries. These species include Pacific halibut, king and tanner crab (*Chionoecetes*, *Lithodes*, and *Paralithodes spp.*), Pacific salmon (*Oncorhynchus spp.*), and Pacific herring (*Clupea pallasi*). Monitoring and minimizing the amount PSC in the Alaska groundfish fisheries has historically been an issue that

has received significant management attention. The retention of these species was prohibited first in the foreign groundfish fisheries to ensure that groundfish fishermen had no incentive to target these species. Estimates of PSC for 2018-2022 are summarized by area and gear in Table 4.5.

The at-sea observer program was developed for foreign fleets and then extended to the domestic fishery. The observer program, managed by the Fisheries Monitoring and Analysis Division (FMA) of the Alaska Fisheries Science Center, resulted in fundamental changes in the nature of the PSC problem. First, by providing estimates of total groundfish catch and non-groundfish PSC by species, it reduced the concern that total fishing mortality was being vastly underestimated due to fish that were discarded at sea. Second, it made it possible to establish, monitor, and enforce the groundfish quotas in terms of total catch as opposed to only retained catch. Third, it made it possible to implement and enforce PSC quotas for the non-groundfish species that by regulation had to be discarded at sea. Finally, it provided extensive information that managers and the industry could use to assess methods to reduce PSC and PSC mortality. In summary, the observer program provided fishery managers with the information and tools necessary to prevent PSC from adversely affecting the stocks of the PSC species. An example of how this program is being used is the Bering Sea pollock fishery, which became completely observed in 2011. As a result, salmon PSC estimates in the Bering Sea pollock fishery are a census rather than a sample, and since 2011, there has been a fixed "hard cap'' in the fishery.[2] The information from the observer program helps identify the types of information and management measures that are required to reduce PSC to the extent practicable, as is required by the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

2.2.2 Ex-Vessel Prices and Value

The ex-vessel market is the transaction of catch delivered by vessels to processors. In general, ex-vessel prices are derived from Commercial Operator Annual Report (COAR) buying reports. Some catcher-vessels minimally processes (e.g., head-and-gut) the catch prior to delivery to the processor. The value of this on-board processing is discounted from the ex-vessel price so that it represents the round-weight (unprocessed) prices of the retained catch. Ex-vessel value is calculated by multiplying ex-vessel prices by retained catch. For the at-sea sector much of catch is both caught and processed for first-wholesale distribution by a single entity and as such a true "ex-vessel" market does not exist. For national accounting purposes the "ex-vessel' value of the at-sea sector are calculated by applying COAR buying prices for the corresponding species (complex), region, and gear-type of the retained catch. For a subset of fisheries that are prosecuted primarily by the at-sea catcher/processor fleet, and for which COAR buying data are sparse, we impute prices as a percentage (40%) of the estimated wholesale value per round weight. This percentage reflects the long-term average of the ratio of ex-vessel prices to head-and-gut (H&G) processed-product prices for species (primarily Pacific cod) that are well represented in COAR buying and production reports. Ex-vessel prices and value include post-season adjustments.

Tables 4.6 contains data on the real ex-vessel value and catch of groundfish and non-groundfish species in Alaska, adjusted to 2022 dollars by applying the Personal Consumption Expenditure Index (https://research.stlouisfed.org/fred2/series/PCEPI) to account for effects of inflation on fishermen's revenue. Table 4.8 provides estimates of ex-vessel value by residency (Alaska compared

[2]These rules for salmon bycatch management were put in place through Amendment 91 to the BSAI FMP. For details see https://www.federalregister.gov/documents/2010/08/30/2010-20618/fisheries-of-the-exclusive-economic-zone-off-alaska-chinook-salmon-bycatch-management-in-the-bering

to the rest of the U.S., labeled 'Other') of primary vessel owners, area, and species. Residency of primary vessel owners are determined from the CAS combined with State of Alaska groundfish fish ticket data and vessel registration data, the latter of which includes the stated residency of the primary vessel owner. Residents of Alaska and of other states, particularly Washington and Oregon, are active participants in the BSAI and GOA groundfish fisheries. For the BSAI and GOA combined, 74% of the 2022 groundifsh ex-vessel value was accounted for by vessels with primary owners who indicated that they were not residents of Alaska.

Tables 4.13 and 4.31 contain estimated ex-vessel prices that are used with estimates of retained catch to calculate ex-vessel values (gross revenues) for the BSAI and GOA, respectively. Prices in these tables may include data from both federally-managed and state-managed fisheries. Estimates of ex-vessel value by area, gear, type of vessel, and species are presented in Tables 4.14 and 4.32 for the BSAI and GOA, respectively. Table 4.15 presents estimates of ex-vessel value of catch and value per vessel, vessel and permit counts, in the BSAI and the percent value of BSAI FMP groundfish and all BSAI fisheries by processor group. Table 4.15 provides these same data for the GOA.

2.2.3 First Wholesale Production, Prices, and Value

The first wholesale market is the first sale of fisheries products after initial processing by a commercial processor with a Federal Processor Permit (FPP). [3] Groundfish first wholesale production data are sourced from at-sea and shoreside groundfish production reports. Product pricing and value reflect COAR product report price data appended to these production data per the AKFIN product pricing index. While groundfish production reports are a federal reporting requirement, there is typically no distinction made in this reporting between product derived from federally-managed catch and product derived from state-managed catch. Likewise, while COAR production reports include the area of processing, these data are insufficient for identifying the fishery inputs for units of finished production. As such, these tables reflect production volume and pricing from federal and some state-managed fisheries. Wholesale value and prices are given as F.O.B. (Free On Board) Alaska, indicating that transportation costs are not included in values and prices.

Table 4.7 reports estimates of the weight and first wholesale value of processed products from catch in the groundfish and non-groundfish commercial fisheries of Alaska. Estimates of first wholesale production weight of the processed products sourced from catch of groundfish are presented by species, product form, sector, and type of processor in Table 4.16 for the BSAI and Table 4.34 for the GOA. First-wholesale value (gross revenue) is presented in Tables 4.17 and 4.35 for the BSAI and GOA, respectively. Product price-per-pound estimates are presented in Tables 4.18 and 4.36, and estimates of total first wholesale product value per round metric ton of retained catch are reported in Table 4.19 and for the BSAI and GOA, respectively. For these tables we source the round weight of retained catch from CAS data rather than using product recovery rates to derive round weights from production data.

Tables 4.20 and 4.38 present number of processors, gross product value and value per processor, and percent of total wholesale value of processed groundfish accounted for by different processing groups, for the BSAI and GOA, respectively. Data in these tables are summarized from COAR product reporting, and no distinction is made between state-managed and federally-managed groundfish sources of production.

[3] An FPP is required for all processors receiving and/or processing groundfish harvested in Federal waters.

2.2.4 Effort (Fleet Size, Weeks, of Fishing, Crew weeks)

Data on measures of fishing capacity and effort in federally-managed Alaska groundfish fisheries, including fleet size, duration of fishing, and levels of harvesting and processing employment are sourced from CAS data, ADF&G groundfish fish tickets, North Pacific groundfish observer data, and at-sea groundfish production reports.

Vessel participation by area, vessel type, and target are shown in Table 4.9. Number of vessels, average and median length, and average and median capacity (registered net tonnage) of vessels by vessel type and gear are shown in Tables 4.21 and 4.39.

Tables 4.23 and 4.41 provide estimates of vessel weeks for catcher vessels in the BSAI and GOA, respectively, stratified by length class, area, gear, and target fishery. Tables 4.24 and 4.42 provide the same stratification of vessel weeks for catcher/processors in the BSAI and GOA, respectively. Vessel weeks are apportioned by catch volume in cases where a vessel is identified with activity in multiple gears, areas, and/or targets in a given week.

Catcher vessel crew weeks are sourced from ADF&G fish tickets/eLandings, which include data on the number of licensed crew working aboard vessels by month and area shown in Tables 4.25 and 4.43, in the BSAI and GOA, respectively. At-sea production reports provide that information for motherships and catcher/processors shown in Tables 4.26 and 4.44 for the BSAI and GOA, respectively. A single crew week represents one crew member aboard one vessel for a week. Crew weeks are apportioned by catch volume in cases where a vessel is identified with activity in multiple areas in a given week. These data do not include employment levels in the shoreside and inshore processing sectors.

2.2.5 Description of the Category ''Other" in Data Tables

The category 'Other' has different meanings in different tables, as described below.

- Table 4.7: ''Other" includes lingcod, non-crab shellfish (mussel, clam, scallop, shrimp), and various freshwater and anadromous finfish species other than federally managed groundfish, salmon, halibut, and herring (e.g., whitefish, trout, Arctic char).
- Tables 4.11, 4.12, 4.28, 4.29 and 4.30: "Other flatfish'' in the BSAI include Alaska Plaice and species within the BSAI other flatfish management complex, including starry flounder and dover, rex, butter, English, petrale, and sand sole.
- Table 4.5: "Other salmon'' are non-Chinook salmon species (sockeye, coho, pink, chum). "Other King crab'' are blue, golden (brown), and scarlet king crab species. "Other Tanner crab'' are snow, grooved, and triangle Tanner crab species.
- Table 4.14, 4.16: "Other flatfish'' in the BSAI include Alaska Plaice and species within the BSAI other flatfish management complex (starry flounder and dover, rex, butter, english, petrale, and sand sole)
- Tables 4.16, 4.17, 4.18, 4.34, 4.35, 4.36: "Other fillets'' for pollock include fillets with skin and ribs; fillets with skin, no ribs; fillets with ribs, no skin; and skinless/boneless fillets. "Flat Other'' includes BSAI Alaska Plaice and species within the BSAI other flatfish management complex (starry flounder and dover, rex, butter, english, petrale, and sand sole).
- Tables 4.19, 4.37: "Other'' species are primarily skate, squid, octopus, shark, and sculpin.

2.2.6 Additional Notes

- Confidential values are excluded from the computation of aggregates (e.g. sums and averages) within a table. This is particularly important to remember for highly stratified tables, such as Tables 4.13, 4.14, 4.16, 4.18, 4.31, 4.32, 4.34, and 4.36. Care should be taken when comparing totals from tables containing values suppressed for confidentiality. In general, preference should be given to aggregate numbers from less stratified tables.
- Within the data tables, numbers that are smaller than the level of precision used within the table are printed as '0'. For example, if a table uses the one decimal place level of precision, then an actual value of '0.01' is presented in the table as '0'.
- The Personal Consumption Expenditures: chain-type price index (https://research.stlouisfed.org/fred2/series/PCEPI) was used to deflate the ex-vessel estimates reported in Table 4.6. The PCE is used to adjust fishermen's ex-vessel revenues to account for the change in general US consumption expenditures. The GDP: chain-type price index https://research.stlouisfed.org/fred2/series/GDPCTPI) was used to deflate the first wholesale value estimates reported in Table 4.7. The GDP price index is used to adjust to fishermen's wholesale production revenues to account for the change in general US production prices. The use of these indices began in 2014. Before 2014 this annual report used the Producer Price Index (PPI) for unprocessed and packaged fish for real adjustments (http://data.bls.gov/cgi-bin/srgate.) using the series ID 'WPU0223').
- Estimates of U.S. imports and per-capita consumption of various fisheries products, previously published in Tables 54-56 of this report, are available in Fisheries of the United States (FUS), published annually by the NMFS Office of Science \& Technology. The most recent FUS is available at: https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-united-states
- Foreign exchange rates, which we've previously published in Tables 59
- Observer coverage costs: In previous years, Table 51 provided estimates of the numbers of vessels and plants with observers, the numbers of observer-deployment days, and observer costs by year and type of operation. In 2013, the restructured observer program was implemented and more detailed treatment of observer cost estimates can be found in the Observer Annual Report at: http://alaskafisheries.noaa.gov/fisheries/observer-program-reports

2.2.7 Request for Feedback

The data and estimates in this report are intended both to provide information that can be used to describe the Alaska groundfish fisheries and to provide the industry and others an opportunity to comment on the validity of these estimates. We hope that industry representatives and others will identify any data or estimates in this report that can be improved and provide the information and methods necessary to improve them for both past and future years. There are two reasons why it is important that such improvements be made. First, with better estimates, the report will be more useful in monitoring the economic performance of the fisheries and in identifying changes in economic performance that may be attributable to regulatory actions. Second, the estimates in this report often will be used as the basis for estimating the effects of proposed

fishery management actions. Therefore, improved estimates in this report will allow more informed decisions by those involved in managing and conducting the Alaska groundfish fisheries. The industry and other stakeholders in these fisheries can further improve the usefulness of this report by suggesting other measures of economic performance that should be included in the report, or other ways of summarizing the data that are the basis for this report, and participating in voluntary survey efforts NMFS may undertake in the future to improve existing data shortages. Please contact Marysia Szymkowiak at [marysia.szymkowiak@noaa.gov] with any comments or suggestions to improve the Economic SAFE.

2.2.8 Citations

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2.2.9 Acknowledgements

ESSRP wishes to thank the Alaska Fisheries Information Network (AKFIN) for database programming and data management services to support production of the Economic SAFE. Other parties who provided assistance or feedback in the assembly of this report or earlier versions include: Terry Hiatt, Ren Narita, Camille Kohler, Mike Fey (AKFIN); Jennifer Mondragon (NMFS Alaska Region Office, Sustainable Fisheries Division), Mary Furuness (NMFS Alaska Region Office, Sustainable Fisheries Division).

Chapter 3

Figures Reporting Economic Data of the Groundfish Fisheries Off Alaska

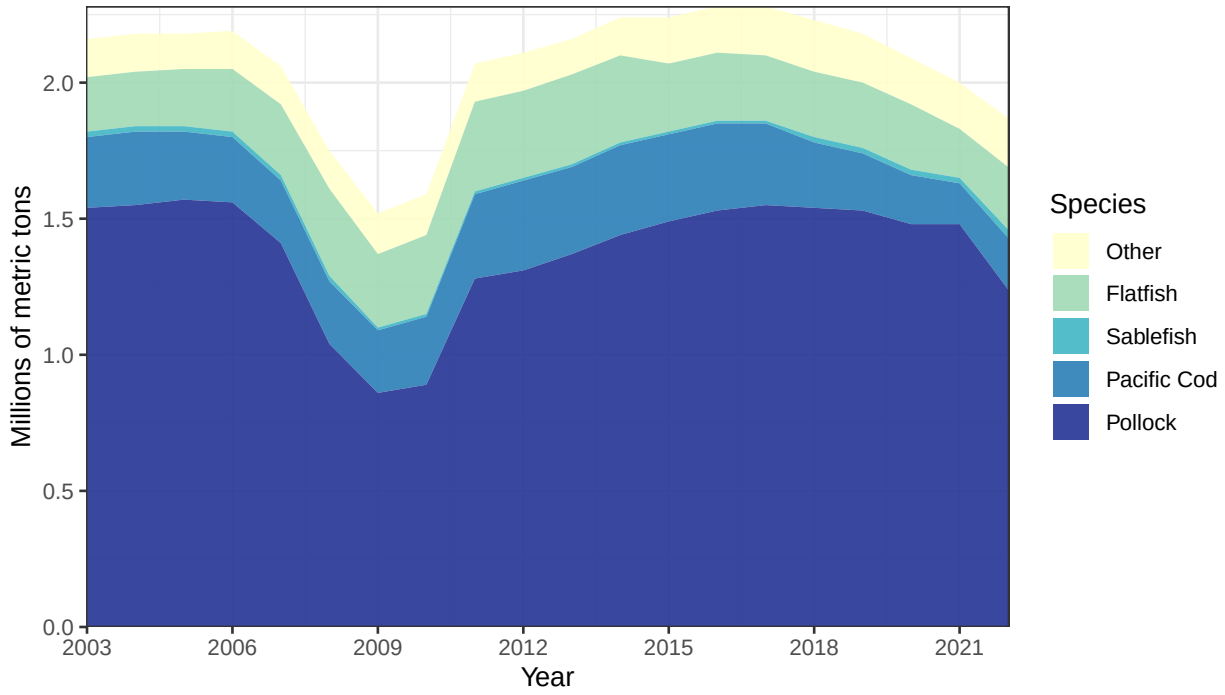

Figure 3.1: Groundfish catch in the commercial fisheries off Alaska by species

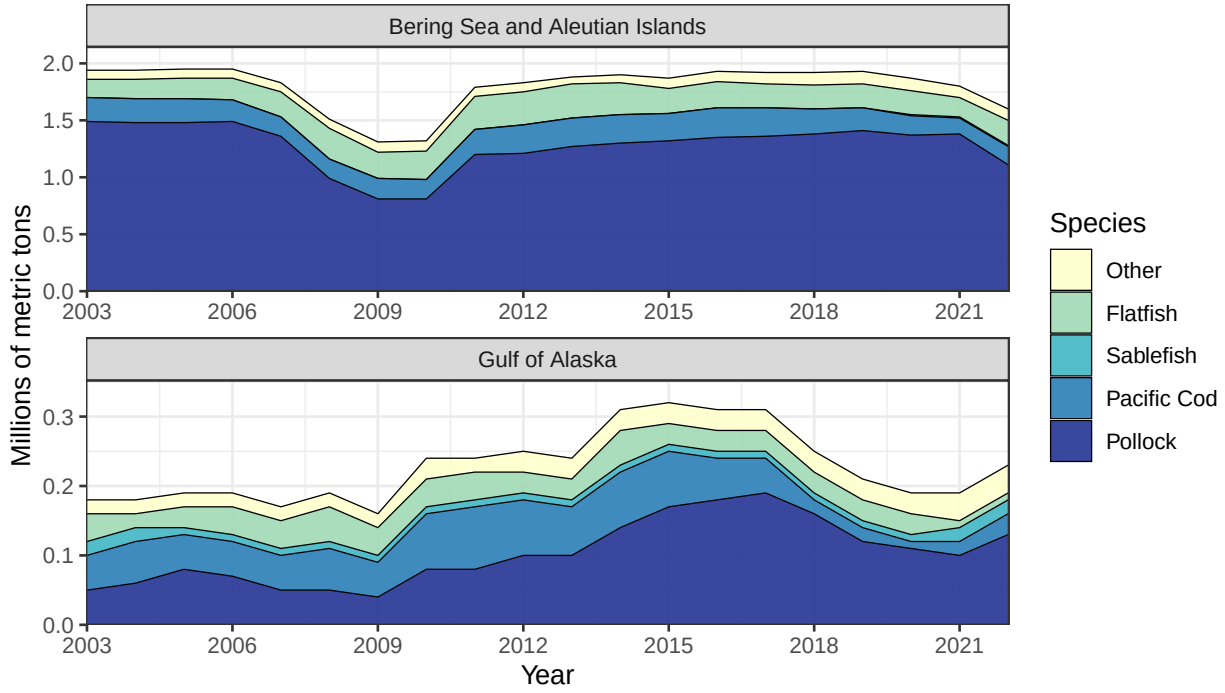

Figure 3.2: Groundfish catch in the commercial fisheries off Alaska by species

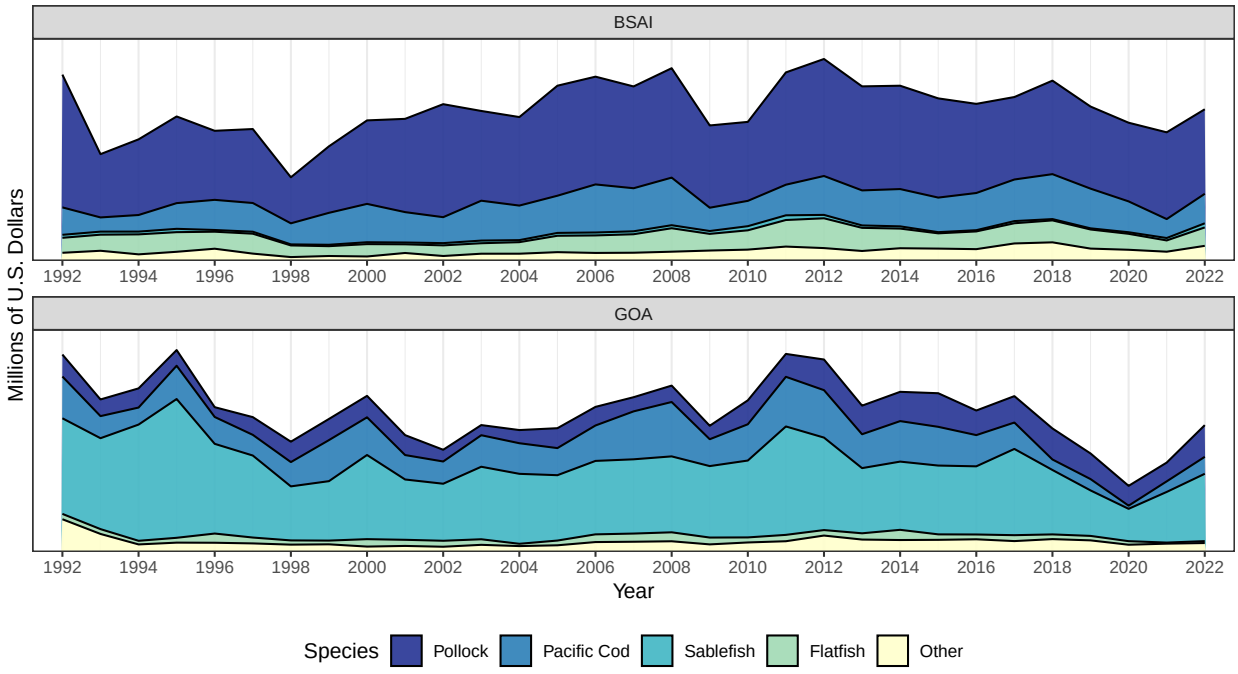

Figure 3.3: Real ex-vessel value of the groundfish catch in the commercial fisheries off Alaska by species, 1992-2022 (base year = 2022).

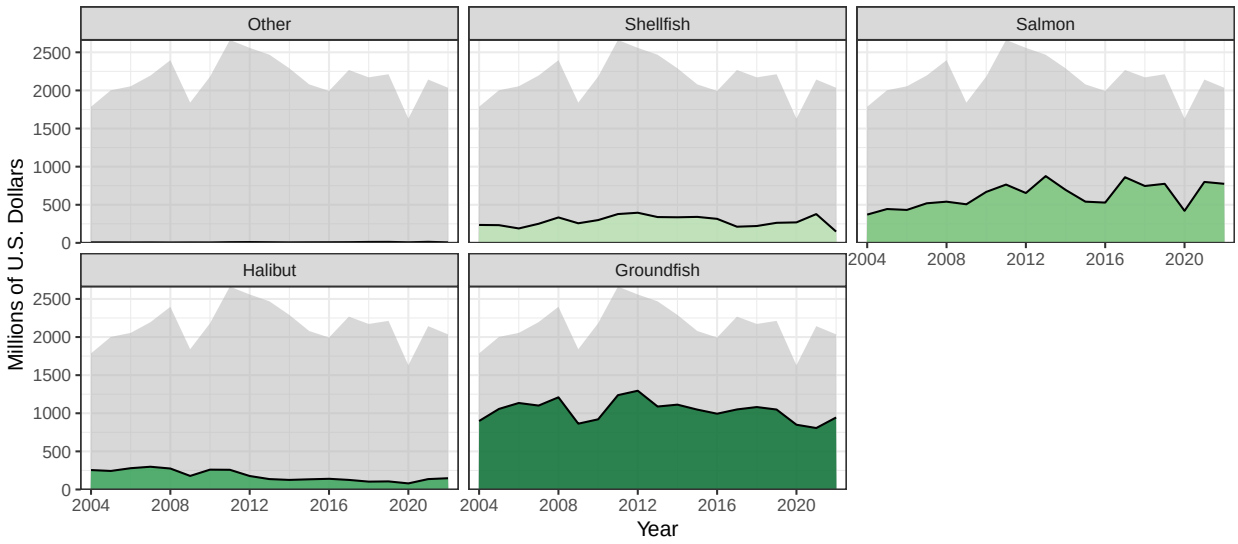

Figure 3.4: Real ex-vessel value of the domestic fish and shellfish catch off Alaska by species group, 2003- 2022 (base year = 2022)

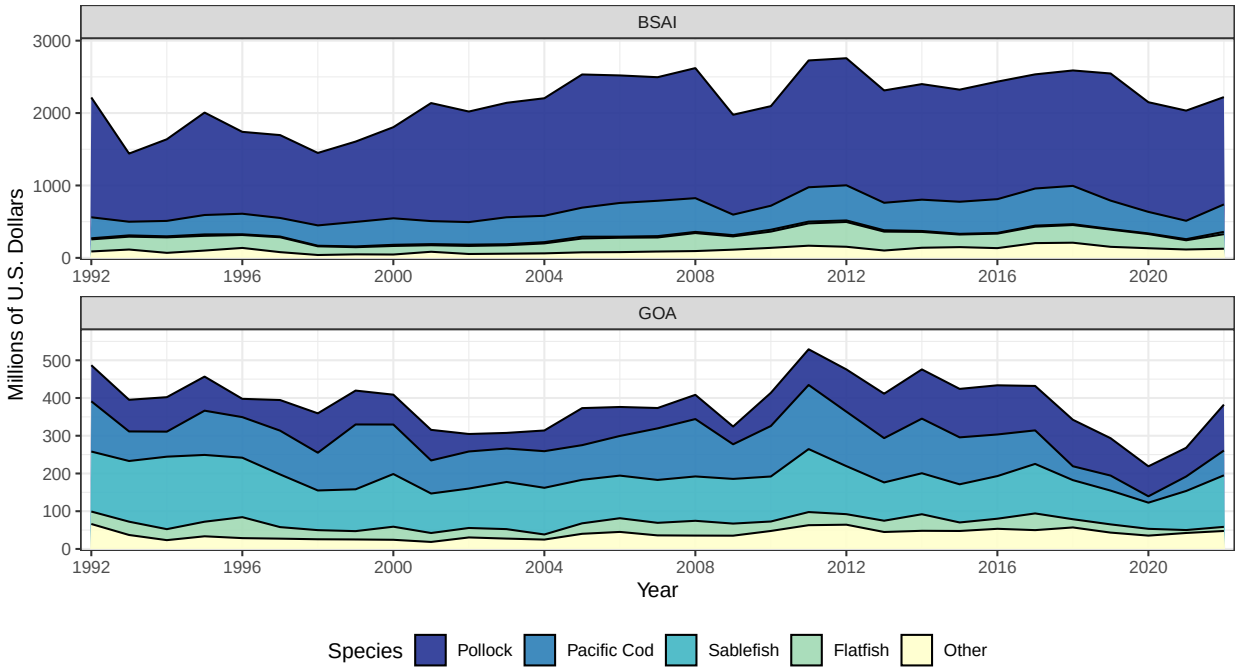

Figure 3.5: Real gross product value of the groundfish catch off Alaska by species, 1992- 2022 (base year = 2022)

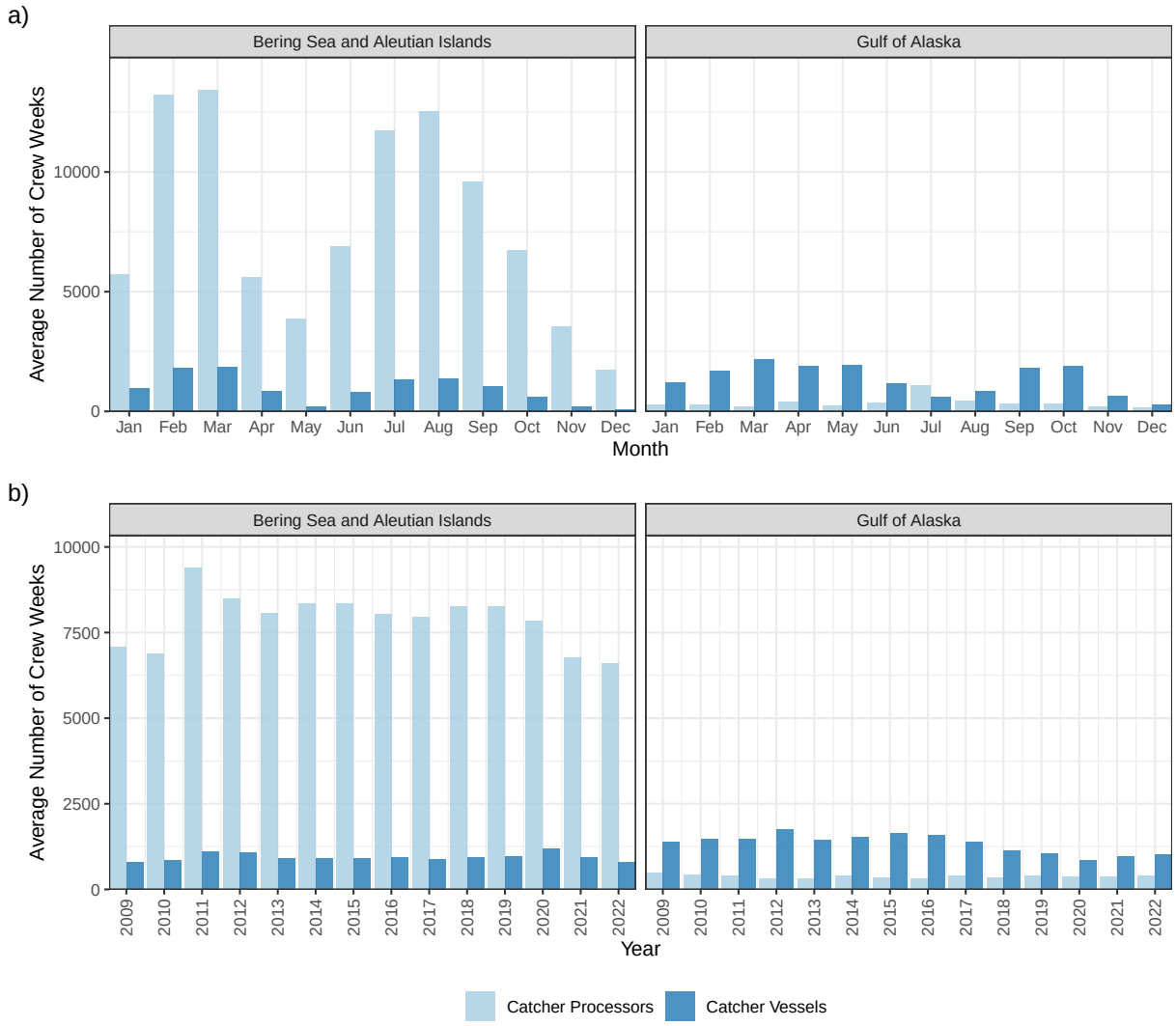

Figure 3.6: a) Average number of crew weeks in both BSAI and GOA by month for Catcher Processors and Catcher Vessels, 2009- 2022 , b) by year, 2009- 2022

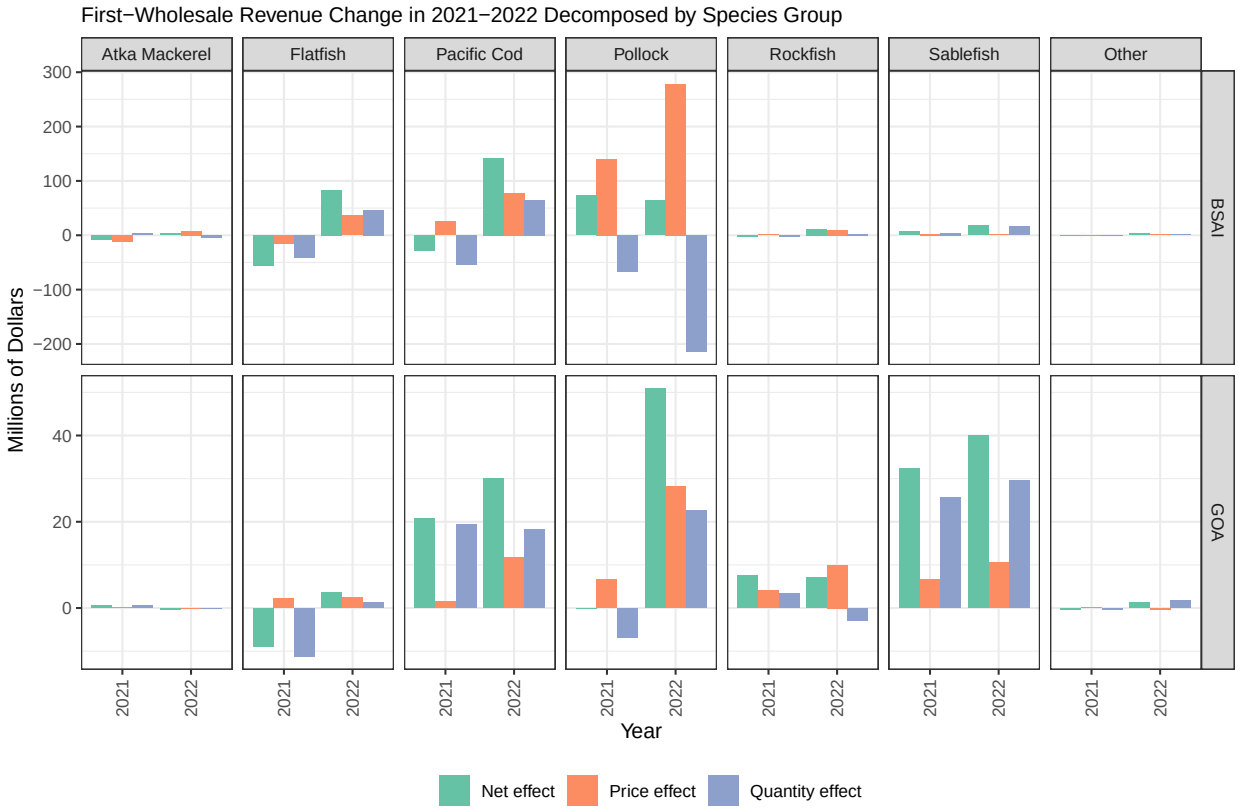

Figure 3.7: Decomposition of the change in first-wholesale revenues from 2020-2022 by species.

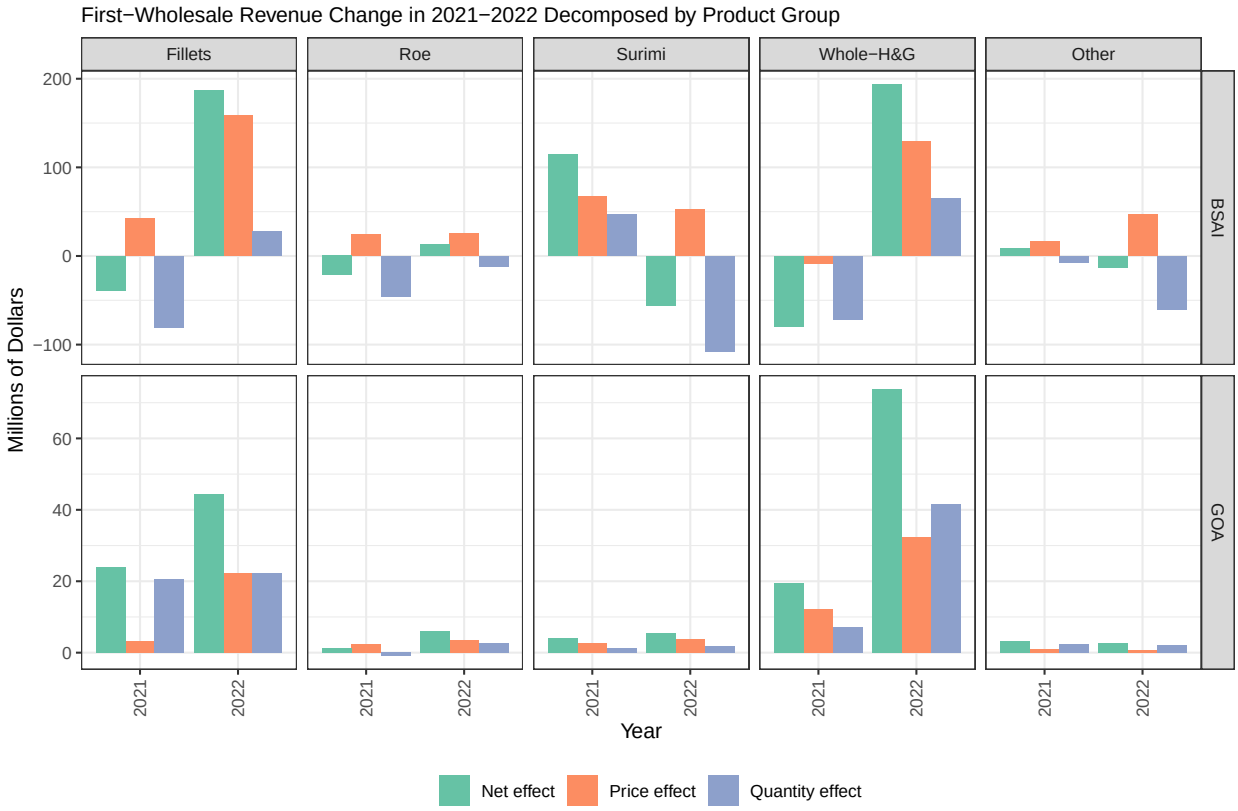

Figure 3.8: Decomposition of the change in first-wholesale revenues from 2020-2022 by product

Chapter 4

Tables Reporting Economic Data of the Groundfish Fisheries Off Alaska

4.1 Alaska Economic Data Tables

Table 4.1: Groundfish catch in the commercial fisheries off Alaska by area and species, 2013-2022 (1,000 metric tons, round weight).

		Pollock	Sablefish	Pacific Cod	Flatfish	Rockfish	Atka Mackerel	Total
Bering	2013	1,273.80	1.70	250.30	297.70	35	23.20	1,915.10
Sea and	2014	1,300.20	1.10	249.30	276.60	36.10	31	1,929
Aleutian	2015	1,323.20	0.60	242	219.70	39.70	53.30	1,914.70
Islands	2016	1,354.90	0.90	260.90	225.50	36.80	54.50	1,969.40
	2017	1,360.90	1.70	253	211.40	38.10	64.40	1,968.90
	2018	1,381.20	2.20	220.30	212.20	41.70	70.40	1,966.20
	2019	1,411	3.80	198	208.60	54.30	57.50	1,959.50
	2020	1,370.40	6.60	169.90	214.10	50.80	58.90	1,896
	2021	1,378.10	5.70	135.80	169.20	43.70	61.40	1,814.30
	2022	1,108.70	7.70	160.70	218.90	44.70	58.10	1,628.40
Gulf of	2013	96.40	12.80	68.60	34.30	25	1.30	250.60
Alaska	2014	142.60	11.10	84.90	48	29	1	326.80
	2015	167.50	11	79.50	27.10	29.10	1.20	324.90
	2016	177.10	10	64.10	28.30	34.10	1.10	324.40
	2017	186.20	11.30	48.70	33.60	31.90	1.10	321.50
	2018	158.10	13	15.20	25.90	34.30	1.40	255.70
	2019	120.20	13.70	15.70	32	34.30	1.30	224.20
	2020	107.50	13.40	6.80	28.90	32.30	0.60	194.40
	2021	101.20	16.50	19.20	13	36.90	0.90	192.80
	2022	132.70	20.30	25.80	14.40	36.90	0.90	237.40
All	2013	1,370.10	14.50	318.90	332	59.90	24.50	2,165.80
Alaska	2014	1,442.90	12.20	334.30	324.60	65.10	32	2,255.80
	2015	1,490.80	11.70	321.50	246.80	68.80	54.50	2,239.60
	2016	1,532.10	10.90	324.90	253.90	70.90	55.60	2,293.80
	2017	1,547	13	301.80	245	70	65.50	2,290.50
	2018	1,539.20	15.20	235.40	238.20	76	71.80	2,221.90
	2019	1,531.30	17.50	213.80	240.70	88.70	58.70	2,183.70
	2020	1,477.90	20	176.80	243	83.10	59.50	2,090.40
	2021	1,479.30	22.20	154.90	182.20	80.60	62.30	2,007.10
	2022	1,241.40	28.10	186.50	233.20	81.60	59	1,865.90

Note The estimates are of total catch (i.e., retained and discarded catch).These estimates include catch from both federal and state of Alaska fisheries. As such, totals may be slightly larger than retained catch estimates provided in later tables.
Source NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.2: Groundfish retained catch off Alaska by area, sector, and species, 2018-2022 (1,000 metric tons, round weight).

		Bering Sea and Aleutian Islands			Gulf of Alaska			All Alaska		
		Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
Pollock	2018	718.33	651.43	1,369.77	155.28	0.60	155.88	873.61	652.04	1,525.65
	2019	735.60	666.24	1,401.84	118.56	0.33	118.89	854.16	666.57	1,520.73
	2020	725.04	633.32	1,358.36	106.29	0.34	106.63	831.32	633.66	1,464.99
	2021	718.18	645.70	1,363.88	98.47	1.03	99.50	816.65	646.73	1,463.38
	2022	570.03	524.89	1,094.93	130.49	0.96	131.46	700.53	525.86	1,226.38
Sablefish	2018	0.83	0.94	1.77	9.51	1.00	10.51	10.34	1.95	12.28
	2019	1.56	0.61	2.17	9.78	1.06	10.85	11.34	1.67	13.01
	2020	1.66	1.09	2.75	10.41	0.91	11.32	12.07	2.01	14.08
	2021	2.01	1.43	3.44	13.87	1.42	15.29	15.88	2.85	18.73
	2022	3.10	3.03	6.12	17.17	1.78	18.95	20.27	4.81	25.07
Pacific Cod	2018	82.48	135.53	218.01	12.66	1.75	14.40	95.14	137.28	232.41
	2019	77.53	118.40	195.93	12.90	1.55	14.45	90.42	119.95	210.38
	2020	68.34	99.05	167.39	4.77	0.07	4.84	73.11	99.12	172.23
	2021	52.69	79.40	132.08	15.97	0.17	16.14	68.65	79.57	148.23
	2022	64.85	93.60	158.45	21.50	2.68	24.18	86.35	96.28	182.63
Flatfish	2018	16.56	180.90	197.47	17.71	4.89	22.60	34.27	185.80	220.07
	2019	23.58	174.63	198.22	21.32	6.84	28.16	44.90	181.47	226.38
	2020	23.86	179.66	203.52	19.06	5.31	24.36	42.91	184.97	227.88
	2021	10.68	150.31	160.99	1.06	7.47	8.53	11.74	157.78	169.52
	2022	12.75	197.37	210.12	1.15	9.52	10.66	13.89	206.88	220.78
Rockfish	2018	3.51	35.28	38.79	14.69	16.69	31.38	18.20	51.97	70.17
	2019	4.89	44.98	49.87	14.90	15.87	30.78	19.79	60.86	80.65
	2020	5.31	40.70	46.01	15.52	14.76	30.28	20.83	55.46	76.29
	2021	2.31	38.31	40.62	17.80	17.54	35.34	20.11	55.85	75.96
	2022	2.04	40.14	42.17	15.70	19.12	34.82	17.74	59.26	77.00
Atka Mackerel	2018	5.65	63.86	69.51	0.18	1.10	1.28	5.83	64.96	70.78
	2019	3.25	53.59	56.85	0.11	0.79	0.90	3.36	54.39	57.75
	2020	5.63	52.49	58.13	*	0.51	0.51	5.63	53.00	58.64
	2021	3.73	56.85	60.59	-	0.59	0.59	3.74	57.44	61.18
	2022	2.36	55.00	57.36	0.02	0.81	0.82	2.38	55.81	58.19

Table 4.2: Groundfish retained catch off Alaska by area, sector, and species, 2018-2022 (1,000 metric tons, round weight). *(continued)*

		Bering Sea and Aleutian Islands			Gulf of Alaska			All Alaska		
		Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
All Groundfish	2018	829.18	1,079.96	1,909.14	210.96	26.14	237.10	1,040.14	1,106.10	2,146.24
	2019	847.09	1,067.59	1,914.68	178.71	26.53	205.24	1,025.79	1,094.12	2,119.91
	2020	830.45	1,014.75	1,845.21	156.87	21.90	178.77	987.32	1,036.66	2,023.98
	2021	790.01	980.50	1,770.50	147.40	28.22	175.62	937.41	1,008.72	1,946.12
	2022	655.55	926.22	1,581.76	186.28	35.02	221.30	841.83	961.24	1,803.07

Note The estimates are of retained catch (i.e., excludes discarded catch). All groundfish include additional species categories. These estimates include only catch counted against federal TACs. Includes FMP groundfish catch on halibut targets. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.3: Groundfish ex-vessel value off Alaska by area, sector, and species,2018-2022 ($ millions).

		Bering Sea and Aleutian Islands			Gulf of Alaska			All Alaska		
		Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
Pollock	2018	237.12	171.12	408.24	42.03	0.16	42.20	279.16	171.28	450.44
	2019	260.48	187.79	448.26	36.01	0.09	36.10	296.49	187.88	484.36
	2020	234.48	155.65	390.14	27.63	0.09	27.72	262.11	155.74	417.85
	2021	243.23	175.07	418.30	26.96	0.28	27.24	270.19	175.35	445.54
	2022	242.45	176.44	418.89	48.63	0.33	48.96	291.08	176.76	467.85
Sablefish	2018	3.08	2.65	5.73	81.37	6.30	87.67	84.45	8.95	93.40
	2019	4.44	1.38	5.81	61.84	5.46	67.30	66.27	6.84	73.11
	2020	2.65	2.41	5.07	43.24	2.36	45.60	45.90	4.77	50.67
	2021	7.51	3.91	11.42	68.51	5.09	73.60	76.02	9.00	85.02
	2022	12.49	7.72	20.20	97.27	6.78	104.05	109.76	14.49	124.25
Pacific Cod	2018	71.53	124.69	196.22	12.49	1.67	14.16	84.02	126.36	210.38
	2019	69.87	117.71	187.58	14.10	1.57	15.67	83.97	119.29	203.25
	2020	57.43	88.41	145.85	4.17	0.06	4.22	61.60	88.47	150.07
	2021	42.46	57.16	99.62	13.74	0.14	13.88	56.19	57.31	113.50
	2022	62.68	83.61	146.29	22.24	3.89	26.13	84.92	87.50	172.42
Flatfish	2018	7.85	87.87	95.72	4.69	1.37	6.06	12.54	89.24	101.78
	2019	10.77	82.73	93.50	4.26	1.49	5.75	15.02	84.22	99.25
	2020	8.95	69.48	78.43	3.45	1.01	4.45	12.40	70.49	82.89
	2021	3.37	50.29	53.66	0.14	1.14	1.28	3.51	51.43	54.94
	2022	5.31	85.95	91.26	0.27	2.26	2.54	5.58	88.22	93.79
Rockfish	2018	1.67	16.46	18.13	7.66	7.10	14.76	9.33	23.56	32.89
	2019	1.73	16.04	17.77	7.61	6.88	14.49	9.34	22.92	32.25
	2020	1.69	13.04	14.73	5.28	4.19	9.47	6.97	17.24	24.21
	2021	0.76	12.54	13.29	5.65	4.99	10.63	6.40	17.52	23.93
	2022	0.87	17.06	17.94	6.02	6.26	12.28	6.90	23.33	30.22
Atka Mackerel	2018	4.33	48.94	53.27	0.14	0.86	1.00	4.47	49.80	54.27
	2019	2.03	33.46	35.49	0.07	0.51	0.58	2.10	33.97	36.07
	2020	3.18	29.67	32.86	-0.01	0.30	0.30	3.18	29.98	33.16
	2021	1.82	27.67	29.49	0.00	0.39	0.40	1.82	28.07	29.89
	2022	1.28	29.73	31.01	0.01	0.45	0.46	1.28	30.18	31.46

Table 4.3: Groundfish ex-vessel value off Alaska by area, sector, and species,2018-2022 ($ millions). *(continued)*

		Bering Sea and Aleutian Islands			Gulf of Alaska			All Alaska		
		Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
All Groundfish	2018	326.23	458.64	784.88	149.30	17.56	166.86	475.53	476.20	951.73
	2019	349.50	445.66	795.15	125.04	16.06	141.10	474.54	461.72	936.26
	2020	308.55	364.66	673.21	84.57	8.01	92.57	393.12	372.67	765.78
	2021	299.21	329.37	628.58	115.18	12.03	127.21	414.39	341.40	755.79
	2022	325.26	423.78	749.04	174.63	20.11	194.75	499.89	443.89	943.79

Note Ex-vessel value is calculated by multiplying ex-vessel prices (Tables 4.13 and 4.31) by the retained round weight catch. The value added by at-sea processing is not included in these estimates of ex-vessel value. All groundfish includes additional species categories.Values are not adjusted for inflation."*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.4: Discards and discard rates for groundfish catch off Alaska by gear, and species, 2018-2022 (1,000 metric tons, round weight).

		Fixed		Trawl		All Gear	
		Total Discards	Discard Rate	Total Discards	Discard Rate	Total Discards	Discard Rate
Pollock	2018	0.60	10	12.80	1	13.40	1
	2019	0.70	11	9.70	1	10.40	1
	2020	0.50	11	12.10	1	12.60	1
	2021	0.50	15	14.90	1	15.40	1
	2022	0.70	15	14.20	1	14.90	1
Sablefish	2018	1.00	8	1.90	51	2.90	19
	2019	1.70	14	2.70	52	4.40	25
	2020	1.10	9	4.10	56	5.20	26
	2021	1.10	6	2.30	48	3.40	15
	2022	1.10	5	1.70	33	2.80	10
Pacific Cod	2018	2.20	1	0.70	1	2.90	1
	2019	2.00	1	1.20	2	3.30	2
	2020	1.90	2	2.30	4	4.20	2
	2021	2.00	2	2.80	6	4.80	3
	2022	2.40	2	1.20	2	3.60	2
Flatfish	2018	3.50	83	13.30	6	16.90	7
	2019	2.70	76	9.60	4	12.30	5
	2020	2.00	80	9.70	4	11.80	5
	2021	1.90	97	8.10	5	10.00	6
	2022	2.60	98	7.60	3	10.20	4
Rockfish	2018	1.20	53	4.50	6	5.80	8
	2019	1.10	51	6.50	8	7.60	9
	2020	0.70	47	5.70	7	6.50	8
	2021	0.60	46	3.90	5	4.50	6
	2022	0.50	42	3.80	5	4.30	5
Atka Mackerel	2018	-	79	0.70	1	0.70	1
	2019	-	68	0.70	1	0.70	1
	2020	-	49	0.80	1	0.80	1
	2021	0.10	98	0.80	1	0.80	1
	2022	0.10	100	0.70	1	0.70	1
All Groundfish	2018	32.40	14	41.20	2	73.60	3
	2019	21.80	10	38.70	2	60.60	3
	2020	19.80	11	41.50	2	61.30	3
	2021	18.30	11	37.00	2	55.30	3
	2022	26.00	12	33.60	2	59.60	3

Note All groundfish and all gear may include additional species or gear types.Discards rates are calculated as 100xdiscards/(total catch). See the seventh bullet in Section 2.2.6 for an explanation of 0 discards with positive discard rates. For details on discard estimation see Cahalan, J., J. Gasper, and J. Mondragon. 2014. Catch sampling and estimation in the federal groundfish fisheries off Alaska, 2015 edition. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-286, 46 p.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.5: Prohibited species catch (PSC) by species, area and gear, 2018-2022 (metric tons (t) or number in 1,000s).

	Gear	Year	Halibut (t)	Herring (t)	Chinook (1,000s)	Other salmon (1,000s)	Red King Crab (1,000s)	Other King Crab (1,000s)	Bairdi (1,000s)	Other tanner (1,000s)
Bering Sea and Aleutian Islands	Fixed	2018	133.00	0.00	0.07	0.18	350.52	48.06	275.49	77.38
		2019	88.00	0.00	0.02	0.33	47.26	12.16	128.39	98.06
		2020	94.00	0.00	0.02	0.13	23.26	10.60	90.65	163.65
		2021	109.00	0.00	0.02	0.05	296.84	55.13	42.93	88.49
		2022	186.00	0.00	0.01	0.11	150.80	18.38	118.96	71.43
	Trawl	2018	1,944.00	541.00	17.33	308.84	30.74	16.03	183.85	1,582.43
		2019	2,266.00	1,182.00	31.44	358.48	70.14	33.95	344.00	941.30
		2020	1,577.00	3,934.00	34.96	346.25	64.59	13.82	598.12	780.62
		2021	1,427.00	1,878.00	15.88	550.65	40.73	17.09	588.47	247.22
		2022	2,057.00	1,750.00	8.34	245.16	8.60	13.40	436.14	204.38
	All Gear	2018	2,076.00	541.00	17.40	309.02	381.26	64.10	459.34	1,659.81
		2019	2,354.00	1,182.00	31.47	358.81	117.39	46.11	472.39	1,039.35
		2020	1,671.00	3,934.00	34.98	346.38	87.86	24.42	688.77	944.28
		2021	1,536.00	1,878.00	15.90	550.70	337.57	72.22	631.39	335.71
		2022	2,243.00	1,750.00	8.34	245.27	159.41	31.78	555.10	275.81
Gulf of Alaska	Fixed	2018	1.00	-	0.08	0.09	-	0.10	18.51	-
		2019	1.00	-	-	0.26	-	0.20	29.94	-
		2020	*	-	-	0.11	-	0.10	0.11	0.01
		2021	12.00	-	-	0.15	0.01	0.11	30.41	-
		2022	29.00	-	-	0.01	-	0.24	25.18	-
	Trawl	2018	1,192.00	45.00	17.00	9.15	-	0.32	235.73	-
		2019	1,099.00	81.00	23.90	6.41	-	0.36	245.17	-
		2020	788.00	67.00	11.75	3.32	*	0.06	623.01	-
		2021	367.00	19.00	17.18	3.57	*	0.12	15.37	-
		2022	353.00	85.00	14.57	5.24	-	0.14	7.71	-
	All Gear	2018	1,193.00	45.00	17.08	9.24	-	0.42	254.24	-
		2019	1,101.00	81.00	23.90	6.67	-	0.55	275.12	-
		2020	788.00	67.00	11.75	3.44	*	0.17	623.12	0.01
		2021	379.00	19.00	17.18	3.72	0.01	0.22	45.78	-
		2022	382.00	85.00	14.57	5.25	-	0.37	32.90	-

Note These estimates include only catches counted against federal TACs. Totals may include additional categories. Totals include halibut mortality taken by Amendment 80 vessels under the Exempted Fishing Permit No. 2015-02. The estimates of halibut bycatch mortality are based on the IPHC discard mortality rates that were used for

in-season management. The halibut IFQ program allows retention of halibut in the hook-and-line groundfish fisheries, making true halibut bycatch numbers unavailable for these fisheries. This is particularly a problem in the GOA for all hook-and-line fisheries and in the BSAI for the sablefish hook-and-line fishery. Therefore, estimates of halibut bycatch mortality are not included in this table for those fisheries. There were substantial changes to the observer program in 2013 that could affect the comparability of 2013 and later years, to previous years. Excludes PSC on halibut targets. Excludes PSC in state fisheries (sablefish and P. cod targets in state waters). For details on prohibited species catch estimation see Cahalan, J., J. Gasper, and J. Mondragon. 2014. Catch sampling and estimation in the federal groundfish fisheries off Alaska, 2015 edition. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-286, 46 p. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.6: Catch and real ex-vessel value of the commercial fisheries off Alaska by species group and area, 2018-2022; calculations based on COAR (1,000 metric tons and $ millions, base year = 2022).

		Bering Sea and Aleutian Islands		Gulf of Alaska		All Alaska	
		Quantity	Value	Quantity	Value	Quantity	Value
2018	Groundfish	1,909.44	$ 891.22	238.83	$ 190.25	2,148.27	$ 1,081.47
	Salmon	116.17	$ 444.67	133.79	$ 301.67	249.97	$ 746.35
	Halibut	1.59	$ 17.52	6.73	$ 85.57	8.32	$ 103.10
	Herring	16.84	$ 2.59	3.70	$ 4.67	20.54	$ 7.26
	Shellfish	14.58	$ 183.07	4.64	$ 38.02	19.22	$ 221.09
	Other	-	-	1.40	$ 12.46	1.40	$ 12.46
	All Species	2,058.63	$ 1,539.08	389.08	$ 632.64	2,447.71	$ 2,171.72
2019	Groundfish	1,914.84	$ 889.45	207.70	$ 159.23	2,122.54	$ 1,048.68
	Salmon	116.70	$ 419.44	256.69	$ 355.66	373.38	$ 775.11
	Halibut	1.72	$ 17.12	6.97	$ 89.01	8.68	$ 106.13
	Herring	22.31	$ 2.56	0.94	$ 3.19	23.25	$ 5.76
	Shellfish	17.69	$ 216.58	5.84	$ 46.64	23.54	$ 263.23
	Other	-	-	1.48	$ 13.33	1.48	$ 13.33
	All Species	2,073.26	$ 1,545.16	479.62	$ 667.07	2,552.88	$ 2,212.24
2020	Groundfish	1,846.55	$ 746.34	182.21	$ 103.26	2,028.76	$ 849.60
	Salmon	98.93	$ 255.90	122.88	$ 164.52	221.81	$ 420.42
	Halibut	1.53	$ 14.39	6.26	$ 65.41	7.79	$ 79.80
	Herring	3.01	$ 0.54	1.79	$ 3.64	4.80	$ 4.18
	Shellfish	19.50	$ 228.33	6.92	$ 40.56	26.42	$ 268.89
	Other	-	-	1.25	$ 7.53	1.25	$ 7.53
	All Species	1,969.52	$ 1,245.50	321.30	$ 384.92	2,290.82	$ 1,630.42
2021	Groundfish	1,771.03	$ 668.78	179.89	$ 137.51	1,950.92	$ 806.29
	Salmon	99.89	$ 398.59	265.79	$ 401.03	365.69	$ 799.63
	Halibut	1.36	$ 18.81	7.67	$ 117.53	9.02	$ 136.33
	Herring	10.58	$ 1.55	17.70	$ 7.07	28.28	$ 8.62
	Shellfish	23.59	$ 320.45	5.04	$ 57.27	28.62	$ 377.72
	Other	-	-	1.39	$ 14.18	1.39	$ 14.18
	All Species	1,906.45	$ 1,408.18	477.48	$ 734.60	2,383.93	$ 2,142.77
2022	Groundfish	1,581.99	$ 749.31	223.38	$ 195.40	1,805.37	$ 944.71
	Salmon	149.56	$ 450.15	163.20	$ 324.79	312.76	$ 774.94
	Halibut	1.32	$ 20.83	7.86	$ 126.96	9.18	$ 147.79
	Herring	10.66	$ 3.23	25.59	$ 10.00	36.25	$ 13.23
	Shellfish	6.44	$ 101.01	4.63	$ 46.96	11.07	$ 147.97
	Other	-	-	1.18	$ 6.55	1.18	$ 6.55
	All Species	1,749.97	$ 1,324.53	425.83	$ 710.66	2,175.80	$ 2,035.19

Note These estimates include the value of catch from both federal and state of Alaska fisheries. The data have been adjusted to 2022 dollars by applying the Personal Consumption Expenditure Index at https://research.stlouisfed.org/fred2/series/PCEPI to account for affects of inflation on fishermen's revenue.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.7: Production and real gross value of groundish and non-groundish products in the commercial fisheries of Alaska by species group and area of processing,2018-2022(1,000 metric tons product weight and $ millions, base year = 2022).

		Bering Sea and Aleutian Islands		Gulf of Alaska		All Alaska	
		Quantity	Value	Quantity	Value	Quantity	Value
2018	Groundfish	823.20	$ 2,588.70	113.50	$ 342.30	936.70	$ 2,931.00
	Salmon	79.80	$ 857.00	133.10	$ 946.50	212.90	$ 1,803.50
	Halibut	0.90	$ 17.80	5.60	$ 109.60	6.50	$ 127.40
	Herring	12.70	$ 12.20	3.70	$ 9.60	16.40	$ 21.90
	Crab	9.60	$ 199.90	2.70	$ 60.80	12.20	$ 260.80
	Other	-	-	1.50	$ 21.60	1.50	$ 21.60
	All Species	926.10	$ 3,675.60	260.20	$ 1,490.50	1,186.30	$ 5,166.10
2019	Groundfish	831.40	$ 2,546.40	100.50	$ 293.40	931.90	$ 2,839.80
	Salmon	83.50	$ 828.80	205.20	$ 1,134.30	288.70	$ 1,963.20
	Halibut	1.10	$ 15.90	6.00	$ 107.20	7.10	$ 123.10
	Herring	19.20	$ 18.40	0.90	$ 5.20	20.20	$ 23.60
	Crab	12.80	$ 264.50	3.20	$ 70.80	16.00	$ 335.30
	Other	-	$ 0.20	1.60	$ 27.20	1.60	$ 27.40
	All Species	948.10	$ 3,674.20	317.40	$ 1,638.20	1,265.50	$ 5,312.40
2020	Groundfish	753.00	$ 2,149.90	82.90	$ 219.00	835.80	$ 2,368.90
	Salmon	60.50	$ 585.00	104.00	$ 764.10	164.50	$ 1,349.10
	Halibut	1.20	$ 14.40	4.40	$ 79.20	5.60	$ 93.60
	Herring	0.50	$ 0.60	4.10	$ 8.70	4.60	$ 9.30
	Crab	14.00	$ 252.30	4.00	$ 76.20	18.00	$ 328.50
	Other	-	-	1.10	$ 15.30	1.10	$ 15.30
	All Species	829.10	$ 3,002.10	200.40	$ 1,162.50	1,029.50	$ 4,164.70
2021	Groundfish	692.00	$ 2,033.90	73.40	$ 268.00	765.30	$ 2,301.90
	Salmon	64.80	$ 704.10	204.80	$ 1,354.90	269.60	$ 2,059.00
	Halibut	1.10	$ 19.60	6.50	$ 144.60	7.50	$ 164.20
	Herring	8.20	$ 11.10	22.60	$ 28.80	30.90	$ 40.00
	Crab	16.30	$ 389.80	3.70	$ 111.60	20.00	$ 501.40
	Other	-	-	1.00	$ 22.70	1.00	$ 22.70
	All Species	782.40	$ 3,158.50	311.90	$ 1,930.70	1,094.30	$ 5,089.20
2022	Groundfish	665.80	$ 2,220.30	89.70	$ 382.50	755.50	$ 2,602.80
	Salmon	85.50	$ 822.40	170.80	$ 1,209.50	256.30	$ 2,031.90
	Halibut	0.90	$ 15.90	6.40	$ 149.60	7.20	$ 165.50
	Herring	10.40	$ 13.60	27.40	$ 167.80	37.80	$ 181.40
	Crab	3.50	$ 113.40	2.70	$ 73.00	6.30	$ 186.50
	Other	-	-	1.40	$ 22.40	1.40	$ 22.40
	All Species	766.10	$ 3,185.60	298.40	$ 2,004.90	1,064.50	$ 5,190.50

Note These estimates include the value of catch from both federal and state of Alaska fisheries. The data have been adjusted to 2022 dollars by applying the Personal Consumption Expenditure Index at https://research.stlouisfed.org/fred2/series/PCEPI to account for affects of inflation on fishermen's revenue.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.8: Percentage of ex-vessel value of the groundfish catch of Alaska by area, residency, and species, 2018-2022; calculations based on COAR.

		Bering Sea and Aleutian Islands		Gulf of Alaska		All Alaska	
		Alaska	Other	Alaska	Other	Alaska	Other
Pollock	2018	10 %	90 %	48 %	52 %	14 %	86 %
	2019	8 %	92 %	50 %	50 %	12 %	88 %
	2020	6 %	94 %	53 %	47 %	9 %	91 %
	2021	6 %	94 %	51 %	49 %	9 %	91 %
	2022	10 %	90 %	46 %	54 %	14 %	86 %
Sablefish	2018	27 %	73 %	63 %	37 %	61 %	39 %
	2019	36 %	64 %	62 %	38 %	60 %	40 %
	2020	29 %	71 %	66 %	34 %	62 %	38 %
	2021	60 %	40 %	62 %	38 %	62 %	38 %
	2022	54 %	46 %	62 %	38 %	61 %	39 %
Pacific Cod	2018	23 %	77 %	70 %	30 %	26 %	74 %
	2019	27 %	73 %	72 %	28 %	31 %	69 %
	2020	28 %	72 %	85 %	15 %	29 %	71 %
	2021	26 %	74 %	74 %	26 %	32 %	68 %
	2022	26 %	74 %	68 %	32 %	32 %	68 %
Flatfish	2018	25 %	75 %	59 %	41 %	27 %	73 %
	2019	27 %	73 %	63 %	37 %	29 %	71 %
	2020	27 %	73 %	60 %	40 %	29 %	71 %
	2021	27 %	73 %	27 %	73 %	27 %	73 %
	2022	24 %	76 %	22 %	78 %	24 %	76 %
Rockfish	2018	32 %	68 %	40 %	60 %	36 %	64 %
	2019	32 %	68 %	39 %	61 %	35 %	65 %
	2020	31 %	69 %	45 %	55 %	37 %	63 %
	2021	33 %	67 %	45 %	55 %	38 %	62 %
	2022	36 %	64 %	42 %	58 %	39 %	61 %
Atka Mackerel	2018	37 %	63 %	17 %	83 %	36 %	64 %
	2019	42 %	58 %	15 %	85 %	41 %	59 %
	2020	39 %	61 %	14 %	86 %	39 %	61 %
	2021	38 %	62 %	6 %	94 %	38 %	62 %
	2022	44 %	56 %	22 %	78 %	43 %	57 %
All Groundfish	2018	18 %	82 %	57 %	43 %	25 %	75 %
	2019	17 %	83 %	58 %	42 %	23 %	77 %
	2020	16 %	84 %	60 %	40 %	21 %	79 %
	2021	14 %	86 %	59 %	41 %	22 %	78 %
	2022	18 %	82 %	57 %	43 %	26 %	74 %

Note These estimates include only catches counted against federal TACs. Ex-vessel value is calculate using prices from Tables 4.13 and 4.31. Please refer to Tables 4.13 and 4.31 for a description of the price derivation. Catch delivered to motherships is classified by the residency of the owner of the mothership. All other catch is classified by the residence of the owner of the fishing vessel. All groundfish include additional species categories. For catch for which the residence is unknown, there are either no data or the data have been suppressed to preserve confidentiality. Values are not adjusted for inflation.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.9: Number of vessels that caught groundfish of Alaska by area, vessel category, gear, and target,2018-2022.

		Bering Sea and Aleutian Islands			Gulf of Alaska			All Alaska		
		Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
Pollock	2018	85	27	112	69	2	71	133	28	161
	2019	84	30	114	62	-	62	125	30	155
	2020	88	29	117	60	1	61	131	29	160
	2021	86	32	118	57	2	59	126	33	159
	2022	84	30	114	54	1	55	122	30	152
Sablefish	2018	17	9	26	274	6	280	283	13	296
	2019	13	5	18	249	6	255	255	10	265
	2020	13	7	20	247	5	252	252	10	262
	2021	20	4	24	245	5	250	258	8	266
	2022	25	11	36	249	7	256	263	13	276
Pacific Cod	2018	144	49	193	149	3	152	265	50	315
	2019	149	47	196	173	3	176	301	47	348
	2020	151	38	189	100	-	100	246	38	284
	2021	115	31	146	184	2	186	277	31	308
	2022	120	30	150	200	6	206	285	30	315
Flatfish	2018	9	26	35	34	4	38	42	27	69
	2019	9	26	35	30	4	34	39	27	66
	2020	8	25	33	22	5	27	30	26	56
	2021	7	21	28	4	4	8	11	22	33
	2022	6	20	26	4	6	10	10	21	31
Rockfish	2018	4	21	25	110	9	119	114	24	138
	2019	5	22	27	105	9	114	110	24	134
	2020	6	18	24	90	8	98	96	22	118
	2021	4	21	25	74	7	81	78	23	101
	2022	3	15	18	60	7	67	63	18	81
Atka Mackerel	2018	4	14	18	1	2	3	5	16	21
	2019	4	14	18	-	-	-	4	14	18
	2020	3	13	16	-	-	-	3	13	16
	2021	4	14	18	-	-	-	4	14	18
	2022	3	14	17	-	-	-	3	14	17

Table 4.9: Number of vessels that caught groundfish of Alaska by area, vessel category, gear, and target,2018-2022. *(continued)*

		Bering Sea and Aleutian Islands			Gulf of Alaska			All Alaska		
		Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total	Catcher Vessels	Catcher Processors	Total
All Targets	2018	196	66	262	467	16	483	588	68	656
	2019	195	65	260	468	19	487	594	67	661
	2020	206	59	265	414	14	428	556	61	617
	2021	171	55	226	432	14	446	543	57	600
	2022	182	55	237	437	21	458	551	57	608

Note The target is determined based on vessel, week, catching mode, NMFS area, and gear. These estimates include only vessels that fished part of federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

4.2 Bering Sea & Aleutian Island Economic Data Tables

Table 4.10: Bering Sea and Aleutian Islands groundfish retained catch by vessel type, gear and species, 2021-2022 (1,000 metric tons, round weight).

		Catcher Vessels				Catcher Processors				Total			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Pollock	2018	-	-	718.30	718.30	-	-	646.20	651.40	-	-	1,364.50	1,369.80
	2019	-	-	735.60	735.60	-	-	660.60	666.20	-	-	1,396.20	1,401.80
	2020	-	-	725.00	725.00	-	-	629.00	633.30	-	-	1,354.00	1,358.40
	2021	-	-	718.20	718.20	-	-	642.60	645.70	-	-	1,360.80	1,363.90
	2022	-	-	570.00	570.00	-	-	520.80	524.90	-	-	1,090.80	1,094.90
Pacific Cod	2018	0.90	42.20	39.30	82.50	100.90	4.30	30.30	135.50	101.80	46.50	69.60	217.90
	2019	1.20	43.10	33.30	77.50	88.60	4.20	25.60	118.30	89.80	47.30	58.80	195.80
	2020	1.00	35.80	31.60	68.30	73.60	3.40	22.10	99.00	74.50	39.20	53.60	167.40
	2021	0.20	30.50	22.00	52.70	58.90	2.30	18.10	79.40	59.10	32.80	40.10	132.10
	2022	0.20	39.70	25.00	64.80	70.40	2.70	20.50	93.60	70.50	42.40	45.40	158.40
Sablefish	2018	0.20	0.30	0.30	0.80	0.10	*	0.60	0.70	0.30	0.30	0.90	1.50
	2019	0.20	0.50	0.80	1.60	-	*	0.40	0.40	0.20	0.50	1.20	2.00
	2020	0.10	-	1.60	1.70	-	*	0.70	0.70	0.10	-	2.20	2.30
	2021	0.10	1.40	0.40	1.90	-	*	0.80	0.90	0.20	1.40	1.30	2.80
	2022	0.20	2.70	0.20	3.10	*	1.10	2.00	3.00	0.20	3.80	2.10	6.10
Atka Mackerel	2018	-	-	5.60	5.70	-	-	63.80	63.90	-	-	69.50	69.50
	2019	-	-	3.30	3.30	-	-	53.60	53.60	-	-	56.80	56.80
	2020	-	-	5.60	5.60	-	-	52.50	52.50	-	-	58.10	58.10
	2021	-	-	3.70	3.70	-	-	56.90	56.90	-	-	60.60	60.60
	2022	-	-	2.40	2.40	-	-	55.00	55.00	-	-	57.40	57.40
Yellowfin	2018	-	-	12.20	12.30	0.20	-	114.90	115.00	0.20	-	127.10	127.30
	2019	-	-	17.30	17.30	-	-	108.80	108.80	-	-	126.10	126.10
	2020	-	-	16.10	16.10	*	-	115.60	115.60	*	-	131.60	131.60
	2021	-	-	8.00	8.00	*	-	98.70	98.70	*	-	106.70	106.70
	2022	-	-	10.30	10.30	*	-	141.20	141.20	*	-	151.50	151.50

Table 4.10: Bering Sea and Aleutian Islands groundfish retained catch by vessel type, gear and species, 2021-2022 (1,000 metric tons, round weight). *(continued)*

		Catcher Vessels				Catcher Processors				Total			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Rock Sole	2018	*	-	1.60	1.60	-	-	25.60	25.60	-	-	27.10	27.10
	2019	*	-	2.40	2.40	-	-	22.00	22.00	-	-	24.40	24.40
	2020	-	-	2.60	2.60	*	-	22.00	22.00	*	-	24.70	24.70
	2021	-	-	0.60	0.60	*	-	12.80	12.80	*	-	13.40	13.40
	2022	-	-	0.70	0.70	*	-	16.70	16.70	*	-	17.40	17.40
Flathead Sole	2018	-	-	0.80	0.80	*	-	9.40	9.40	*	-	10.20	10.20
	2019	*	-	0.80	0.80	-	-	14.10	14.10	-	-	14.90	14.90
	2020	-	-	1.00	1.10	-	-	7.20	7.20	-	-	8.30	8.30
	2021	-	-	0.70	0.70	-	-	8.70	8.80	-	-	9.50	9.50
	2022	-	-	0.70	0.70	*	-	12.90	12.90	*	-	13.60	13.70
Arrowtooth	2018	-	-	0.20	0.20	0.20	-	5.60	5.70	0.20	-	5.80	6.00
	2019	-	-	0.60	0.60	0.20	-	8.30	8.50	0.20	-	8.90	9.10
	2020	*	-	0.30	0.30	0.10	-	9.40	9.50	0.10	-	9.70	9.80
	2021	*	-	0.20	0.20	-	-	7.70	7.80	-	-	8.00	8.00
	2022	-	-	0.10	0.10	*	-	6.60	6.60	-	-	6.70	6.70
Kamchatka Flounder	2018	-	-	-	-	-	-	2.80	2.90	-	-	2.90	2.90
	2019	-	-	0.10	0.10	-	-	4.10	4.10	-	-	4.20	4.20
	2020	*	-	0.20	0.20	-	-	6.90	7.00	-	-	7.20	7.20
	2021	-	-	-	-	-	-	6.40	6.40	-	-	6.40	6.40
	2022	-	-	-	-	*	-	8.00	8.00	*	-	8.00	8.00
Turbot	2018	-	-	-	-	0.30	-	1.50	1.70	0.30	-	1.50	1.70
	2019	*	-	-	-	0.50	-	2.20	2.80	0.50	-	2.30	2.80
	2020	*	-	-	-	0.30	-	1.90	2.10	0.30	-	1.90	2.10
	2021	*	-	-	-	-	-	1.50	1.50	-	-	1.50	1.50
	2022	*	-	-	-	-	-	1.40	1.40	-	-	1.40	1.40

Table 4.10: Bering Sea and Aleutian Islands groundfish retained catch by vessel type, gear and species, 2021-2022 (1,000 metric tons, round weight). *(continued)*

		Catcher Vessels				Catcher Processors				Total			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Other Flatfish	2018	-	-	1.70	1.70	*	-	20.50	20.50	*	-	22.20	22.20
	2019	-	-	2.40	2.40	-	-	14.30	14.30	-	-	16.70	16.70
	2020	*	-	3.50	3.50	-	-	16.20	16.20	-	-	19.70	19.70
	2021	-	-	1.10	1.10	*	-	14.40	14.40	*	-	15.40	15.40
	2022	-	-	0.80	0.80	-	-	10.60	10.60	-	-	11.40	11.40
Pacific Ocean Perch	2018	*	-	3.00	3.00	-	-	29.40	29.40	-	-	32.40	32.40
	2019	*	-	4.40	4.40	-	-	35.40	35.40	-	-	39.80	39.80
	2020	*	-	4.40	4.40	*	-	33.10	33.10	*	-	37.50	37.50
	2021	-	-	2.10	2.10	*	-	31.60	31.60	*	-	33.70	33.70
	2022	*	-	1.80	1.80	-	-	31.80	31.80	*	-	33.60	33.60
Northern Rockfish	2018	*	-	0.40	0.40	-	-	4.80	4.90	-	-	5.20	5.20
	2019	-	-	0.40	0.40	*	-	8.20	8.20	*	-	8.60	8.60
	2020	-	-	0.80	0.80	-	-	6.50	6.50	-	-	7.30	7.30
	2021	*	-	0.20	0.20	*	-	5.50	5.50	*	-	5.60	5.60
	2022	-	-	0.10	0.10	-	-	7.10	7.10	-	-	7.30	7.30
Other Rockfish	2018	-	-	0.10	0.10	-	-	1.00	1.00	0.10	-	1.00	1.10
	2019	-	-	0.10	0.10	-	-	1.30	1.30	-	-	1.30	1.40
	2020	-	-	0.10	0.10	-	-	1.10	1.10	-	-	1.10	1.20
	2021	-	-	-	-	-	-	1.20	1.20	-	-	1.20	1.30
	2022	-	-	-	-	*	-	1.20	1.20	-	-	1.30	1.30
Other Groundfish	2018	-	-	1.60	1.80	9.50	-	2.50	12.00	9.50	-	4.20	13.80
	2019	-	-	0.50	0.70	6.30	-	2.70	9.10	6.40	-	3.20	9.70
	2020	-	-	0.50	0.60	6.60	-	1.90	8.40	6.60	-	2.30	9.10
	2021	-	-	0.40	0.40	6.20	-	2.20	8.50	6.20	-	2.60	8.90
	2022	-	-	0.30	0.40	10.90	-	1.30	12.20	10.90	-	1.70	12.60

All	2018	1.20	-	785.20	829.20	116.30	-	959.00	1,079.60	117.50	-	1,744.20	1,908.70
Groundfish	2019	1.40	-	801.90	847.10	101.40	-	961.50	1,067.10	102.80	-	1,763.50	1,914.20
	2020	1.10	-	793.40	830.40	85.00	-	925.90	1,014.30	86.10	-	1,719.30	1,844.70
	2021	0.30	-	757.70	789.90	68.30	-	909.20	979.90	68.70	-	1,666.90	1,769.80
	2022	0.40	-	612.60	655.50	85.40	-	837.00	926.20	85.80	-	1,449.60	1,581.70

Note The estimates are of retained catch (i.e., excludes discarded catch). All groundfish include additional species categories. These estimates include only catch counted against federal TACs. Includes FMP groundfish catch on halibut targets. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.11: Bering Sea & Aleutian Islands groundfish retained catch by target, vessel type, gear and species, Catcher Vessels 2021-2022 (1,000 metric tons, round weight).

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Kamchatka Flounder	Flathead Sole	Rock Sole	Turbot	Yellowfin	Flat Other	Rockfish	Atka Mackerel	Other	All Species
Hook and Line	2021	Sablefish	-	*	-	-	-	-	-	-	-	-	*	-	*	*
		Pacific Cod	*	-	0.20	-	-	-	-	-	-	-	-	-	-	0.20
		All Targets	*	0.10	0.20	*	-	-	-	*	-	-	-	-	-	0.30
	2022	Sablefish	-	0.10	*	-	-	-	-	-	-	-	*	-	-	0.10
		Pacific Cod	-	-	0.10	-	-	-	-	-	-	-	-	-	-	0.10
		All Targets	*	0.20	0.20	-	-	-	-	*	-	-	-	-	-	0.40
Pot	2021	Sablefish	-	1.40	*	*	-	-	-	-	-	-	*	-	-	1.40
		Pacific Cod	-	-	30.50	*	-	-	*	-	-	*	*	-	-	30.50
		All Targets	-	1.40	30.50	*	-	-	*	-	-	*	*	-	-	31.90
	2022	Sablefish	*	2.70	*	*	-	-	-	*	-	-	-	-	*	2.70
		Pacific Cod	-	-	39.70	*	-	-	-	-	*	-	-	-	0.10	39.80
		All Targets	-	2.70	39.70	*	-	-	-	*	*	-	-	-	0.10	42.50

Table 4.11: Bering Sea & Aleutian Islands groundfish retained catch by target, vessel type, gear and species, Catcher Vessels 2021-2022 (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Kamchatka Flounder	Flathead Sole	Rock Sole	Turbot	Yellowfin	Flat Other	Rockfish	Atka Mackerel	Other	All Species
Trawl	2021	Pollock, Bottom	13.50	0.10	0.70	-	-	-	-	*	-	-	0.10	0.30	-	14.80
		Pollock, Pelagic	702.90	0.30	3.00	0.10	*	0.40	0.10	-	-	0.10	0.40	0.20	0.20	707.60
		Pacific Cod	0.30	*	17.00	-	-	-	-	-	-	-	-	*	-	17.40
		Flathead Sole	-	-	-	-	*	0.10	-	-	0.10	-	-	-	*	0.30
		Rock Sole	*	-	*	-	-	*	*	-	*	*	-	-	*	*
		Yellowfin	1.10	-	0.90	0.10	-	0.20	0.50	-	7.90	0.90	-	-	0.20	11.80
		Other Flatfish	*	-	*	-	-	-	*	-	*	*	-	-	*	*
		Rockfish	0.20	-	-	-	-	-	-	-	-	-	1.20	0.10	*	1.60
		Atka Mackerel	0.10	*	0.40	-	*	*	-	*	-	-	0.60	3.20	-	4.30
		All Targets	718.20	0.40	22.00	0.20	-	0.70	0.60	-	8.00	1.10	2.30	3.70	0.40	757.70
	2022	Pollock, Bottom	3.80	*	0.10	-	-	-	-	*	0.10	-	0.10	*	-	4.00
		Pollock, Pelagic	564.60	0.20	1.40	0.10	*	0.20	-	-	-	-	0.20	-	0.10	566.80
		Pacific Cod	0.50	*	22.40	-	-	-	-	-	-	-	-	*	-	23.00
		Flathead Sole	0.20	-	0.10	-	*	0.20	0.10	-	0.40	-	-	-	-	1.10
		Rock Sole	-	-	-	*	-	*	-	-	-	-	-	-	*	-
		Yellowfin	0.80	-	0.70	0.10	-	0.30	0.50	-	9.80	0.70	-	-	0.20	13.10
		Rockfish	0.10	-	-	-	-	-	-	-	-	-	1.40	0.10	-	1.70
		Atka Mackerel	0.10	*	0.30	*	*	*	-	-	-	-	0.30	2.30	-	3.00
		All Targets	570.00	0.20	25.00	0.10	-	0.70	0.70	-	10.30	0.80	2.00	2.40	0.30	612.60
	2021	All Targets	718.20	1.90	52.70	0.20	-	0.70	0.60	-	8.00	1.10	2.30	3.70	0.40	789.90

Table 4.11: Bering Sea & Aleutian Islands groundfish retained catch by target, vessel type, gear and species, Catcher Vessels 2021-2022 (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Kamchatka Flounder	Flathead Sole	Rock Sole	Turbot	Yellowfin	Flat Other	Rockfish	Atka Mackerel	Other	All Species
All Gear	2022	All Targets	570.00	3.10	64.80	0.10	-	0.70	0.70	-	10.30	0.80	2.00	2.40	0.40	655.50

Note The estimates are of retained catch (i.e., excludes discarded catch). All groundfish include additional species categories. These estimates include only catch counted against federal TACs. Includes FMP groundfish catch on halibut targets. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.12: Bering Sea & Aleutian Islands groundfish retained catch by target, vessel type, gear and species, Catcher Processors 2021-2022 (1,000 metric tons, round weight).

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Kamchatka Flounder	Flathead Sole	Rock Sole	Turbot	Yellowfin	Flat Other	Rockfish	Atka Mackerel	Other	All Species
Hook and Line	2021	Pollock, Bottom	*	-	*	-	-	-	-	-	-	-	-	-	*	*
		Sablefish	*	*	*	*	-	-	-	*	-	-	*	-	*	*
		Pacific Cod	3.10	-	58.90	-	-	-	*	-	*	*	-	*	6.20	68.30
		Rockfish	*	*	*	-	-	-	-	*	-	-	*	-	*	*
		Halibut	-	-	*	-	-	-	-	-	-	-	-	-	-	*
		All Targets	3.10	-	58.90	-	-	-	*	-	*	*	-	*	6.20	68.30
	2022	Sablefish	-	*	-	-	-	-	-	-	-	-	*	-	-	*
		Pacific Cod	4.10	*	70.40	*	*	*	*	-	*	-	*	-	10.90	85.40
		Halibut	-	-	*	-	-	-	-	-	-	-	-	-	-	*
		All Targets	4.10	*	70.40	*	*	*	*	-	*	-	*	-	10.90	85.40
Pot	2021	Sablefish	-	*	-	-	-	-	-	-	-	-	-	-	-	*
		Pacific Cod	*	-	2.30	-	-	-	-	-	-	-	*	-	*	2.30
		All Targets	*	*	2.30	-	-	-	-	-	-	-	*	-	*	2.30
	2022	Sablefish	-	1.10	-	-	-	-	-	-	-	-	*	-	-	1.10
		Pacific Cod	*	-	2.70	-	-	*	*	-	*	-	-	-	*	2.70
		All Targets	*	1.10	2.70	-	-	*	*	-	*	-	*	-	*	3.80

Table 4.12: Bering Sea & Aleutian Islands groundfish retained catch by target, vessel type, gear and species, Catcher Processors 2021-2022 (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Kamchatka Flounder	Flathead Sole	Rock Sole	Turbot	Yellowfin	Flat Other	Rockfish	Atka Mackerel	Other	All Species
Trawl	2021	Pollock, Bottom	33.90	*	2.00	0.20	-	0.30	0.30	-	0.70	0.10	0.40	*	0.20	38.20
		Pollock, Pelagic	586.60	-	1.90	0.10	-	0.60	0.30	-	0.10	0.10	0.90	-	0.20	590.80
		Sablefish	*	*	-	*	*	*	*	*	*	*	*	-	*	*
		Pacific Cod	0.20	*	1.40	-	-	-	0.20	*	-	-	*	*	-	1.90
		Arrowtooth	0.60	0.10	0.20	2.90	0.50	0.50	-	0.20	*	0.30	0.30	-	0.10	5.80
		Kamchatka Flounder	0.40	0.30	-	1.20	4.70	*	*	0.50	-	-	0.90	0.10	-	8.10
		Rock Sole	1.50	-	1.30	0.20	-	0.10	4.30	-	4.30	1.40	*	-	0.10	13.10
		Turbot	-	*	-	0.10	0.10	0.10	*	0.30	-	0.10	0.10	*	*	0.80
		Yellowfin	15.20	-	7.70	1.20	0.10	2.70	7.10	-	91.20	9.90	-	*	1.30	136.20
		Other Flatfish	0.60	-	0.20	-	-	0.10	0.20	0.10	0.90	1.90	0.10	-	-	4.10
		Rockfish	1.70	0.20	0.90	0.50	0.50	0.10	-	0.10	-	0.10	24.70	6.70	0.10	35.50
		Atka Mackerel	0.30	0.10	1.50	0.20	0.20	-	-	0.10	*	-	10.70	50.10	0.20	63.40
		All Targets	642.60	0.80	18.10	7.70	6.40	8.70	12.80	1.50	98.70	14.40	38.30	56.90	2.20	909.20
	2022	Pollock, Bottom	4.50	-	0.40	0.20	0.20	0.10	0.10	-	0.50	0.20	0.30	0.10	-	6.50
		Pollock, Pelagic	487.90	-	1.80	-	-	0.50	0.30	-	0.20	-	0.60	-	0.20	491.50
		Sablefish	-	0.30	*	-	0.10	-	*	0.10	*	-	0.10	*	-	0.60
		Pacific Cod	0.20	-	2.50	-	*	-	0.40	*	-	-	*	*	-	3.20
		Arrowtooth	0.20	0.10	0.10	1.10	0.20	0.30	-	0.10	*	0.10	0.20	*	*	2.30
		Kamchatka Flounder	1.20	0.50	-	1.70	6.50	*	*	0.50	-	-	0.80	0.10	-	11.40
		Rock Sole	1.90	-	2.10	0.10	*	0.60	6.60	-	4.10	0.90	-	-	-	16.30
		Turbot	0.10	0.10	*	0.10	0.20	0.10	*	0.30	-	0.10	0.10	-	*	0.90
		Yellowfin	19.30	*	9.10	1.10	0.10	5.50	8.00	-	132.90	8.30	-	*	0.80	185.10
		Other Flatfish	-	-	-	0.10	0.10	-	*	-	*	0.10	-	-	*	0.40
		Rockfish	1.80	0.50	0.70	0.60	0.30	0.10	-	0.10	-	0.20	25.20	6.00	-	35.50
		Atka Mackerel	1.10	0.20	2.20	0.20	0.20	-	0.10	-	*	-	12.40	48.70	0.10	65.10
		All Targets	520.80	2.00	20.50	6.60	8.00	12.90	16.70	1.40	141.20	10.60	40.10	55.00	1.30	837.00

Table 4.12: Bering Sea & Aleutian Islands groundfish retained catch by target, vessel type, gear and species, Catcher Processors 2021-2022 (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Kamchatka Flounder	Flathead Sole	Rock Sole	Turbot	Yellowfin	Flat Other	Rockfish	Atka Mackerel	Other	All Species
All Gear	2021	All Targets	645.70	0.90	79.40	7.80	6.40	8.80	12.80	1.50	98.70	14.40	38.30	56.90	8.50	979.90
	2022	All Targets	524.90	3.00	93.60	6.60	8.00	12.90	16.70	1.40	141.20	10.60	40.10	55.00	12.20	926.20

Note The estimates are of retained catch (i.e., excludes discarded catch). All groundfish include additional species categories. These estimates include only catch counted against federal TACs. Includes FMP groundfish catch on halibut targets. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.13: Bering Sea & Aleutian Islands ex-vessel prices in the groundfish fisheries by gear, and species, 2021-2022; calculations based on COAR ($/lb, round weight).

		Shoreside			At Sea			All Sectors		
		Fixed	Trawl	All Gear	Fixed	Trawl	All Gear	Fixed	Trawl	All Gear
Pollock	2018	0.14	0.16	0.16	0.14	0.12	0.12	0.14	0.14	0.14
	2019	0.16	0.17	0.17	0.16	0.13	0.13	0.16	0.14	0.14
	2020	0.01	0.15	0.15	0.01	0.11	0.11	0.01	0.13	0.13
	2021	0.06	0.16	0.16	0.06	0.12	0.12	0.06	0.14	0.14
	2022	0.12	0.20	0.20	0.12	0.15	0.15	0.12	0.17	0.17
Pacific Cod	2018	0.41	0.38	0.40	0.44	0.35	0.41	0.43	0.36	0.41
	2019	0.44	0.37	0.42	0.48	0.35	0.44	0.47	0.36	0.43
	2020	0.42	0.35	0.39	0.43	0.31	0.40	0.43	0.32	0.40
	2021	0.39	0.34	0.37	0.34	0.29	0.32	0.35	0.32	0.34
	2022	0.47	0.45	0.46	0.47	0.16	0.39	0.47	0.28	0.42
Sablefish	2018	2.12	0.81	1.69	2.12	0.81	1.27	2.12	0.81	1.47
	2019	1.92	0.75	1.30	1.92	0.75	1.01	1.92	0.75	1.21
	2020	1.50	0.67	0.94	1.50	0.67	0.98	1.50	0.67	0.95
	2021	1.96	0.77	1.72	1.96	0.77	1.21	1.96	0.77	1.49
	2022	1.89	0.76	1.83	1.89	0.76	1.15	1.89	0.76	1.49
Atka Mackerel	2018	0.20	0.35	0.35	0.20	0.35	0.35	0.20	0.35	0.35
	2019	0.01	0.28	0.28	*	0.28	0.28	0.01	0.28	0.28
	2020	0.01	0.26	0.26	0.01	0.26	0.26	0.01	0.26	0.26
	2021	0.02	0.22	0.22	*	0.22	0.22	0.02	0.22	0.22
	2022	0.01	0.24	0.24	-	0.24	0.24	0.01	0.24	0.24
Yellowfin	2018	0.01	0.22	0.17	0.01	0.22	0.22	0.01	0.22	0.22
	2019	0.01	0.21	0.09	0.01	0.21	0.21	0.01	0.21	0.21
	2020	0.01	0.16	0.11	*	0.16	0.16	0.01	0.16	0.16
	2021	0.01	0.14	0.13	*	0.14	0.14	0.01	0.14	0.14
	2022	*	0.19	0.19	*	0.19	0.19	*	0.19	0.19
Rock Sole	2018	0.01	0.24	0.24	0.01	0.24	0.24	0.01	0.24	0.24
	2019	0.01	0.22	0.22	0.01	0.22	0.22	0.01	0.22	0.22
	2020	*	0.20	0.20	*	0.20	0.20	*	0.20	0.20
	2021	*	0.14	0.14	*	0.14	0.14	*	0.14	0.14
	2022	0.01	0.20	0.20	*	0.20	0.20	0.01	0.20	0.20

Table 4.13: Bering Sea & Aleutian Islands ex-vessel prices in the groundfish fisheries by gear, and species, 2021-2022; calculations based on COAR ($/lb, round weight). *(continued)*

		Shoreside			At Sea			All Sectors		
		Fixed	Trawl	All Gear	Fixed	Trawl	All Gear	Fixed	Trawl	All Gear
Flathead Sole	2018	0.02	0.26	0.25	*	0.26	0.26	0.02	0.26	0.25
	2019	0.01	0.22	0.22	0.01	0.22	0.22	0.01	0.22	0.22
	2020	0.01	0.16	0.16	0.01	0.16	0.16	0.01	0.16	0.16
	2021	0.01	0.15	0.14	0.01	0.15	0.15	0.01	0.15	0.15
	2022	0.02	0.20	0.17	0.01	0.20	0.20	0.02	0.20	0.20
Turbot	2018	-	0.68	0.68	0.01	0.68	0.59	0.01	0.68	0.59
	2019	*	0.70	0.70	0.01	0.70	0.57	0.01	0.70	0.57
	2020	*	0.65	0.65	0.01	0.65	0.57	0.01	0.65	0.57
	2021	*	0.64	0.64	0.01	0.64	0.63	0.01	0.64	0.63
	2022	*	0.76	0.76	0.01	0.76	0.76	0.01	0.76	0.76
Arrowtooth	2018	0.02	0.22	0.22	0.01	0.22	0.21	0.01	0.22	0.21
	2019	*	0.22	0.22	0.01	0.22	0.21	0.01	0.22	0.21
	2020	0.02	0.18	0.18	0.01	0.18	0.17	0.01	0.18	0.17
	2021	0.01	0.18	0.18	0.01	0.18	0.18	0.01	0.18	0.18
	2022	0.01	0.22	0.22	*	0.22	0.22	0.01	0.22	0.22
Kamchatka Flounder	2018	-	*	*	0.01	0.32	0.31	0.01	0.32	0.31
	2019	-	*	*	0.01	0.25	0.24	0.01	0.25	0.24
	2020	*	*	*	0.01	0.22	0.22	0.01	0.22	0.22
	2022	-	*	*	*	0.26	0.26	*	0.26	0.26
	2021	-	-	-	0.01	0.23	0.23	0.01	0.23	0.23
Other Flatfish	2018	0.01	0.21	0.20	0.01	0.17	0.17	0.01	0.17	0.17
	2019	0.01	0.58	0.55	0.01	0.19	0.19	0.01	0.19	0.19
	2020	0.01	0.40	0.40	0.01	0.17	0.17	0.01	0.17	0.17
	2021	*	0.27	0.27	*	0.12	0.12	*	0.12	0.12
	2022	-	0.28	0.28	0.01	0.18	0.18	0.01	0.18	0.18
Pacific Ocean Perch	2018	*	0.22	0.22	0.77	0.22	0.22	0.77	0.22	0.22
	2019	0.02	0.16	0.16	0.74	0.16	0.16	0.22	0.16	0.16
	2020	*	0.15	0.15	*	0.15	0.15	*	0.15	0.15
	2021	*	0.15	0.15	*	0.15	0.15	*	0.15	0.15
	2022	0.44	0.20	0.20	-	0.20	0.20	0.44	0.20	0.20

Table 4.13: Bering Sea & Aleutian Islands ex-vessel prices in the groundfish fisheries by gear, and species, 2021-2022; calculations based on COAR ($/lb, round weight). *(continued)*

		Shoreside			At Sea			All Sectors		
		Fixed	Trawl	All Gear	Fixed	Trawl	All Gear	Fixed	Trawl	All Gear
Northern Rockfish	2018	*	0.16	0.16	0.77	0.16	0.16	0.77	0.16	0.16
	2019	*	0.14	0.14	*	0.14	0.14	*	0.14	0.14
	2020	-	0.10	0.10	0.36	0.10	0.10	0.36	0.10	0.10
	2021	*	0.08	0.08	*	0.08	0.08	*	0.08	0.08
	2022	-	0.14	0.14	-	0.14	0.14	-	0.14	0.14
Other Rockfish	2018	0.89	0.30	0.72	0.77	0.30	0.31	0.82	0.30	0.33
	2019	0.76	0.27	0.48	0.74	0.35	0.36	0.75	0.35	0.36
	2020	0.45	0.21	0.30	0.36	0.29	0.29	0.41	0.29	0.29
	2021	0.45	0.14	0.36	0.38	0.32	0.32	0.40	0.32	0.32
	2022	0.42	0.17	0.36	0.44	0.41	0.41	0.42	0.41	0.41
Other Groundfish	2018	0.32	0.18	0.20	0.32	0.02	0.25	0.32	0.07	0.25
	2019	0.45	0.09	0.25	0.45	0.03	0.31	0.45	0.03	0.31
	2020	0.41	0.02	0.16	0.41	0.02	0.31	0.41	0.02	0.31
	2021	0.19	0.12	0.12	0.19	0.02	0.14	0.19	0.02	0.14
	2022	0.97	0.11	0.45	0.97	0.01	0.85	0.97	0.02	0.84

Note Prices are for catch from both federal and state of Alaska fisheries. The ex-vessel price is calculated as value of landings divided by estimated or actual round weight. Prices for catch processed by an at-sea processor without a COAR buying record (e.g., from catcher processors) are set using the prices for the matching species (group), region and gear-types for which buying records exist shoreside. Trawl-caught sablefish, rockfish and flatfish in the BSAI and trawl-caught Atka mackerel in both the BSAI and the GOA are not well represented in the COAR buying records. A price was calculated for these categories from product-report prices; the price in this case is the value of the first wholesale products divided by the calculated round weight and multiplied by a constant 0.4, a coarse estimate of the value added by processing based. The "All Alaska/All gear" column is the average weighted by retained catch. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.14: Bering Sea & Aleutian Islands ex-vessel value of the groundfish catch by vessel category, gear, and species, 2018-2022; calculations based on COAR ($ millions).

		Catcher Vessels				Catcher Processor				All Sectors			
		Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Pollock	2018	-	-	236.67	236.67	-	-	169.89	171.57	-	-	406.56	408.24
	2019	-	-	259.81	259.81	-	-	186.50	188.45	-	-	446.31	448.27
	2020	-	-	233.70	233.70	-	-	156.30	156.44	-	-	390.00	390.14
	2021	-	-	242.79	242.79	-	-	175.11	175.53	-	-	417.90	418.32
	2022	-	-	241.98	241.98	-	-	175.80	176.91	-	-	417.78	418.89
Pacific Cod	2018	0.84	38.16	26.00	65.00	97.20	4.12	29.90	131.22	98.04	42.28	55.90	196.22
	2019	1.16	42.04	19.06	62.26	93.51	4.43	27.39	125.34	94.67	46.47	46.45	187.59
	2020	0.89	33.04	19.51	53.43	70.20	3.26	18.99	92.45	71.08	36.30	38.50	145.88
	2021	0.17	26.17	13.02	39.35	43.68	1.71	14.92	60.31	43.85	27.88	27.94	99.66
	2022	0.16	41.48	19.12	60.76	73.57	2.86	9.14	85.57	73.73	44.34	28.27	146.33
Sablefish	2018	1.01	1.59	0.49	3.08	0.28	*	1.11	1.38	1.28	1.59	1.59	4.46
	2019	0.87	2.19	1.36	4.41	0.29	*	0.83	1.12	1.16	2.19	2.18	5.53
	2020	0.41	1.89	2.19	4.49	0.21	*	1.13	1.35	0.62	1.89	3.33	5.84
	2021	0.80	5.95	0.71	7.47	0.28	*	1.63	1.91	1.09	5.95	2.34	9.38
	2022	0.82	11.38	0.38	12.58	*	4.39	3.34	7.73	0.82	15.77	3.72	20.31
Atka Mackerel	2018	-	-	0.39	0.39	-	-	53.02	53.03	-	-	53.42	53.42
	2019	-	-	0.14	0.14	-	-	35.36	35.36	-	-	35.50	35.50
	2020	-	-	0.24	0.24	-	-	32.65	32.65	-	-	32.89	32.89
	2021	-	-	0.23	0.23	-	-	29.29	29.29	-	-	29.52	29.52
	2022	-	-	0.05	0.05	-	-	30.99	30.99	-	-	31.04	31.04
Yellowfin	2018	-	-	0.13	0.13	0.01	-	60.38	60.38	0.01	-	60.51	60.52
	2019	-	-	0.01	0.01	-	-	57.24	57.24	-	-	57.25	57.25
	2020	-	-	0.01	0.01	*	-	47.16	47.16	*	-	47.17	47.17
	2021	-	-	-	-	*	-	33.75	33.75	*	-	33.75	33.75
	2022	-	-	0.03	0.03	*	-	62.77	62.77	*	-	62.80	62.80

Table 4.14: Bering Sea & Aleutian Islands ex-vessel value of the groundfish catch by vessel category, gear, and species, 2018-2022; calculations based on COAR ($ millions). *(continued)*

		Catcher Vessels				Catcher Processor				All Sectors			
		Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Rock Sole	2018	*	-	0.19	0.19	-	-	14.02	14.02	-	-	14.21	14.21
	2019	*	-	0.09	0.09	-	-	11.78	11.78	-	-	11.87	11.87
	2020	-	-	0.08	0.08	*	-	10.86	10.86	*	-	10.94	10.94
	2021	-	-	0.02	0.02	*	-	4.01	4.01	*	-	4.03	4.03
	2022	-	-	0.02	0.02	*	-	7.84	7.84	*	-	7.87	7.87
Flathead Sole	2018	-	-	0.21	0.21	*	-	5.50	5.50	*	-	5.71	5.71
	2019	*	-	0.15	0.15	-	-	7.15	7.15	-	-	7.31	7.31
	2020	-	-	0.24	0.24	-	-	2.78	2.78	-	-	3.02	3.02
	2021	-	-	0.13	0.13	-	-	2.95	2.95	-	-	3.08	3.08
	2022	-	-	0.08	0.08	*	-	5.79	5.79	*	-	5.87	5.87
Arrowtooth	2018	-	-	0.05	0.05	0.01	-	2.73	2.74	0.01	-	2.78	2.79
	2019	-	-	0.06	0.06	0.01	-	4.18	4.19	0.01	-	4.24	4.25
	2020	*	-	0.07	0.07	0.01	-	3.77	3.78	0.01	-	3.84	3.85
	2021	*	-	0.03	0.03	-	-	3.18	3.18	-	-	3.22	3.22
	2022	-	-	0.03	0.03	*	-	3.29	3.29	-	-	3.32	3.32
Kamchatka Flounder	2018	-	-	-	-	-	-	1.99	1.99	-	-	1.99	1.99
	2019	-	-	-	-	-	-	2.28	2.28	-	-	2.28	2.28
	2020	*	-	-	-	-	-	3.47	3.47	-	-	3.47	3.47
	2021	-	-	*	*	-	-	3.26	3.26	-	-	3.26	3.26
	2022	-	-	*	*	*	-	4.57	4.57	*	-	4.57	4.57
Turbot	2018	-	-	0.01	0.01	0.01	-	2.27	2.28	0.01	-	2.28	2.29
	2019	*	-	-	-	0.02	-	3.51	3.52	0.02	-	3.51	3.53
	2020	*	-	0.01	0.01	0.01	-	2.81	2.82	0.01	-	2.81	2.82
	2021	*	-	-	-	-	-	2.16	2.16	-	-	2.17	2.17
	2022	*	-	-	-	-	-	2.34	2.34	-	-	2.34	2.34

Table 4.14: Bering Sea & Aleutian Islands ex-vessel value of the groundfish catch by vessel category, gear, and species, 2018-2022; calculations based on COAR ($ millions). *(continued)*

		Catcher Vessels				Catcher Processor				All Sectors			
		Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Other Flatfish	2018	-	-	0.07	0.07	-	-	8.19	8.19	-	-	8.26	8.26
	2019	-	-	0.20	0.20	-	-	6.87	6.87	-	-	7.07	7.07
	2020	*	-	0.30	0.30	-	-	7.16	7.16	-	-	7.46	7.46
	2021	-	-	0.07	0.07	*	-	4.18	4.18	*	-	4.25	4.25
	2022	-	-	0.04	0.04	-	-	4.47	4.47	-	-	4.51	4.51
Pacific Ocean Perch	2018	*	-	0.54	0.54	-	-	14.98	14.98	-	-	15.52	15.52
	2019	*	-	0.68	0.68	-	-	13.35	13.35	-	-	14.03	14.03
	2020	*	-	0.62	0.62	*	-	11.86	11.86	*	-	12.47	12.47
	2021	-	-	0.20	0.20	*	-	11.12	11.12	*	-	11.31	11.31
	2022	*	-	0.11	0.11	-	-	14.48	14.48	*	-	14.59	14.59
Northern Rockfish	2018	*	-	0.01	0.01	0.01	-	1.80	1.81	0.01	-	1.81	1.81
	2019	-	-	0.01	0.01	*	-	2.60	2.60	*	-	2.61	2.61
	2020	-	-	0.01	0.01	0.01	-	1.51	1.52	0.01	-	1.53	1.54
	2021	*	-	-	-	*	-	1.06	1.06	*	-	1.06	1.06
	2022	-	-	-	-	-	-	2.20	2.20	-	-	2.20	2.20
Other Rockfish	2018	0.04	-	0.01	0.05	0.07	-	0.68	0.75	0.11	-	0.68	0.80
	2019	0.02	-	0.01	0.04	0.04	-	1.04	1.09	0.07	-	1.06	1.13
	2020	0.02	-	0.01	0.03	0.02	-	0.73	0.74	0.03	-	0.74	0.78
	2021	0.01	-	-	0.01	0.02	-	0.89	0.91	0.03	-	0.89	0.92
	2022	0.01	-	-	0.01	*	-	1.14	1.14	0.01	-	1.14	1.15
Other Groundfish	2018	-	-	0.51	0.64	6.78	-	0.15	6.93	6.78	-	0.67	7.56
	2019	0.02	-	0.03	0.17	6.38	-	0.19	6.57	6.40	-	0.22	6.74
	2020	-	-	0.02	0.15	5.90	-	0.10	5.99	5.90	-	0.11	6.14
	2021	-	-	0.05	0.06	2.64	-	0.09	2.73	2.64	-	0.14	2.78
	2022	-	-	0.03	0.18	23.28	-	0.05	23.34	23.29	-	0.08	23.52

All	2018	1.89	-	265.28	307.05	106.04	-	366.60	476.76	107.93	-	631.88	783.81
Species	2019	2.06	-	281.61	328.02	102.22	-	360.26	466.91	104.28	-	641.87	794.93
	2020	1.32	-	257.00	293.37	76.49	-	301.27	381.03	77.81	-	558.27	674.40
	2021	0.98	-	257.25	290.35	47.04	-	287.60	336.36	48.02	-	544.85	626.71
	2022	0.99	-	261.87	315.87	97.96	-	328.21	433.41	98.94	-	590.08	749.28

Note Ex-vessel value is calculated by multiplying ex-vessel prices by the retained round weight catch. Refer to Table 4.13 for a description of the price derivation. The value added by at-sea processing is not included in these estimates of ex-vessel value. All groundfish includes additional species categories. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.15: Bering Sea & Aleutian Islands vessel and processor permit counts, ex-vessel value, value per vessel, and percent value of BSAI FMP groundfish and all BSAI fisheries by fleet, 2018-2022; calculations based on COAR ($ millions).

	Year	Vessels	Permits	Ex-vessel Value per Vessel $1,000	Ex-vessel Value $million	Percent Value, BSAI FMP Groundfish	Percent Value, All BSAI Fisheries
AFA CV	2018	86	17	3,042.97	261.70	33.36	19.42
	2019	82	22	3,444.55	282.45	35.54	20.49
	2020	86	20	2,977.17	256.04	37.92	22.72
	2021	82	17	3,133.22	256.92	40.89	19.47
	2022	80	13	3,223.13	257.85	34.43	19.53
AFA CP	2018	15	15	11,002.72	165.04	21.04	12.25
	2019	16	16	11,924.54	190.79	24.01	13.84
	2020	13	13	11,612.42	150.96	22.36	13.39
	2021	15	15	11,824.05	177.36	28.23	13.44
	2022	14	14	11,907.75	166.71	22.26	12.63
A80	2018	19	19	8,731.60	165.90	21.15	12.31
	2019	20	20	7,397.80	147.96	18.62	10.73
	2020	19	19	6,516.15	123.81	18.33	10.99
	2021	19	19	5,326.49	101.20	16.11	7.67
	2022	18	18	7,847.67	141.26	18.86	10.70
BSAI Trawl	2018	21	18	1,868.62	39.24	5.00	2.91
	2019	18	18	1,148.40	20.67	2.60	1.50
	2020	15	16	1,831.30	27.47	4.07	2.44
	2021	14	13	668.73	9.36	1.49	0.71
	2022	21	13	1,155.36	24.26	3.24	1.84
CV Hook and Line	2018	7	6	*	*	*	*
	2019	8	7	*	*	*	*
	2020	12	5	*	*	*	*
	2021	2	4	*	*	*	*
	2022	5	3	*	*	*	*
CP Hook and Line	2018	25	25	4,239.55	105.99	13.51	7.86
	2019	23	23	4,439.33	102.10	12.85	7.41
	2020	20	20	3,819.16	76.38	11.31	6.78
	2021	17	17	2,761.82	46.95	7.47	3.56
	2022	19	19	5,156.34	97.97	13.08	7.42
Sablefish IFQ	2018	21	9	166.29	3.49	0.45	0.26
	2019	14	8	218.05	3.05	0.38	0.22
	2020	16	5	207.92	3.33	0.49	0.30
	2021	22	7	383.51	8.44	1.34	0.64
	2022	28	11	578.88	16.21	2.16	1.23
Pot	2018	78	17	543.57	42.40	5.40	3.15
	2019	83	18	561.37	46.59	5.86	3.38
	2020	94	17	387.67	36.44	5.40	3.23
	2021	65	17	429.05	27.89	4.44	2.11
	2022	66	11	675.04	44.55	5.95	3.37

Table 4.15: Bering Sea & Aleutian Islands vessel and processor permit counts, ex-vessel value, value per vessel, and percent value of BSAI FMP groundfish and all BSAI fisheries by fleet, 2018-2022; calculations based on COAR ($ millions). *(continued)*

	Year	Vessels	Permits	Ex-vessel Value per Vessel $1,000	Ex-vessel Value $million	Percent Value, BSAI FMP Groundfish	Percent Value, All BSAI Fisheries
Jig	2018	1	1	*	*	*	*
	2019	3	3	*	*	*	*
	2020	3	2	*	*	*	*
	2021	1	1	*	*	*	*
	2022	1	1	*	*	*	*

Note These tables include the value of groundfish purchases reported by processing plants, as well as by other entities, such as markets and restaurants, that normally would not report sales of groundfish products.Keep this in mind when comparing ex-vessel values in this table to gross processed-product values. The data are for catch from both federal and state of Alaska fisheries. The category "BSAI Trawl" does not include trawl vessel in the other categories (e.g. "AFA CV", "AFA CP", "A80"), for example TLAS. The column 'permits' is a count of federal groundfish processor permits. Values are not adjusted for inflation.
Source ADF&G Commercial Operators Annual Reports (COAR); and ADF&G Intent to Operate (ITO) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.16: Bering Sea & Aleutian Islands production of groundfish products by species, 2018-2022, (1,000 metric tons product weight).

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Pollock	Whole Fish	0.01	0.27	0.28	0.15	0.22	0.37	0.01	0.36	0.37	*	0.17	0.17	0.04	0.24	0.29
	Head And Gut	21.47	*	21.47	17.68	*	17.68	16.22	*	16.22	11.81	*	11.81	14.71	*	14.71
	Roe	13.00	7.64	20.64	16.18	11.77	27.95	15.73	8.96	24.68	11.51	4.44	15.95	9.28	4.55	13.83
	Deep-Skin Fillets	40.96	15.75	56.72	39.34	18.81	58.15	34.16	15.98	50.14	34.64	*	34.64	32.93	*	32.93
	Other Fillets	53.94	56.97	110.91	66.04	62.60	128.63	48.87	50.37	99.24	40.49	42.99	83.48	35.19	42.88	78.08
	Surimi	104.36	92.16	196.53	104.67	87.57	192.24	91.22	80.54	171.77	98.58	89.17	187.75	78.71	76.13	154.84
	Minced Fish	13.06	7.35	20.41	12.25	7.35	19.59	15.73	11.38	27.11	14.07	13.18	27.25	9.16	6.43	15.58
	Fishmeal	28.22	38.36	66.58	30.51	39.33	69.84	29.37	40.03	69.40	29.49	37.72	67.20	22.26	23.70	45.96
	Other Products	13.97	24.93	38.90	16.34	27.13	43.47	10.41	23.40	33.81	13.06	22.80	35.86	10.91	20.37	31.28
	All Products	289.00	243.43	532.44	303.17	254.76	557.93	261.72	231.02	492.74	253.65	210.47	464.12	213.19	174.30	387.49
Pacific Cod	Whole Fish	0.16	0.15	0.32	0.01	0.28	0.29	0.01	0.11	0.11	*	0.06	0.06	0.18	0.05	0.23
	Head And Gut	66.10	12.94	79.04	58.78	11.47	70.25	47.30	7.74	55.04	37.47	8.49	45.96	45.13	2.22	47.35
	Roe	1.05	2.50	3.55	1.31	1.69	3.01	0.85	2.02	2.87	0.88	1.41	2.29	0.88	1.96	2.85
	Fillets	0.14	10.23	10.36	0.23	7.80	8.02	0.18	7.33	7.51	0.25	5.36	5.61	0.13	10.00	10.13
	Other Products	6.81	7.33	14.14	7.39	6.01	13.40	6.21	5.87	12.08	5.21	3.73	8.94	6.07	9.60	15.67
	All Products	74.26	33.15	107.41	67.72	27.25	94.97	54.55	23.07	77.62	43.81	19.06	62.86	52.38	23.84	76.22
Sablefish	Head And Gut	0.56	0.40	0.96	0.34	0.58	0.92	0.56	0.55	1.12	0.77	0.92	1.69	1.51	1.64	3.15
	Other Products	0.09	0.03	0.13	0.04	0.02	0.05	0.01	0.02	0.03	0.01	0.06	0.06	0.04	0.43	0.48
	All Products	0.65	0.43	1.09	0.38	0.59	0.97	0.57	0.57	1.15	0.78	0.98	1.76	1.56	2.07	3.63

Table 4.16: Bering Sea & Aleutian Islands production of groundfish products by species, 2018-2022, (1,000 metric tons product weight). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Atka Mackerel	Whole Fish	6.62	0.29	6.91	0.47	*	0.47	0.49	0.06	0.54	*	0.02	0.02	*	-	*
	Head And Gut	36.21	*	36.21	32.82	*	32.82	33.35	*	33.35	34.93	-	34.93	33.43	-	33.43
	Other Products	0.01	0.01	0.02	0.00	0.01	0.02	0.00	0.04	0.04	0.00	0.21	0.21	0.00	0.06	0.06
	All Products	42.83	0.30	43.13	33.29	0.01	33.30	33.84	0.10	33.94	34.93	0.23	35.16	33.43	0.06	33.48
Yellowfin	Whole Fish	6.88	0.20	7.08	4.88	-	4.88	8.00	-	8.00	0.69	-	0.69	*	-	*
	Head And Gut	69.59	-	69.59	70.31	-	70.31	73.20	-	73.20	61.68	-	61.68	84.29	-	84.29
	Other Products	0.05	0.02	0.08	0.04	0.00	0.04	0.08	0.01	0.09	0.14	0.00	0.14	1.14	0.05	1.19
	All Products	76.53	0.23	76.75	75.22	0.00	75.23	81.27	0.01	81.28	62.51	0.00	62.51	85.43	0.05	85.49
Rock Sole	Whole Fish	0.43	0.06	0.49	0.49	*	0.49	0.92	*	0.92	0.30	-	0.30	0.17	-	0.17
	Head And Gut	14.21	*	14.21	12.57	-	12.57	12.17	-	12.17	6.17	-	6.17	8.36	-	8.36
	Fillets	0.00	-	0.00	-	*	*	*	-	*	-	-	-	-	-	-
	Other Products	0.07	0.03	0.10	0.15	0.05	0.20	0.07	0.06	0.13	0.20	0.03	0.23	0.22	0.03	0.25
	All Products	14.72	0.08	14.80	13.22	0.05	13.27	13.16	0.06	13.22	6.67	0.03	6.70	8.76	0.03	8.79
Flathead Sole	Whole Fish	0.37	0.06	0.43	0.05	-	0.05	0.31	*	0.31	0.24	-	0.24	*	-	*
	Head And Gut	5.09	*	5.09	7.88	-	7.88	3.54	-	3.54	4.22	*	4.22	7.05	-	7.05
	Fillets	*	*	*	-	-	-	*	-	*	-	-	-	-	-	-
	Other Products	0.05	0.04	0.10	0.12	0.10	0.21	0.13	0.23	0.36	0.10	0.10	0.20	0.26	0.07	0.32
	All Products	5.52	0.10	5.62	8.04	0.10	8.14	3.99	0.23	4.21	4.56	0.10	4.66	7.30	0.07	7.37

Table 4.16: Bering Sea & Aleutian Islands production of groundfish products by species, 2018-2022, (1,000 metric tons product weight). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Turbot	Whole Fish	-	-	-	*	-	*	-	-	-	-	-	-	-	-	-
	Head And Gut	1.19	-	1.19	1.92	-	1.92	1.45	-	1.45	1.05	-	1.05	0.98	-	0.98
	Other Products	0.42	0.00	0.42	0.74	0.00	0.74	0.57	0.00	0.57	0.34	*	0.34	0.37	*	0.37
	All Products	1.61	0.00	1.61	2.66	0.00	2.67	2.02	0.00	2.02	1.39	*	1.39	1.35	*	1.35
Kamchatka Flounder	Whole Fish	-	-	-	-	-	-	*	-	*	-	-	-	-	-	-
	Head And Gut	1.40	-	1.40	2.13	-	2.13	3.97	-	3.97	3.62	-	3.62	4.69	-	4.69
	Fishmeal	0.00	-	0.00	0.00	*	0.00	0.01	-	0.01	0.00	-	0.00	0.00	-	0.00
	Other Products	*	-	*	-	-	-	*	-	*	-	-	-	-	-	-
	All Products	1.40	-	1.40	2.13	*	2.13	3.97	-	3.97	3.62	-	3.62	4.69	-	4.69
Arrowtooth	Whole Fish	*	-	*	-	-	-	*	-	*	*	-	*	-	-	-
	Head And Gut	2.92	-	2.92	4.86	-	4.86	5.43	-	5.43	4.26	-	4.26	3.42	-	3.42
	Fillets	-	-	-	*	-	*	-	-	-	-	-	-	-	-	-
	Other Products	0.01	0.04	0.05	0.02	0.05	0.07	0.02	0.10	0.12	0.01	0.03	0.04	0.03	0.02	0.05
	All Products	2.93	0.04	2.97	4.88	0.05	4.93	5.45	0.10	5.55	4.27	0.03	4.30	3.45	0.02	3.47
Other Flatfish	Whole Fish	0.36	*	0.36	0.61	0.06	0.67	0.58	0.10	0.68	0.56	*	0.56	0.63	-	0.63
	Head And Gut	11.55	*	11.55	8.75	*	8.75	10.29	-	10.29	7.89	*	7.89	5.52	-	5.52
	Fillets	-	*	*	-	-	-	-	*	*	-	-	-	-	-	-
	Other Products	0.04	0.01	0.05	0.38	0.02	0.40	0.02	0.08	0.10	0.01	0.05	0.06	0.12	0.02	0.14
	All Products	11.94	0.01	11.96	9.74	0.07	9.82	10.89	0.17	11.06	8.46	0.05	8.51	6.27	0.02	6.29

Table 4.16: Bering Sea & Aleutian Islands production of groundfish products by species, 2018-2022, (1,000 metric tons product weight). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Pacific Ocean Perch	Whole Fish	2.08	0.13	2.21	0.67	0.39	1.06	0.49	0.28	0.77	0.03	*	0.03	*	0.02	0.02
	Head And Gut	14.17	*	14.17	17.31	*	17.31	16.59	-	16.59	15.97	-	15.97	16.24	0.02	16.26
	Other Products	0.19	0.06	0.25	0.66	0.20	0.86	0.28	0.40	0.67	0.16	0.21	0.37	0.19	0.13	0.32
	All Products	16.44	0.19	16.63	18.63	0.59	19.22	17.36	0.67	18.03	16.17	0.21	16.37	16.44	0.16	16.60
Northern Rockfish	Whole Fish	*	*	*	-	*	*	-	*	*	-	-	-	-	-	-
	Head And Gut	2.26	*	2.26	3.89	*	3.89	3.05	-	3.05	2.38	-	2.38	3.05	*	3.05
	Other Products	0.00	*	0.00	0.01	0.00	0.01	0.01	0.03	0.03	0.00	0.00	0.01	0.00	0.00	0.00
	All Products	2.27	*	2.27	3.90	0.00	3.90	3.05	0.03	3.08	2.38	0.00	2.39	3.05	0.00	3.05
Other Rockfish	Whole Fish	0.15	*	0.15	0.42	*	0.42	0.21	*	0.21	0.29	*	0.29	0.38	*	0.38
	Head And Gut	0.35	0.01	0.36	0.27	0.01	0.28	0.30	0.01	0.31	0.33	*	0.33	0.29	0.00	0.29
	Other Products	0.00	0.00	0.01	0.16	0.00	0.17	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
	All Products	0.50	0.01	0.51	0.86	0.01	0.87	0.52	0.01	0.53	0.62	0.00	0.62	0.67	0.00	0.67
Other Groundfish	Whole Fish	0.02	0.50	0.52	0.00	0.34	0.35	*	0.04	0.04	0.00	0.50	0.50	0.00	0.50	0.50
	Head And Gut	0.04	0.07	0.12	0.02	0.06	0.08	0.01	0.09	0.09	0.02	*	0.02	0.01	*	0.01
	Roe	*	-	*	-	-	-	-	-	-	-	-	-	-	-	-
	Fillets	*	-	*	-	-	-	-	-	-	-	-	-	-	-	-
	Fishmeal	0.04	0.07	0.12	0.17	0.60	0.77	0.10	1.59	1.69	0.33	0.48	0.81	0.08	0.98	1.06
	Other Products	3.42	0.02	3.44	2.65	*	2.65	2.17	*	2.17	2.17	0.00	2.17	2.73	0.02	2.74
	All Products	3.52	0.67	4.19	2.84	1.00	3.84	2.28	1.72	3.99	2.52	0.98	3.50	2.82	1.50	4.32

Table 4.16: Bering Sea & Aleutian Islands production of groundfish products by species, 2018-2022, (1,000 metric tons product weight). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
All Species	Whole Fish	17.09	1.66	18.75	7.76	1.29	9.05	11.01	0.94	11.95	2.11	0.75	2.86	1.40	0.81	2.22
	Head And Gut	247.12	13.42	260.54	239.53	12.12	251.64	227.43	8.39	235.82	192.56	9.42	201.98	228.67	3.88	232.55
	Roe	14.06	10.14	24.19	17.50	13.46	30.96	16.58	10.97	27.55	12.38	5.86	18.24	10.17	6.51	16.68
	Fillets	0.14	10.23	10.36	0.23	7.80	8.02	0.18	7.33	7.51	0.25	5.36	5.61	0.13	10.00	10.13
	Deep-Skin Fillets	40.96	15.75	56.72	39.34	18.81	58.15	34.16	15.98	50.14	34.64	*	34.64	32.93	*	32.93
	Other Fillets	53.94	56.97	110.91	66.04	62.60	128.63	48.87	50.37	99.24	40.49	42.99	83.48	35.19	42.88	78.08
	Surimi	104.36	92.16	196.53	104.67	87.57	192.24	91.22	80.54	171.77	98.58	89.17	187.75	78.71	76.13	154.84
	Minced Fish	13.06	7.35	20.41	12.25	7.35	19.59	15.73	11.38	27.11	14.07	13.18	27.25	9.16	6.43	15.58
	Fishmeal	28.26	38.43	66.70	30.68	39.93	70.62	29.48	41.62	71.09	29.82	38.20	68.02	22.34	24.69	47.02
	Other Products	25.13	32.55	57.68	28.70	33.60	62.30	19.98	30.24	50.22	21.43	27.21	48.64	22.08	30.80	52.88
	All Products	544.13	278.66	822.79	546.69	284.51	831.20	494.64	257.76	752.40	446.33	232.14	678.47	440.77	202.13	642.90

Note Total includes additional species not listed in the production details as well as confidential data from Tables 4.31 and 4.32. These estimates are for catch from both federal and state of Alaska fisheries. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.17: Bering Sea & Aleutian Islands gross value of groundfish products by species, 2018-2022, ($ million).

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Pollock	Whole Fish	0.0	0.3	0.3	0.2	0.5	0.6	0.0	0.4	0.4	*	0.2	0.2	0.1	0.3	0.5
	Head And Gut	27.5	*	27.5	24.5	*	24.5	20.2	*	20.2	13.5	*	13.5	20.2	*	20.2
	Roe	90.5	40.9	131.4	89.9	42.3	132.2	81.8	29.1	110.9	75.5	14.2	89.7	75.6	24.1	99.7
	Deep-Skin Fillets	136.7	49.5	186.2	137.9	67.2	205.1	133.5	54.8	188.4	145.4	*	145.4	201.8	*	201.8
	Other Fillets	154.2	164.4	318.6	218.7	203.2	421.9	161.7	155.4	317.1	141.8	140.5	282.3	151.0	179.7	330.7
	Surimi	316.7	234.1	550.8	341.5	240.6	582.2	267.9	208.1	476.0	321.8	263.9	585.8	290.1	240.1	530.2
	Minced Fish	19.7	10.8	30.4	21.8	12.0	33.8	31.7	19.5	51.2	37.6	24.7	62.3	26.0	25.8	51.8
	Fishmeal	48.1	51.8	99.9	67.3	42.9	110.2	106.5	47.9	154.3	92.5	59.9	152.4	75.2	38.9	114.1
	Other Products	17.2	20.7	37.9	18.5	21.4	39.9	13.7	20.7	34.4	18.1	20.6	38.7	22.7	29.2	51.9
	All Products	810.5	572.6	1,383.1	920.3	630.2	1,550.5	817.1	535.8	1,352.9	846.1	524.0	1,370.1	862.9	538.0	1,400.8
Pacific Cod	Whole Fish	0.3	0.3	0.5	0.0	0.3	0.3	0.0	0.1	0.2	*	0.1	0.1	0.8	0.1	0.8
	Head And Gut	276.0	48.5	324.5	216.8	31.1	247.9	157.0	18.4	175.4	143.3	18.9	162.2	231.3	7.1	238.4
	Roe	2.5	7.2	9.7	2.3	3.4	5.7	1.5	4.6	6.1	1.7	3.6	5.3	2.7	5.8	8.5
	Fillets	0.9	93.3	94.2	1.6	67.6	69.2	1.3	60.5	61.8	2.3	50.8	53.1	1.3	101.1	102.4
	Other Products	11.8	18.0	29.8	11.3	12.1	23.4	9.9	12.5	22.4	7.7	8.3	16.0	10.6	18.2	28.8
	All Products	291.6	167.3	458.8	232.0	114.5	346.5	169.7	96.2	265.9	155.0	81.7	236.7	246.6	132.3	379.0
Sablefish	Head And Gut	4.2	5.0	9.3	2.3	4.7	7.0	3.3	4.1	7.4	5.3	8.3	13.7	10.4	15.2	25.6
	Other Products	0.1	0.6	0.8	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.5	0.5	0.3	5.9	6.2
	All Products	4.4	5.7	10.0	2.4	4.8	7.1	3.3	4.3	7.6	5.4	8.9	14.2	10.8	21.1	31.9
Atka Mackerel	Whole Fish	15.0	0.5	15.5	1.0	*	1.0	0.8	0.1	0.8	*	0.0	0.0	*	-	*
	Head And Gut	112.7	*	112.7	84.0	*	84.0	77.6	*	77.6	70.0	-	70.0	74.2	-	74.2
	Other Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.3	0.0	0.1	0.1
	All Products	127.7	0.5	128.1	85.0	0.0	85.0	78.4	0.1	78.5	70.0	0.3	70.2	74.2	0.1	74.3

Table 4.17: Bering Sea & Aleutian Islands gross value of groundfish products by species, 2018-2022, ($ million). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Yellowfin	Whole Fish	10.8	0.3	11.1	6.9	-	6.9	7.2	-	7.2	0.7	-	0.7	*	-	*
	Head And Gut	125.4	-	125.4	121.9	-	121.9	100.4	-	100.4	74.5	-	74.5	130.1	-	130.1
	Other Products	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.3	0.0	0.3	1.2	0.1	1.2
	All Products	136.3	0.3	136.6	128.8	0.0	128.8	107.8	0.0	107.8	75.5	0.0	75.5	131.2	0.1	131.3
Rock Sole	Whole Fish	0.7	0.1	0.8	1.0	*	1.0	1.0	*	1.0	0.4	-	0.4	0.2	-	0.2
	Head And Gut	28.2	*	28.2	23.2	-	23.2	19.8	-	19.8	7.3	-	7.3	14.2	-	14.2
	Fillets	0.0	-	0.0	-	*	*	*	-	*	-	-	-	-	-	-
	Other Products	0.1	0.0	0.2	0.2	0.1	0.3	0.1	0.1	0.2	0.4	0.0	0.4	0.5	0.0	0.5
	All Products	29.0	0.1	29.1	24.3	0.1	24.4	20.9	0.1	21.0	8.1	0.0	8.1	14.8	0.0	14.9
Turbot	Whole Fish	-	-	-	*	-	*	-	-	-	-	-	-	-	-	-
	Head And Gut	6.4	-	6.4	10.7	-	10.7	7.2	-	7.2	5.0	-	5.0	5.4	-	5.4
	Other Products	1.0	0.0	1.0	1.7	0.0	1.7	1.5	0.0	1.5	0.9	*	0.9	1.2	*	1.2
	All Products	7.4	0.0	7.4	12.3	0.0	12.3	8.7	0.0	8.7	5.9	*	5.9	6.6	*	6.6
Flathead Sole	Whole Fish	0.7	0.1	0.7	0.1	-	0.1	0.4	*	0.4	0.2	-	0.2	*	-	*
	Head And Gut	11.0	*	11.0	14.9	-	14.9	5.0	-	5.0	5.4	*	5.4	12.1	-	12.1
	Fillets	*	*	*	-	-	-	*	-	*	-	-	-	-	-	-
	Other Products	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.5	0.2	0.1	0.3	0.5	0.1	0.6
	All Products	11.8	0.1	11.9	15.2	0.1	15.3	5.6	0.3	5.9	5.9	0.1	6.0	12.7	0.1	12.7

Table 4.17: Bering Sea & Aleutian Islands gross value of groundfish products by species, 2018-2022, ($ million). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Kamchatka Flounder	Whole Fish	-	-	-	-	-	-	*	-	*	-	-	-	-	-	-
	Head And Gut	3.9	-	3.9	4.7	-	4.7	7.7	-	7.7	7.4	-	7.4	10.7	-	10.7
	Fishmeal	0.0	-	0.0	0.0	*	0.0	0.0	-	0.0	0.0	-	0.0	0.0	-	0.0
	Other Products	*	-	*	-	-	-	*	-	*	-	-	-	-	-	-
	All Products	3.9	-	3.9	4.7	*	4.7	7.7	-	7.7	7.4	-	7.4	10.7	-	10.7
Arrowtooth	Whole Fish	*	-	*	-	-	-	*	-	*	*	-	*	-	-	-
	Head And Gut	5.6	-	5.6	9.4	-	9.4	8.6	-	8.6	6.8	-	6.8	6.8	-	6.8
	Fillets	-	-	-	*	-	*	-	-	-	-	-	-	-	-	-
	Other Products	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1
	All Products	5.6	0.1	5.7	9.4	0.1	9.5	8.6	0.1	8.8	6.9	0.0	6.9	6.8	0.0	6.9
Other Flatfish	Whole Fish	0.5	*	0.5	1.7	0.2	1.9	1.3	0.1	1.4	0.9	*	0.9	1.3	-	1.3
	Head And Gut	16.4	*	16.4	12.5	*	12.5	13.6	-	13.6	7.7	*	7.7	7.6	-	7.6
	Fillets	-	*	*	-	-	-	-	*	*	-	-	-	-	-	-
	Other Products	0.1	0.0	0.1	0.5	0.0	0.5	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.0	0.3
	All Products	17.0	0.0	17.0	14.6	0.2	14.8	14.9	0.2	15.1	8.6	0.1	8.7	9.1	0.0	9.2
Pacific Ocean Perch	Whole Fish	2.8	0.2	3.0	1.1	0.4	1.4	0.8	0.3	1.1	0.0	*	0.0	*	0.0	0.0
	Head And Gut	34.5	*	34.5	31.2	*	31.2	27.5	-	27.5	27.1	-	27.1	35.6	0.0	35.7
	Other Products	0.3	0.1	0.4	0.8	0.6	1.4	0.5	0.5	1.0	0.3	0.3	0.6	0.3	0.2	0.5
	All Products	37.6	0.3	37.9	33.0	1.0	34.0	28.8	0.7	29.5	27.5	0.3	27.7	35.9	0.3	36.2

Table 4.17: Bering Sea & Aleutian Islands gross value of groundfish products by species, 2018-2022, ($ million). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
Northern Rockfish	Whole Fish	*	*	*	-	*	*	-	*	*	-	-	-	-	-	-
	Head And Gut	3.9	*	3.9	5.9	*	5.9	3.2	-	3.2	2.2	-	2.2	4.6	*	4.6
	Other Products	0.0	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	All Products	3.9	*	3.9	5.9	0.0	5.9	3.2	0.0	3.2	2.2	0.0	2.2	4.6	0.0	4.6
Other Rockfish	Whole Fish	0.6	*	0.6	1.6	*	1.6	0.7	*	0.7	1.1	*	1.1	1.7	*	1.7
	Head And Gut	0.9	0.0	0.9	0.8	0.0	0.8	0.6	0.0	0.7	0.7	*	0.7	0.6	0.0	0.6
	Other Products	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	All Products	1.4	0.0	1.5	2.6	0.1	2.6	1.4	0.0	1.4	1.8	0.0	1.8	2.3	0.0	2.3
Other Groundfish	Whole Fish	0.0	1.2	1.2	0.0	0.5	0.5	*	0.1	0.1	0.0	0.5	0.5	0.0	1.2	1.2
	Head And Gut	0.1	0.4	0.5	0.1	0.1	0.2	0.0	0.2	0.2	0.1	*	0.1	0.0	*	0.0
	Roe	*	-	*	-	-	-	-	-	-	-	-	-	-	-	-
	Fillets	*	-	*	-	-	-	-	-	-	-	-	-	-	-	-
	Fishmeal	0.1	0.1	0.2	0.2	0.8	1.0	0.2	1.8	2.0	0.6	0.6	1.2	0.1	1.3	1.4
	Other Products	7.6	0.1	7.7	5.2	*	5.2	4.0	*	4.0	3.5	0.0	3.5	5.8	0.0	5.8
	All Products	7.8	1.8	9.6	5.5	1.4	6.9	4.2	2.1	6.3	4.3	1.1	5.4	5.9	2.6	8.5

Table 4.17: Bering Sea & Aleutian Islands gross value of groundfish products by species, 2018-2022, ($ million). *(continued)*

		2018			2019			2020			2021			2022		
	Product	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All	At Sea	Shoreside	All
All Species	Whole Fish	31.4	2.8	34.2	13.5	1.8	15.3	12.2	1.0	13.2	3.4	0.8	4.2	4.1	1.7	5.7
	Head And Gut	656.8	54.0	710.8	562.7	36.0	598.6	451.6	22.8	474.4	376.3	27.2	403.5	563.9	22.4	586.3
	Roe	93.0	48.1	141.2	92.2	45.7	137.9	83.3	33.7	117.0	77.2	17.9	95.0	78.3	29.9	108.2
	Fillets	0.9	93.3	94.2	1.6	67.6	69.2	1.3	60.5	61.8	2.3	50.8	53.1	1.3	101.1	102.4
	Deep-Skin Fillets	136.7	49.5	186.2	137.9	67.2	205.1	133.5	54.8	188.4	145.4	*	145.4	201.8	*	201.8
	Other Fillets	154.2	164.4	318.6	218.7	203.2	421.9	161.7	155.4	317.1	141.8	140.5	282.3	151.0	179.7	330.7
	Surimi	316.7	234.1	550.8	341.5	240.6	582.2	267.9	208.1	476.0	321.8	263.9	585.8	290.1	240.1	530.2
	Minced Fish	19.7	10.8	30.4	21.8	12.0	33.8	31.7	19.5	51.2	37.6	24.7	62.3	26.0	25.8	51.8
	Fishmeal	48.2	51.9	100.1	67.5	43.6	111.1	106.6	49.7	156.4	93.1	60.5	153.6	75.3	40.1	115.5
	Other Products	38.4	39.8	78.2	38.7	34.4	73.1	30.2	34.4	64.6	31.4	30.2	61.6	43.4	53.9	97.3
	All Products	1,495.9	748.7	2,244.7	1,496.1	752.3	2,248.4	1,280.2	639.9	1,920.1	1,230.3	616.4	1,846.8	1,435.3	694.6	2,129.9

Note Total includes additional species not listed in the production details as well as confidential data from Tables 4.31 and 4.32. These estimates are for catch from both federal and state of Alaska fisheries. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.18: Bering Sea & Aleutian Islands price per pound of groundfish products by species and processing mode, 2018-2022, ($/lb).

		2018		2019		2020		2021		2022	
	Product	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside
Pollock	Whole Fish	0.42	0.55	0.47	0.95	0.71	0.45	*	0.47	1.29	0.62
	Head And Gut	0.58	*	0.63	*	0.56	*	0.52	*	0.62	*
	Roe	3.16	2.43	2.52	1.63	2.36	1.47	2.98	1.45	3.70	2.40
	Deep-Skin Fillets	1.51	1.43	1.59	1.62	1.77	1.56	1.90	*	2.78	*
	Other Fillets	1.30	1.31	1.50	1.47	1.50	1.40	1.59	1.48	1.95	1.90
	Surimi	1.38	1.15	1.48	1.25	1.33	1.17	1.48	1.34	1.67	1.43
	Minced Fish	0.68	0.66	0.81	0.74	0.91	0.78	1.21	0.85	1.29	1.82
	Fishmeal	0.77	0.61	1.00	0.49	1.64	0.54	1.42	0.72	1.53	0.74
	Other Products	0.56	0.38	0.51	0.36	0.60	0.40	0.63	0.41	0.94	0.65
	All Products	1.27	1.07	1.38	1.12	1.42	1.05	1.51	1.13	1.84	1.40
Pacific Cod	Whole Fish	0.83	0.74	0.28	0.54	0.97	0.58	*	0.56	2.00	0.65
	Head And Gut	1.89	1.70	1.67	1.23	1.51	1.08	1.73	1.01	2.32	1.46
	Roe	1.08	1.31	0.81	0.90	0.81	1.03	0.88	1.17	1.36	1.35
	Fillets	2.98	4.14	3.18	3.93	3.22	3.74	4.20	4.30	4.56	4.59
	Other Products	0.79	1.11	0.69	0.91	0.72	0.97	0.67	1.01	0.80	0.86
	All Products	1.78	2.29	1.55	1.91	1.41	1.89	1.60	1.94	2.14	2.52
Sablefish	Head And Gut	3.42	5.70	3.07	3.70	2.64	3.40	3.15	4.09	3.13	4.21
	Other Products	0.61	8.58	0.90	1.67	1.12	3.22	0.89	4.38	3.55	6.17
	All Products	3.02	5.92	2.85	3.64	2.62	3.39	3.12	4.10	3.14	4.62
Atka Mackerel	Whole Fish	1.03	0.70	0.94	*	0.73	0.51	*	0.50	*	-
	Head And Gut	1.41	*	1.16	*	1.06	*	0.91	-	1.01	-
	Other Products	0.77	0.70	0.58	0.56	0.79	0.52	0.88	0.55	0.94	0.60
	All Products	1.35	0.70	1.16	0.56	1.05	0.52	0.91	0.55	1.01	0.60

Table 4.18: Bering Sea & Aleutian Islands price per pound of groundfish products by species and processing mode, 2018-2022, ($/lb). *(continued)*

		2018		2019		2020		2021		2022	
	Product	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside
Yellowfin	Whole Fish	0.71	0.61	0.64	-	0.41	-	0.46	-	*	-
	Head And Gut	0.82	-	0.79	-	0.62	-	0.55	-	0.70	-
	Other Products	0.83	0.70	0.63	0.56	0.80	0.52	0.85	0.55	0.46	0.60
	All Products	0.81	0.62	0.78	0.56	0.60	0.52	0.55	0.55	0.70	0.60
Rock Sole	Whole Fish	0.75	0.46	0.90	*	0.47	*	0.57	-	0.50	-
	Head And Gut	0.83	*	0.79	-	0.64	-	0.52	-	0.76	-
	Head And Gut With Roe	1.50	-	1.32	-	1.28	-	0.90	-	0.83	-
	Fillets	2.73	-	-	*	*	-	-	-	-	-
	Other Products	0.72	0.70	0.58	0.56	0.79	0.52	0.86	0.55	0.93	0.60
	All Products	0.89	0.53	0.83	0.56	0.72	0.52	0.55	0.55	0.77	0.60
Flathead Sole	Whole Fish	0.82	0.52	0.80	-	0.58	*	0.42	-	*	-
	Head And Gut	0.98	*	0.86	-	0.64	-	0.59	*	0.78	-
	Fillets	*	*	-	-	*	-	-	-	-	-
	Other Products	0.70	0.70	0.57	0.56	0.80	0.52	0.85	0.55	0.92	0.60
	All Products	0.97	0.60	0.86	0.56	0.64	0.52	0.58	0.55	0.79	0.60
Turbot	Whole Fish	-	-	*	-	-	-	-	-	-	-
	Head And Gut	2.44	-	2.51	-	2.24	-	2.17	-	2.49	-
	Other Products	1.04	0.70	1.03	0.56	1.19	0.52	1.14	*	1.49	*
	All Products	2.08	0.70	2.10	0.56	1.95	0.52	1.92	*	2.21	*

Table 4.18: Bering Sea & Aleutian Islands price per pound of groundfish products by species and processing mode, 2018-2022, ($/lb). *(continued)*

		2018		2019		2020		2021		2022	
	Product	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside
Arrowtooth	Whole Fish	*	-	-	-	*	-	*	-	-	-
	Head And Gut	0.87	-	0.88	-	0.72	-	0.73	-	0.90	-
	Fillets	-	-	*	-	-	-	-	-	-	-
	Other Products	0.70	0.70	0.58	0.56	0.81	0.52	0.84	0.55	0.91	0.60
	All Products	0.87	0.70	0.87	0.56	0.72	0.52	0.73	0.55	0.90	0.60
Kamchatka Flounder	Whole Fish	-	-	-	-	*	-	-	-	-	-
	Head And Gut	1.27	-	0.99	-	0.88	-	0.92	-	1.04	-
	Fishmeal	0.82	-	0.57	*	0.78	-	0.86	-	0.94	-
	Other Products	*	-	-	-	*	-	-	-	-	-
	All Products	1.27	-	0.99	*	0.88	-	0.92	-	1.04	-
Other Flatfish	Whole Fish	0.68	*	1.26	1.37	1.03	0.30	0.76	*	0.94	-
	Head And Gut	0.64	*	0.65	*	0.60	-	0.44	*	0.62	-
	Fillets	-	*	-	-	-	*	-	-	-	-
	Other Products	0.82	0.71	0.57	0.57	0.80	0.54	0.83	0.57	0.93	0.60
	All Products	0.64	0.71	0.68	1.19	0.62	0.41	0.46	0.57	0.66	0.60
Pacific Ocean Perch	Whole Fish	0.61	0.61	0.72	0.44	0.75	0.41	0.48	*	*	0.59
	Head And Gut	1.11	*	0.82	*	0.75	-	0.77	-	1.00	1.25
	Other Products	0.70	0.70	0.57	1.33	0.82	0.52	0.87	0.55	0.67	0.86
	All Products	1.04	0.64	0.80	0.74	0.75	0.48	0.77	0.55	0.99	0.87

Table 4.18: Bering Sea & Aleutian Islands price per pound of groundfish products by species and processing mode, 2018-2022, ($/lb). *(continued)*

		2018		2019		2020		2021		2022	
	Product	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside	At-sea	Shoreside
Northern Rockfish	Whole Fish	*	*	-	*	-	*	-	-	-	-
	Head And Gut	0.79	*	0.69	*	0.47	-	0.43	-	0.69	*
	Other Products	0.63	*	0.57	0.69	0.81	0.52	0.87	0.55	0.94	0.60
	All Products	0.79	*	0.69	0.69	0.47	0.52	0.43	0.55	0.69	0.60
Other Rockfish	Whole Fish	1.72	*	1.71	*	1.58	*	1.79	*	2.01	*
	Head And Gut	1.14	1.74	1.26	2.00	0.95	1.60	0.91	*	0.93	1.79
	Other Products	0.87	0.82	0.57	0.78	0.79	0.84	1.21	0.94	0.70	4.26
	All Products	1.31	1.58	1.35	1.71	1.21	1.41	1.32	0.94	1.55	2.24
Other Groundfish	Whole Fish	0.12	1.08	1.54	0.64	*	1.11	0.59	0.47	1.09	1.11
	Head And Gut	0.81	2.70	1.19	1.10	0.71	1.09	2.09	*	0.72	*
	Roe	*	-	-	-	-	-	-	-	-	-
	Fillets	*	-	-	-	-	-	-	-	-	-
	Fishmeal	0.74	0.70	0.57	0.57	0.84	0.52	0.88	0.55	0.73	0.60
	Other Products	1.01	1.43	0.89	*	0.83	*	0.74	1.24	0.96	1.14
	All Products	1.00	1.23	0.88	0.62	0.83	0.56	0.77	0.51	0.96	0.77

Note These estimates are based on data from both federal and state of Alaska fisheries. Prices based on confidential data have been excluded. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.19: Bering Sea & Aleutian Islands total product value per round metric ton of retained catch by processor type, species, and year, 2018-2022, ($/mt).

	Species	2018	2019	2020	2021	2022
Motherships	Pollock	974	1,007	918	1,011	1,258
	Pacific Cod	397	331	297	*	*
Catcher/processors	Pollock	1,063	1,192	1,108	1,120	1,413
	Sablefish	4,565	3,671	2,748	3,517	3,451
	Pacific Cod	2,024	1,808	1,615	1,837	2,489
	Flatfish	1,076	1,060	860	735	959
	Rockfish	1,142	864	753	787	1,028
	Atka Mackerel	1,845	1,501	1,357	1,171	1,295
	Other	629	575	484	421	476
Shoreside processors	Pollock	959	1,032	893	958	1,307
	Sablefish	6,856	3,089	1,983	4,511	6,822
	Pacific Cod	2,268	1,706	1,558	1,728	2,234
	Flatfish	621	625	502	404	600
	Rockfish	867	733	459	619	1,302
	Other	1,246	4,647	5,191	5,255	14,501

Note These estimates include the product value of catch from both federal and state of Alaska fisheries. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.20: Bering Sea & Aleutian Islands number of processors permits, gross product value, value per processor, and percent value of BSAI FMP groundfish of processed groundfish by processor group, 2018-2022 ($ millions).

		Permits	Wholesale Value ($million)	Wholesale Value per Processor ($1,000)	Percent Value, BSAI FMP Groundfish
AFA CP	2018	14	678.20	48,442.66	31.91
	2019	15	808.70	53,913.09	36.67
	2020	13	688.03	52,925.11	36.48
	2021	15	727.83	48,521.69	39.79
	2022	13	723.08	55,621.83	34.59
A80	2018	19	426.16	22,429.62	20.05
	2019	20	373.07	18,653.72	16.92
	2020	19	311.26	16,382.01	16.50
	2021	19	244.16	12,850.41	13.35
	2022	18	355.20	19,733.32	16.99
CP Hook and	2018	26	225.39	8,668.79	10.61
Line	2019	24	183.18	7,632.61	8.31
	2020	21	139.73	6,653.95	7.41
	2021	17	130.30	7,664.92	7.12
	2022	19	197.69	10,404.54	9.46
Sablefish IFQ	2018	8	1.84	230.39	0.09
	2019	5	0.70	139.83	0.03
	2020	4	1.61	402.35	0.09
	2021	4	2.48	619.37	0.14
	2022	6	4.86	810.43	0.23
Motherships	2018	3	116.49	38,828.46	5.48
& Inshore	2019	4	123.52	30,879.46	5.60
Floating	2020	3	111.94	37,312.65	5.94
Procs.	2021	3	122.18	40,727.51	6.68
	2022	3	119.78	39,927.24	5.73
BSAI	2018	7	629.17	89,881.78	29.60
Shoreside	2019	8	709.36	88,670.29	32.16
Processors	2020	7	605.58	86,511.87	32.11
	2021	8	598.19	74,773.50	32.70
	2022	5	645.84	129,167.82	30.90

Note The data are for catch from both federal and state of Alaska fisheries. The processor groups are defined as follows: "AFA CP" are the AFA catcher processors. "A80" are the catcher processors as defined under Amendment 80 of the BSAI FMP. "CP Hook and Line" are the hook and line catcher processors. "Sablefish IFQ" are processors processing sablefish IFQ. Values are not adjusted for inflation.
Source ADF&G Commercial Operators Annual Reports (COAR); and ADF&G Intent to Operate (ITO) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.21: Bering Sea & Aleutian Islands number of vessels, average and median length, and average and median capacity (tonnage) of vessels that caught groundfish by vessel type, and gear, 2018-2022.

		Vessels	Average Length (feet)	Median Length (feet)	Average Capacity (tons)	Median Capacity (tons)
AFA CV	2018	86	127	123	162	133
	2019	82	127	123	161	133
	2020	86	128	124	164	135
	2021	82	127	123	163	135
	2022	80	128	124	163	134
AFA CP	2018	15	301	285	1,838	1,747
	2019	16	292	296	1,645	1,592
	2020	13	306	300	1,907	1,747
	2021	15	292	285	1,698	1,647
	2022	14	305	300	1,894	1,747
A80	2018	19	181	185	458	473
	2019	20	185	185	471	473
	2020	19	189	186	500	586
	2021	19	191	186	508	586
	2022	18	200	194	550	624
BSAI Trawl	2018	21	150	144	301	276
	2019	18	127	130	188	132
	2020	15	150	144	296	276
	2021	14	118	130	158	132
	2022	21	152	156	277	156
CV Hook and Line	2018	6	53	56	75	95
	2019	8	44	38	27	29
	2020	9	44	39	26	21
	2021	2	35	35	20	20
	2022	5	44	48	27	21
CP Hook and Line	2018	25	148	141	336	258
	2019	23	152	150	372	308
	2020	20	151	140	378	303
	2021	17	151	140	392	308
	2022	19	151	141	394	308
Sablefish IFQ	2018	27	91	98	122	127
	2019	21	91	72	144	105
	2020	18	85	58	126	105
	2021	24	85	58	125	98
	2022	31	86	58	101	85
Pot	2018	78	80	58	108	105
	2019	83	76	58	102	105
	2020	94	74	58	100	99
	2021	66	73	58	107	105
	2022	66	76	58	109	105

Table 4.21: Bering Sea & Aleutian Islands number of vessels, average and median length, and average and median capacity (tonnage) of vessels that caught groundfish by vessel type, and gear, 2018-2022. *(continued)*

		Vessels	Average Length (feet)	Median Length (feet)	Average Capacity (tons)	Median Capacity (tons)
Jig	2018	1	42	42	26	26
	2019	3	46	42	29	26
	2020	3	41	42	28	26
	2021	1	42	42	26	26
	2022	1	42	42	26	26
No Fleet/ Other	2018	1	34	34	17	17
	2020	1	34	34	17	17
	2021	1	51	51	21	21

Note These estimates include only vessels fishing part of federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.22: Bering Sea & Aleutian Islands number of vessels that caught groundfish by month, vessel type, and gear, 2018-2022.

			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Catcher Vessels	Hook and Line	2018	-	-	4	5	2	3	5	5	7	4	5	1	19
		2019	2	4	6	6	5	4	3	4	5	4	4	1	17
		2020	1	5	6	10	6	2	4	5	2	2	1	-	17
		2021	1	1	1	2	2	1	2	1	2	3	3	-	9
		2022	1	-	1	2	3	4	6	4	2	-	1	-	15
	Pot	2018	58	37	37	6	5	3	-	-	19	25	17	11	76
		2019	72	41	42	5	3	2	1	1	28	12	12	10	80
		2020	77	47	48	7	3	5	4	2	30	7	2	2	96
		2021	46	36	37	10	4	7	7	6	24	10	6	1	70
		2022	45	28	36	42	11	9	12	11	26	26	6	3	80
	Trawl	2018	77	96	91	62	8	61	67	70	60	3	3	-	105
		2019	80	92	90	66	6	56	66	74	58	26	6	-	100
		2020	81	85	87	59	14	60	72	74	73	62	6	-	99
		2021	29	80	87	88	42	59	64	69	50	25	2	-	96
		2022	38	89	83	55	3	53	62	62	30	4	2	-	99
	All Gear	2018	135	132	129	73	15	67	72	75	86	32	24	12	196
		2019	154	137	138	77	14	62	70	79	91	42	22	11	195
		2020	159	137	141	76	23	67	77	79	104	71	9	2	206
		2021	76	117	125	100	48	67	72	76	75	37	11	1	171
		2022	84	117	120	98	16	66	78	76	58	30	8	3	182
Catcher Processors	Hook and Line	2018	22	24	21	14	6	16	18	20	20	21	21	18	27
		2019	17	18	20	14	6	10	17	21	21	19	16	14	25
		2020	15	16	15	13	7	7	13	16	17	15	15	8	21
		2021	12	12	12	11	8	12	13	16	15	10	6	4	17
		2022	11	15	14	14	11	16	18	18	16	16	9	9	19
	Pot	2018	5	2	2	2	1	1	-	1	5	2	-	1	6
		2019	5	2	2	-	-	-	-	-	5	1	3	2	6
		2020	5	1	2	2	1	-	-	1	5	2	-	-	5
		2021	3	1	1	2	1	-	-	-	3	3	2	1	5
		2022	2	2	3	3	1	2	-	3	4	4	3	-	7
	Trawl	2018	29	33	35	25	21	29	30	33	33	22	14	4	35
		2019	27	34	35	25	22	30	29	32	30	29	15	3	35
		2020	27	34	34	24	19	22	28	31	30	28	16	6	34
		2021	26	33	33	31	20	30	27	31	26	19	13	6	34
		2022	30	33	33	20	19	24	28	30	22	19	18	5	33
	All Gear	2018	56	59	58	41	28	46	48	54	58	45	35	23	66
		2019	49	54	57	39	28	40	46	53	56	49	34	19	65
		2020	47	51	51	38	27	29	41	48	52	45	31	14	59
		2021	41	46	46	44	29	42	40	47	43	32	21	11	55
		2022	43	50	50	37	31	40	46	49	42	37	29	14	55

Note These estimates include only vessels fishing part of federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.23: Bering Sea & Aleutian Islands catcher vessel (excluding catcher/processors) weeks of fishing groundfish by vessel-length class (feet), gear, and target, 2018-2022.

		Hook & Line		Pot			Trawl			All Gear		
	Year	<60ft	60-124ft	<60ft	60-124ft	>= 125ft	<60ft	60-124ft	>= 125ft	<60ft	60-124ft	>= 125ft
Pollock	2018	-	-	-	-	-	-	900	521	-	900	521
	2019	-	-	-	-	-	0	945	534	0	945	534
	2020	-	-	-	-	-	-	1,206	697	-	1,206	697
	2021	-	-	-	-	-	-	1,017	578	-	1,017	578
	2022	-	-	-	-	-	-	701	390	-	701	390
Sablefish	2018	13	14	15	20	6	-	-	-	28	34	6
	2019	6	14	18	13	7	-	-	-	24	27	7
	2020	2	2	32	9	5	-	-	-	34	11	5
	2021	6	3	60	23	10	-	-	-	67	26	10
	2022	9	5	107	34	22	-	1	-	116	39	22
Pacific Cod	2018	47	1	373	152	29	37	199	44	458	352	73
	2019	82	-	458	153	24	6	143	40	546	296	64
	2020	86	1	486	148	22	7	108	23	579	257	45
	2021	18	-	408	137	7	23	100	21	450	237	28
	2022	14	3	438	172	28	18	114	23	470	289	51
Flatfish	2018	-	-	-	-	-	-	32	46	-	32	46
	2019	1	-	-	-	-	-	59	72	1	59	72
	2020	-	-	-	-	-	-	48	51	-	48	51
	2021	-	-	-	-	-	-	28	30	-	28	30
	2022	-	-	-	-	-	-	21	36	-	21	36
Rockfish	2018	0	-	-	-	-	-	3	3	0	3	3
	2019	1	-	-	-	-	-	4	11	1	4	11
	2020	-	-	-	-	-	-	5	13	1	5	13
	2021	-	-	-	-	-	-	2	6	-	2	6
	2022	-	-	-	-	-	-	3	3	-	3	3
Atka Mackerel	2018	-	-	-	-	-	-	9	21	-	9	21
	2019	-	-	-	-	-	-	4	8	-	4	8
	2020	-	-	-	-	-	-	7	18	-	7	18
	2021	-	-	-	-	-	-	5	12	-	5	12
	2022	-	-	-	-	-	-	4	12	-	4	12

Table 4.23: Bering Sea & Aleutian Islands catcher vessel (excluding catcher/processors) weeks of fishing groundfish by vessel-length class (feet), gear, and target, 2018-2022. *(continued)*

		Hook & Line		Pot			Trawl			All Gear		
	Year	<60ft	60-124ft	<60ft	60-124ft	>= 125ft	<60ft	60-124ft	>= 125ft	<60ft	60-124ft	>= 125ft
All Groundfish	2018	60	15	-	-	-	37	1,143	635	486	1,330	670
	2019	90	14	-	-	-	6	1,154	664	572	1,334	695
	2020	88	3	-	-	-	7	1,374	802	614	1,534	829
	2021	24	3	-	-	-	23	1,152	648	516	1,314	665
	2022	22	8	-	-	-	18	844	464	586	1,058	514

Note These estimates include only vessels fishing part of federal TACs. A vessel that fished more than one category in a week is apportioned a partial week based on catch weight. A target is determined based on vessel, week, processing mode, NMFS area, and gear. All groundfish include additional target categories. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.24: Bering Sea & Aleutian Islands catcher/processor vessel weeks of fishing groundfish by vessel-length class (feet), gear, and target, 2018-2022.

		Hook & Line			Pot			Trawl			All Gear			
	Year	<60ft	60-124ft	125-230ft	<60ft	60-124ft	125-230ft	60-124ft	125-230ft	>230ft	<60ft	60-124ft	125-230ft	>230ft
Pollock	2018	-	-	-	-	-	-	0	6	317	-	0	6	317
	2019	-	-	-	-	-	-	2	7	312	-	2	7	312
	2020	-	-	-	-	-	-	0	10	332	-	0	11	332
	2021	-	-	-	-	-	-	2	8	296	-	2	8	296
	2022	-	-	-	-	-	-	5	8	227	-	5	8	227
Sablefish	2018	0	6	2	-	17	-	-	3	-	0	23	5	-
	2019	7	-	1	-	-	7	-	0	-	7	-	9	-
	2020	-	-	2	-	-	9	0	1	-	-	0	13	-
	2021	-	0	2	-	-	17	-	1	-	-	0	20	-
	2022	-	-	0	-	-	27	1	1	-	-	1	29	-
Pacific Cod	2018	9	126	640	-	28	23	2	17	7	9	157	680	7
	2019	7	57	599	15	21	21	1	11	8	22	80	631	8
	2020	2	62	482	-	19	21	0	5	2	2	81	508	2
	2021	-	45	406	-	22	15	0	4	4	-	67	425	4
	2022	-	91	508	-	25	14	1	1	9	-	117	523	9
Flatfish	2018	-	-	13	-	-	-	94	421	56	-	94	433	56
	2019	-	-	16	-	-	-	95	435	76	-	95	451	76
	2020	-	-	10	-	-	-	57	425	70	-	57	435	70
	2021	-	-	-	-	-	-	64	364	66	-	64	364	66
	2022	-	-	-	-	-	-	59	335	113	-	59	335	113
Rockfish	2018	-	-	1	-	-	-	3	43	6	-	3	44	6
	2019	-	-	0	-	-	-	5	60	8	-	5	60	8
	2020	-	-	0	-	-	-	5	61	7	-	5	61	7
	2021	-	0	0	-	-	-	9	55	11	-	9	55	11
	2022	-	-	-	-	-	-	8	59	7	-	8	59	7
Atka Mackerel	2018	-	-	-	-	-	-	7	122	12	-	7	122	12
	2019	-	-	-	-	-	-	5	88	12	-	5	88	12
	2020	-	-	-	-	-	-	5	96	6	-	5	96	6
	2021	-	-	-	-	-	-	6	113	14	-	6	113	14
	2022	-	-	-	-	-	-	5	117	14	-	5	117	14

Table 4.24: Bering Sea & Aleutian Islands catcher/processor vessel weeks of fishing groundfish by vessel-length class (feet), gear, and target, 2018-2022. *(continued)*

		Hook & Line			Pot			Trawl			All Gear			
	Year	<60ft	60-124ft	125-230ft	<60ft	60-124ft	125-230ft	60-124ft	125-230ft	>230ft	<60ft	60-124ft	125-230ft	>230ft
All	2018	9	132	656	-	45	23	106	611	397	9	284	1,291	397
Groundfish	2019	14	57	618	15	21	28	108	601	416	29	186	1,247	416
	2020	2	62	494	-	19	30	67	599	418	2	148	1,123	418
	2021	-	45	409	-	22	32	81	544	391	-	148	985	391
	2022	-	91	509	-	25	41	78	522	370	-	194	1,073	370

Note These estimates include only vessels fishing part of federal TACs. A vessel that fished more than one category in a week is apportioned a partial week based on catch weight. A target is determined based on vessel, week, processing mode, NMFS area, and gear. All groundfish include additional target categories. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.25: Bering Sea & Aleutian Islands catcher vessel crew weeks in the groundfish fisheries by month, 2018-2022.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2018	1,229	2,049	2,043	708	201	812	1,152	1,314	1,254	427	169	120	11,479
2019	1,082	2,014	2,116	649	225	729	1,050	1,475	1,254	462	346	94	11,495
2020	1,124	2,644	1,842	783	308	601	1,026	1,702	1,676	1,274	53	-	13,034
2021	882	1,698	2,008	1,511	307	656	1,358	1,238	1,053	550	150	26	11,436
2022	900	1,789	1,814	1,150	145	559	1,238	910	684	382	188	6	9,764

Note Crew weeks are calculated by summing weekly reported crew size over vessels and time period. These estimates include only vessels targeting groundfish counted toward federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea Production Reports. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.26: Bering Sea & Aleutian Islands at-sea processor vessel crew weeks in the groundfish fisheries by month, 2018-2022.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2018	5,792	13,559	15,843	5,232	3,750	8,022	11,726	12,878	12,374	4,982	3,201	1,897	99,256
2019	3,705	13,534	16,009	4,825	3,979	6,887	11,256	15,040	11,163	7,559	4,094	1,198	99,249
2020	3,824	16,312	12,475	4,929	4,013	4,183	9,344	13,599	11,198	10,443	3,071	834	94,225
2021	3,603	11,024	11,965	6,540	3,711	6,205	13,098	10,813	7,792	3,722	1,979	809	81,261
2022	4,072	12,318	10,261	5,657	3,552	5,183	13,537	9,907	5,826	5,482	2,755	824	79,374

Note Crew weeks are calculated by summing weekly reported crew size over vessels and time period. These estimates include only vessels targeting groundfish counted toward federal TACs. Catcher processors typically account for 90-95% of the total at-sea crew weeks in all areas. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea Production Reports. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

4.3 Gulf of Alaska Economic Data Tables

Table 4.27: Gulf of Alaska groundfish retained catch by vessel type, gear, and species, 2018-2022 (1,000 metric tons, round weight).

		Central Gulf				Western Gulf				All Gulf			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Pollock	2018	-	-	118.30	118.30	-	-	30.50	30.50	-	-	155.70	155.80
	2019	-	-	87.80	87.80	-	-	21.70	21.70	-	-	118.70	118.70
	2020	-	-	80.50	80.50	-	-	19	19	-	-	106.80	106.80
	2021	-	-	74.80	74.80	-	-	15.70	15.70	-	-	97.60	97.60
	2022	-	-	99	99	-	-	23.30	23.30	-	-	131.40	131.50
Pacific Cod	2018	1.50	3.10	2.10	6.70	1.40	4.50	1.40	7.30	3.30	7.60	3.50	14.40
	2019	1.50	3.20	2.10	6.80	1.30	4.30	1.60	7.20	3.30	7.50	3.70	14.40
	2020	0.40	1	2.20	3.60	0.20	0.70	0.10	1.10	1	1.70	2.30	5.10
	2021	3.40	4.40	3.30	11	1.40	3.20	1.60	6.20	5.10	7.60	4.90	17.60
	2022	4	6.80	5.30	16.10	1.80	3.70	2.20	7.70	6.20	10.50	7.50	24.20
Sablefish	2018	2.90	0.50	0.60	4	0.70	0.40	0.10	1.20	8.40	1.10	0.90	10.50
	2019	2.50	1.10	0.70	4.30	0.70	0.40	0.30	1.30	7.80	1.90	1.10	10.80
	2020	1.20	2.50	0.80	4.60	0.20	1	0.20	1.40	5.60	4.70	1	11.30
	2021	0.60	5.20	0.90	6.60	0.10	1.60	0.20	1.90	4.30	9.80	1	15.20
	2022	0.60	5.90	1	7.50	0.10	2.60	0.20	2.80	3.70	13.90	1.20	18.80
Atka Mackerel	2018	-	-	0.70	0.70	-	-	0.60	0.60	-	-	1.30	1.30
	2019	-	-	0.50	0.50	-	-	0.60	0.60	-	-	1.10	1.10
	2020	-	-	-	-	-	-	0.50	0.50	-	-	0.50	0.50
	2021	-	-	0.20	0.20	-	-	0.30	0.30	-	-	0.60	0.60
	2022	-	-	0.30	0.30	-	-	0.50	0.50	-	-	0.80	0.80
Arrowtooth	2018	-	-	16.20	16.20	-	-	-	0.10	-	-	16.30	16.30
	2019	*	-	22.40	22.40	*	-	0.20	0.20	-	-	22.60	22.60
	2020	*	-	19.50	19.50	-	-	0.20	0.20	-	-	19.80	19.80
	2021	-	-	7.60	7.60	*	-	0.10	0.10	-	-	7.70	7.70
	2022	-	-	9.70	9.70	-	-	0.30	0.30	-	-	10	10
Flathead Sole	2018	-	-	2	2	-	-	-	-	-	-	2	2
	2019	-	-	2.10	2.10	*	-	-	-	*	-	2.20	2.20
	2020	-	-	1.80	1.80	-	-	0.10	0.10	-	-	1.80	1.80
	2021	-	-	0.30	0.30	-	-	0.10	0.10	-	-	0.30	0.30
	2022	-	-	0.30	0.30	-	-	-	-	-	-	0.30	0.30

Table 4.27: Gulf of Alaska groundfish retained catch by vessel type, gear, and species, 2018-2022 (1,000 metric tons, round weight). *(continued)*

		Central Gulf				Western Gulf				All Gulf			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Rex Sole	2018	-	-	1.10	1.10	-	-	-	-	-	-	1.20	1.20
	2019	-	-	1.10	1.10	-	-	-	-	-	-	1.10	1.10
	2020	-	-	1	1	-	-	-	-	-	-	1	1
	2021	-	-	0.20	0.20	*	-	-	-	*	-	0.20	0.20
	2022	-	-	0.30	0.30	-	-	-	-	-	-	0.40	0.40
Shallow-Water Flatfish	2018	-	-	2.50	2.50	*	-	-	-	*	-	2.50	2.50
	2019	-	-	2.50	2.50	-	-	-	-	-	-	2.50	2.50
	2020	*	-	4.10	4.10	-	-	-	-	*	-	4.10	4.10
	2021	*	-	0.10	0.10	-	-	-	-	*	-	0.20	0.20
	2022	-	-	0.20	0.20	*	-	-	-	*	-	0.30	0.30
Deep-Water Flatfish	2018	-	-	0.10	0.10	*	-	*	*	*	-	0.10	0.10
	2019	-	-	-	-	*	-	*	*	*	-	-	-
	2020	-	-	0.10	0.10	-	-	*	*	*	-	0.10	0.10
	2021	-	-	-	-	-	-	*	*	*	-	-	-
	2022	-	-	-	-	*	-	*	*	*	-	-	-
Pacific Ocean Perch	2018	-	-	17.10	17.10	-	-	3.10	3.10	-	-	20.30	20.30
	2019	*	-	17.30	17.30	*	-	3.10	3.10	*	-	20.50	20.50
	2020	-	-	21.30	21.30	-	-	1.30	1.30	*	-	22.60	22.60
	2021	*	-	25.10	25.10	*	-	1.60	1.60	*	-	26.80	26.80
	2022	-	-	24.60	24.60	*	-	2.40	2.40	*	-	27.10	27.10
Northern Rockfish	2018	*	-	2	2	*	-	0.30	0.30	*	-	2.30	2.30
	2019	-	-	1.80	1.80	*	-	0.80	0.80	*	-	2.60	2.60
	2020	*	-	1.60	1.60	-	-	0.80	0.80	*	-	2.40	2.40
	2021	-	-	1.60	1.60	-	-	0.70	0.70	-	-	2.30	2.30
	2022	*	-	1.40	1.40	*	-	0.50	0.50	*	-	1.90	1.90

Table 4.27: Gulf of Alaska groundfish retained catch by vessel type, gear, and species, 2018-2022 (1,000 metric tons, round weight). *(continued)*

		Central Gulf				Western Gulf				All Gulf			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Dusky Rockfish	2018	-	-	2.80	2.80	-	-	-	-	-	-	2.80	2.80
	2019	-	-	2	2	-	-	0.20	0.20	-	-	2.20	2.20
	2020	-	-	1.80	1.80	*	-	0.20	0.20	-	-	2.10	2.10
	2021	-	-	2.60	2.60	*	-	0.10	0.10	-	-	2.80	2.80
	2022	-	-	2.40	2.40	-	-	0.10	0.10	-	-	2.50	2.50
Other Rockfish	2018	0.30	-	1.40	1.70	0.10	-	0.20	0.20	1	-	1.70	2.70
	2019	0.20	-	1	1.20	0.10	-	0.20	0.20	0.90	-	1.40	2.30
	2020	0.10	-	0.80	0.90	-	-	0.10	0.10	0.70	-	0.90	1.70
	2021	0.10	-	0.90	1	-	-	0.10	0.10	0.60	-	1.10	1.70
	2022	0.10	-	0.90	1.10	-	-	0.20	0.30	0.60	-	1.20	1.90
Other Groundfish	2018	-	-	0.80	0.90	-	-	-	0.10	0.10	-	0.80	1
	2019	0.10	-	0.90	1.10	-	-	-	0.10	0.10	-	0.90	1.30
	2020	-	-	0.80	0.80	-	-	-	-	-	-	0.80	0.80
	2021	0.10	-	0.10	0.20	-	-	-	-	0.10	-	0.10	0.20
	2022	0.10	-	0.10	0.30	0.10	-	-	0.10	0.20	-	0.10	0.40

Note The estimates are of retained catch (i.e., excludes discarded catch). All groundfish include additional species categories. These estimates include only catch counted against federal TACs. Includes FMP groundfish catch on halibut targets. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.28: All Gulf of Alaska groundfish retained catch by species, gear, and target fishery, 2021-2022, (1,000 metric tons, round weight).

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Flathead Sole	Rex Sole	Flat Deep	Flat Shallow	Rockfish	Atka Mackerel	Other	All Species
Hook and Line	2021	Sablefish	*	3.70	-	*	-	-	-	-	0.30	-	-	4.00
		Pacific Cod	-	-	3.40	*	-	-	-	-	-	-	0.10	3.50
		Halibut	*	0.30	0.20	-	-	*	*	-	0.30	-	-	0.80
		Rockfish	-	-	-	-	-	-	-	*	-	-	-	-
		All Targets	-	4.00	3.60	-	-	*	*	*	0.60	-	0.10	8.30
	2022	Sablefish	*	3.20	-	*	-	-	-	-	0.20	-	*	3.40
		Pacific Cod	-	*	5.30	-	-	-	-	-	-	-	0.20	5.50
		Halibut	*	0.30	0.20	-	-	-	*	*	0.40	-	-	0.90
		Rockfish	-	*	*	-	-	-	-	-	-	-	-	-
		All Targets	-	3.50	5.50	-	-	-	*	*	0.60	-	0.20	9.90
Pot	2021	Sablefish	-	9.80	-	*	-	-	-	-	-	-	-	9.80
		Pacific Cod	-	*	7.60	-	*	-	-	*	*	-	-	7.60
		Halibut	-	0.10	*	-	-	-	-	-	-	-	-	0.10
		Rockfish	-	*	-	-	-	-	-	-	*	-	-	*
		All Targets	-	9.80	7.60	*	*	-	-	*	-	-	-	17.50
	2022	Sablefish	-	13.70	-	-	-	-	-	*	0.10	-	-	13.80
		Pacific Cod	-	-	10.50	*	*	-	-	*	-	-	0.10	10.60
		Halibut	-	0.10	*	-	-	-	-	-	-	-	-	0.10
		All Targets	-	13.80	10.50	-	*	-	-	*	0.10	-	0.10	24.50

Table 4.28: All Gulf of Alaska groundfish retained catch by species, gear, and target fishery, 2021-2022, (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Flathead Sole	Rex Sole	Flat Deep	Flat Shallow	Rockfish	Atka Mackerel	Other	All Species
Trawl	2021	Pollock, Bottom	24.00	-	2.70	0.40	-	-	*	0.10	0.50	-	0.10	27.90
		Pollock, Pelagic	72.20	-	0.10	0.20	-	-	*	-	0.30	-	-	72.90
		Sablefish	-	0.30	-	-	*	*	*	*	-	-	-	0.30
		Pacific Cod	-	0.10	1.70	*	-	*	-	-	*	*	*	1.80
		Arrowtooth	-	0.10	*	5.00	0.10	0.10	-	*	0.70	*	*	6.10
		Flathead Sole	*	-	-	*	*	*	-	*	-	-	-	*
		Flatfish, Shallow	*	*	*	*	*	*	*	*	*	*	*	*
		Rockfish	1.20	0.60	0.20	2.00	0.10	0.10	-	-	31.30	0.60	-	36.10
		All Targets	97.40	1.00	4.80	7.70	0.30	0.20	-	0.10	32.90	0.60	0.10	145.20
	2022	Pollock, Bottom	33.60	-	3.30	0.30	-	-	-	0.10	1.50	*	0.10	38.90
		Pollock, Pelagic	95.40	-	0.10	0.30	-	-	-	-	0.50	-	-	96.40
		Sablefish	-	0.30	-	-	-	-	*	-	-	*	-	0.40
		Pacific Cod	-	-	3.40	-	*	*	*	0.10	-	-	-	3.60
		Arrowtooth	-	0.10	0.30	6.40	0.20	0.20	-	-	0.50	*	-	7.70
		Rex Sole	*	*	*	*	*	*	*	*	*	-	*	*
		Flatfish, Shallow	*	*	*	*	*	*	*	*	*	-	*	*
		Rockfish	1.20	0.80	0.40	2.60	-	0.10	-	-	30.20	0.80	-	36.20
		All Targets	130.30	1.20	7.50	9.70	0.30	0.40	-	0.20	32.70	0.80	0.10	183.20
	2021	All Targets	97.40	14.90	16.00	7.70	0.30	0.20	-	0.10	33.50	0.60	0.20	171.00

All Gear	2022	All Targets	130.30	18.50	23.50	9.70	0.30	0.40	-	0.20	33.40	0.80	0.40	217.60

Note Totals may include additional categories. The target is derived from an algorithm used to determine preponderance of catch, accounting for processor, trip, processing mode, NMFS area, and gear. These estimates include only catch counted against federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.29: Western Gulf of Alaska groundfish retained catch by species, gear, and target fishery, 2021-2022, (1,000 metric tons, round weight).

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Flathead Sole	Rex Sole	Flat Deep	Flat Shallow	Rockfish	Atka Mackerel	Other	All Species
Hook and Line	2021	Sablefish	-	0.10	*	-	-	-	-	-	-	-	-	0.10
		Pacific Cod	*	-	0.30	-	-	-	-	-	-	-	*	0.30
		Halibut	-	-	-	*	-	*	-	-	-	-	-	-
		All Targets	*	0.10	0.30	*	-	*	-	-	-	-	-	0.50
	2022	Sablefish	-	0.10	-	*	-	-	-	-	-	-	*	0.10
		Pacific Cod	-	-	1.70	-	-	-	-	-	*	-	0.10	1.90
		Halibut	*	-	-	-	-	-	*	*	-	-	-	0.10
		All Targets	-	0.10	1.80	-	-	-	*	*	-	-	0.10	2.00
Pot	2021	Sablefish	-	1.60	*	-	-	-	-	-	-	-	-	1.60
		Pacific Cod	*	*	3.20	-	*	-	-	*	*	-	*	3.20
		Halibut	-	*	-	-	-	-	-	-	-	-	-	*
		All Targets	*	1.60	3.20	-	*	-	-	*	-	-	*	4.90
	2022	Sablefish	-	2.60	*	*	-	-	-	-	-	-	-	2.60
		Pacific Cod	*	-	3.70	-	*	-	-	*	-	-	*	3.70
		Halibut	-	*	*	-	-	-	-	-	*	-	-	*
		All Targets	*	2.60	3.70	*	*	-	-	*	-	-	*	6.30

Table 4.29: Western Gulf of Alaska groundfish retained catch by species, gear, and target fishery, 2021-2022, (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Flathead Sole	Rex Sole	Flat Deep	Flat Shallow	Rockfish	Atka Mackerel	Other	All Species
Trawl	2021	Pollock, Bottom	*	*	*	*	*	*	-	*	*	-	*	*
		Pollock, Pelagic	15.50	-	-	0.10	-	-	-	-	-	*	-	15.60
		Pacific Cod	-	-	1.60	*	-	*	-	-	-	*	*	1.60
		Rockfish	0.20	0.10	*	-	0.10	-	*	-	2.50	0.30	*	3.30
		All Targets	15.70	0.20	1.60	0.10	0.10	-	*	-	2.50	0.30	-	20.60
	2022	Pollock, Bottom	*	*	*	*	*	*	-	*	*	-	*	*
		Pollock, Pelagic	21.90	-	-	0.20	-	-	-	-	-	*	-	22.20
		Pacific Cod	-	-	2.10	*	*	-	-	*	-	-	*	2.10
		Rockfish	0.20	0.20	0.10	-	-	-	*	-	3.20	0.50	-	4.30
		All Targets	22.20	0.20	2.20	0.30	-	-	*	-	3.20	0.50	-	28.70
All Gear	2021	All Targets	15.70	1.90	5.20	0.10	0.10	-	*	-	2.60	0.30	-	25.90
	2022	All Targets	22.20	2.80	7.70	0.30	-	-	*	-	3.20	0.50	0.10	37.00

Note Totals may include additional categories. The target is derived from an algorithm used to determine preponderance of catch, accounting for processor, trip, processing mode, NMFS area, and gear. These estimates include only catch counted against federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.30: Central Gulf of Alaska groundfish retained catch by species, gear, and target fishery, 2021-2022, (1,000 metric tons, round weight).

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Flathead Sole	Rex Sole	Flat Deep	Flat Shallow	Rockfish	Atka Mackerel	Other	All Species
Hook and Line	2021	Sablefish	*	0.50	-	*	-	-	-	-	-	-	*	0.50
		Pacific Cod	-	-	2.80	*	-	-	-	-	-	-	0.10	2.90
		Halibut	*	0.10	0.10	-	-	-	-	-	0.10	-	-	0.20
		Rockfish	-	-	-	-	-	-	-	*	-	-	-	-
		All Targets	-	0.60	2.90	-	-	-	-	*	0.10	-	0.10	3.60
	2022	Sablefish	-	0.50	-	-	-	-	-	-	-	-	*	0.50
		Pacific Cod	-	*	3.20	-	-	-	-	-	-	-	0.10	3.30
		Halibut	-	0.10	0.10	-	-	-	-	-	0.10	-	-	0.30
		Rockfish	-	-	*	-	-	-	-	-	-	-	-	-
		All Targets	-	0.60	3.30	-	-	-	-	-	0.10	-	0.10	4.10
Pot	2021	Sablefish	-	5.10	-	*	-	-	-	-	-	-	-	5.20
		Pacific Cod	-	-	4.40	-	-	-	-	-	*	-	-	4.40
		Halibut	-	-	*	-	-	-	-	-	*	-	-	-
		All Targets	-	5.20	4.40	*	-	-	-	-	-	-	-	9.60
	2022	Sablefish	-	5.90	-	-	-	-	-	-	-	-	-	5.90
		Pacific Cod	-	-	6.80	*	-	-	-	*	-	-	0.10	6.80
		Halibut	-	-	*	-	-	-	-	-	*	-	-	-
		All Targets	-	5.90	6.80	-	-	-	-	*	-	-	0.10	12.70

Table 4.30: Central Gulf of Alaska groundfish retained catch by species, gear, and target fishery, 2021-2022, (1,000 metric tons, round weight). *(continued)*

Gear	Year	Target	Pollock	Sablefish	Pacific Cod	Arrowtooth	Flathead Sole	Rex Sole	Flat Deep	Flat Shallow	Rockfish	Atka Mackerel	Other	All Species
Trawl	2021	Pollock, Bottom	22.60	-	2.70	0.40	-	-	*	0.10	0.50	-	0.10	26.50
		Pollock, Pelagic	51.00	-	-	0.10	-	-	*	-	0.30	-	-	51.50
		Sablefish	-	0.30	-	-	*	*	*	*	-	-	-	0.30
		Pacific Cod	*	0.10	0.10	*	-	-	-	*	*	-	*	0.20
		Arrowtooth	-	0.10	*	5.00	0.10	0.10	-	*	0.70	*	*	6.10
		Flathead Sole	*	-	-	*	*	*	-	*	-	-	-	*
		Flatfish, Shallow	*	*	*	*	*	*	*	*	*	*	*	*
		Rockfish	0.90	0.50	0.20	2.00	-	0.10	-	-	28.80	0.20	-	32.80
		All Targets	74.60	0.90	3.20	7.50	0.20	0.20	-	0.10	30.30	0.20	0.10	117.40
	2022	Pollock, Bottom	29.60	-	3.30	0.30	-	-	-	0.10	1.40	*	0.10	34.70
		Pollock, Pelagic	68.40	-	0.10	0.10	-	-	-	-	0.50	-	-	69.00
		Sablefish	-	0.30	-	-	-	-	*	-	-	*	-	0.40
		Pacific Cod	-	-	1.30	-	*	*	*	0.10	-	-	-	1.50
		Arrowtooth	-	0.10	0.30	6.40	0.20	0.20	-	-	0.50	*	-	7.70
		Rex Sole	*	*	*	*	*	*	*	*	*	-	*	*
		Flatfish, Shallow	*	*	*	*	*	*	*	*	*	-	*	*
		Rockfish	1.00	0.60	0.30	2.60	-	0.10	-	-	27.00	0.30	-	31.90
		All Targets	99.00	1.00	5.30	9.40	0.30	0.30	-	0.20	29.40	0.30	0.10	145.30
	2021	All Targets	74.60	6.60	10.40	7.50	0.20	0.20	-	0.10	30.40	0.20	0.20	130.60

All Gear	2022	All Targets	99.00	7.50	15.40	9.40	0.30	0.30	-	0.20	29.50	0.30	0.20	162.10

Note Totals may include additional categories. The target is derived from an algorithm used to determine preponderance of catch, accounting for processor, trip, processing mode, NMFS area, and gear. These estimates include only catch counted against federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.31: Gulf of Alaska ex-vessel prices in the groundfish fisheries by gear, and species, 2018-2022; calculations based on COAR ($/lb, round weight).

	Year	Fixed	Trawl	All Gear
Pollock	2018	0.04	0.12	0.12
	2019	0.12	0.14	0.14
	2020	0.03	0.12	0.12
	2021	0.08	0.12	0.12
	2022	0.56	0.17	0.17
Pacific Cod	2018	0.46	0.41	0.45
	2019	0.50	0.46	0.49
	2020	0.42	0.36	0.39
	2021	0.41	0.35	0.39
	2022	0.51	0.44	0.49
Sablefish	2018	3.93	2.34	3.78
	2019	2.99	1.31	2.81
	2020	1.95	0.60	1.82
	2021	2.26	1.26	2.18
	2022	2.57	1.47	2.49
Atka	2018	*	0.35	0.35
Mackerel	2019	-	0.29	0.29
	2020	-	0.27	0.27
	2021	-	0.30	0.30
	2022	-	0.25	0.25
Arrowtooth	2018	0.24	0.10	0.10
	2019	0.06	0.07	0.07
	2020	0.02	0.07	0.07
	2021	0.25	0.07	0.07
	2022	0.07	0.11	0.11
Flathead	2018	0.24	0.14	0.14
Sole	2019	*	0.14	0.14
	2020	-	0.11	0.11
	2021	*	0.06	0.06
	2022	*	0.10	0.10
Rex Sole	2018	-	0.25	0.25
	2019	-	0.22	0.22
	2020	-	0.21	0.21
	2021	*	0.07	0.07
	2022	-	0.11	0.11
Shallow-Water	2018	0.24	0.16	0.16
Flatfish	2019	-	0.15	0.15
	2020	*	0.12	0.12
	2021	*	0.08	0.08
	2022	0.07	0.11	0.11
Deep-Water	2018	*	0.11	0.11
Flatfish	2019	*	0.13	0.13
	2020	*	0.14	0.14
	2021	*	0.07	0.07
	2022	*	0.11	0.11

Table 4.31: Gulf of Alaska ex-vessel prices in the groundfish fisheries by gear, and species, 2018-2022; calculations based on COAR ($/lb, round weight). *(continued)*

	Year	Fixed	Trawl	All Gear
Pacific	2018	1.17	0.19	0.19
Ocean	2019	0.42	0.20	0.20
Perch	2020	*	0.13	0.13
	2021	0.14	0.13	0.13
	2022	0.05	0.15	0.15
Northern	2018	0.84	0.18	0.18
Rockfish	2019	*	0.19	0.19
	2020	*	0.13	0.13
	2021	-	0.13	0.13
	2022	0.72	0.14	0.14
Dusky	2018	0.59	0.18	0.19
Rockfish	2019	0.58	0.19	0.19
	2020	0.77	0.13	0.13
	2021	0.63	0.13	0.13
	2022	0.58	0.14	0.14
Other	2018	0.91	0.19	0.45
Rockfish	2019	0.82	0.19	0.44
	2020	0.66	0.14	0.36
	2021	0.56	0.13	0.28
	2022	0.74	0.15	0.35

Note Prices are for catch from both federal and state of Alaska fisheries. The unfrozen landings price is calculated as landed value divided by estimated or actual round weight. Prices for catch processed by an at-sea processor without a COAR buying record (e.g., from catcher processors) are set using the prices for the matching species (group), region and gear-types for which buying records exist. Trawl-caught sablefish, rockfish and flatfish in the GOA and trawl-caught Atka mackerel in both the GOA and the GOA are not well represented in the COAR buying records. A price was calculated for these categories from product-report prices; the price in this case is the value of the first wholesale products divided by the calculated round weight and multiplied by a constant 0.4 to correct for value added by processing. The "All Alaska/All gear" column is the average weighted by retained catch. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.32: Gulf of Alaska ex-vessel value of the groundfish catch by vessel category, gear, and species, 2018-2022; calculations based on COAR ($ millions).

		Central Gulf				Western Gulf				All Gulf			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Pollock	2018	-	-	32.03	32.04	-	-	8.28	8.28	-	-	42.24	42.25
	2019	-	-	26.68	26.68	-	-	6.59	6.59	-	-	36.12	36.12
	2020	-	-	20.92	20.92	-	-	4.94	4.94	-	-	27.80	27.80
	2021	-	-	20.50	20.50	-	-	4.83	4.83	-	-	27.32	27.32
	2022	-	-	36.87	36.88	-	-	8.65	8.68	-	-	48.95	48.99
Pacific Cod	2018	1.55	3.16	1.93	6.63	1.34	4.59	1.33	7.25	3.29	7.74	3.26	14.29
	2019	1.69	3.60	2.18	7.46	1.36	4.84	1.59	7.79	3.54	8.44	3.77	15.74
	2020	0.39	0.95	1.74	3.08	0.18	0.71	0.11	1.00	0.91	1.66	1.85	4.42
	2021	3.02	3.94	2.55	9.51	1.25	2.92	1.36	5.52	4.58	6.86	3.91	15.35
	2022	4.60	7.20	5.20	17.01	2.60	3.98	2.16	8.75	7.64	11.19	7.37	26.19
Sablefish	2018	24.79	4.72	3.07	32.57	6.23	3.09	0.81	10.13	72.69	10.02	5.02	87.72
	2019	16.49	7.18	2.17	25.84	4.77	2.60	0.76	8.12	51.81	12.67	3.29	67.78
	2020	5.31	10.88	1.14	17.32	0.76	4.51	0.22	5.49	23.98	20.24	1.35	45.58
	2021	2.83	25.79	2.45	31.08	0.62	7.99	0.42	9.03	21.32	49.10	3.18	73.60
	2022	3.21	33.58	3.44	40.24	0.48	13.98	0.59	15.05	21.07	78.70	4.04	103.80
Atka Mackerel	2018	-	-	0.56	0.56	-	-	0.53	0.53	-	-	1.09	1.09
	2019	-	-	0.31	0.31	-	-	0.42	0.42	-	-	0.73	0.73
	2020	-	-	-	-	-	-	0.30	0.30	-	-	0.30	0.30
	2021	-	-	0.33	0.33	-	-	0.23	0.23	-	-	0.56	0.56
	2022	-	-	0.17	0.17	-	-	0.30	0.30	-	-	0.46	0.46
Arrowtooth	2018	-	-	3.67	3.67	-	-	0.20	0.20	0.01	-	3.88	3.88
	2019	-	-	3.67	3.67	-	-	0.07	0.07	-	-	3.75	3.76
	2020	*	-	2.89	2.89	-	-	0.03	0.03	-	-	2.92	2.92
	2021	-	-	1.17	1.17	*	-	0.03	0.03	-	-	1.20	1.20
	2022	-	-	2.38	2.38	-	-	0.08	0.08	-	-	2.46	2.46

Table 4.32: Gulf of Alaska ex-vessel value of the groundfish catch by vessel category, gear, and species, 2018-2022; calculations based on COAR ($ millions). *(continued)*

		Central Gulf				Western Gulf				All Gulf			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Flathead Sole	2018	-	-	0.63	0.63	-	-	0.04	0.04	-	-	0.67	0.67
	2019	-	-	0.74	0.74	*	-	0.04	0.04	*	-	0.77	0.77
	2020	-	-	0.42	0.42	-	-	0.02	0.02	-	-	0.44	0.44
	2021	-	-	0.06	0.06	-	-	0.01	0.01	-	-	0.07	0.07
	2022	-	-	0.10	0.10	-	-	-	-	-	-	0.10	0.10
Rex Sole	2018	-	-	0.89	0.89	-	-	0.05	0.05	-	-	0.94	0.94
	2019	-	-	0.74	0.74	-	-	0.01	0.01	-	-	0.75	0.75
	2020	-	-	0.53	0.53	-	-	0.01	0.01	-	-	0.54	0.54
	2021	-	-	0.04	0.04	*	-	-	-	*	-	0.04	0.04
	2022	-	-	0.14	0.14	-	-	0.01	0.01	-	-	0.15	0.15
Shallow-Water Flatfish	2018	-	-	0.88	0.88	*	-	0.01	0.01	*	-	0.89	0.89
	2019	-	-	0.86	0.86	-	-	0.01	0.01	-	-	0.87	0.87
	2020	*	-	1.06	1.06	-	-	-	-	*	-	1.06	1.06
	2021	*	-	0.25	0.25	-	-	-	-	*	-	0.25	0.25
	2022	-	-	0.24	0.24	*	-	-	-	*	-	0.24	0.24
Deep-Water Flatfish	2018	-	-	0.02	0.02	*	-	-	-	*	-	0.02	0.02
	2019	-	-	0.01	0.01	*	-	-	-	*	-	0.01	0.01
	2020	-	-	0.02	0.02	-	-	*	*	*	-	0.02	0.02
	2021	-	-	-	-	-	-	*	*	*	-	-	-
	2022	-	-	-	-	*	-	*	*	*	-	-	-
Pacific Ocean Perch	2018	-	-	7.29	7.29	-	-	1.33	1.33	-	-	9.99	9.99
	2019	*	-	7.53	7.53	*	-	1.32	1.32	*	-	10.18	10.18
	2020	-	-	5.99	5.99	-	-	0.37	0.37	*	-	6.76	6.76
	2021	*	-	7.11	7.11	*	-	0.45	0.45	*	-	8.04	8.04
	2022	-	-	8.09	8.09	*	-	0.79	0.79	-	-	9.33	9.33

Table 4.32: Gulf of Alaska ex-vessel value of the groundfish catch by vessel category, gear, and species, 2018-2022; calculations based on COAR ($ millions). *(continued)*

		Central Gulf				Western Gulf				All Gulf			
	Year	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear	Hook and Line	Pot	Trawl	All Gear
Northern Rockfish	2018	-	-	0.78	0.78	*	-	0.12	0.12	-	-	0.90	0.90
	2019	-	-	0.73	0.73	*	-	0.34	0.34	*	-	1.07	1.07
	2020	*	-	0.45	0.45	-	-	0.21	0.21	*	-	0.67	0.67
	2021	-	-	0.46	0.46	-	-	0.20	0.20	-	-	0.66	0.66
	2022	*	-	0.45	0.45	*	-	0.15	0.15	*	-	0.60	0.60
Dusky Rockfish	2018	0.01	-	1.13	1.14	0.01	-	0.02	0.02	0.02	-	1.15	1.17
	2019	0.02	-	0.83	0.85	0.01	-	0.08	0.09	0.03	-	0.91	0.94
	2020	0.01	-	0.51	0.53	*	-	0.06	0.06	0.01	-	0.58	0.59
	2021	0.01	-	0.75	0.75	*	-	0.04	0.04	0.01	-	0.79	0.80
	2022	-	-	0.75	0.75	-	-	0.03	0.03	0.01	-	0.78	0.79
Other Rockfish	2018	0.55	-	0.58	1.13	0.15	-	0.07	0.21	1.99	-	0.73	2.73
	2019	0.40	-	0.42	0.82	0.12	-	0.07	0.19	1.70	-	0.60	2.30
	2020	0.19	-	0.25	0.45	0.03	-	0.03	0.06	1.08	-	0.33	1.44
	2021	0.13	-	0.27	0.40	0.02	-	0.03	0.05	0.77	-	0.35	1.16
	2022	0.19	-	0.32	0.52	0.06	-	0.08	0.14	1.09	-	0.45	1.60
Other Groundfish	2018	0.04	-	0.76	0.86	0.04	-	0.05	0.16	0.11	-	0.81	1.05
	2019	0.07	-	0.95	1.13	0.02	-	0.02	0.14	0.11	-	0.98	1.30
	2020	0.01	-	0.78	0.79	-	-	0.01	0.01	0.02	-	0.78	0.81
	2021	0.09	-	0.08	0.18	0.03	-	-	0.03	0.13	-	0.08	0.23
	2022	0.08	-	0.03	0.18	0.14	-	-	0.14	0.24	-	0.04	0.33

Note Ex-vessel value is calculated by multiplying ex-vessel prices by the retained round weight catch from Tables 4.13 and 4.31. Please refer to Tables 4.13 and 4.31 for a description of the price derivation. The value added by at-sea processing is not included in these estimates of ex-vessel value. All groundfish includes additional species categories. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.33: Gulf of Alaska vessel and permit counts, ex-vessel value, value per vessel, and percent value of GOA FMP groundfish and all GOA fisheries by processor group, 2018-2022; calculations based on COAR ($ millions).

	Year	Vessels	Permits	Ex-vessel Value per Vessel $1,000	Ex-vessel Value $million	Percent Value, GOA FMP Groundfish	Percent Value, All GOA Fisheries
Western Gulf Trawl	2018	36	12	355.95	12.81	7.94	2.33
	2019	35	10	323.28	11.31	8.23	1.92
	2020	33	10	190.84	6.30	6.92	1.82
	2021	33	11	230.68	7.61	6.00	1.11
	2022	33	8	389.57	12.86	6.69	1.83
Central Gulf Trawl	2018	61	14	889.06	54.23	33.59	9.85
	2019	62	16	771.39	47.83	34.77	8.11
	2020	62	15	591.89	36.70	40.33	10.61
	2021	52	13	692.72	36.02	28.41	5.24
	2022	50	16	1,163.69	58.18	30.27	8.30
CV Hook and Line	2018	69	27	39.68	2.74	1.70	0.50
	2019	72	31	32.35	2.33	1.69	0.40
	2020	28	19	20.02	0.56	0.62	0.16
	2021	59	21	42.22	2.49	1.96	0.36
	2022	54	22	60.27	3.25	1.69	0.46
CP Hook and Line	2018	3	3	460.85	1.38	0.86	0.25
	2019	3	3	554.43	1.66	1.21	0.28
	2021	2	2	*	*	*	*
	2022	6	6	595.80	3.57	1.86	0.51
Sablefish IFQ	2018	262	39	295.85	77.51	48.01	14.08
	2019	250	42	241.74	60.44	43.93	10.25
	2020	242	45	175.69	42.52	46.73	12.30
	2021	238	42	286.29	68.14	53.75	9.91
	2022	245	45	395.67	96.94	50.44	13.83
Pot	2018	58	21	135.68	7.87	4.87	1.43
	2019	59	17	146.60	8.65	6.29	1.47
	2020	38	17	49.20	1.87	2.05	0.54
	2021	70	24	103.52	7.25	5.72	1.05
	2022	79	23	152.44	12.04	6.27	1.72
Jig	2018	98	37	3.80	0.37	0.23	0.07
	2019	110	40	5.80	0.64	0.46	0.11
	2020	97	46	5.26	0.51	0.56	0.15
	2021	100	39	10.41	1.04	0.82	0.15
	2022	77	28	14.01	1.08	0.56	0.15

Note These tables include the value of groundfish purchases reported by processing plants, as well as by other entities, such as markets and restaurants, that normally would not report sales of groundfish products. Keep this in mind when comparing ex-vessel values in this table to gross processed-product values. The data are for catch from both federal and state of Alaska fisheries. The column "permits" is a count of federal groundfish processor permits. Values are not adjusted for inflation.
Source ADF&G Commercial Operators Annual Reports (COAR); and ADF&G Intent to Operate (ITO) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.34: Gulf of Alaska production of groundfish products by species, 2018-2022 (1,000 metric tons, round weight).

	Product	2018	2019	2020	2021	2022
Pollock	Whole Fish	0.56	3.12	0.42	0.33	0.22
	Head And Gut	39.83	28.41	22.62	14.02	20.10
	Roe	2.39	1.89	1.55	1.03	1.34
	Deep-Skin Fillets	*	*	0.23	*	*
	Other Fillets	13.08	8.80	7.60	8.65	11.77
	Surimi	9.77	6.95	5.43	5.93	6.48
	Minced Fish	0.98	0.84	1.80	0.76	0.66
	Fishmeal	1.11	*	*	0.50	*
	Other Products	1.34	1.07	0.30	0.42	0.89
	All Products	69.06	51.09	39.95	31.64	41.47
Pacific Cod	Whole Fish	0.25	0.26	0.03	0.05	0.06
	Head And Gut	1.92	3.02	1.15	1.69	2.92
	Salted/Split	-	-	*	-	-
	Roe	0.37	0.38	0.19	0.53	0.89
	Fillets	2.00	2.37	1.12	2.70	3.80
	Other Products	1.04	1.44	0.47	1.56	1.99
	All Products	5.58	7.47	2.97	6.54	9.66
Sablefish	Head And Gut	5.84	6.54	6.44	8.90	11.88
	Other Products	0.29	0.43	0.35	0.60	0.39
	All Products	6.13	6.97	6.78	9.50	12.27
Atka Mackerel	Whole Fish	0.08	-	-	-	-
	Head And Gut	0.73	0.63	0.25	0.47	0.43
	Other Products	*	*	*	*	*
	All Products	0.81	0.63	0.25	0.47	0.43
Arrowtooth	Whole Fish	2.28	2.04	1.97	-	-
	Head And Gut	6.24	8.97	7.31	4.28	5.14
	Kirimi	-	-	*	-	-
	Fillets	*	*	-	-	-
	Other Products	0.01	*	*	*	*
	All Products	8.53	11.01	9.28	4.28	5.14
Flathead Sole	Whole Fish	1.02	1.09	1.09	-	*
	Head And Gut	0.28	0.27	0.20	0.20	0.15
	Kirimi	*	*	*	-	-
	Fillets	*	*	*	-	-
	Other Products	*	*	*	*	*
	All Products	1.29	1.35	1.29	0.20	0.15

Table 4.34: Gulf of Alaska production of groundfish products by species, 2018-2022 (1,000 metric tons, round weight). *(continued)*

	Product	2018	2019	2020	2021	2022
Rex Sole	Whole Fish	1.55	1.44	1.04	0.21	0.45
	Head And Gut	0.04	0.01	*	0.00	*
	Kirimi	*	-	-	-	-
	Fillets	*	*	*	*	-
	Other Products	*	*	*	*	*
	All Products	1.59	1.46	1.04	0.21	0.45
Shallow-Water Flatfish	Whole Fish	0.82	0.91	1.52	-	0.04
	Head And Gut	0.58	0.43	1.00	0.69	0.31
	Kirimi	*	*	*	*	-
	Fillets	*	*	*	-	*
	Other Products	*	*	*	*	*
	All Products	1.40	1.33	2.51	0.69	0.35
Deep-Water Flatfish	Whole Fish	0.00	*	*	-	-
	Head And Gut	0.01	*	*	-	*
	Fillets	*	*	*	-	-
	Other Products	-	-	-	-	*
	All Products	0.02	*	*	-	*
Pacific Ocean Perch	Whole Fish	3.38	2.75	4.87	2.88	1.12
	Head And Gut	10.26	10.00	9.26	12.07	12.50
	Other Products	0.09	0.25	0.16	0.35	1.18
	All Products	13.73	13.01	14.29	15.31	14.80
Northern Rockfish	Whole Fish	0.01	*	*	*	*
	Head And Gut	1.23	1.39	1.26	1.21	0.99
	Other Products	0.00	0.00	0.00	*	0.05
	All Products	1.25	1.39	1.26	1.21	1.04
Dusky Rockfish	Whole Fish	0.06	0.14	0.32	0.25	0.04
	Head And Gut	1.42	1.17	0.88	1.32	1.29
	Other Products	0.02	0.01	0.02	0.02	0.01
	All Products	1.50	1.32	1.22	1.59	1.34
Other Rockfish	Whole Fish	0.62	0.45	0.31	0.27	0.29
	Head And Gut	0.76	0.59	0.44	0.46	0.43
	Other Products	0.09	0.10	0.10	0.07	0.11
	All Products	1.46	1.14	0.84	0.80	0.84
Other Groundfish	Whole Fish	0.01	0.23	0.04	0.15	0.36
	Head And Gut	0.02	0.05	0.01	0.00	*
	Fillets	*	-	-	-	-
	Fishmeal	*	*	*	*	*
	Other Products	0.32	0.40	0.31	0.13	0.48
	All Products	0.36	0.68	0.36	0.29	0.84

Table 4.34: Gulf of Alaska production of groundfish products by species, 2018-2022 (1,000 metric tons, round weight). *(continued)*

	Product	2018	2019	2020	2021	2022
All Species	Whole Fish	10.64	12.43	11.60	4.14	2.59
	Head And Gut	69.16	61.48	50.81	45.33	56.16
	Salted/Split	-	-	*	-	-
	Kirimi	*	*	*	*	-
	Roe	2.76	2.27	1.74	1.56	2.23
	Fillets	2.00	2.37	1.12	2.70	3.80
	Deep-Skin Fillets	*	*	0.23	*	*
	Other Fillets	13.08	8.80	7.60	8.65	11.77
	Surimi	9.77	6.95	5.43	5.93	6.48
	Minced Fish	0.98	0.84	1.80	0.76	0.66
	Fishmeal	1.11	*	*	0.50	*
	Other Products	3.20	3.70	1.71	3.16	5.10
	All Products	112.71	98.84	82.05	72.74	88.80

Note Total includes additional species not listed in the production details as well as confidential data from Tables 4.31 and 4.32. These estimates are for catch from both federal and state of Alaska fisheries. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.35: Gulf of Alaska gross value of groundfish products by species, 2018-2022, ($ million).

	Product	2018	2019	2020	2021	2022
Pollock	Whole Fish	0.50	1.90	0.30	0.40	0.30
	Head And Gut	36.20	32.60	25.90	14.40	30.10
	Roe	9.70	5.90	3.80	4.20	8.70
	Deep-Skin Fillets	*	*	0.80	*	*
	Other Fillets	33.60	26.90	23.20	29.50	54.60
	Surimi	20.70	16.60	12.80	16.70	22.30
	Minced Fish	1.30	1.40	3.40	1.40	2.60
	Fishmeal	1.50	*	*	0.90	*
	Other Products	1.40	0.70	0.20	1.00	1.10
	All Products	104.90	85.90	70.50	68.60	119.80
Pacific Cod	Whole Fish	0.50	0.80	0.00	0.10	0.10
	Head And Gut	8.60	8.50	3.50	5.80	11.30
	Salted/Split	-	-	*	-	-
	Roe	1.10	0.90	0.40	1.30	3.00
	Fillets	19.20	21.50	10.10	25.50	46.10
	Other Products	2.60	3.50	0.90	3.10	5.20
	All Products	31.90	35.20	15.00	35.80	65.70
Sablefish	Head And Gut	88.00	73.80	58.20	89.50	132.80
	Other Products	1.90	5.30	3.70	6.90	3.70
	All Products	89.90	79.00	61.90	96.40	136.50
Atka Mackerel	Whole Fish	0.20	-	-	-	-
	Head And Gut	2.30	1.60	0.60	1.30	1.00
	Other Products	*	*	*	*	*
	All Products	2.50	1.60	0.60	1.30	1.00
Arrowtooth	Whole Fish	1.50	0.80	1.60	-	-
	Head And Gut	9.30	11.00	7.60	5.20	9.50
	Kirimi	-	-	*	-	-
	Fillets	*	*	-	-	-
	Other Products	0.00	*	*	*	*
	All Products	10.80	11.70	9.20	5.20	9.50
Flathead Sole	Whole Fish	1.20	0.90	0.90	-	*
	Head And Gut	0.60	0.50	0.30	0.30	0.20
	Kirimi	*	*	*	-	-
	Fillets	*	*	*	-	-
	Other Products	*	*	*	*	*
	All Products	1.80	1.40	1.20	0.30	0.20

Table 4.35: Gulf of Alaska gross value of groundfish products by species, 2018-2022, ($ million). *(continued)*

	Product	2018	2019	2020	2021	2022
Rex Sole	Whole Fish	3.30	3.10	1.90	0.20	0.60
	Head And Gut	0.10	0.00	*	0.00	*
	Kirimi	*	-	-	-	-
	Fillets	*	*	*	*	-
	Other Products	*	*	*	*	*
	All Products	3.40	3.20	1.90	0.20	0.60
Shallow-Water Flatfish	Whole Fish	1.10	0.90	1.50	-	0.00
	Head And Gut	1.20	0.90	1.70	1.40	0.40
	Kirimi	*	*	*	*	-
	Fillets	*	*	*	-	*
	Other Products	*	*	*	*	*
	All Products	2.30	1.80	3.20	1.40	0.50
Deep-Water Flatfish	Whole Fish	0.00	*	*	-	-
	Head And Gut	0.00	*	*	-	*
	Fillets	*	*	*	-	-
	Other Products	-	-	-	-	*
	All Products	0.00	*	*	-	*
Pacific Ocean Perch	Whole Fish	4.00	2.80	4.70	2.60	1.60
	Head And Gut	27.70	19.10	15.90	24.40	30.70
	Other Products	0.40	1.90	1.60	2.30	3.40
	All Products	32.10	23.80	22.20	29.40	35.60
Northern Rockfish	Whole Fish	0.00	*	*	*	*
	Head And Gut	2.80	2.50	1.70	1.80	1.90
	Other Products	0.00	0.00	0.00	*	0.00
	All Products	2.80	2.50	1.70	1.80	1.90
Dusky Rockfish	Whole Fish	0.10	0.20	0.50	0.30	0.10
	Head And Gut	3.60	2.30	1.50	2.50	2.80
	Other Products	0.10	0.10	0.20	0.20	0.10
	All Products	3.80	2.60	2.20	3.00	3.00
Other Rockfish	Whole Fish	2.50	1.80	1.10	0.90	1.10
	Head And Gut	3.20	2.00	1.40	1.10	1.20
	Other Products	1.00	1.20	0.90	0.90	1.50
	All Products	6.70	5.00	3.40	2.90	3.80
Other Groundfish	Whole Fish	0.00	0.80	0.10	0.50	0.90
	Head And Gut	0.10	0.20	0.00	0.00	*
	Fillets	*	-	-	-	-
	Fishmeal	*	*	*	*	*
	Other Products	1.40	1.70	1.30	0.50	1.40
	All Products	1.50	2.70	1.40	1.00	2.30

Note Total includes additional species not listed in the production details as well as confidential data from Tables 4.31 and

4.32. These estimates are for catch from both federal and state of Alaska fisheries. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.36: Gulf of Alaska price per pound of groundfish products by species, 2018-2022, ($/lb).

	Product	2018	2019	2020	2021	2022
Pollock	Whole Fish	0.37	0.27	0.32	0.52	0.62
	Head And Gut	0.41	0.52	0.52	0.47	0.68
	Roe	1.83	1.42	1.10	1.88	2.94
	Deep-Skin Fillets	*	*	1.46	*	*
	Other Fillets	1.16	1.39	1.39	1.54	2.10
	Surimi	0.96	1.08	1.07	1.28	1.56
	Minced Fish	0.61	0.75	0.87	0.86	1.81
	Fishmeal	0.62	*	*	0.82	*
	Other Products	0.49	0.28	0.37	1.12	0.56
	All Products	0.69	0.76	0.80	0.98	1.31
Pacific Cod	Whole Fish	0.86	1.42	0.59	0.79	0.59
	Head And Gut	2.04	1.28	1.39	1.55	1.76
	Roe	1.28	1.04	0.99	1.11	1.53
	Fillets	4.35	4.12	4.09	4.28	5.50
	Other Products	1.12	1.09	0.88	0.89	1.20
	All Products	2.59	2.14	2.30	2.48	3.09
Sablefish	Head And Gut	6.83	5.12	4.11	4.56	5.07
	Other Products	2.99	5.58	4.84	5.25	4.26
	All Products	6.65	5.15	4.14	4.60	5.05
Atka Mackerel	Whole Fish	0.97	-	-	-	-
	Head And Gut	1.42	1.17	1.10	1.25	1.03
	Other Products	*	*	*	*	*
	All Products	1.38	1.17	1.10	1.25	1.03
Arrowtooth	Whole Fish	0.30	0.17	0.37	-	-
	Head And Gut	0.67	0.55	0.47	0.55	0.84
	Fillets	*	*	-	-	-
	Other Products	0.38	*	*	*	*
	All Products	0.57	0.48	0.45	0.55	0.84
Flathead Sole	Whole Fish	0.53	0.39	0.38	-	*
	Head And Gut	0.95	0.87	0.66	0.76	0.72
	Fillets	*	*	*	-	-
	Other Products	*	*	*	*	*
	All Products	0.62	0.49	0.42	0.76	0.72
Rex Sole	Whole Fish	0.97	0.98	0.83	0.51	0.63
	Head And Gut	1.35	1.44	*	0.58	*
	Fillets	*	*	*	*	-
	Other Products	*	*	*	*	*
	All Products	0.98	0.98	0.83	0.51	0.63

Table 4.36: Gulf of Alaska price per pound of groundfish products by species, 2018-2022, ($/lb). *(continued)*

	Product	2018	2019	2020	2021	2022
Shallow-Water Flatfish	Whole Fish	0.61	0.44	0.43	-	0.45
	Head And Gut	0.90	0.93	0.79	0.91	0.60
	Fillets	*	*	*	-	*
	Other Products	*	*	*	*	0.59
	All Products	0.73	0.60	0.58	0.91	0.58
Deep-Water Flatfish	Whole Fish	0.45	*	*	-	-
	Head And Gut	0.39	*	*	-	*
	Fillets	*	*	*	-	-
	Other Products	-	-	-	-	*
	All Products	0.40	*	*	-	*
Pacific Ocean Perch	Whole Fish	0.54	0.46	0.44	0.42	0.64
	Head And Gut	1.22	0.87	0.78	0.92	1.11
	Other Products	2.02	3.36	4.29	2.98	1.29
	All Products	1.06	0.83	0.70	0.87	1.09
Northern Rockfish	Whole Fish	0.42	*	*	*	*
	Head And Gut	1.04	0.83	0.63	0.69	0.86
	Other Products	1.96	2.81	2.44	*	0.25
	All Products	1.03	0.83	0.63	0.69	0.83
Dusky Rockfish	Whole Fish	0.72	0.77	0.71	0.57	0.74
	Head And Gut	1.14	0.88	0.77	0.86	0.99
	Other Products	2.48	3.04	4.87	3.79	5.50
	All Products	1.15	0.88	0.82	0.86	1.01
Other Rockfish	Whole Fish	1.86	1.81	1.62	1.55	1.76
	Head And Gut	1.93	1.55	1.44	1.07	1.24
	Other Products	4.76	5.34	4.52	5.62	5.99
	All Products	2.08	1.99	1.86	1.65	2.06
Other Groundfish	Whole Fish	0.94	1.66	0.92	1.66	1.15
	Head And Gut	1.84	1.79	0.79	2.11	*
	Fillets	*	-	-	-	-
	Fishmeal	*	*	*	*	0.60
	Other Products	2.01	1.89	1.89	1.60	1.34
	All Products	1.96	1.81	1.76	1.64	1.24

Note These estimates are based on data from both federal and state of Alaska fisheries. Prices based on confidential data have been excluded. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; and ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.37: Gulf of Alaska total product value per round metric ton of retained catch by species and year, 2018-2022, ($/mt).

	2018	2019	2020	2021	2022
Pollock	684	735	664	710	925
Sablefish	8,537	7,229	5,444	6,305	7,194
Pacific Cod	2,194	2,422	2,952	2,012	2,710
Flatfish	795	641	593	689	877
Rockfish	1,445	1,098	974	1,048	1,269
Atka Mackerel	1,785	1,443	1,165	1,552	1,181
Other	1,440	2,085	1,670	3,482	5,591

Note These estimates include the product value of catch from both federal and state of Alaska fisheries. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea and Shoreside Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Alaska Region Blend and Catch-accounting System estimates. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.38: Gulf of Alaska number of processors, gross product value, value per processor, and percent value of GOA FMP groundfish of processed groundfish by processor group, 2018-2022 ($ millions).

		Processors	Wholesale Value ($million)	Wholesale Value per Processor ($1,000)	Percent Value, GOA FMP Groundfish
Central	2018	9	34.64	3,849.20	8.30
and	2019	11	28.78	2,616.46	9.52
Western	2020	9	21.89	2,431.82	9.50
Gulf	2021	7	27.58	3,939.59	8.74
Trawl	2022	8	38.10	4,762.19	7.44
CP Hook	2018	7	2.94	420.58	0.71
and Line	2019	7	2.46	351.83	0.81
	2020	4	0.08	20.63	0.04
	2021	5	3.28	655.13	1.04
	2022	9	6.10	678.22	1.19
Sablefish	2018	5	4.35	870.40	1.04
IFQ	2019	7	3.89	555.68	1.29
	2020	5	2.08	416.94	0.90
	2021	5	5.26	1,051.81	1.67
	2022	7	7.75	1,106.61	1.51
Motherships	2018	3	113.17	37,724.78	27.12
& Inshore	2019	2	*	*	*
Floating	2020	2	*	*	*
Procs.	2021	2	*	*	*
	2022	2	*	*	*
Kodiak	2018	8	138.62	17,328.11	33.22
Shoreside	2019	6	111.06	18,509.63	36.72
Procs.	2020	7	98.76	14,108.99	42.86
	2021	6	113.64	18,940.64	36.02
	2022	5	176.64	35,327.07	34.47
Southcentral	2018	11	29.05	2,640.61	6.96
Gulf	2019	10	24.43	2,442.82	8.08
Shoreside	2020	10	15.55	1,554.54	6.75
Procs.	2021	8	28.24	3,529.56	8.95
	2022	12	47.25	3,937.14	9.22
Southeastern	2018	14	34.41	2,458.15	8.25
Gulf	2019	17	33.28	1,957.36	11.00
Shoreside	2020	15	25.78	1,718.70	11.19
Procs.	2021	17	37.43	2,201.87	11.87
	2022	17	49.98	2,940.11	9.75
Western	2018	2	*	*	*
Gulf	2019	3	63.45	21,149.68	20.98
Shoreside	2020	4	38.55	9,638.21	16.73
Procs.	2021	3	50.09	16,695.63	15.88
	2022	2	*	*	*

Note The data are for catch from both federal and state of Alaska fisheries. The processor groups are defined as follows: "Western and Central Gulf Trawl" are the processors in the Western and Central Gulf. "CP Hook and Line" are the hook and line catcher processors. "Sablefish IFQ" are processors processing sablefish IFQ. Values are not adjusted for inflation.
Source ADF&G Commercial Operators Annual Reports (COAR); and ADF&G Intent to Operate (ITO) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700,

Seattle, WA 98115-0070.

Table 4.39: Gulf of Alaska number of vessels, average and median length, and average and median capacity (tonnage) of vessels that caught groundfish by vessel type, and gear, 2018-2022.

		Vessels	Average Length (feet)	Median Length (feet)	Average Capacity (tons)	Median Capacity (tons)
Central and Western Gulf Trawl	2018	78	89	87	115	114
	2019	76	89	87	130	115
	2020	70	90	87	135	115
	2021	68	93	88	141	115
	2022	68	94	90	135	117
CV Hook and Line	2018	33	44	42	27	24
	2019	32	44	42	26	24
	2020	2	47	47	20	19.50
	2021	36	44	42	27	24
	2022	34	42	41	27	24
CP Hook and Line	2018	3	101	119	245	153
	2019	2	135	119	262	133
	2021	2	159	158.50	389	389
	2022	7	143	150	375	303
Sablefish IFQ	2018	262	57	57	48	39
	2019	254	57	57	48	36
	2020	241	57	57	49	39
	2021	245	58	58	52	41
	2022	247	58	58	53	43
Pot	2018	58	65	58	62	51
	2019	60	66	58	67	51
	2020	38	52	55	43	41
	2021	64	61	58	64	52
	2022	76	62	58	63	52
Jig	2018	98	39	36	14	12
	2019	108	40	41	16	15
	2020	94	39	38	15	15
	2021	96	38	38	21	15
	2022	78	40	38	16	16
No Fleet/ Other	2018	8	39	35	14	10
	2019	8	43	40	14	11
	2020	4	39	40	16	16
	2021	3	62	68	45	24
	2022	2	57	68	15	18

Note These estimates include only vessels fishing part of federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.40: Gulf of Alaska number of vessels that caught groundfish by month, vessel type, and gear, 2018-2022.

	Gear	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Catcher Vessels	Hook and Line	2018	10	48	98	125	178	123	59	103	174	114	103	17	353
		2019	29	59	140	173	150	123	60	93	113	106	69	10	351
		2020	4	19	88	98	143	88	55	72	100	113	38	5	291
		2021	31	44	93	116	134	60	50	40	58	85	50	29	280
		2022	8	33	87	107	102	44	27	37	66	57	47	25	257
	Pot	2018	24	30	46	10	14	11	5	6	16	14	13	5	78
		2019	24	24	39	15	18	13	4	7	22	25	18	3	88
		2020	1	8	37	22	35	28	20	33	55	62	36	3	137
		2021	30	24	52	63	87	57	39	33	60	80	55	27	206
		2022	20	35	94	97	103	71	37	42	80	83	57	29	236
	Trawl	2018	12	53	51	25	19	14	2	35	59	61	28	2	69
		2019	32	47	50	25	25	22	1	20	47	50	21	-	65
		2020	28	37	43	19	24	16	4	33	44	51	11	-	61
		2021	17	52	45	19	16	12	5	-	48	35	13	-	61
		2022	17	53	43	34	17	14	3	3	48	45	8	-	60
	All Gear	2018	46	131	187	158	211	146	66	142	248	188	141	24	467
		2019	85	130	221	209	191	156	65	119	180	177	106	13	468
		2020	33	64	163	134	190	125	73	127	175	195	74	8	414
		2021	77	118	169	169	204	111	77	61	152	168	101	49	432
		2022	45	120	203	199	187	117	58	68	169	159	92	46	437
Catcher Processors	Hook and Line	2018	-	2	5	3	1	2	1	1	3	-	1	-	7
		2019	-	1	1	1	2	2	2	1	4	2	2	-	8
		2020	-	-	1	1	2	1	-	1	1	-	-	-	4
		2021	-	3	2	1	-	-	2	1	1	2	3	-	5
		2022	1	1	2	1	1	1	1	1	1	2	3	1	9
	Pot	2020	-	-	-	-	-	-	-	-	-	1	1	-	1
		2021	-	-	-	-	2	2	-	-	-	1	1	-	3
		2022	-	-	1	1	-	2	1	1	1	2	-	-	6
	Trawl	2018	-	-	1	2	1	5	8	4	4	1	1	1	9
		2019	-	-	1	1	1	3	6	6	5	4	2	1	11
		2020	-	-	1	3	2	4	7	5	2	1	1	-	9
		2021	-	-	-	-	1	5	6	6	3	2	1	1	7
		2022	-	-	-	2	2	6	7	6	3	1	-	-	8
	All Gear	2018	-	2	6	5	2	7	9	5	7	1	2	1	16
		2019	-	1	2	2	3	5	8	7	9	6	4	1	19
		2020	-	-	2	4	4	5	7	6	3	2	2	-	14
		2021	-	3	2	1	3	7	8	7	4	5	5	1	14
		2022	1	1	3	4	3	8	9	7	4	5	3	1	21

Note These estimates include only vessels fishing part of federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.41: Gulf of Alaska catcher vessel (excluding catcher/processors) weeks of fishing groundfish by vessel-length class (feet), gear, and target ,2018-2022.

		Hook & Line		Pot		Trawl		All Gear	
	Year	<60ft	60-124ft	<60ft	60-124ft	<60ft	60-124ft	<60ft	60-124ft
Pollock	2018	-	-	-	-	187	487	187	487
	2019	-	-	-	-	142	389	142	389
	2020	-	-	-	-	144	422	144	422
	2021	-	-	-	-	82	463	82	463
	2022	-	-	-	-	107	516	107	516
Sablefish	2018	1,470	280	134	57	-	18	1,604	355
	2019	1,330	290	200	62	-	12	1,530	363
	2020	1,014	160	467	201	1	10	1,482	371
	2021	728	46	789	311	-	10	1,518	368
	2022	467	35	1,040	357	-	14	1,506	406
Pacific Cod	2018	371	1	190	93	29	3	590	96
	2019	394	1	171	80	41	7	606	88
	2020	254	-	80	5	-	2	335	7
	2021	529	8	224	37	57	8	810	53
	2022	444	2	251	59	39	35	733	96
Flatfish	2018	-	-	-	-	26	136	29	136
	2019	-	-	-	-	17	165	17	165
	2020	-	-	-	-	2	150	3	150
	2021	-	-	-	-	-	1	-	1
	2022	-	-	-	-	-	3	-	3
Rockfish	2018	250	7	-	-	5	98	256	105
	2019	238	1	-	-	6	113	245	114
	2020	186	-	-	-	6	112	192	112
	2021	109	-	-	-	3	116	113	116
	2022	79	-	-	-	5	80	84	80
Atka Mackerel	2018	-	-	-	-	-	0	-	0
All Groundfish	2018	2,102	288	-	-	247	742	2,676	1,180
	2019	1,967	292	-	-	207	686	2,544	1,119
	2020	1,461	160	-	-	152	696	2,161	1,062
	2021	1,368	54	-	-	142	599	2,524	1,002
	2022	994	37	-	-	152	648	2,436	1,101

Note These estimates include only vessels fishing part of federal TACs. A vessel that fished more than one category in a week is apportioned a partial week based on catch weight. A target is determined based on vessel, week, processing mode, NMFS area, and gear. All groundfish include additional target categories. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; CFEC gross earnings (fish tickets) file; NMFS Alaska Region groundfish observer data; NMFS Alaska Region permit data; CFEC vessel registration file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.42: Gulf of Alaska catcher/processor vessel weeks of fishing groundfish by vessel-length class (feet), gear, and target, 2018-2022.

		Hook & Line			Pot		Trawl			All Gear			
	Year	<60ft	60-124ft	125-230ft	<60ft	125-230ft	60-124ft	125-230ft	>230ft	<60ft	60-124ft	125-230ft	>230ft
Pollock	2018	-	-	-	-	-	0	0	-	-	0	0	-
	2020	-	-	-	-	-	-	0	-	-	-	0	-
	2021	-	-	-	-	-	1	0	-	-	1	0	-
	2022	-	-	-	-	-	-	0	-	-	-	0	-
Sablefish	2018	10	-	21	-	-	0	-	-	10	0	21	-
	2019	8	-	23	-	-	0	-	-	8	0	23	-
	2020	9	-	11	-	7	-	-	-	9	-	18	-
	2021	9	-	7	-	17	-	-	-	9	-	24	-
	2022	7	-	7	4	15	-	-	-	11	-	22	-
Pacific Cod	2018	7	7	1	-	-	-	-	-	7	7	1	-
	2019	1	6	3	-	-	-	-	-	1	6	3	-
	2021	-	-	11	-	-	-	-	-	-	-	11	-
	2022	-	4	10	-	-	-	-	-	-	4	10	-
Flatfish	2018	-	-	-	-	-	34	4	-	-	34	4	-
	2019	-	-	-	-	-	45	10	-	-	45	10	-
	2020	-	-	-	-	-	28	10	3	-	28	10	3
	2021	-	-	-	-	-	22	11	3	-	22	11	3
	2022	-	-	-	-	-	20	11	5	-	20	11	5
Rockfish	2018	-	-	-	-	-	7	35	-	-	7	35	-
	2019	-	-	-	-	-	5	34	1	-	5	34	1
	2020	-	-	-	-	-	1	33	4	-	1	33	4
	2021	-	-	-	-	-	2	40	7	-	2	40	7
	2022	-	-	-	-	-	-	35	8	-	-	35	8
Atka Mackerel	2018	-	-	-	-	-	0	0	-	-	0	0	-
All Groundfish	2018	17	7	23	-	-	42	40	-	17	48	62	-
	2019	9	6	25	-	-	50	44	1	9	56	69	1
	2020	9	-	11	-	7	29	43	7	9	29	61	7
	2021	9	-	18	-	17	25	51	10	9	25	86	10
	2022	7	4	17	4	15	20	46	13	11	24	77	13

Note These estimates include only vessels fishing part of federal TACs. A vessel that fished more than one category in a week is apportioned a partial week based on catch weight. A target is determined based on vessel, week, processing mode, NMFS area, and gear. All groundfish include additional target categories. "*" indicates a confidential

value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Blend and Catch-accounting System estimates; NMFS Alaska Region At-sea Production Reports; ADF&G Commercial Operators Annual Reports (COAR); and NMFS Office of Science and Technology, Fisheries Statistics Division, Fisheries of the United States. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.43: Gulf of Alaska catcher vessel crew weeks in the groundfish fisheries by month, 2018-2022.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2018	352	1,144	1,378	1,323	1,721	1,270	494	808	2,240	1,842	926	156	13,654
2019	428	1,055	1,492	1,396	1,642	1,209	442	924	1,456	1,712	729	72	12,558
2020	116	640	1,018	970	1,525	852	458	914	1,395	2,004	512	34	10,436
2021	490	984	1,390	1,138	1,740	799	598	509	1,208	1,882	774	223	11,734
2022	264	1,003	1,540	1,779	1,374	957	522	608	1,746	1,735	674	264	12,466

Note Crew weeks are calculated by summing weekly reported crew size over vessels and time period. These estimates include only vessels targeting groundfish counted toward federal TACs. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea Production Reports. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.44: Gulf of Alaska at-sea processor vessel crew weeks in the groundfish fisheries by month, 2018-2022.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2018	-	*	146	194	116	490	877	408	247	*	*	*	2,478
2019	-	*	*	*	134	332	604	556	526	346	312	*	2,810
2020	-	-	*	203	318	571	670	429	86	*	*	-	2,277
2021	-	72	*	*	126	609	1,164	408	294	250	205	*	3,128
2022	*	*	128	209	217	666	1,129	574	226	237	172	*	3,558

Note Crew weeks are calculated by summing weekly reported crew size over vessels and time period. These estimates include only vessels targeting groundfish counted toward federal TACs. Catcher processors typically account for 90-95% of the total at-sea crew weeks in all areas. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region At-sea Production Reports. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

4.4 Economic Data Tables for the Commercial Pacific Halibut Fishery

Table 4.45: Catch (net landed weight) in the commercial Pacific halibut fisheries off Alaska by region, 2018-2022, (hundreds of metric tons).

	Gulf of Alaska	Bering Sea and Aleutian Islands	All Alaska
2018	67.27	15.93	83.19
2019	69.67	17.16	86.83
2020	62.57	15.33	77.90
2021	76.66	13.58	90.24
2022	78.58	13.22	91.80

NoteThese estimates include catch from all Alaska commercial fisheries (including CDQ). Net weight is dressed, head-off, slime and ice deducted. "*" indicates a confidential value; "-"indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.46: Catch (net landed weight) and percent of regional catch in the commercial Pacific halibut fisheries off Alaska by vessel length (feet) and region, 2018-2022, (hundreds of metric tons).

		Gulf of Alaska		Bering Sea and Aleutian Islands		All Alaska	
	Length	Net tons	Percent	Net tons	Percent	Net tons	Percent
2018	<20	0.09	-	*	*	0.09	-
	20-29	1.48	0.02	1.05	0.07	2.53	0.03
	30-39	11.18	0.17	3.13	0.20	14.32	0.17
	40-49	26.12	0.39	3.23	0.20	29.36	0.35
	50-59	19.74	0.29	4.91	0.31	24.65	0.30
	>=60	8.50	0.13	3.44	0.22	11.94	0.14
2019	<20	0.09	-	*	*	0.09	-
	20-29	1.73	0.02	0.92	0.05	2.65	0.03
	30-39	12.53	0.18	3.12	0.19	15.65	0.18
	40-49	26.48	0.38	2.90	0.17	29.38	0.34
	50-59	19.86	0.29	5.95	0.35	25.80	0.30
	>=60	8.86	0.13	3.93	0.23	12.79	0.15
2020	<20	*	*	*	*	-	-
	20-29	1.75	0.03	*	*	1.75	0.02
	30-39	11.48	0.18	1.34	0.09	12.82	0.17
	40-49	24.00	0.38	2.59	0.17	26.59	0.34
	50-59	17.35	0.28	7.10	0.47	24.45	0.32
	>=60	7.85	0.13	3.93	0.26	11.78	0.15
2021	<20	0.07	-	*	*	0.07	-
	20-29	2.19	0.03	*	*	2.19	0.03
	30-39	13.77	0.18	0.61	0.08	14.38	0.17
	40-49	28.79	0.38	2.52	0.35	31.31	0.37
	50-59	22.58	0.30	*	*	22.58	0.27
	>=60	9.13	0.12	4.08	0.57	13.21	0.16
2022	<20	0.05	-	*	*	0.05	-
	20-29	1.78	0.02	*	*	1.78	0.02
	30-39	13.01	0.17	0.22	0.02	13.23	0.14
	40-49	30.19	0.38	2.13	0.16	32.31	0.35
	50-59	23.46	0.30	6.40	0.49	29.85	0.33
	>=60	9.94	0.13	4.37	0.33	14.31	0.16

Note Excludes vessels in the Annette Island commercial Pacific halibut fishery. These estimates include catch from all Alaska commercial fisheries (including CDQ). Net weight is dressed, head-off, slime and ice deducted. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.47: Non-halibut prohibited species catch on commercial Pacific halibut target trips off Alaska by PSC species and area, 2018-2022.

	Year	Chinook Salmon (Count)	Non-Chinook Salmon (Count)	Herring (Tons)	Bairdi Tanner Crab (Count)	Opilio Tanner (Snow) Crab (Count)	Red King Crab (Count)	Other King Crab (Count)
Gulf of Alaska	2018	-	62	-	131	1	17	96
	2019	17	93	-	57	-	2	28
	2020	-	-	-	1	-	-	199
	2021	-	21	-	76	-	*	572
	2022	-	66	-	88	-	-	2
Bering Sea and Aleutian Islands	2018	-	32	*	32	128	35	610
	2019	*	*	*	22	47	3	551
	2020	*	-	-	28	75	-	558
	2021	-	-	-	32	147	20	22
	2022	-	-	*	28	34	12	88

Note These estimates include catch from all Alaska commercial fisheries (including CDQ). For details on prohibited species catch estimation see Cahalan, J., J. Gasper, and J. Mondragon. 2014. Catch sampling and estimation in the federal groundfish fisheries off Alaska, 2015 edition. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-286, 46 p. "*" indicates a confidential value; "-"indicates no applicable data or value.
Source NMFS Alaska Regional Office Prohibited Species Catch database. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.48: Ex-vessel value and price in the commercial Pacific halibut fisheries off Alaska by region, 2018-2022, ($ millions and $/lb net weight, respectively).

	Gulf of Alaska		Bering Sea and Aleutian Islands		All Alaska	
	Value	Price	Value	Price	Value	Price
2018	75.38	$ 5.08	15.44	$ 4.40	90.82	$ 4.95
2019	79.59	$ 5.18	15.31	$ 4.05	94.89	$ 4.96
2020	59.22	$ 4.29	13.02	$ 3.85	72.24	$ 4.21
2021	110.51	$ 6.54	17.68	$ 5.91	128.20	$ 6.44
2022	126.96	$ 7.33	20.83	$ 7.14	147.79	$ 7.30

Note These estimates include catch from all Alaska commercial fisheries (including CDQ). Price is calculated as landed value divided by net weight. Values are not adjusted for inflation. Net weight is dressed, head-off, slime and ice deducted. "*" indicates a confidential value; "-"indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.49: Ex-vessel value and price in the commercial Pacific halibut fisheries off Alaska by IPHC area, 2018-2022, ($ millions and $/lb net weight, respectively).

Area		2018	2019	2020	2021	2022
2C	Value	19.25	19.79	15.17	27.28	30.12
	Price	5.06	5.26	4.28	6.34	7.33
3A	Value	40.46	45.25	31.41	65.57	73.78
	Price	5.15	5.28	4.32	6.66	7.37
3B	Value	13.35	12.24	10.35	12.13	17.26
	Price	5.01	5.03	4.33	6.66	7.23
4A	Value	6.07	5.79	4.70	9.28	10.09
	Price	4.54	3.86	3.82	5.89	7.10
4B	Value	5.07	4.50	3.77	4.93	-
	Price	4.40	4.16	3.80	5.88	-
4CDE	Value	6.63	7.32	6.85	9.01	12.25
	Price	4.34	4.07	3.91	5.95	7.18

Note Values and prices are for catch from all Alaska commercial fisheries (including CDQ). Price is calculated as landed value divided by net weight. Values are not adjusted for inflation. Net weight is dressed, head-off, slime and ice deducted. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.50: Ex-vessel value and average annual revenue per vessel in the commercial Pacific halibut fisheries off Alaska by region and vessel length (feet), 2018-2022, ($ millions and $ thousands, respectively).

		Gulf of Alaska		Bering Sea and Aleutian Islands		All Alaska	
	Length	Value	Avg. Value/Vessel	Value	Avg. Value/Vessel	Value	Avg. Value/Vessel
2018	<20	0.10	7.46	*	*	0.29	14.40
	20-29	1.65	20.09	0.97	37.28	2.62	24.45
	30-39	12.49	50.38	2.99	80.78	15.48	57.35
	40-49	29.19	108.11	3.16	185.68	32.35	118.05
	50-59	22.09	167.32	4.74	197.67	26.83	200.22
	>=60	9.71	236.92	3.39	199.26	13.10	297.75
2019	<20	0.10	6.29	*	*	0.50	18.42
	20-29	1.98	22.47	0.83	31.82	2.80	24.82
	30-39	14.11	54.91	2.74	76.07	16.85	59.96
	40-49	30.50	122.99	2.63	187.60	33.13	130.94
	50-59	22.49	178.51	5.24	227.72	27.73	218.34
	>=60	10.25	256.24	3.48	193.39	13.73	319.31
2020	<20	*	*	*	*	0.29	17.09
	20-29	1.66	21.04	*	*	1.72	19.94
	30-39	10.80	46.94	1.16	50.62	11.96	49.63
	40-49	22.84	92.11	2.22	147.87	25.06	99.06
	50-59	16.37	136.38	5.98	314.61	22.34	183.14
	>=60	7.42	200.43	3.34	196.76	10.76	269.02
2021	<20	0.09	6.51	*	*	0.25	11.81
	20-29	3.13	44.03	*	*	3.18	40.27
	30-39	19.60	84.11	0.80	42.00	20.39	84.28
	40-49	41.59	176.25	3.21	292.09	44.81	187.48
	50-59	32.40	263.45	*	*	40.39	323.13
	>=60	13.50	385.85	5.47	341.99	18.98	499.38
2022	<20	0.07	6.14	*	*	0.27	13.29
	20-29	2.91	37.35	*	*	2.92	36.48
	30-39	21.25	93.21	0.34	24.56	21.60	92.69
	40-49	48.99	203.29	3.31	184.16	52.31	215.25
	50-59	37.47	297.36	10.09	560.74	47.56	374.49
	>=60	16.01	421.30	6.88	430.03	22.89	558.29

Note Values are for catch from all Alaska commercial fisheries (including CDQ). Excludes vessels in the Annette Island commercial Pacific halibut fishery. Length is measured in feet. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.51: Ex-vessel value port ranking, annual ex-vessel value, price and percent of statewide value in the commercial Pacific halibut fisheries off Alaska, 2018-2022, ($ millions and $/lb net weight).

Port		2018	2019	2020	2021	2022
Ex-vessel	Homer	13.27	15.07	13.86	25.62	21.39
Value	Kodiak	11.07	10.35	7.20	13.11	20.98
	Seward	13.20	11.82	5.81	15.44	16.59
	Sitka	6.55	7.35	5.08	8.74	10.47
	Juneau	5.48	*	6.17	9.79	9.41
	Dutch Harbor	*	*	*	*	*
	Akutan	*	*	*	*	*
	Petersburg	6.56	6.43	4.15	7.77	8.65
	Yakutat	*	*	*	*	*
Price	Homer	5.34	5.43	4.50	7.11	7.78
	Kodiak	4.95	4.80	4.03	6.32	6.94
	Seward	5.14	5.40	4.37	6.93	7.44
	Sitka	5.21	5.54	4.21	6.24	6.70
	Juneau	5.10	*	4.51	6.48	7.63
	Dutch Harbor	*	*	*	*	*
	Akutan	*	*	*	*	*
	Petersburg	4.86	4.98	4.17	6.28	7.48
	Yakutat	*	*	*	*	*
Percent	Homer	15 %	16 %	19 %	20 %	14 %
State	Kodiak	12 %	11 %	10 %	10 %	14 %
Value	Seward	15 %	12 %	8 %	12 %	11 %
	Sitka	7 %	8 %	7 %	7 %	7 %
	Juneau	6 %	*	9 %	8 %	6 %
	Dutch Harbor	*	*	*	*	*
	Akutan	*	*	*	*	*
	Petersburg	7 %	7 %	6 %	6 %	6 %
	Yakutat	*	*	*	*	*
Rank	Homer	1	1	1	1	1
	Kodiak	3	3	3	3	2
	Seward	2	2	5	2	3
	Sitka	5	4	6	6	5
	Juneau	7	5	4	5	6
	Dutch Harbor	6	8	2	9	7
	Akutan	13	15	7	4	8
	Petersburg	4	6	8	8	9
	Yakutat	8	7	9	7	10

Note Displays only the 10 Alaska ports of landing with the highest average ex-vessel value over the last 5 years. Values and prices are for catch from all Alaska commercial fisheries (including CDQ). Price is calculated as landed value divided by net weight. Net weight is dressed, head-off, slime and ice deducted. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.52: First wholesale production volume, value and price in the commercial Pacific halibut fisheries off Alaska by product, 2018-2022, (1000s of metric tons, $ millions and $/lb net weight, respectively).

Product		Price	Quantity	Value
Head and	2018	$ 6.84	5.01	75.59
Gut	2019	$ 6.37	5.07	71.12
	2020	$ 5.75	3.42	43.34
	2021	$ 8.35	5.27	97.07
	2022	$ 9.19	5.10	103.25
Fillet	2018	$ 12.92	1.16	33.17
	2019	$ 11.44	1.38	34.76
	2020	$ 10.26	1.70	38.47
	2021	$ 14.45	1.66	52.81
	2022	$ 16.14	1.68	59.90
Other	2018	$ 2.39	0.33	1.73
Products	2019	$ 1.92	0.66	2.80
	2020	$ 1.64	0.50	1.81
	2021	$ 2.32	0.61	3.12
	2022	$ 2.31	0.45	2.32
All	2018	$ 7.71	6.50	110.50
Products	2019	$ 6.94	7.11	108.69
	2020	$ 6.75	5.62	83.62
	2021	$ 9.21	7.54	153.01
	2022	$ 10.38	7.23	165.46

Note Landings, values and prices for catch from all Alaska commercial fisheries (including CDQ). Price is calculated as landed value divided by net weight. Net weight is dressed, head-off, slime and ice deducted. Values are not adjusted for inflation. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source NMFS Alaska Region Production Reports. ADF&G Commercial Operators Annual Reports (COAR). Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.53: Number of vessels catching Pacific halibut commercially off Alaska and median vessel length by region and vessel length class, 2018-2022.

		Gulf of Alaska		Bering Sea and Aleutian Islands		All Alaska	
Class	Year	Vessels	Median Length	Vessels	Median Length	Vessels	Median Length
<20	2018	13	17	7	18	20	18
	2019	16	18	11	18	27	18
	2020	7	18	10	18	17	18
	2021	14	18	7	18	21	18
	2022	12	18	8	18	20	18
20-29	2018	82	26	26	28	107	27
	2019	88	26	26	28	113	27
	2020	79	26	7	28	86	26
	2021	71	26	8	28	79	26
	2022	78	26	2	27	80	26
30-39	2018	248	34	37	32	270	34
	2019	257	34	36	32	281	33
	2020	230	34	23	32	241	34
	2021	233	34	19	32	242	34
	2022	228	33	14	32	233	33
40-49	2018	270	45	17	48	274	45
	2019	248	45	14	48	253	45
	2020	248	45	15	48	253	45
	2021	236	45	11	48	239	45
	2022	241	45	18	48	243	45
50-59	2018	132	58	24	58	134	58
	2019	126	58	23	58	127	58
	2020	120	58	19	58	122	58
	2021	123	58	21	58	125	58
	2022	126	58	18	58	127	58
>=60	2018	41	72	17	76	44	73
	2019	40	72	18	76	43	74
	2020	37	73	17	76	40	74
	2021	35	74	16	75	38	74
	2022	38	73	16	75	41	74

Note Excludes vessels in the Annette Island commercial Pacific halibut fishery. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.54: Total vessel days fishing Pacific halibut commercially off Alaska by area, 2018-2022.

	Gulf of Alaska	Bering Sea and Aleutian Islands	All Alaska
2018	12,792	2,646	15,106
2019	12,960	3,220	15,745
2020	12,020	2,380	14,003
2021	13,578	2,060	15,227
2022	15,219	2,007	16,783

Note Excludes vessels in the Annette Island commercial Pacific halibut fishery. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Table 4.55: Crew days fishing Pacific halibut commercially off Alaska by month and area, 2018-2022.

Area	Year	Mar-Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Gulf of	2018	8,738	8,359	5,735	4,000	6,287	6,756	4,699	1,102
Alaska	2019	10,090	8,244	5,040	3,816	5,450	5,832	5,208	1,615
	2020	4,899	6,384	4,543	4,121	5,393	6,475	6,072	1,919
	2021	7,686	6,938	5,120	4,329	5,443	5,650	5,567	3,364
	2022	8,620	8,193	5,029	4,769	7,725	8,001	5,723	3,521
Bering Sea	2018	455	1,270	1,456	2,044	2,986	1,766	679	105
and	2019	864	1,566	1,927	2,376	2,577	1,986	950	260
Aleutian	2020	722	1,047	1,284	1,350	2,541	1,876	735	45
Islands	2021	294	873	1,119	1,271	1,986	1,864	1,086	423
	2022	262	725	893	1,757	2,131	1,895	881	152
All Alaska	2018	9,121	9,402	7,027	5,931	8,845	8,307	5,351	1,157
	2019	10,857	9,635	6,863	5,938	7,727	7,289	5,893	1,835
	2020	5,585	7,284	5,668	5,391	7,478	7,890	6,603	1,961
	2021	7,956	7,791	6,120	5,329	7,155	7,086	6,352	3,513
	2022	8,797	8,751	5,709	6,281	9,499	9,461	6,469	3,634

Note Excludes vessels in the Annette Island commercial Pacific halibut fishery because crew size is not reported for this fishery. Minimal fishing occurs in March and to ensure confidentiality it is combined with April. "*" indicates a confidential value; "-" indicates no applicable data or value.
Source ADF&G fish tickets; CFEC gross earnings (fish tickets) file. Data compiled and provided by the Alaska Fisheries Information Network (AKFIN). National Marine Fisheries Service, P.O. Box 15700, Seattle, WA 98115-0070.

Chapter 5

Economic Performance Indices for the North Pacific Groundfish Fisheries

5.1 Introduction

Fisheries markets are complex. A multitude of factors influence demand, supply, price, catch composition, product types produced and other market activity. Indices are a common method used by agencies to synthesize market information in a digestible format. Indices establish a baseline that helps characterize trends in the market for values, prices and quantities of fisheries goods. Market indices have many uses. From a management perspective indices can both retrospectively characterize changes in the market that may be related to policy decisions (such as a change in TAC), or allow managers to evaluate current market conditions in the context of future policy change. Indices may also be useful to market participants when making business decisions.

This section of the Economic Status of the Groundfish Fisheries off Alaska attempts to distill the numerous factors that affect the North Pacific groundfish markets into a simple set of indices that can be used to track performance. Indices of value, price and quantity are presented for the Bering Sea and Aleutian Island (BSAI) at-sea, the BSAI shoreside, and the Gulf of Alaska (GOA). Figure 5.1 displays the ex-vessel and first-wholesale values for the BSAI and GOA at-sea and shoreside sectors. For the BSAI at-sea sector, index analysis will focus on the wholesale market; for the BSAI shoreside and GOA sectors, index analysis will consider the wholesale and ex-vessel markets. To help understand and evaluate the indices, we plot the value share stratified by species and product type for wholesale markets, and by species and gear type for the ex-vessel markets. Value share is the proportion of total value from each of the stratified components, such as the proportion of total value that comes from pollock. Additionally, bar graphs provide detail on the division of production among species, product types and gear types. Specifically, for the wholesale market, these graphs show the composition of species within product types and the composition of product type for a given species, and in the ex-vessel market, they show composition of species harvested by a given gear type and the composition of gear types used to harvest a species.

Aggregate indices, by their very nature, are cumulative over the many species, products types, and gear types in a sector. The values, prices, and quantities from individual components of these factors (e.g., individual species) may contribute to the movements of the aggregate indices in very different ways. The myriad of market influences make it difficult to disentangle the relative importance of different species or products when monitoring aggregate performance, a problem that

can be approached by using a value-share decomposition to examine the influence of these different components on the aggregate index. Decomposition relates the indices for each of the components of a single factor to the aggregate through its value share. For example, consider an aggregate price index for a sector. The aggregate price index is a function of the prices of all the species sold (e.g., pollock, Pacific cod, sablefish). Here, species type is the factor and the component indices of this factor are the price indices for all the species (e.g., pollock price index, Pacific cod price index). The importance of each individual species price index is determined by the proportion of total value in the sector for the species. By decomposing the aggregate index in this way, one can see how each of the species price indices influence the movement in the aggregate price index. Similar value-share decompositions are also constructed for product types in the wholesale market, and for gear types in the ex-vessel market.

The primary tools we will use to analyze market performance are Figures 5.2-5.11. The index figures in Figures 5.2-5.11 are designed to help the reader visualize changes in the indices and relate the changes to shifts in aggregate value, prices, and quantities. All indices use 2018 as the base year for the index. All calculations and statistics are made using nominal U.S. dollars (i.e., not adjusted for inflation).[1] Aggregate indices are located in the upper-left panel and the value share decomposition of the aggregate index is below in the lower-left panels of the figures. Changes in the indices have been color coded to indicate the relevance in determining aggregate index movements. The relevance of a change in the price index in year t is calculated by $(year-on-year\ growth\ rate)*(share\ weight) = (I_{i,t}/I_{i,t-1}-1)*\tilde{w}(i,t)$ where $I_{i,t}$ is the level of the index and $\tilde{w}(i,t) = \frac{p_{i,t}*q_{i,t}}{\sum_j p_{j,t}*q_{j,t}}$ is the year t value share and i, j enumerates species, products, or gear types depending on the index. When the value $(year-on-year\ growth\ rate)*(share\ weight)$ is roughly zero, indicating little to no change or influence on the aggregate index, it is colored blue. When this value is less than -0.1, the index is colored red to indicate that it has had a significant negative impact on the aggregate index. When this value is greater than 0.1, the index is colored green, indicating a significant positive impact on the aggregate index. Shades in between these colors indicate intermediate impacts. The indices can take on these "significant colors" if the percentage change is large and/or the value share is large. The value share plot in the upper-right corner of each figure helps to discern the difference. For each sector and market, two decompositions are presented. The wholesale market is decomposed by species and product type, and the ex-vessel market is decomposed by species and gear type. To help relate the different decompositions, bar graphs in the lower-right panel of each figure show the composition of one factor (e.g., product type) for each relevant category of the other factor (e.g., species) as measured by production. The height of the bars shows the annual output in that market. Only the components of a factor with a value share greater than 1% have been plotted, although all prices and quantities were used in the construction of the aggregate index. Ex-vessel indices are constructed using catch that is counted against a federal total allowable catch (TAC). Hereafter, "wholesale value" and "ex-vessel value" refer to the revenue from production at the first wholesale level or from sales of catch on the ex-vessel market, respectively. Walleye pollock will often be referred to simply as "pollock"; similarly, Pacific cod will often be referred to as "cod". The "other" product type contains all products that are not fillets, H&G, surimi, meal and oil, or roe. In particular, the "other" product type includes whole fish and minced fish.

Understanding the indices and their construction facilitates accurate interpretation. To properly

[1] U.S. nominal dollars are used so price indices capture unadjusted changes in prices throughout time, allowing them to be used as deflator indices. For readers comparing these indices to other figures in the SAFE denominated in inflation adjusted terms, this adjustment should be kept in mind.

interpret the indices, the reader must realize that the indices are merely descriptive and characterize the state of the market relative to other periods, and display the co-movement of different species, product types, or gear types both individually and in aggregate. The indices have no inherent causal interpretation. For example, it would be wrong to assert from these indices that a change in surimi prices "caused" a change in pollock price. Nor could we say the opposite. We can say that they are connected, as surimi is a significant portion of the value from pollock in some regions, but causality is beyond the scope of indices. Carefully designed regression analysis is better suited for addressing such causality questions. The indices are displayed graphically in Section 5.2 followed by tables with the index values.

5.2 Economic Indices of the North Pacific Groundfish Fisheries

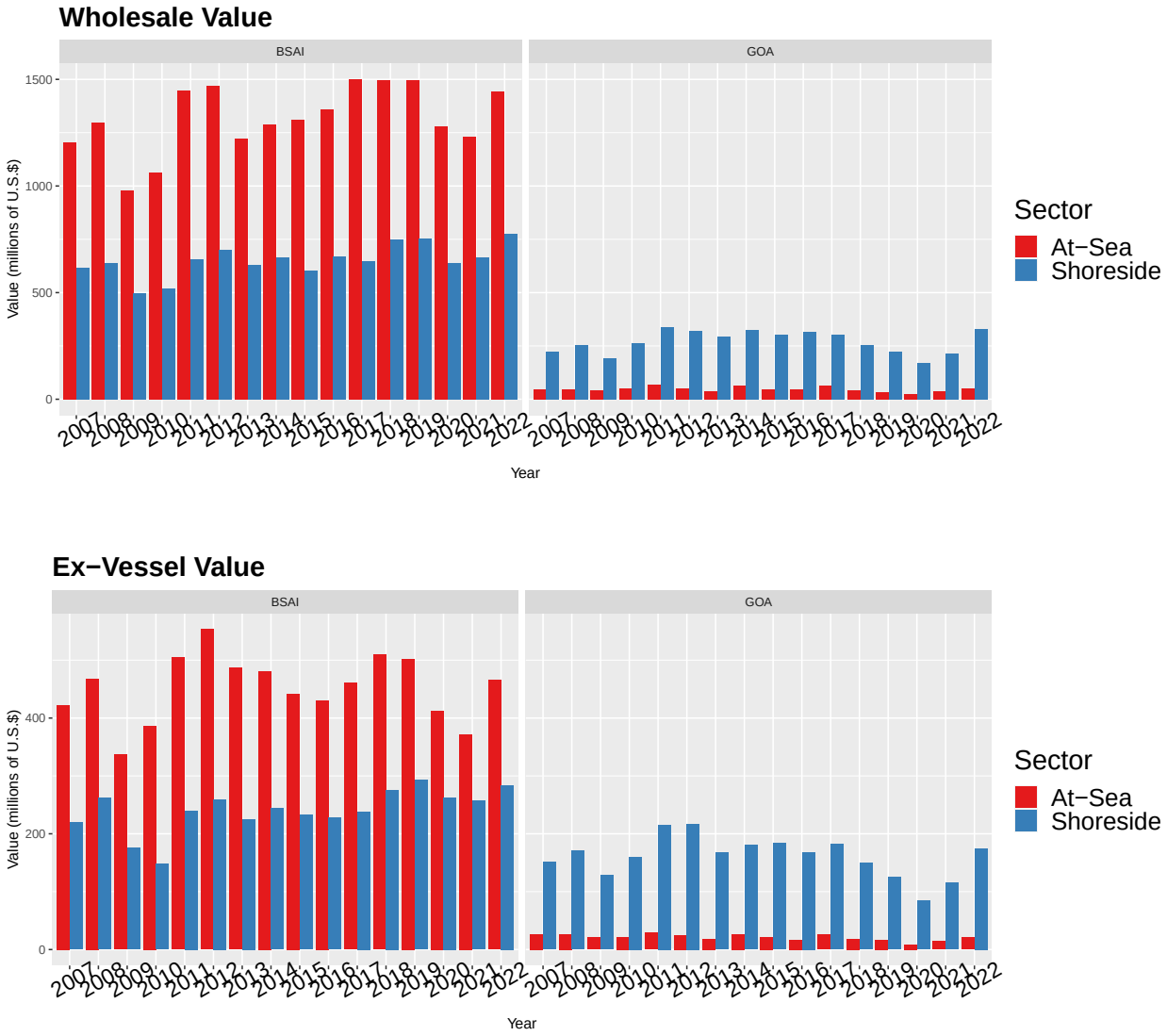

Figure 5.1: Wholesale and ex-vessel value by region and sector2007-2022.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

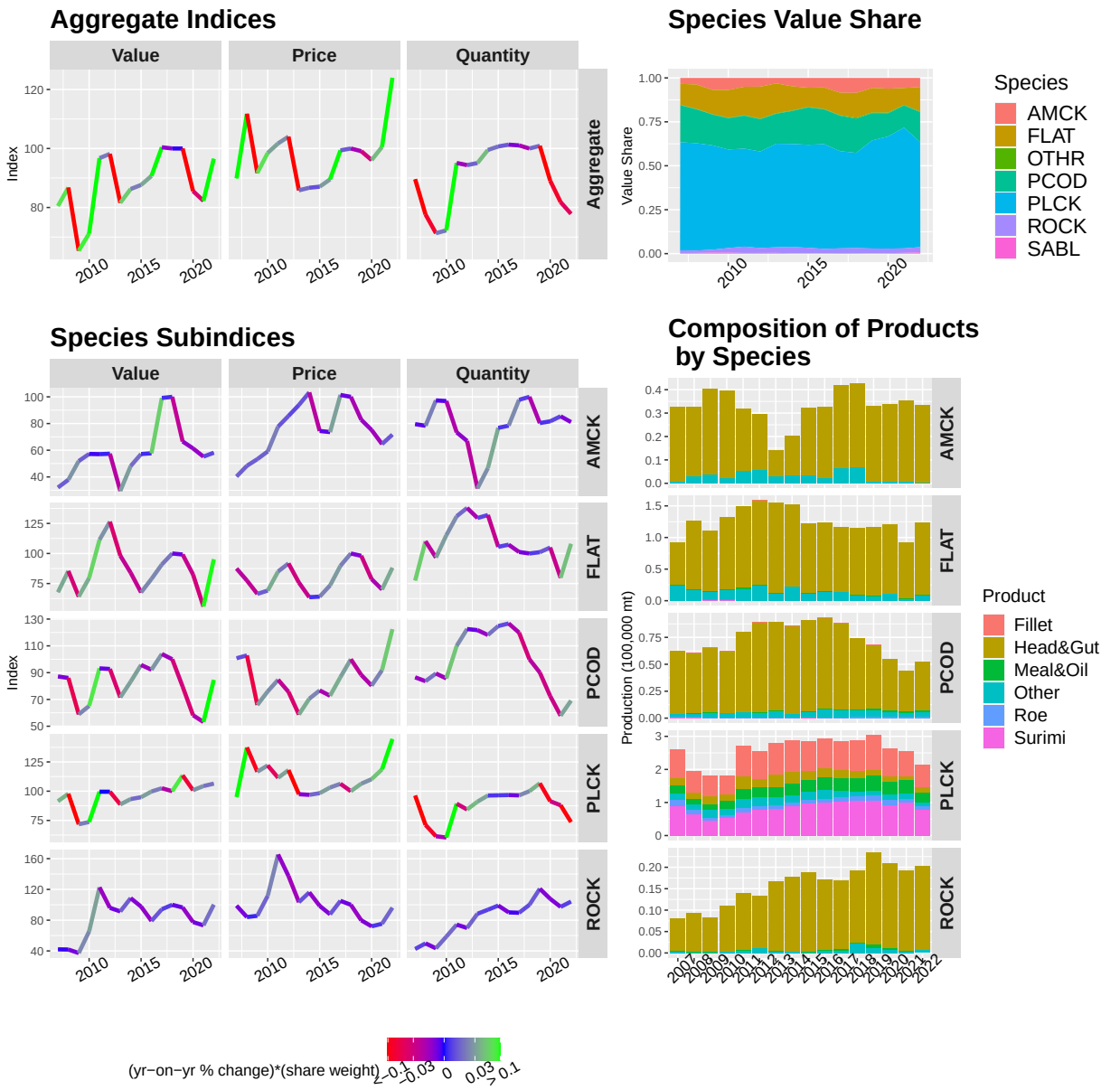

Figure 5.2: BSAI at-sea wholesale market: species decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017- 2022, notes and source information for the indices are in Table 5.1. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

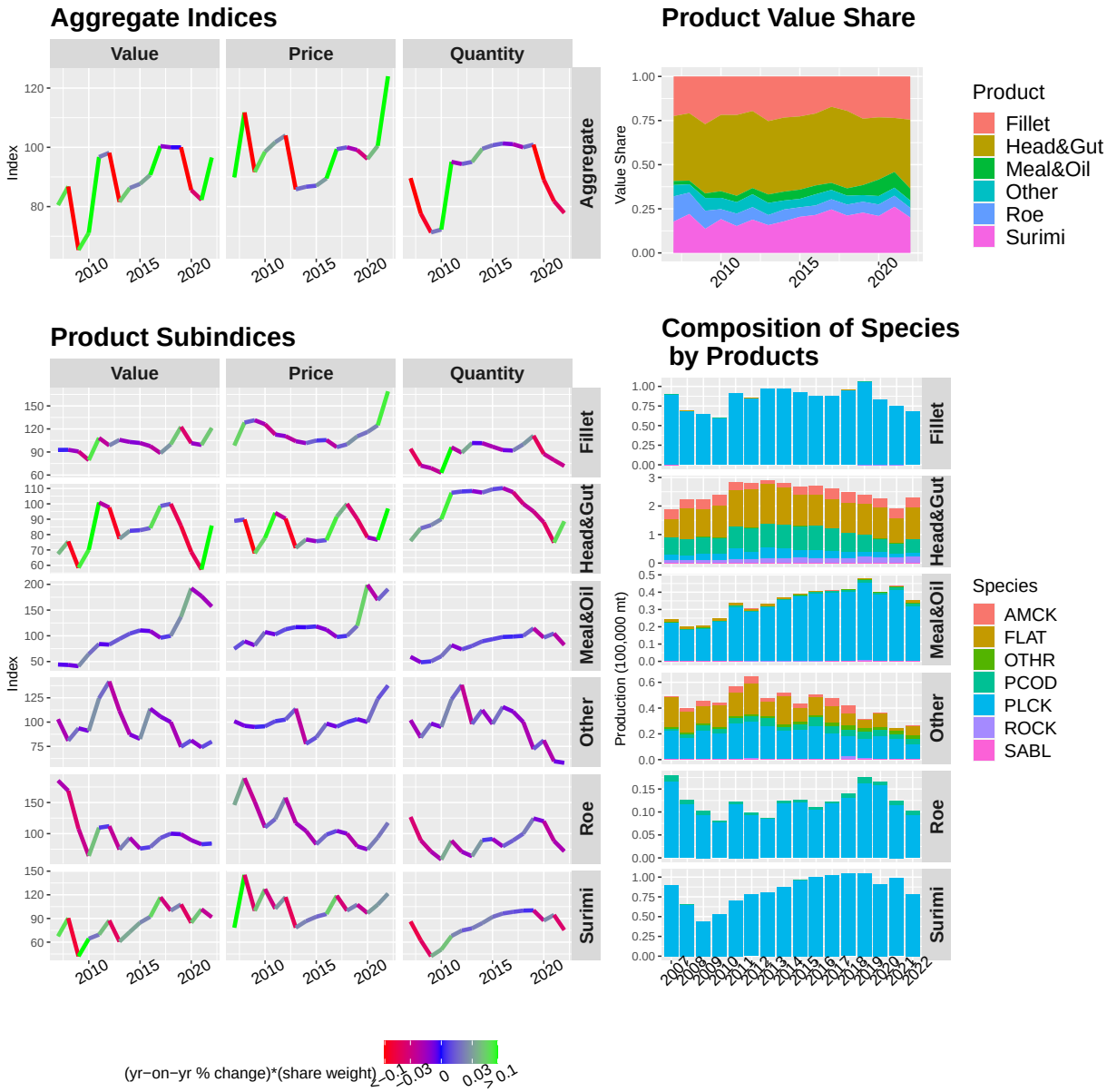

Figure 5.3: BSAI at-sea wholesale market: species decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017-2022, notes and source information for the indices are in Table 5.2. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

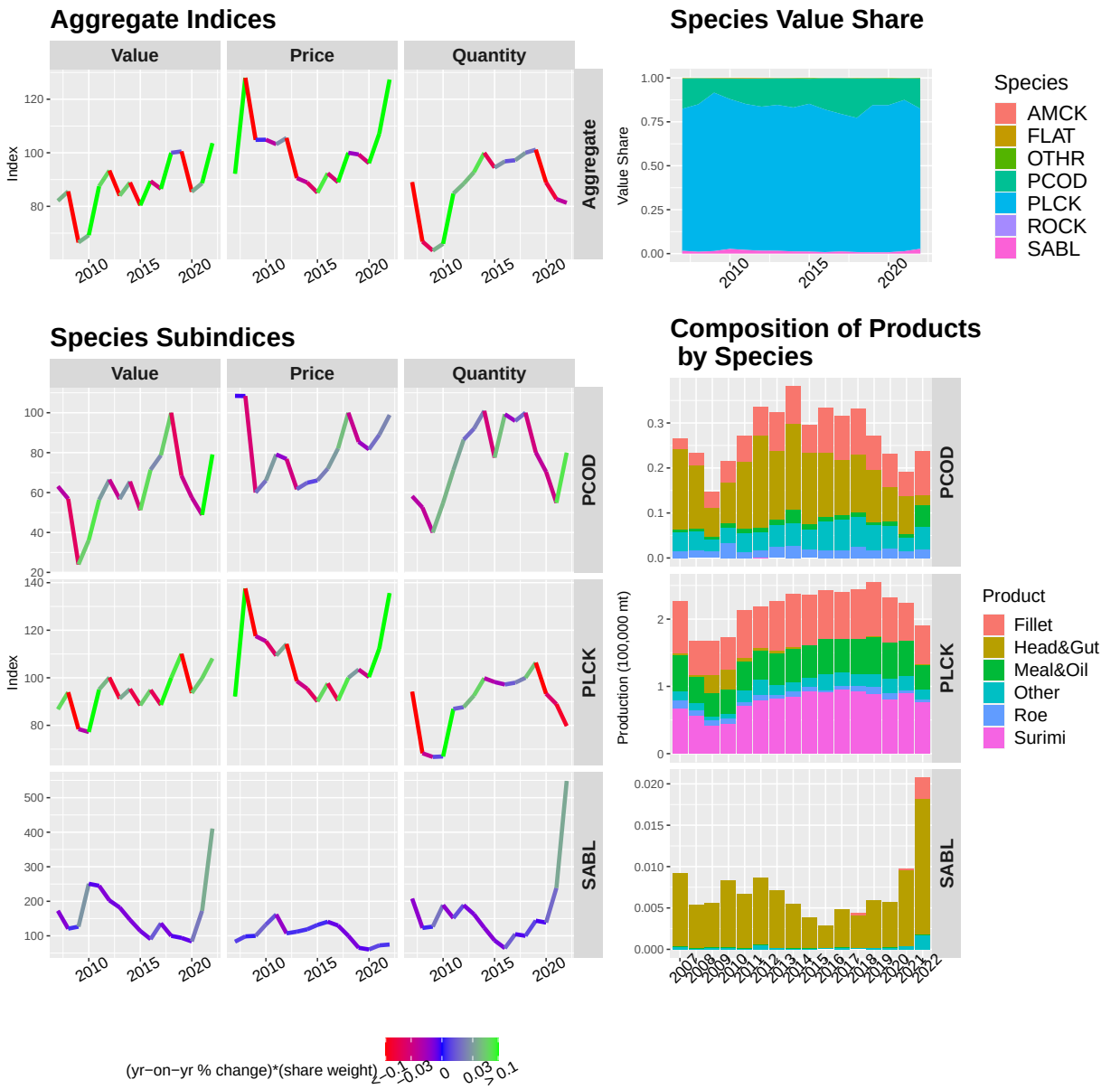

Figure 5.4: BSAI shoreside wholesale market: species decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017-2022, notes and source information for the indices are in Table 5.3. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

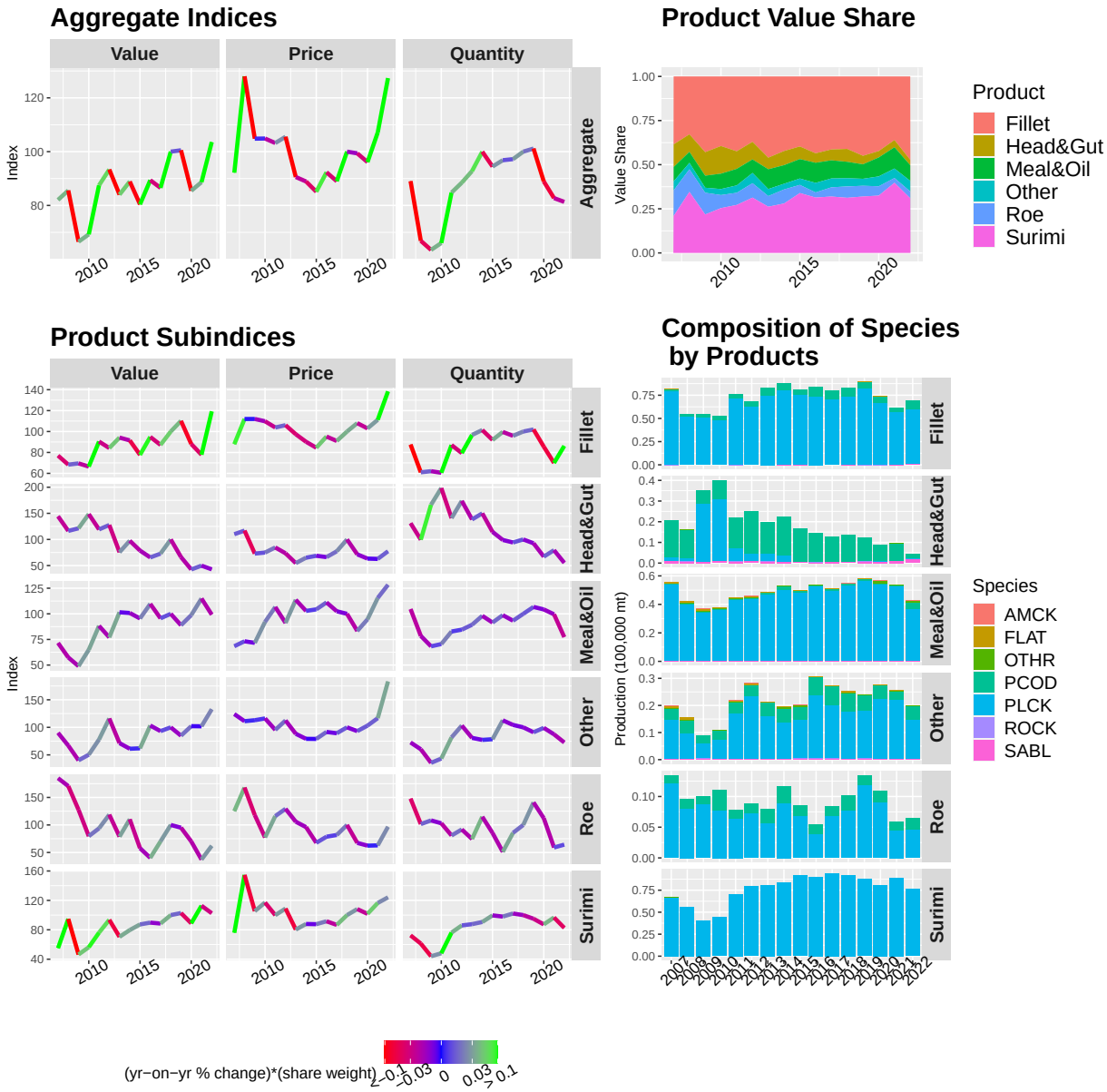

Figure 5.5: BSAI shoreside wholesale market: product decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017-2022, notes and source information for the indices are in Table 5.4. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

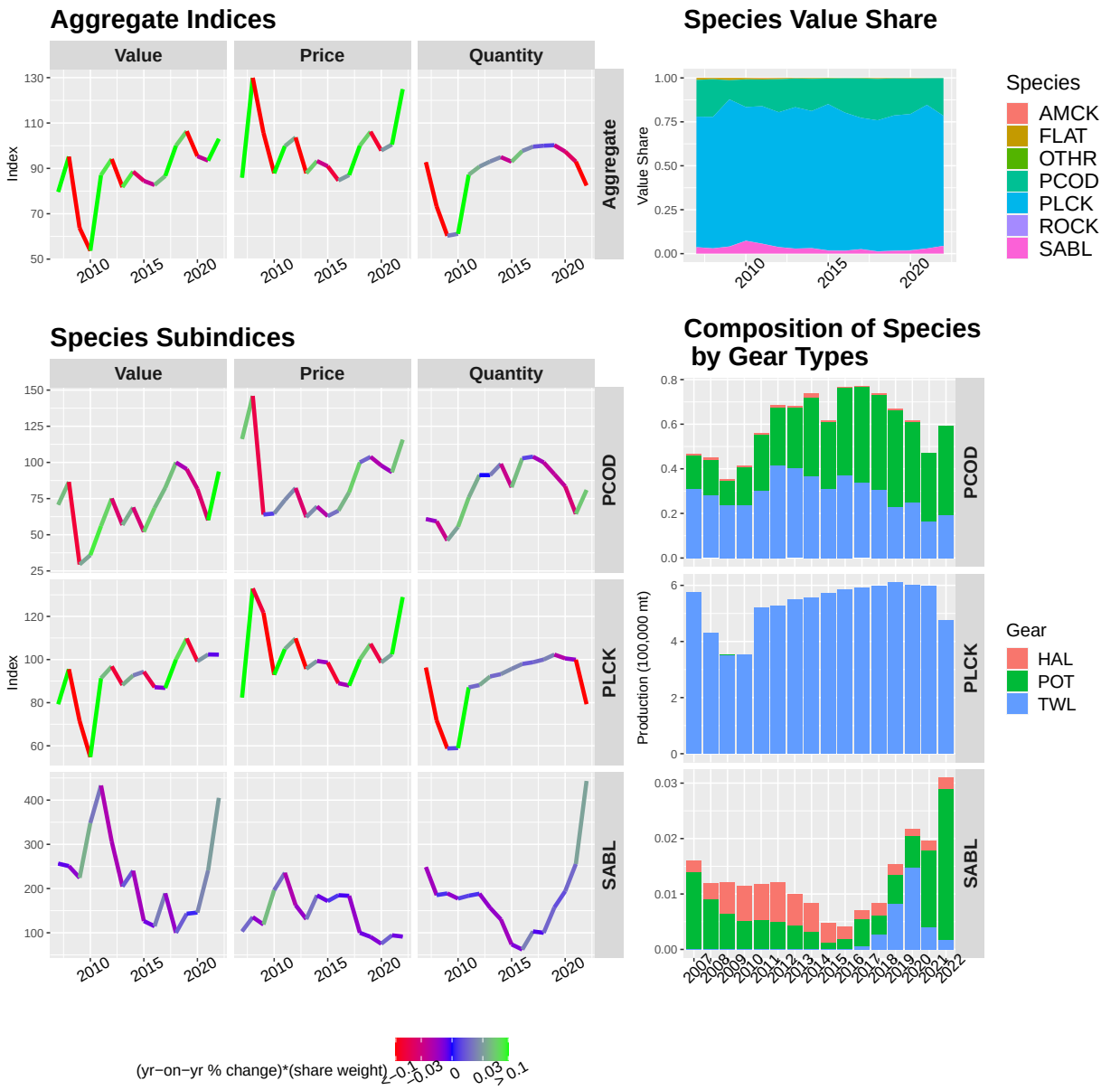

Figure 5.6: BSAI shoreside ex-vessel market: species decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017-2022, notes and source information for the indices are in Table 5.5. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

Figure 5.7: BSAI shoreside ex-vessel market: gear decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017-2022, notes and source information for the indices are in Table 5.6. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

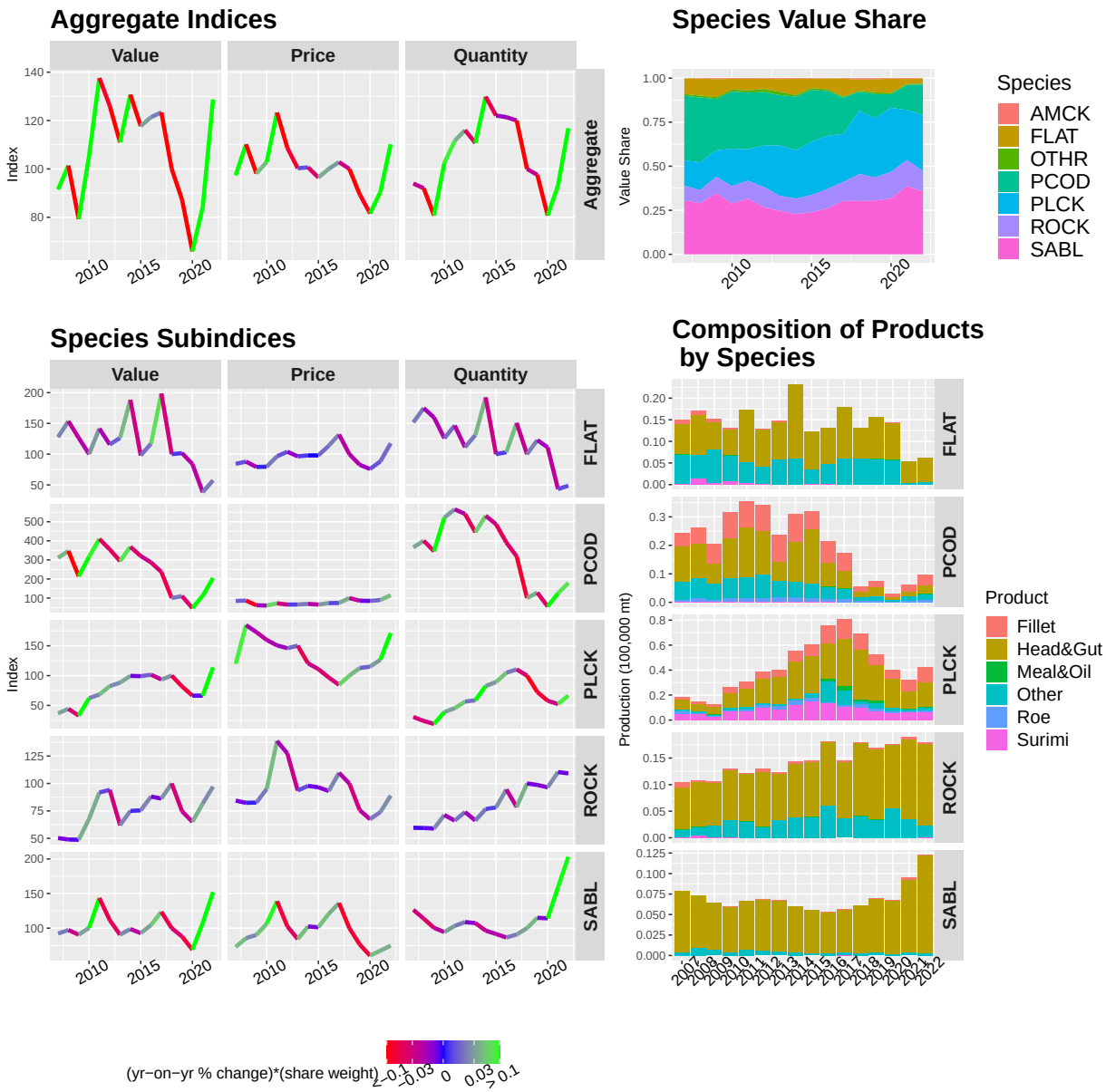

Figure 5.8: GOA wholesale market: species decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017- 2022, notes and source information for the indices are in Table 5.7. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

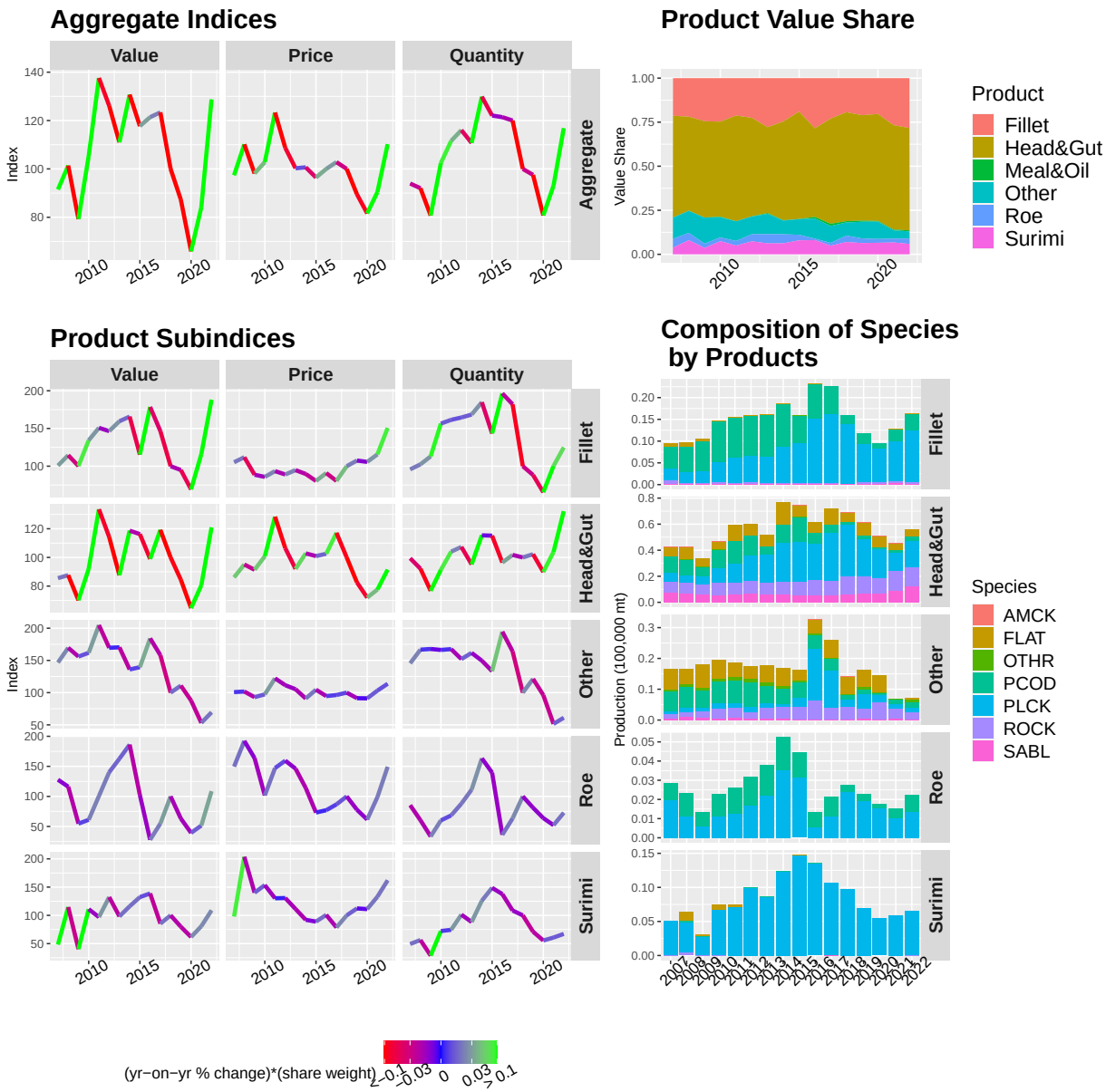

Figure 5.9: GOA wholesale market: product decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017- 2022, notes and source information for the indices are in Table 5.8. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

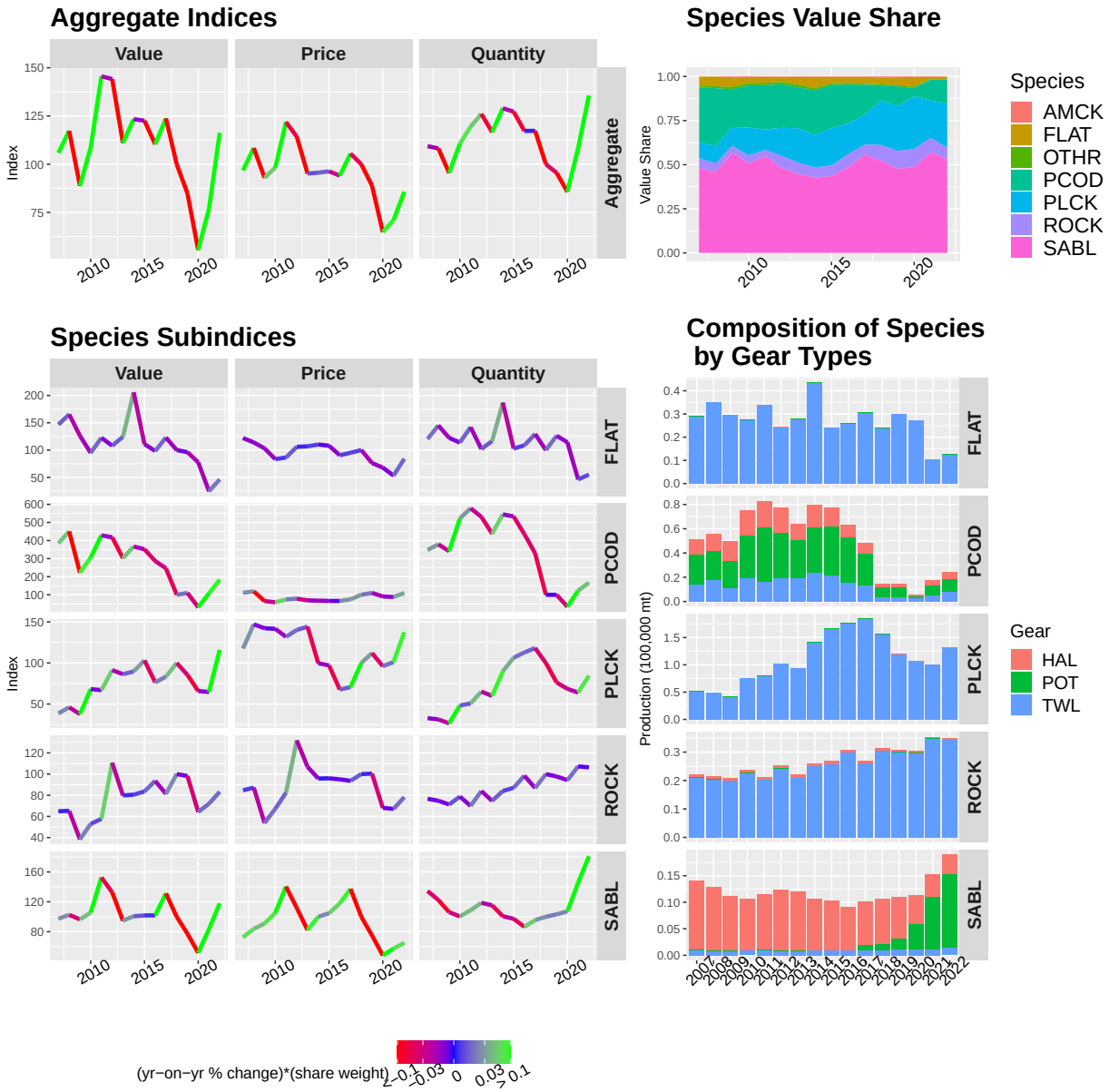

Figure 5.10: GOA ex-vessel market: species decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017- 2022, notes and source information for the indices are in Table 5.9. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

Figure 5.11: GOA ex-vessel market: gear decomposition 2007 - 2022 (Index 2018 = 100).

Notes Index values for 2017- 2022, notes and source information for the indices are in Table 5.10. Index coloring indicates its influence on aggregate index movements, see Section 5.1 for details.

Table 5.1: Species indices and value share for the BSAI at-sea first-wholesale market 2017-2022

Species	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	100.42	100.00	100.00	85.57	82.27	96.54
	Price	99.37	100.00	99.10	96.08	100.53	123.97
	Quantity	101.05	100.00	100.91	89.06	81.84	77.87
AMCK	Value	99.17	100.00	66.57	61.38	55.21	58.14
	Price	101.42	100.00	82.85	75.15	64.61	71.68
	Quantity	97.78	100.00	80.35	81.67	85.44	81.12
	Value Share	0.08	0.09	0.06	0.06	0.06	0.05
FLAT	Value	90.90	100.00	99.13	82.54	55.93	95.19
	Price	89.77	100.00	98.06	78.65	70.06	88.14
	Quantity	101.25	100.00	101.09	104.94	79.84	108.00
	Value Share	0.13	0.14	0.14	0.14	0.10	0.14
PCOD	Value	103.95	100.00	79.58	58.21	53.17	84.60
	Price	86.69	100.00	88.34	80.31	91.85	122.46
	Quantity	119.91	100.00	90.08	72.49	57.89	69.08
	Value Share	0.20	0.19	0.16	0.13	0.13	0.17
PLCK	Value	102.50	100.00	113.55	100.80	104.39	106.45
	Price	106.31	100.00	106.38	110.26	118.67	144.61
	Quantity	96.42	100.00	106.73	91.42	87.97	73.61
	Value Share	0.55	0.54	0.62	0.64	0.69	0.60
ROCK	Value	94.22	100.00	96.49	77.56	73.29	100.20
	Price	105.16	100.00	79.84	71.99	75.32	96.19
	Quantity	89.60	100.00	120.86	107.74	97.29	104.17
	Value Share	0.03	0.03	0.03	0.03	0.03	0.03

Notes Species with a value share less than 1% were not included in this table. All groundfish species were used to calculate aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.2: Product indices and value share for the BSAI at-sea first-wholesale market 2017-2022

Product	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	100.42	100.00	100.00	85.57	82.27	96.54
	Price	99.37	100.00	99.10	96.08	100.53	123.97
	Quantity	101.05	100.00	100.91	89.06	81.84	77.87
Fillet	Value	88.52	100.00	122.70	101.58	99.18	121.29
	Price	96.34	100.00	110.40	115.99	124.84	168.90
	Quantity	91.89	100.00	111.14	87.57	79.44	71.81
	Value Share	0.17	0.20	0.24	0.23	0.24	0.25
Head&Gut	Value	98.61	100.00	85.67	68.76	57.29	85.85
	Price	91.64	100.00	90.14	78.20	76.60	96.91
	Quantity	107.61	100.00	95.04	87.93	74.80	88.59
	Value Share	0.43	0.44	0.38	0.35	0.31	0.39
Meal&Oil	Value	96.13	100.00	136.97	192.33	177.17	156.86
	Price	97.62	100.00	119.54	199.14	169.64	190.73
	Quantity	98.48	100.00	114.57	96.58	104.44	82.24
	Value Share	0.04	0.04	0.06	0.09	0.09	0.07
Other	Value	105.67	100.00	74.55	81.19	73.98	79.92
	Price	95.31	100.00	103.05	100.01	123.87	137.66
	Quantity	110.86	100.00	72.35	81.18	59.73	58.06
	Value Share	0.05	0.05	0.04	0.05	0.05	0.04
Roe	Value	93.06	100.00	99.13	89.58	82.94	84.14
	Price	104.47	100.00	79.64	74.71	93.90	117.38
	Quantity	89.07	100.00	124.46	119.89	88.32	71.69
	Value Share	0.06	0.06	0.06	0.07	0.06	0.05
Surimi	Value	116.89	100.00	107.84	84.60	101.63	91.62
	Price	118.90	100.00	107.52	96.79	107.59	121.48
	Quantity	98.31	100.00	100.30	87.41	94.46	75.42
	Value Share	0.25	0.21	0.23	0.21	0.26	0.20

Notes Products types 'Minced', 'Other' and those with a value share less than 1% were not included in this table. All product types were used to construct aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.3: Species indices and value share for the BSAI shoreside first-wholesale market 2017-2022

Species	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	86.54	100.00	100.51	85.46	88.65	103.56
	Price	89.01	100.00	99.37	96.11	107.15	127.34
	Quantity	97.22	100.00	101.15	88.93	82.73	81.33
PCOD	Value	78.72	100.00	68.44	57.48	48.82	79.07
	Price	82.10	100.00	85.42	81.66	88.95	98.85
	Quantity	95.89	100.00	80.12	70.39	54.88	80.00
	Value Share	0.20	0.22	0.15	0.15	0.12	0.17
PLCK	Value	88.60	100.00	110.06	93.60	99.81	108.12
	Price	90.48	100.00	103.47	100.33	112.26	135.60
	Quantity	97.93	100.00	106.38	93.30	88.91	79.74
	Value Share	0.78	0.76	0.84	0.84	0.86	0.80
SABL	Value	136.09	100.00	94.09	83.72	172.59	410.51
	Price	129.86	100.00	65.40	60.51	72.36	74.84
	Quantity	104.80	100.00	143.88	138.36	238.53	548.49
	Value Share	0.01	0.01	0.01	0.01	0.01	0.03

Notes Species with a value share less than 1% were not included in this table. All groundfish species were used to calculate aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.4: Product indices and value share for the BSAI shoreside first-wholesale market 2017-2022

Product	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	86.54	100.00	100.51	85.46	88.65	103.56
	Price	89.01	100.00	99.37	96.11	107.15	127.34
	Quantity	97.22	100.00	101.15	88.93	82.73	81.33
Fillet	Value	87.23	100.00	110.17	88.08	77.82	119.29
	Price	90.95	100.00	108.03	103.00	111.25	138.37
	Quantity	95.91	100.00	101.98	85.51	69.95	86.21
	Value Share	0.41	0.41	0.45	0.42	0.36	0.47
Head&Gut	Value	72.83	100.00	66.27	42.50	49.80	42.73
	Price	77.29	100.00	71.51	63.35	62.70	77.39
	Quantity	94.23	100.00	92.67	67.09	79.42	55.22
	Value Share	0.06	0.07	0.05	0.04	0.04	0.03
Meal&Oil	Value	95.62	100.00	88.86	98.71	114.96	99.19
	Price	102.49	100.00	83.26	94.66	115.50	128.33
	Quantity	93.29	100.00	106.73	104.28	99.53	77.29
	Value Share	0.10	0.09	0.08	0.11	0.12	0.09
Other	Value	93.14	100.00	84.81	102.12	101.88	132.87
	Price	89.27	100.00	93.14	103.08	116.68	183.19
	Quantity	104.33	100.00	91.05	99.06	87.32	72.53
	Value Share	0.05	0.05	0.04	0.06	0.05	0.06
Roe	Value	70.07	100.00	95.02	70.03	37.13	62.12
	Price	81.78	100.00	67.42	62.37	62.89	96.69
	Quantity	85.68	100.00	140.93	112.29	59.04	64.25
	Value Share	0.05	0.06	0.06	0.05	0.03	0.04
Surimi	Value	88.51	100.00	102.78	88.81	112.72	102.55
	Price	86.66	100.00	108.18	101.69	116.50	124.15
	Quantity	102.14	100.00	95.01	87.34	96.76	82.60
	Value Share	0.32	0.31	0.32	0.32	0.40	0.31

Notes Products types 'Minced', 'Other' and those with a value share less than 1% were not included in this table. All product types "were used to contruct aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.5: Species indices and value share for the BSAI shoreside ex-vessel market 2017-2022

Species	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	86.69	100.00	106.38	95.37	93.41	103.02
	Price	87.05	100.00	106.16	97.89	100.49	124.92
	Quantity	99.58	100.00	100.21	97.43	92.96	82.47
PCOD	Value	82.55	100.00	95.36	81.68	60.07	93.65
	Price	79.39	100.00	103.87	97.86	93.22	115.72
	Quantity	103.97	100.00	91.81	83.46	64.43	80.93
	Value Share	0.22	0.24	0.21	0.20	0.15	0.21
PLCK	Value	86.83	100.00	109.75	99.17	102.36	102.27
	Price	87.93	100.00	107.30	98.65	102.45	128.93
	Quantity	98.75	100.00	102.29	100.52	99.91	79.32
	Value Share	0.75	0.75	0.77	0.78	0.82	0.74
SABL	Value	189.16	100.00	143.06	145.84	241.28	405.00
	Price	183.56	100.00	90.83	75.24	94.35	91.38
	Quantity	103.05	100.00	157.50	193.82	255.72	443.19
	Value Share	0.02	0.01	0.02	0.02	0.03	0.04

Notes Species with a value share less than 1% were not included in this table. All groundfish species were used to calculate" aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.6: Gear indices and value share for the BSAI shoreside ex-vessel market 2017-2022

Gear	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	86.69	100.00	106.38	95.37	93.41	103.02
	Price	87.05	100.00	106.16	97.89	100.49	124.92
	Quantity	99.58	100.00	100.21	97.43	92.96	82.47
HAL	Value	81.27	100.00	109.10	69.68	51.77	52.19
	Price	154.34	100.00	98.85	86.78	97.69	98.30
	Quantity	52.65	100.00	110.37	80.30	52.99	53.09
	Value Share	0.01	0.01	0.01	0.01	0.00	0.00
POT	Value	90.17	100.00	111.20	87.90	80.56	132.93
	Price	86.20	100.00	107.25	100.36	96.78	112.69
	Quantity	104.60	100.00	103.68	87.58	83.24	117.96
	Value Share	0.15	0.14	0.15	0.13	0.12	0.19
TWL	Value	86.14	100.00	105.54	96.86	95.95	98.33
	Price	86.83	100.00	106.03	97.57	101.05	127.32
	Quantity	99.21	100.00	99.54	99.27	94.95	77.23
	Value Share	0.84	0.85	0.84	0.86	0.87	0.81

Notes The Fisher index method was used to construct the indices. Further details on index construction and gear decomposition can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.7: Species indices and value share for the GOA first-wholesale market 2017-2022

Species	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	123.39	100.00	87.29	65.92	84.12	128.74
	Price	102.82	100.00	89.51	81.62	90.42	110.20
	Quantity	120.01	100.00	97.53	80.77	93.04	116.82
FLAT	Value	198.71	100.00	101.66	84.18	38.13	57.42
	Price	131.88	100.00	82.72	75.83	88.25	117.68
	Quantity	150.68	100.00	122.90	111.00	43.20	48.79
	Value Share	0.10	0.06	0.07	0.08	0.03	0.03
PCOD	Value	236.48	100.00	110.15	47.37	111.80	205.16
	Price	74.18	100.00	85.92	84.89	89.87	114.48
	Quantity	318.80	100.00	128.20	55.81	124.40	179.20
	Value Share	0.21	0.11	0.14	0.08	0.14	0.17
PLCK	Value	93.52	100.00	81.82	66.47	66.32	113.89
	Price	84.68	100.00	112.78	115.03	126.62	171.26
	Quantity	110.44	100.00	72.55	57.78	52.38	66.50
	Value Share	0.27	0.36	0.34	0.36	0.28	0.32
ROCK	Value	86.21	100.00	74.67	65.07	81.67	97.09
	Price	109.68	100.00	75.68	67.44	73.96	88.93
	Quantity	78.60	100.00	98.66	96.48	110.43	109.18
	Value Share	0.11	0.15	0.13	0.15	0.15	0.12
SABL	Value	123.70	100.00	87.97	68.92	107.32	151.94
	Price	136.28	100.00	76.52	60.37	67.47	74.81
	Quantity	90.77	100.00	114.97	114.16	159.06	203.09
	Value Share	0.30	0.30	0.31	0.32	0.39	0.36

Notes Species with a value share less than 1% were not included in this table. All groundfish species were used to calculate aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.8: Product indices and value share for the GOA first-wholesale market 2017-2022

Product	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	123.39	100.00	87.29	65.92	84.12	128.74
	Price	102.82	100.00	89.51	81.62	90.42	110.20
	Quantity	120.01	100.00	97.53	80.77	93.04	116.82
Fillet	Value	146.49	100.00	94.94	69.19	115.96	188.15
	Price	80.44	100.00	107.49	105.69	115.67	150.69
	Quantity	182.11	100.00	88.32	65.47	100.25	124.85
	Value Share	0.23	0.19	0.21	0.20	0.27	0.28
Head&Gut	Value	119.22	100.00	84.44	64.67	80.52	120.95
	Price	117.17	100.00	82.58	71.99	77.58	91.47
	Quantity	101.75	100.00	102.25	89.84	103.79	132.24
	Value Share	0.60	0.62	0.60	0.61	0.59	0.58
Other	Value	158.11	100.00	110.89	87.74	53.14	69.45
	Price	96.33	100.00	91.40	91.13	103.21	113.77
	Quantity	164.14	100.00	121.33	96.28	51.48	61.05
	Value Share	0.10	0.07	0.09	0.10	0.05	0.04
Roe	Value	54.87	100.00	63.15	39.33	51.51	108.63
	Price	86.71	100.00	77.84	61.50	98.80	149.29
	Quantity	63.28	100.00	81.12	63.94	52.13	72.77
	Value Share	0.02	0.04	0.03	0.02	0.02	0.03
Surimi	Value	85.46	100.00	79.87	61.71	80.78	108.90
	Price	78.67	100.00	112.30	111.10	133.02	162.02
	Quantity	108.63	100.00	71.12	55.55	60.73	67.22
	Value Share	0.05	0.07	0.06	0.07	0.07	0.06

Notes Products types 'Minced' and those with a value share less than 1% were not included in this table. All product types were used to contruct aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.9: Species indices and value share for the GOA ex-vessel market 2017-2022

Species	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	123.76	100.00	84.95	55.59	76.90	116.20
	Price	105.50	100.00	88.90	64.87	71.02	85.70
	Quantity	117.31	100.00	95.55	85.70	108.28	135.60
FLAT	Value	122.99	100.00	96.14	77.64	24.58	46.20
	Price	95.07	100.00	76.18	67.90	53.19	84.10
	Quantity	129.37	100.00	126.20	114.35	46.22	54.94
	Value Share	0.04	0.04	0.04	0.05	0.01	0.02
PCOD	Value	246.57	100.00	110.18	30.95	107.44	183.31
	Price	74.83	100.00	110.42	90.68	87.67	109.77
	Quantity	329.51	100.00	99.78	34.13	122.55	167.00
	Value Share	0.17	0.09	0.11	0.05	0.12	0.13
PLCK	Value	83.43	100.00	85.50	65.80	64.67	115.95
	Price	70.64	100.00	112.14	96.03	101.14	137.53
	Quantity	118.11	100.00	76.24	68.52	63.95	84.31
	Value Share	0.17	0.25	0.25	0.30	0.21	0.25
ROCK	Value	81.33	100.00	98.24	64.17	72.02	83.26
	Price	93.64	100.00	100.46	68.06	67.14	78.27
	Quantity	86.86	100.00	97.79	94.28	107.27	106.38
	Value Share	0.06	0.09	0.10	0.10	0.08	0.06
SABL	Value	131.23	100.00	77.26	51.71	83.34	117.92
	Price	137.32	100.00	74.82	48.26	57.24	65.22
	Quantity	95.57	100.00	103.27	107.15	145.59	180.80
	Value Share	0.56	0.52	0.48	0.49	0.57	0.53

Notes Species with a value share less than 1% were not included in this table. All groundfish species were used to calculate aggregate indices and value share. The Fisher index method was used to construct the indices. Further details can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Table 5.10: Gear indices and value share for the GOA ex-vessel market 2017-2022

Gear	Index Type	2017	2018	2019	2020	2021	2022
Aggregate	Value	123.76	100.00	84.95	55.59	76.90	116.20
	Price	105.50	100.00	88.90	64.87	71.02	85.70
	Quantity	117.31	100.00	95.55	85.70	108.28	135.60
HAL	Value	133.21	100.00	73.22	33.30	34.33	38.50
	Price	129.64	100.00	78.09	52.03	58.41	69.24
	Quantity	102.75	100.00	93.76	64.00	58.77	55.61
	Value Share	0.50	0.47	0.40	0.28	0.21	0.15
POT	Value	171.86	100.00	119.21	120.93	308.73	496.00
	Price	97.76	100.00	88.54	61.87	70.55	80.71
	Quantity	175.80	100.00	134.64	195.46	437.58	614.51
	Value Share	0.15	0.11	0.15	0.23	0.43	0.46
TWL	Value	101.43	100.00	89.18	63.59	64.90	105.20
	Price	84.17	100.00	101.15	80.54	84.28	109.46
	Quantity	120.51	100.00	88.17	78.95	77.00	96.11
	Value Share	0.35	0.43	0.45	0.49	0.36	0.39

Notes The Fisher index method was used to construct the indices. Further details on index construction and gear decomposition can be found in the text or by contacting marysia.szymkowiak@noaa.gov.

Source NMFS Alaska Region's Catch-accounting system (CAS) and Weekly Production Report (WPR) estimates; Alaska Department of Fish and Game (ADF&G) Commercial Operator's Annual Report (COAR), National Marine Fisheries Service. P.O. Box 15700, Seattle, WA 98115-0070.

Chapter 6

Groundfish In-Season Ex-vessel Revenue Estimates for 2023

6.1 Overview

This section represents an ongoing effort to provide the NPFMC, industry, and the public with economic information that is up to date through September 2023 for use in setting Total Allowable Catches (TACs) for 2024 during the groundfish harvest specifications process. Other sections of the Groundfish Economic SAFE (hereafter GFEconSAFE) are currently reporting final 2022 prices and revenues. The data presented in this section are estimates, "nowcasts", of current 2023 year-to-date monthly ex-vessel revenues and landings for Alaska groundfish fisheries (methods are summarized below). These ex-vessel revenue estimates are the best estimates of 2023 North Pacific fisheries values currently available, but are likely to be different than the values that will be presented in the 2024 GFEconSAFE. Statistics reported below compare trends from January through September for each calendar year to be consistent with data available for 2023.

Harvest volumes in 2023 are up in Alaska approximately 9.5% compared with 2022 (160,000 MT) and just about equal to the (-5,000 MT) the 5 year average baseline period (2018-2022; Figure 6.1) for January through September. Prices in 2023 were on average 13.1% lower than 2022 and 13.2% lower than the baseline average years. These trends are broadly consistent with the volume of U.S. exports of Alaska groundfish through September 2023 for baseline years. The change in prices from 2022 is greater than the reduction in volume of U.S. exports of Alaska groundfish (1.8%). Year-to-date estimated 2023 revenues have fallen by 4.7% compared to 2022 (-$40 million) and are 1.5% below the 2018-2022 average values (-$12 million) between January and September.

On a percentage basis, BSAI harvest volumes increased by approximately 11% in 2023 compared with 2022 (170,000 MT), but fell 1% relative to 2018-2022 (-20,000 MT). In contrast, the GOA in 2023 experienced a 4% decrease in groundfish landings compared to 2022 (-7,000 MT) but were actually 9% above the 2018-2022 average (16,000 MT) after really low volume years in 2020-2021, as shown in Figures 6.2 and 6.3.

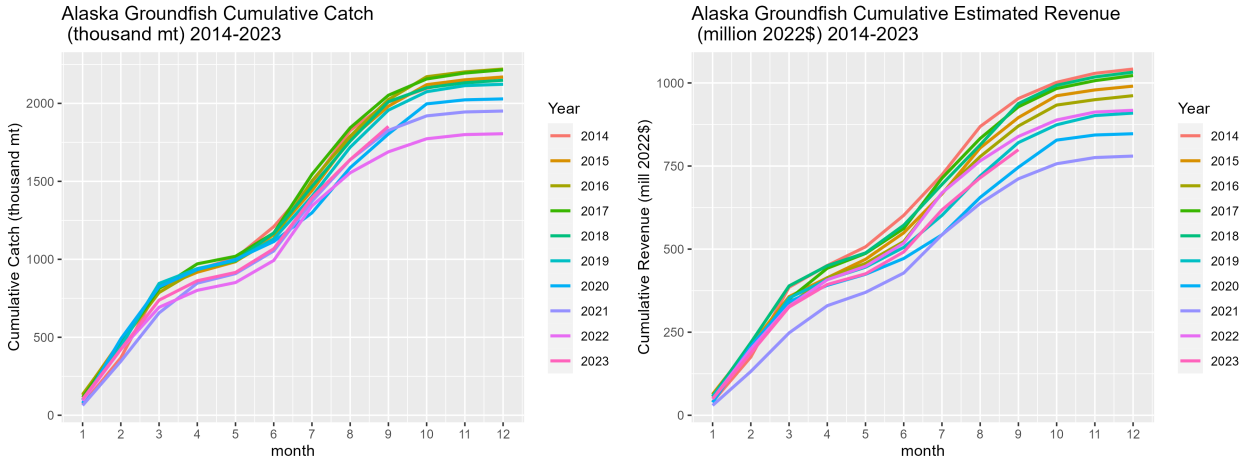

Figure 6.1: Alaska FMP Groundfish Cumulative Landings and Revenue by Year, 2015-2023.

While harvest volumes have been similar to the recent past, groundfish species in the GOA are expected to experience a 29% decline in revenues in 2023 compared with 2022 (-$47 million) which is approximately 8% below the 2018-2022 average (-$10 million). 2023 BSAI groundfish revenues are expected to be up 1% ($7 million) from 2022 levels and nearly equal to the 2018-2022 average (-$1.5 million).

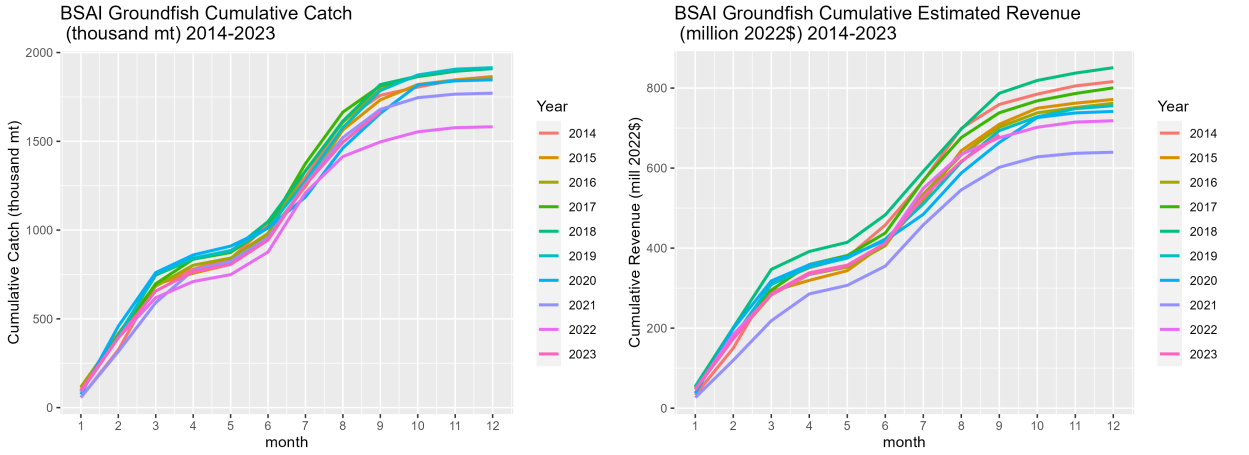

Figure 6.2: BSAI Groundfish Cumulative Landings and Ex-vessel Revenue by Year

Alaska remains the region of the U.S. with the largest seafood export values over the January to September period (about $1.4 billion). Alaskan seafood exports experienced a 21% decrease in value in 2023 relative to 2022 and a 22% decline relative to the 2018-2022 baseline. China is the US's top export country for January-September seafood exports and is a major importer of Alaska seafood. Exports to China (including cod, crab, pollock) decreased 15% from the baseline average to $315m in 2023 during January-September (NMFS Foreign Trade Data[1]). The U.S. dollar weakened between 2022 and 2023 during January-September against the Euro (7.2%) and strengthened against the Yen (3.1%) and Yuan (3.8%) which will make Alaska seafood exports less expensive to European consumers and more expensive to Japanese and Chinese consumers. When

[1](Gorovaya, 2022)

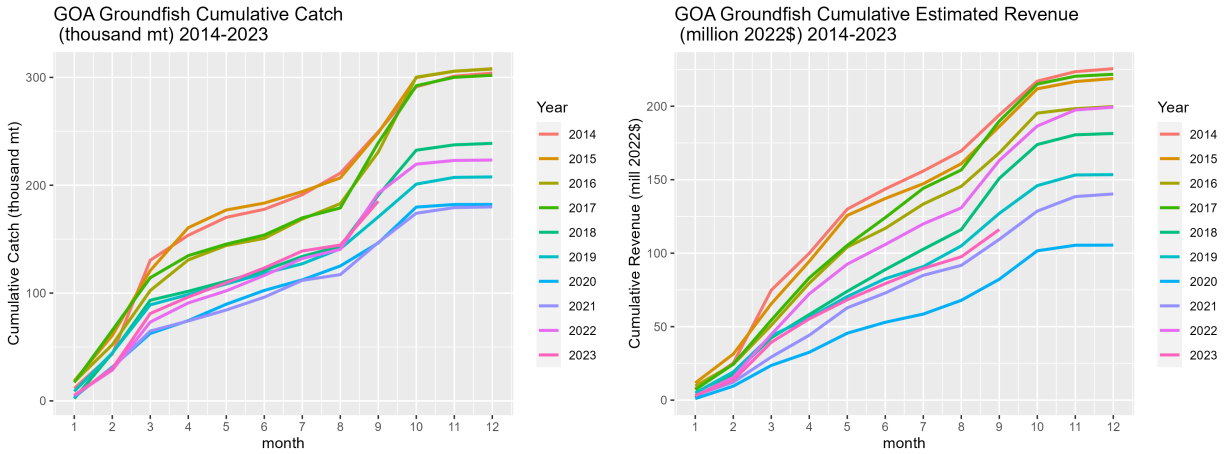

Figure 6.3: GOA Groundfish Cumulative Landings and Ex-vessel Revenue by Year

compared with January of 2022, by the end of September 2023 the U.S. dollar had appreciated by 30% relative to the Yen, which has had a particularly large negative impact on sablefish prices as Japan is the primary export market for Alaska sablefish.

6.2 Methods

The method of "nowcasting" year-to-date monthly 2023 ex-vessel prices is analogous to the methods described in the next section of the GFEconSAFE. Ex-vessel price information for 2023 is available through e-landings reports (fishtickets) and serve as the basis for estimating current year monthly ex-vessel prices. These prices, which are preliminary and unadjusted for year-end adjustments (e.g., bonuses), are reconciled with final ex-vessel prices from the Catch Accounting System.[2] Unadjusted monthly ex-vessel fish ticket prices are used to estimate final monthly ex-vessel prices in 2023 through linear regression accounting for species, area, gear, and harvest sector.

Ex-vessel prices were estimated for six groups of groundfish: flatfish, Pacific cod, pollock, rockfish, sablefish, and other groundfish. These are highly significant with a R^2 of 0.93 or higher for flatfish, pollock, Pacific cod, and rockfish; a R^2 of 0.90 for sablefish; and a R^2 of 0.85 for other groundfish. These groups are stratified by BSAI and GOA, and unlike prior years, we utilize shoreside prices in lieu of BSAI pollock and Pacific cod at-sea prices which have had reporting issues since 2018. These estimated prices are then multiplied by the groundfish landings from the Catch Accounting System for 2014-2023 and estimated prices are applied to landings from January 2023 through September 2023 to obtain revenue nowcast estimates. These 2023 landings data and revenue estimates are based on the best currently available data, but are still considered preliminary. Caution should be taken in interpreting or extrapolating from these estimates as they are preliminary and may change. The baseline period of comparison with 2023 values will be relative to 2022 as well as the five year average from January-September of 2018-2022. All revenues were adjusted for inflation using the GDP deflator using 2022 as the base year.[3]

[2] (Vovchenko, 2020)
[3] (Stupachenko, 2019)

6.3 BSAI Groundfish Landings and Revenues through September 2023

Figures 6.1-6.3 display the cumulative landings and ex-vessel revenue of groundfish fisheries by month for Alaska, BSAI, and GOA, respectively. Figures 6.4 and 6.5 present the cumulative revenues by month and year for the BSAI in 2023 (the pink line), compared with each of the years 2014-2022. The following section provides a brief summary of cumulative harvest and revenue trends of BSAI groundfish from January through September 2023.

Estimated BSAI groundfish revenue from January through September 2023 are expected to be 1% above 2022 levels (an increase of $7 million from $676 million) and nearly equal to the 2018-2022 baseline period (a decrease of $1.5 million; Figures 6.4 and 6.5). This lack of change is largely the result of revenue declines in P.cod, flatfish, rockfish, and sablefish which largely offset by an increase in BSAI shoreside and at-sea pollock and other groundfish species. P.cod revenues are expected to be 15% below 2022 levels in 2023 for the shoreside sector and 12% below 2022 levels for the at-sea sector. The BSAI flatfish fishery which are expected to be 32% below 2022 levels and 34% below the 2018-2022 average (-$21 million and -$23 million, respectively) as a result of a decline in both quantity harvested and prices received. Expected ex-vessel revenues in 2023 are expected to be down for BSAI sablefish and BSAI rockfish by 5% and 8%, respectively, compared with 2022 largely as a result of decreases in prices which both fell by 28% and 22%, respectively. However, BSAI sablefish revenues in 2023 are expected to be more than double ($17.6 million) the 2018-2022 average ($8.78 million).

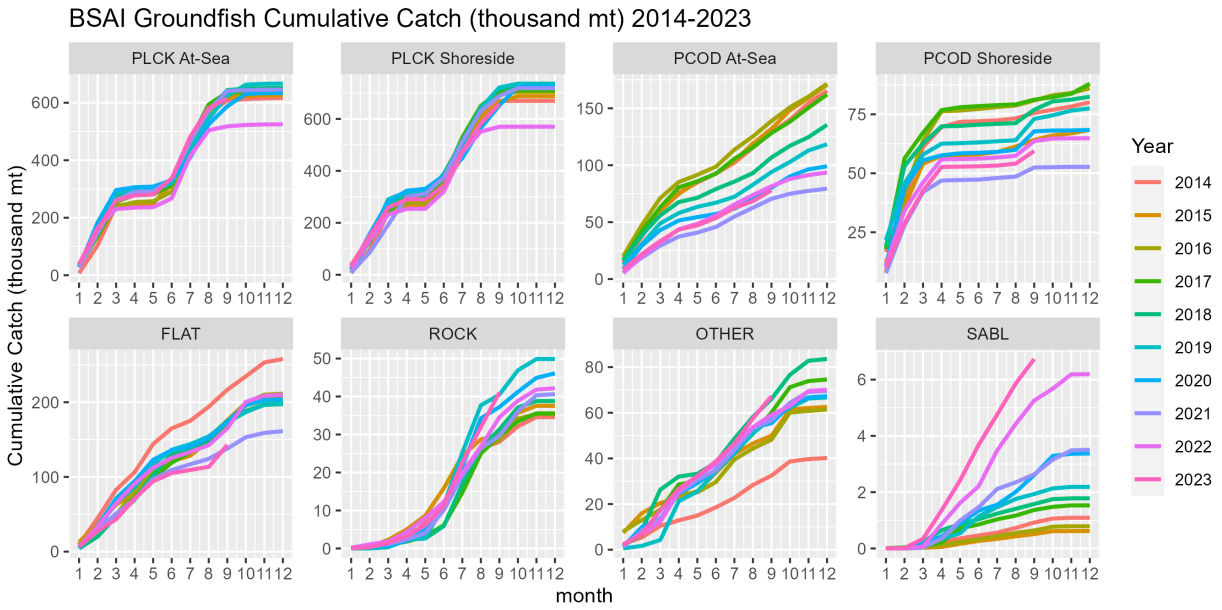

Figure 6.4: BSAI Cumulative Landings by Species and Year

BSAI Flatfish

Fishing for BSAI flatfish through March was roughly consistent with recent years but began to slow down in June to its lowest level from 2014-2022 but a large harvest in September has brought the quantity above 2021 levels to be the second lowest in the time period. However, year-to-date revenues in 2023 were down with declines in both catch and prices, and are expected to be below

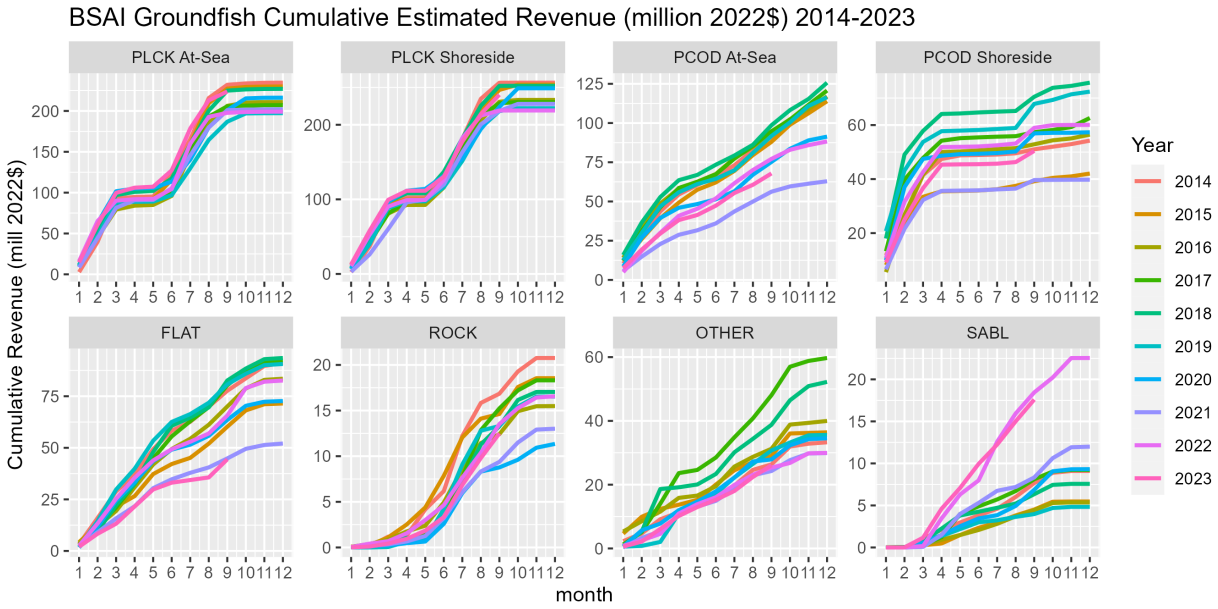

Figure 6.5: BSAI Cumulative Ex-vessel Revenue by Species and Year

all other years. Average prices in 2023 are estimated to be at their lowest level over this period at just over $0.14/lb., down 23% from the 2018-2022 average of $0.18/lb. January to September BSAI flatfish catch in 2023 is down 13% from both the 2022 level and the 2018-2022 average by volume, resulting in estimated revenues that are down 32% compared with 2022 and 34% lower than the average over 2018-2022 (Figures 6.4 and 6.5).

BSAI Pacific cod

BSAI Pacific cod ex-vessel prices in 2023 are expected to fall 8% shoreside compared with 2022 and are expected to be 3% below the 2018-2022 average. BSAI shoreside catch of Pacific cod fell approximately 7% from January to September of 2023 relative to the same period in 2022, while shoreside catches are down 11% from the average January to September period from 2018-2022. Reduced prices and catches in 2023 has resulted in a decrease in shoreside BSAI Pacific cod revenue from the January to September period of approximately 14%, compared with 2022 and the average over the January to September from 2018-2022 (Figures 6.4 and 6.5).

At-sea catch of BSAI Pacific cod have fallen by approximately 4% from January to September 2023 relative to the same period in 2022, and are down 10% from the average January to September from 2018-2022. Estimated ex-vessel revenue for at-sea Pacific cod are estimated to be 12% below the same period in 2022 and are down 15% for the January to September period of 2023 relative to the average from the same period in 2018-2022 (Figures 6.4 and 6.5).

BSAI Pollock

In 2023 shoreside pollock harvests through September are up 15% compared with 2022 but down 2% compared with the 2018-2022 average (Figure 6.4). Shoreside catches have been better than 2022 which really slowed down in the fall and 2023 catches by month have been more similar to historical years. Shoreside pollock prices are estimated to fall 5% to $0.16 per pound but are 7% above the 2018-2022 average. The combination of these two factors result in estimated 2023 BSAI pollock shoreside revenues to increase by 10% compared with 2022 through September ($21 million)

and 6% above the average over 2018-2022 ($14 million).

BSAI at-sea pollock harvests in 2023 were similar to historical trends for A season but increased substantially in B season to be 18.6% above 2022 levels and 1.8% above the 2018-2022 average through September. Estimated ex-vessel revenues through September 2023 are then estimated to increase by 13% above the same period in 2022 and be 11% above the 2018-2022 average (Figures 6.4 and 6.5).

BSAI Rockfish

2023 Rockfish ex-vessel prices are estimated to be down by 22% from 2022 and 10% below the 2018-2022 average. BSAI Rockfish harvest volumes through September 2023 are up 19% from 2022 levels and the average January to September period of 2018-2022. The net effect is that ex-vessel revenues through September of 2023 are actually estimated to be down 8% (-$1.02 million) from the same period in 2022 but up by 7% from the 2018-2022 period (Figures 6.4 and 6.5).

BSAI Sablefish

BSAI sablefish were harvested at the fastest rate over this period during 2023 as shown in Figure 6.4, surpassing the previous fastest pace set in 2022. BSAI sablefish landings through September 2023 are up 28% above 2022 levels and were 140% above the 2018-2022 average (Figure 6.4). Prices, however, are expected to decline by 26% compared with 2022 and 15% compared with the 2018-2022 average. The net effect is that estimated ex-vessel revenue through September is down by 5% in 2023 compared to 2022 but is still double the 2018-2022 average over the same period to $17.6 million (Figure 6.5).

6.4 GOA Groundfish Landings and Revenues through September 2023

Figures 6.6 and 6.7 present the cumulative revenues by month and year for GOA groundfish in 2023 (the pink line), compared with each of the years 2014-2022.[4] The following section provides a brief summary of cumulative harvest and revenue trends for GOA groundfish from January through September.

As a result of lower volumes and a large decrease in average prices, 2023 GOA groundfish ex-vessel revenues are estimated to be $116 million, a decrease of 29% in ex-vessel revenues relative to 2022, and 8% below the 2018-2022 average. Compared with 2022, ex-vessel revenue is estimated to decline in these six fisheries by a combined total of $47 million.

GOA Flatfish

January to September GOA flatfish catch in 2023 is below prior historic low experienced in 2021 and is down 24% from 2022 and is now 50% below the 2018-2022 average volume and substantially below the 2014-2020 average volume. During 2023, there was almost no fishing through March and the pace of fishing has slowed between July and September. GOA flatfish revenues are estimated to decrease by 18% compared with 2022, and are still 64% lower than the average over 2018-2022 (Figures 6.6 and 6.7).

GOA Pacific cod

[4] (Park, 2014)

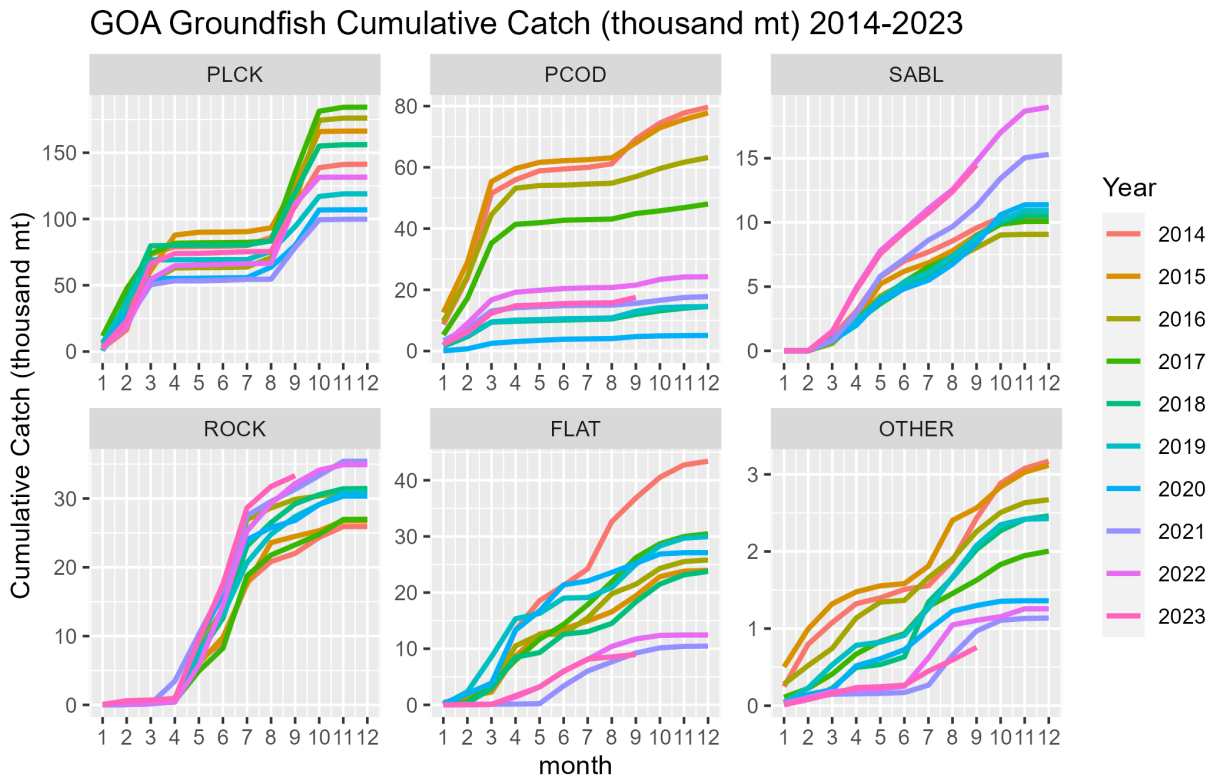

Figure 6.6: GOA Cumulative Landings by Species and Year

Ex-vessel prices for Pacific cod in the Gulf of Alaska in 2023 are estimated to be equal to their same value in 2022 ($0.43/lb), which is 3% below their 2018-2022 average. GOA landings of Pacific cod are also down in 2023 through September by 19% (~4,000 MT) relative to the same period in 2022, while catches are actually up 31% from the average January to September period from 2018-2022 but not quite to the nearly 60,000 MT average from 2014-2017. Consequently, GOA shoreside Pacific cod revenues are expected to be down 19% from January to September in 2023 compared with 2022 (-$3.84 million), but are 27% above ($3.60 million) the average over the same months from 2018-2022 (Figures 6.6 and 6.7).

GOA Pollock

2023 GOA pollock harvests through September are nearly equivalent to 2022 levels, and 14% above the 2018-2022 average (Figure 6.6). GOA pollock prices in 2023 are estimated to be down 16% relative to 2022 and 3% below the 2018-2022 average. The net effect is that GOA pollock ex-vessel revenues in 2023 are estimated to be 17% below 2022 values (-$6.5 million) through September, but 9% above ($2.8 million) the average over the January to September period from 2018-2022.

GOA Rockfish

GOA Rockfish ex-vessel prices in 2023 are estimated to decline from 2022 levels by 5% and are estimated to be 14% below the 2018-2022 average. GOA Rockfish harvests through September 2023 are up 3.6% from 2022 levels, and 13% above the average January to September period from 2018-2022. The combined effect on ex-vessel revenues through September of 2023 are estimated to be down 1% compared to the January to September period in 2022, and down 2% relative to the same period from 2018-2022 (Figures 6.6 and 6.7).

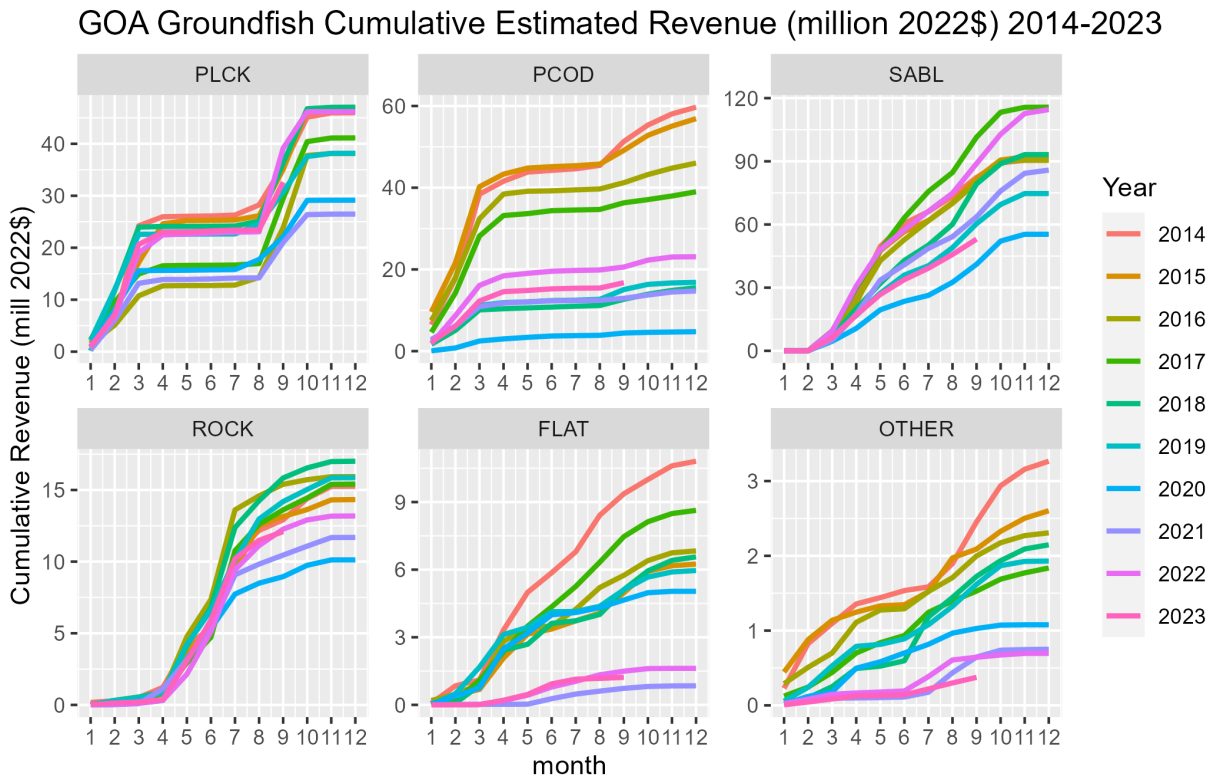

Figure 6.7: GOA Cumulative Ex-vessel Revenue by Species and Year

GOA Sablefish

The size-based pricing structure for sablefish and the catch composition of small sablefish continues to be a drag on sablefish prices with average prices in 2023 declining by over $1/lb (40%) compared with 2022. GOA Sablefish landings through September 2023 were down 2% from 2022 levels but 39% above the 2018-2022 average (Figure 6.6), while revenues are estimated to be down substantially by 40% from 2022 levels (-$36 million), and 20% (-$14 million) below the January to September 2018-2022 average (Figure 6.7).

Chapter 7

Wholesale Market Profiles for Alaska Groundfish

7.1 Global Whitefish

The Alaska Groundfish Wholesale Market Profiles was prepared for Alaska Fisheries Science Center (AFSC) by McKinley Research Group in collaboration with AFSC and Pacific States Marine Fisheries Commission. This section is an extract from the full Profiles report.

Note: AKFIN and COAR data used in the Profiles report may not match other figures in the Economic SAFE exactly because different versions of the data sets were used independently in the analysis.

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7.1.1 Executive Summary

This section of the **Economic Status Report of the Groundfish Fisheries off Alaska, 2022** is extracted from the content in the larger and more comprehensive Alaska Groundfish Wholesale Market Profiles (forthcoming). The analysis was conducted during 2022 and is based primarily on 2020 harvest and market data available at the time. For data sourced from NMFS and AKFIN the reader should refer to the Economic Status Report of the Groundfish Fisheries Off Alaska, 2020. The following section of the report covers the primary wholesale products for the high valued FMP groundfish species Alaska pollock, Pacific cod, sablefish, yellowfin sole, rock sole. The full Alaska Groundfish Wholesale Market Profiles report contains more extensive analysis and covers additional species and products not contained here, including Atka mackerel, Pacific Ocean perch, arrowtooth flounder, Pacific halibut, king crab and snow crab.

The profiles provide an overview of the wholesale markets related to primary Alaska groundfish species and/or products. Most of the wholesale data and analysis outside of this section pertains to first wholesale markets. This section and the Market Profiles report provide a broader analysis on wholesale markets from production to consumers. Each profile in this series contains detailed information about key markets and competing supply for individual species or products, while this chapter contextualizes Alaska groundfish production versus the rest of the world. Each profile characterizes wholesale production volume and value, product mix, supply chain, competing supply, and key markets. Values and prices throughout this section are nominal unless stated otherwise.

7.1.2 Data Sources

In general: Alaska groundfish and crab production were sourced from the NMFS Alaska Region At-sea and Shoreside Production Report which was combined with prices derived from the ADF&G Commercial Operators Annual Reports (COAR) to produce data on value (Data provided by the Alaska Fisheries Information Network (AKFIN)). Alaska groundfish harvest data for recent years are sourced from NMFS Alaska Region Blend and Catch-accounting System estimates and crab harvest from ADFG/CFEC Fish Tickets (Data provided by the Alaska Fisheries Information Network (AKFIN)). Historical harvest data for U.S. fisheries were sourced from NMFS Office of Science and Technology, Annual Commercial Fisheries Statistics Database. Global harvest data were sourced from FAO Fisheries and Aquaculture Department. Fisheries statistics and information. U.S. export and import trade data were sourced from NMFS Office of Science and Technology, Foreign Fishery Trade Data. Global export and import trade data were sourced from IHS Markit. Global Trade Atlas: International Import and Export Commodity Trade Data. Exchange rate data were sourced from Board of Governors of the Federal Reserve System (US), FRED, Federal Reserve Bank of St. Louis. For details on specific tables, figures or values see information in the notes, sources or contact authors.

7.1.3 Global Whitefish and Other Marine Fish Production

Alaska's groundfish fisheries are of particular global importance thanks to their production of whitefish; Alaska produces approximately 19 percent of global marine wild-harvest whitefish in annually. Whitefish generally refers to non-oily species, such as cod, pollock, haddock, hake, whiting, and benthic flatfish, such as sole, plaice, flounder, and halibut. These species - primarily caught in wild fisheries - also compete in global seafood markets with notable aquaculture species such as tilapia, pangasius, and catfish. Though different perceptions of quality and price premiums exist for this range of species, they are all competitors and may be substituted for each other based on price and availability.

Table 7.1: Global Whitefish Harvest (mt), 2020

	Primary Uses	2020 Harvest Volume (mt)	Alaska Pct. Of Global Production (2020)
Pollock	Meat, Surimi, Meal/Oil	3,544,000.00	41%
Hakes, Hoki, Lings, and Whiting	Meat, Surimi, Meal/Oil	3,088,000.00	0%
Cod* and Haddock	Meat	1,796,000.00	10%
Sole, Flounder, and Plaice	Meat	877,000.00	26%
Saithe	Meat	329,000.00	0%
Halibuts and Turbots	Meat	235,000.00	5%
Other Whitefish (Whitefish and Cod Varieties)	Meat	109,000.00	0%
Total Wild Whitefish (Capture Fisheries)		9,977,000.00	19%
Tilapias and Cichlids (Farmed and Capture)	Meat	6,366,000.00	0%
Pangasius (Farmed)	Meat	2,964,000.00	0%
Total - Tilapias and Pangasius		9,330,000.00	0%
Total Wild Whitefish, Tilapia, and Pangasius		19,307,000.00	10%

Note *Pacific and Atlantic cod only.

Source FAO, compiled by McKinley Research Group.

Globally, 10 million mt of whitefish were harvested in 2020, with pollock (primarily from the U.S. and Russia) being the largest component at 3.5 million mt. Following pollock, 3.1 million mt of hakes, hoki, lings, and whiting were harvested. While the majority of production of these high-volume species is used for meat, surimi production is a critically important product. Roe, fish meal, fish oil, and other ancillary products are also produced in significant volumes from these wild marine fish species.

After pollock and hakes/hoki/lings/whiting, the next most important whitefish species group is cod/haddock, with a total global harvest of 1.7 million metric tons. The vast majority of these fish is used to produce fillets that could represent a substitute for key Alaska groundfish species on a general level, especially in European and North American markets. While consumers generally will not substitute imported whitefish species for less expensive and traditionally palatable domestic species, frozen seafood manufacturers increasingly develop products and packaging that allows them to use multiple species for the same product, permitting them greater sourcing options and the ability to lower costs.

In addition to whitefish, Alaska's groundfish fisheries produce significant volumes of rockfish, Pacific Ocean perch, sablefish, and Atka mackerel. Though these species also have white flesh, they are treated separately in the global seafood marketplace due to their higher oil content and where they compete within the overall seafood hierarchy; rockfish would most closely compete with "snappers" while sablefish compete directly with the ultra-premium Antarctic and Patagonia toothfish. Alaska harvested more than 7 percent of the world's snappers, rockfish, sablefish, and Antarctic/Patagonia toothfish in 2020.

Table 7.2: Global Production of Groupers/Snappers/Rockfish and Sablefish/Toothfish (mt), 2020

Species Group	Primary Uses	2020 Harvest Volume (mt)	Alaska Pct. Of Global Production (2020)
Groupers, Snappers, and Rockfish (Includes Pacific Ocean Perch)	Meat	1,118,000	7%
Sablefish and Antarctic/Patagonia Toothfish	Meat	46,000	32%

Source FAO, compiled by McKinley Research Group.

7.1.4 Alaska's Position in the Global Whitefish Market

Alaska produces just a fraction of global whitefish production and is thus highly impacted by global macroeconomic trends, trade policies, and competing whitefish supply. In terms of supply, Russia (cod/pollock/flatfish), China (tilapia), Norway (cod), Japan (pollock/cod), New Zealand (hoki), and Vietnam (pangasius) are the biggest competitors for Alaska's groundfish industry in terms of high-volume whitefish species. Other species such as Pacific Ocean perch, sablefish, and Atka mackerel have both defined export markets and limited competition where Alaska is the primary export supplier and generally accounts for a large percent of global supply. As a result, species substitution is less common in markets for these species with price driven by local demand dynamics, currency fluctuations, and Alaska harvest volume. Once almost exclusively dependent on the Japanese market, sablefish is now well-known and sought-after by chefs and discerning consumers around the globe, thanks in large part to its popularization in Japanese fusion cuisine.

7.1.5 Summary of Key Alaska Groundfish Markets

With an estimated 24 percent of Alaska groundfish production remaining in the U.S in 2020 – and a great deal more processed in China and shipped back to the U.S. – the U.S. is the largest consumer market for Alaska groundfish. The domestic market share of the Alaska groundfish market has grown in recent years and is likely to remain steady or increase in coming years due to the U.S.-China trade conflict and the persistent strength of the U.S. dollar.

Export markets bought the remaining three-quarters of Alaska's total groundfish production in 2020, and an even larger percentage of surimi, roe, fish meal, and other groundfish products. China is the largest direct importer of Alaska groundfish, buying 23 percent of production volume in 2020. Most Alaska seafood exported to China is reprocessed in the country and then shipped on to final markets, mostly in the U.S., Europe, and Japan. China is especially important for the reprocessing of Alaska's flatfish: more than two-thirds of Alaska's flatfish production went to China in 2022. Europe was the next largest importer of Alaska seafood and is an especially

important market for Alaska pollock fillets and Pacific cod. Japan is a key buyer of most of Alaska's groundfish products and is the largest buyer of Alaska's pollock surimi, pollock roe, sablefish and Atka mackerel.

Table 7.3: Wholesale Sales of Alaska Groundfish (mt), 2020

Species	Wholesale Production	Domestic US**	Europe	China	Japan	Other	Total Exports
Alaska Pollock	400,656	86,945	124,516	28,597	62,346	98,251	313,711
Pacific Cod	80,574	38,171	8,751	17,405	5,512	10,735	42,403
Flatfish	135,907	24,307	422	90,532	2,249	18,397	111,599
Rockfish/POP	39,270	8,465	235	17,260	9,909	3,401	30,805
Atka Mackerel	34,191	4,468		7,288	20,125	2,311	29,724
Sablefish	7,930	1,290	73	1,019	5,118	430	6,640
Pacific Halibut	5,614	5,211		53		350	403
Other	4,408	2,117		29	31	2,230	2,291
Total	708,550	170,974	133,998	162,183	105,291	136,104	537,576
Percent of total		24%	19%	23%	15%	19%	76%

Note *Wholesale production and export figures for Alaska pollock exclude fish meal and fish oil. See the ancillary products chapter for more information about these products.

**Domestic U.S. sales estimated by subtracting exports from production. Industry interviews indicate this is likely an overestimate for the direct U.S. domestic market for groundfish including flatfish, rockfish, and Atka mackerel, due to data limitations. See species chapters for more information.

Source NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network), ADF&G (COAR), and McKinley Research Group estimates.

7.2 Alaska Walleye Pollock

Pollock or walleye pollock (*Gadus chalcogrammus*) is currently the largest groundfish fishery in the world, with stocks concentrated in the North Pacific Ocean. Pollock are commercially harvested by several countries, but U.S. (Alaska) and Russia are the largest producers by a wide margin, with U.S. harvests accounting for 42 percent of global harvests in 2020. Alaskan pollock accounted for for 39 percent of total U.S. commercial fishery landings and 13 percent of wholesale production value in 2020.

In 2020, pollock was the single most valuable and plentiful species in Alaska's seafood industry, accounting for 49 percent of production volume and 39 percent of first wholesale value. Alaska pollock is processed into fillets, surimi, roe, head/gut (H&G), fish meal, fish oil, and other products. Europe, Japan, and U.S. are the primary consumer markets.

Table 7.4: Summary Profile of Alaska Pollock Wholesale Production and Markets, 2020

Value and Volume		Key Products	Fillets	Surimi	Roe	Meal	Other
First Wholesale Production (mt)	533,530		37%	34%	8%	11%	10%
Pct. of Global Pollock Harvest	42%	Key Markets	Japan	Europe	US	Korea	China
First Wholesale Value ($ millions)	1,416	Pct. of 1st Sales	16%	31%	22%	21%	7%
Pct. Change in Value from Prior 4-yr Avg.	-6%	YoY Change	-28%	-13%	-14%	-9%	-2%
Pct. of Alaska Groundfish Value	67%	Competing Species: Russian pollock, hake, hoki, tropical surimi, & cod.					

7.2.1 Alaskan Pollock Production

7.2.1.1 Wholesale Production and Value Summary

Pollock is one of the most valuable fisheries in Alaska, and even the world, due to its tremendous volume, production versatility, and white, mild-flavored flesh. Virtually all edible pollock products are frozen before being sold into wholesale markets. Alaska pollock harvests yielded 533,530 mt of processed product in 2020, with a first wholesale value of $1.42 billion.

Alaska pollock yield five primary product types: surimi, fillets, headed and gutted (H&G) fish, roe, and fish meal/oil. In 2020, of the 533,530 mt of pollock products produced, 33 percent of that volume was surimi, followed by 29 percent fillet, 13 percent fish meal, 7 percent H&G, 5 percent roe, and the remainder in other products such as minced meat, fish oil, and organs.

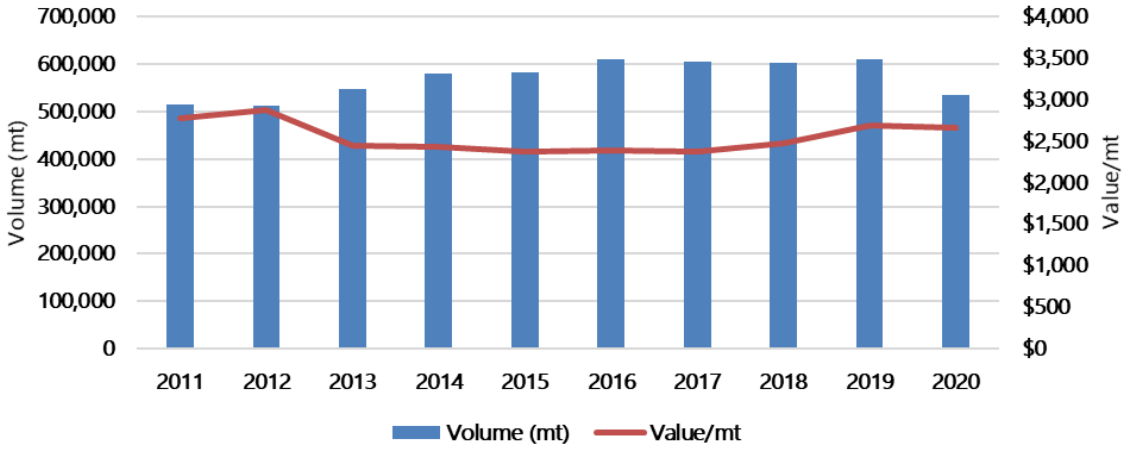

Figure 7.1: First Wholesale Volume and Value/mt for Alaska Pollock, 2011-2020

Table 7.5: First Wholesale Value for Alaska Pollock ($ millions), 2011-2020

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
$1,424	$1,468	$1,336	$1,408	$1,381	$1,460	$1,438	$1,490	$1,638	$1,416

Source: NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

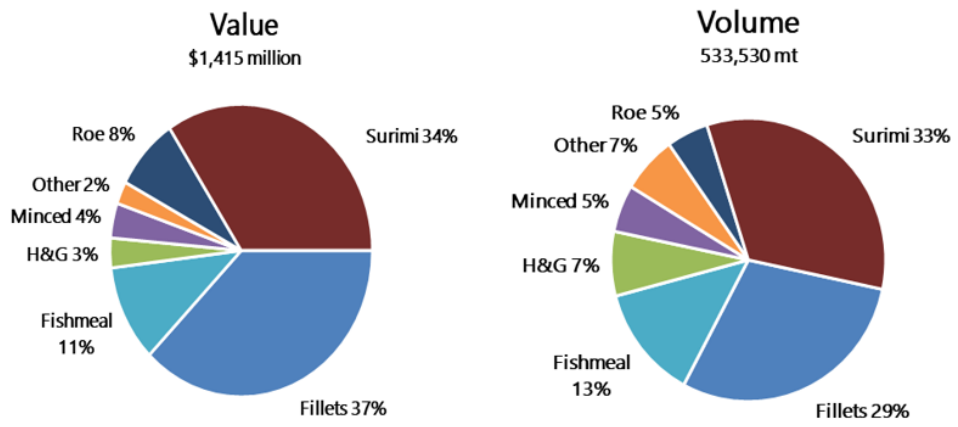

Figure 7.2: Alaska Pollock First Wholesale Production Volume and Value, by Product Type,2020

Source: NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network (AKFIN)). Note: Percentages may not sum to 100 percent due to rounding.

Fillets typically provide the most revenue of any product type, although surimi is a close second and can top the list some years. Together fillets and surimi accounted for 71 percent of Alaska pollock's first wholesale value in 2020. Although roe was only 5 percent of the production volume, it accounted for 8 percent of the fish's value. Roe used to be a more valuable component when roe prices were higher. Fish meal/oil, minced meat, and other ancillary products account for 17 percent of the value, while H&G production is 3 percent. The following is an abbreviated discussion of the markets for pollock fillets and surimi, a more detailed discussion and including roe and H&G can be found in the full market profiles report.

7.2.2 Alaskan Pollock Fillets

Fillets accounted for 37 percent of total Alaska pollock production value in 2020. Pollock fillets function as a whitefish commodity for production of fish sticks/fingers, breaded fillets, and other value-added frozen whitefish fillet products. With dual surimi and fillet production lines at most Alaska processors, fillet quality is consistently very high as fillets with blemishes can be diverted to surimi. The two primary markets for fillets are the U.S. and Europe. Prices have increased every year since 2017.

7.2.2.1 Supply Chain

When pollock is landed in Alaska, it enters one of the most complex supply chains of any groundfish species. Landed fish are first headed and gutted. Heads and other offal are turned into fish meal and oil or retained for other niche markets. Pollock meat is generally used to make either surimi or fillets. The majority of Alaska's once-frozen fillet production is exported to secondary processing companies in Europe, while a lesser amount goes to similar companies in the U.S. Most H&G production is exported to China for twice-frozen fillet production. European and U.S. processors import significant volumes of twice-frozen fillets from China and other countries. Brazil also imports some twice-frozen fillets from China although the volume has been decreasing

over time. Secondary processors manufacture a range of breaded, coated, salted, and other products, mostly for high-volume retail, foodservice, or distribution companies.

7.2.2.2 Fillet Production Analysis

Fillets accounted for 29 percent of all Alaska pollock production volume in 2020. Fillets were the most valuable pollock product form in 2020 in terms of total revenue, just ahead of surimi. Fillet production declined significantly in 2020, due mostly to a low pollock harvest caused by COVID-19 disruptions and a dispersed pollock biomass. Fillet production also declined due to smaller fish and an associated increase in pollock mince and fishmeal production.

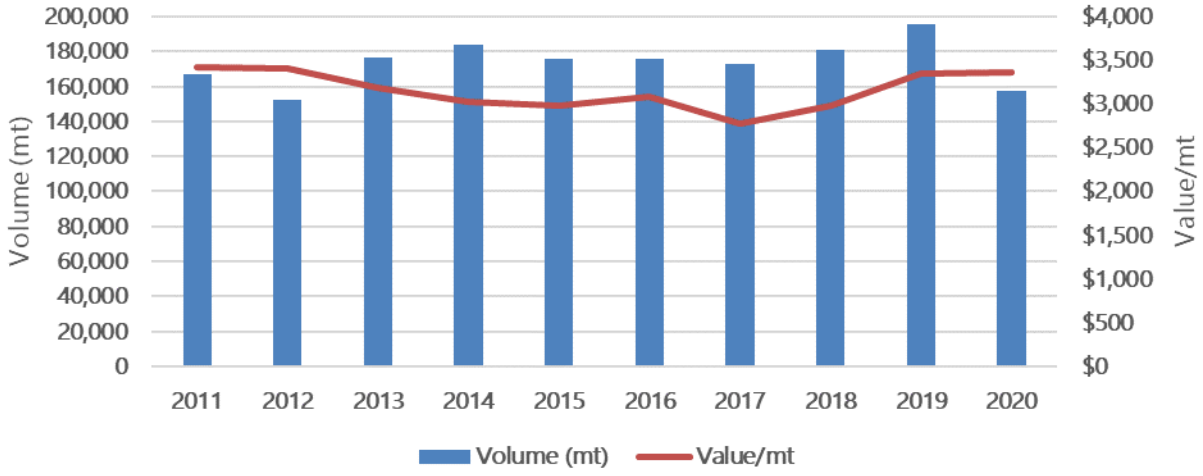

Figure 7.3: First Wholesale Volume and Value/mt for Alaska Pollock Fillets, 2011-2020

Table 7.6: First Wholesale Value, Alaska Pollock Fillets ($ millions), 2021-2020

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
$570	$521	$564	$557	$525	$544	$480	$540	$654	$529

Source: AKFIN.

The average wholesale value per mt increased by more than 13% between 2017 and 2020. By comparison, surimi value per mt rose 5% in this period. The total value of Alaska pollock fillets decreased for the first half of the last decade, driven mostly by lower price per volume during this period. Since 2017, prices have increased, bringing up the total value of Alaska pollock fillets. Export data show that fillet prices continued to increase steadily in 2021 and into 2022. The total value of pollock fillet production in the last two years, however, has been tempered by lower volumes.

Fillet production is dictated, in part, by market demand for different types of fillets. Skinless/boneless fillets typically account for more than two-thirds of fillet production volume, followed by deep-skinned fillets and limited quantities of other fillet products. In 2020, 65 percent of pollock fillets produced in Alaska were skinless fillets boneless, while deep-skinned fillets accounted for 32 percent of production volume.

At-sea plants typically produce the most pollock fillets in Alaska, but the shoreside sector is typically not far behind. Deep skin fillets fetch the highest prices and the at-sea sector is especially well positioned to compete on quality through rapid processing. Over the last ten years, prices for at-sea sector deep-skin fillets averaged 8 percent higher than the same products produced by the shoreside sector. In 2020, deep skin fillets made up 43 percent of at-sea fillet production but less than 22 percent of shoreside fillet production (by volume).

7.2.2.3 Fillet Market Analysis

Export markets are critically important to Alaska's pollock industry. It is estimated that export markets buy nearly three-quarters of all Alaska pollock fillet production. More than half of all Alaska pollock fillets go directly to European markets. In addition, the majority of Alaska pollock fillets exported to China are re-exported to Europe.

Table 7.7: Sales of Alaska Pollock Fillets to Key Markets (mt), 2016-2020

Market	2016	2017	2018	2019	2020	% Change 2020 vs. 2016-2019 avg.	Pct. of Total (2016-2020)
Europe	107,452	97,897	101,646	106,574	85,524	-17%	57%
China*	9,021	18,474	14,571	10,437	6,624	-50%	7%
South Korea*	5,828	1,351	2,357	4,452	3,520	1%	2%
Canada	551	6,482	12,384	560	521	-90%	2%
Japan	980	2,643	3,330	2,371	2,365	1%	1%
Australia	1,100	1,213	3,033	3,367	3,355	54%	1%
Other Countries	2,715	2,431	3,224	4,605	3,611	15%	2%
Total Exports	127,708	130,694	140,546	132,437	105,732	-20%	72%
U.S. (Estimated)	48,469	41,981	40,749	63,227	51,480	6%	28%
Total Production	176,177	172,675	181,294	195,665	157,212	-13%	100%
Percent Exported	72%	76%	78%	68%	67%		

* Denotes countries which primarily re-process and/or re-export product to other markets.

Note: Data pertains to primary exports only, does not portray product which may be re-exported to other markets.

Source: ASMI Seafood Export Database, AKFIN, and McKinley Research Group estimates.

Direct sales to the U.S. domestic market can be estimated by subtracting exports from production. These estimates indicate that a trend of decreasing domestic fillet market share for Alaska pollock during most of the last decade reversed in 2019 and 2020.

7.2.2.3.1 Europe Europe is the world's largest market for pollock fillets. European countries typically account for 70 to 80 percent of U.S. pollock fillet export value. European markets imported 85,524 mt of Alaska pollock fillets in 2020, worth $284 million. Alaskan pollock fillets are primarily exported to Europe via Germany and the Netherlands. Most secondary processing into finished products occurs in Germany, France, and Poland. Germany is the largest consumer of pollock fillets, although France and the U.K. are also major consumer markets in Europe. Europe has a long history of whitefish consumption, so the presence of pollock as an affordable substitute to cod is common in most countries. Overall consumption of finished product is mostly a function of population, the prevalence of modern grocery stores, and median household incomes.

The total volume of exports to Europe have remained more or less steady in recent years, though 2020 saw a dip in volume, likely due to lower fillet yields and a smaller harvest. From 2017 to 2020, pollock fillet export prices grew 21 percent from $2,630 to $3,330. Despite the drop in export volume in 2020, export value rose to a five-year high.

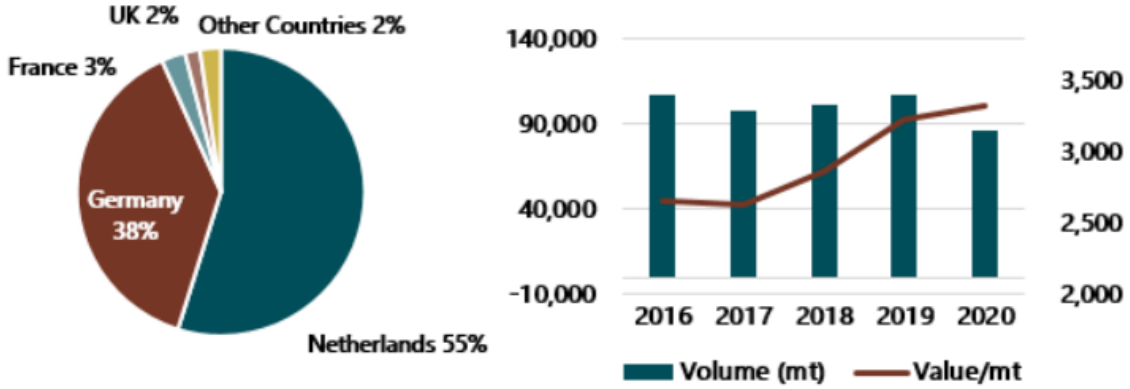

Figure 7.4: Exports of Alaska Pollock Fillets to Major European Markets, 2016-2020

Table 7.8: Exports of Alaska Pollock Fillets to Major European Markets, 2016-2020

	2016	2017	2018	2019	2020
Export Volume (mt)	$107,452	$ 97,897	$101,646	$106,574	$ 85,524
Export Value ($000s)	$285,521	$257,466	$291,812	$344,307	$284,835
Average Export Value per Metric Ton ($US)	$ 2,657	$ 2,630	$ 2,871	$ 3,231	$ 3,330

Source: ASMI Seafood Export Database, compiled by McDowell Group.

Europe imports between 250,000 and 285,000 metric tons of pollock fillets per year from China, Alaska, and Russia. Alaska once-frozen pollock fillets accounted for about a third (36 percent) of all pollock fillets imported into Europe over the past five years. The balance comes from China - mostly re-processed, twice-frozen fillet block made from Russian pollock - or directly from Russia as single-frozen fillet blocks.

In recent years, Russian single-frozen fillets have gained market share in Europe as Russia has invested in additional processing capacity and increased fillet production.

Table 7.9: European Imports of Pollock Fillets from Major Producers (mt),2017-2021

Exporter	2017	2018	2019	2020	2021	Pct. of Total (5-yr. Avg.)
China*	145,856	149,207	161,435	145,708	131,328	53%
U.S. (Alaska)	92,078	91,438	86,365	94,611	78,558	32%
Russia	28,698	42,809	35,662	41,936	50,989	15%
Total	266,632	283,454	283,462	282,255	260,875	

Note: *Consists primarily of Alaska pollock caught in Russia with some Alaska-origin pollock as well. China and Russia exports includes pollock fillet sales to all European Union countries, plus the United Kingdom, Norway and Switzerland.

Source: Trade Data Monitor.

Secondary processors are the largest buyers of pollock fillets in Europe. These companies transform frozen blocks of pollock fillets into ready-to-heat products for retail customers, package fillets into smaller quantities (typically in bags) and sell frozen fillets in smaller quantities to foodservice distributors. Discount retailers, such as Aldi and Lidl, continue to gain market share and have a considerable influence on the pollock fillet market. These retailers are known to advertise private label fish fingers (and similar products) at low prices as loss leaders to bring consumers into their stores. This behavior increases pollock fillet consumption but also keeps wholesale prices low by cutting into the prices that higher-end brands can charge.

7.2.2.3.2 United States The U.S. domestic market is the second-largest consumer of Alaska pollock fillets in the world. In contrast to Europe, Americans consume more pollock through foodservice channels than retail outlets. Pollock is the primary whitefish species used in most generic fried fish sandwiches, although it is becoming more common to see the species name identified in product messaging.

The U.S. market historically consumed approximately 100,000 mt of pollock fillets per year. In recent years, however, domestic supply has decreased, with around 81,000 mt tons consumed in 2020. The major factor behind a changing U.S. pollock supply is a steady decrease in pollock imports. Imports declined from more than 70,000 mt in 2010 to around 30,000 in recent years. As a result of declining imports, the share of domestic pollock fillet consumption originating from Alaska has more than doubled, from an estimated 30 percent in 2010 to 63 percent in 2020.

Table 7.10: Estimated U.S. Pollock Fillet Market Supply (mt), 2013-2020

Year	Alaska Pollock Fillet Production	Imports	Exports	Est. U.S. Supply	Est. Once-Frozen Alaska Product	Pct. Alaska
2013	176,717	55,115	114,852	116,980	61,865	53%
2014	183,970	49,833	131,819	101,984	52,151	51%
2015	176,109	44,532	124,153	96,488	51,956	54%
2016	176,177	32,000	127,708	80,468	48,469	60%
2017	172,675	26,378	130,694	68,359	41,981	61%
2018	181,294	25,440	140,546	66,189	40,749	62%
2019	195,665	38,956	132,437	102,183	63,227	62%
2020	157,212	30,361	105,732	81,840	51,480	63%
16-20 Avg.	176,604	30,627	127,423	79,808	49,181	62%

Source: NMFS Office of Science and Technology, Annual Commercial Fisheries Statistics Database, compiled by McKinley Research Group. Figures may not sum due to rounding.

Pollock fillets are usually put through a secondary manufacturing process before reaching American consumers. Most fillets are bought by companies unaffiliated with harvesting companies in Alaska or Russia. However, there is some integration in the U.S. market. Alaska's largest pollock producer, Trident Seafoods, owns or leases about a third of the pollock quota in Alaska. Trident sells a variety of finished products with the Trident brand to retailers, including pollock fillets, burgers, and fish sticks.

A relatively new domestic market for Alaska pollock fillets is the U.S. Department of Agriculture, which purchases American agricultural products and seafood and distributes them through the

National School Lunch Program, food banks, and foreign aid programs among other channels. Opportunities for Alaska pollock producers have increased over the past five years as the federal program has expanded the list of pollock products. USDA pollock purchases hit a record high of more than $76 million in 2019 (about 12% of first wholesale production value for Alaska pollock fillets that year) and averaged more than $30 million per year over the 2020-2021 period.

7.2.2.4 Competing Supply

Alaska pollock fillets' primary competition comes from Russian-origin twice-frozen pollock fillets. The vast majority of Russian pollock production is exported as a frozen H&G product to China, where it is thawed, filleted, then re-frozen and exported to other countries. Once-frozen fillet production in Russia is limited by processing capacity, though such production is expected to grow due to a major government-backed initiative.[1] Russian government incentives for construction of new vessels and processing plants include the awarding of fishing quota to companies after construction completion.[2]

The Russian Far East supplies 70 percent of Russia's overall seafood harvest, and over half of Russia's pollock harvests occur in the Sea of Okhotsk. MSC certification of the Sea of Okhotsk fishery in 2013 significantly increased the impact of Russian production on Alaska by opening up Russian-origin products to key European fillet markets that require MSC certification; however, those western markets are sanctioning some Russian exports in response to the Russian invasion of Ukraine. Russian pollock harvest has slightly declined in the recent years, as has the Alaska production.[3]

Other whitefish species such as cod, haddock, saithe, hake, hoki, sole, tilapia, and pangasius also impact the market for Alaska pollock fillets. For information about production of other whitefish species see the Global Whitefish Market Profile.

7.2.3 Alaska Pollock Surimi

Surimi accounted for 33 percent of Alaska's pollock wholesale production volume and 34 percent of wholesale production value in 2020. More than 177,000 mt of pollock surimi, worth $484 million, was produced in Alaska in 2020. Japan, Europe, South Korea, and the U.S. are key surimi markets.

The term surimi refers to the intermediate product used in the production of a variety of surimi seafood products. Surimi is an odorless, protein-rich, wet paste. To manufacture the paste, pollock meat is removed through heading, gutting, filleting, and mincing, after which blood and other substances are removed through rinsing, screening, and pressing processes. Surimi blocks are produced when pulverized minced meat is mixed with additives such as salt, starch, and sugar, and then frozen and packaged. The quality of surimi is determined by a few main characteristics including its gel strength, color (the whiter, the better), and purity. Surimi technology has improved over the years, with the yield increasing from 12 percent to over 30 percent, with research ongoing in surimi technology.[4]

[1] (Gorovaya, 2022)
[2] (Vovchenko, 2020)
[3] (Stupachenko, 2019)
[4] (Park, 2014)

There are hundreds of surimi seafood product varieties produced by secondary processors. The broad categories include *kamakobo* (steamed), *chikuma* (broiled), *satsuma-age* (fried), and seafood analogs (e.g., imitation crab sticks).

7.2.3.1 Supply Chain

Alaska pollock surimi blocks are produced by catcher-processors with onboard surimi processing capacity and by shoreside processors that take deliveries of unprocessed pollock from catcher vessels. Alaska processors sell frozen surimi blocks to secondary processors (some of which may be affiliated with the primary processing company) and distribution companies in Asia, the U.S., and Europe. Secondary processors use surimi blocks from Alaska to create surimi seafood products tailored to various end markets.

7.2.3.2 Surimi Production Analysis

In 2020, surimi accounted for 33 percent of Alaska pollock production volume and 34 percent of first wholesale value. Surimi production was 177,193 mt in 2020 with a wholesale value of $484 million. Production volume has typically ranged from 150,000 to 200,000 mt annually, except for a drop in 2008-2010 driven primarily by harvest volumes. Surimi production volume is also driven by the relative demand for surimi versus fillets, though surimi production as percentage of total pollock production has been relatively steady at about one-third. Surimi production value has grown steadily between 2013 and 2018, as harvests levels and surimi prices increased, but volume dropped in 2019 even as value rose to a high point that year. 2020 saw lower production and a drop in value, due to lower harvests resulting from a dispersed biomass as well as COVID-related disruptions in fishing schedules. Smaller fish size was also an issue in 2020, leading to lower surimi/fillet yields and higher fishmeal production.

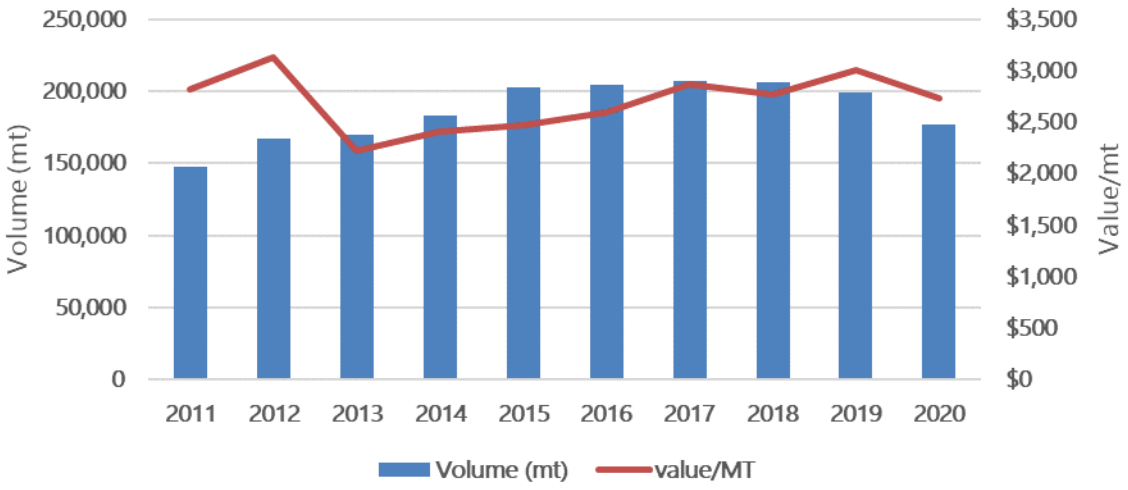

Figure 7.5: First Wholesale Volume and Value/mt for Alaska Pollock Surimi, 2011-2020

Table 7.11: First Wholesale Value, Alaska Pollock Surimi ($ millions), 2011-2020

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
$418	$524	$378	$441	$500	$531	$595	$572	$599	$484

Source: AKFIN.

Average first wholesale value per metric ton for Alaska surimi was $2,733 in 2020, down 9% from 2019, influenced by global economic contraction that occurred during the first year of the COVID-19 pandemic. Preliminary data indicate that surimi production volume was up significantly in 2021 and that the value per metric ton was up slightly.

Alaska pollock surimi production is split almost evenly between shoreside plants and at-sea processors. Surimi produced at-sea generally commands a premium price due to quicker processing times leading to higher grade products. From 2008 through 2017, at-sea surimi wholesale prices averaged 21 percent higher than shoreside sector surimi. This premium grew significantly in 2017 (70% higher) though fell to 11 percent in 2020.

7.2.3.3 Key Market Analysis

Almost 90 percent of Alaska pollock surimi is sold to export markets. In 2020, Japan and South Korea imported just under 70 percent of all Alaska pollock surimi production. The remaining markets included Europe, U.S., Thailand, and China. Europe is a larger market than the export data below suggests, importing significant volumes of surimi from South Korea (containing Alaska pollock as well as surimi made from other species). The percentage of U.S.-produced pollock surimi that is exported has averaged between 86 and 90% in recent years; however, innovative product development has kept more high-grade surimi in the U.S. market.[5]

Table 7.12: U.S. Exports of Alaska Pollock Surimi (mt), by Country,2016-2020

Country	2016	2017	2018	2019	2020	% Change 2020 vs. 2016-2019 avg.	% of Total 2016-2020
Japan	69,184	74,554	74,711	71,112	48,548	-33%	34%
South Korea	71,113	71,525	67,434	64,308	59,000	-14%	34%
Europe	27,787	26,333	29,936	29,083	34,202	21%	15%
Thailand	4,831	7,746	6,858	4,070	3,909	-33%	3%
China	2,194	3,280	3,915	3,215	2,791	-11%	2%
Other Countries	2,908	1,797	2,983	2,339	3,449	38%	1%
Total Surimi Exports	178,016	185,236	185,836	174,127	151,900	-16%	88%
U.S. (Estimated)	26,214	22,105	20,458	25,062	25,293	8%	12%
Total Production	204,230	207,341	206,294	199,189	177,193	-13%	100%
Pct. Exported	87%	89%	90%	87%	86%	-3%	

Note: Reflects direct exports only. Does not reflect final market destination.

Source: NMFS OST compiled by McKinley Research Group and AKFIN.

[5](Sapin, 2021)

The global production of raw surimi material totaled approximately 1 million metric tons in 2020, up from the 850,000 mt produced in 2016.[6] The increase can be attributed to Japan's increased domestic production of surimi between 2019 and 2021 and increased tropical fish surimi production. Approximately, 650,000 mt was sourced from tropical fish harvests in 2020. Alaska's pollock fishery accounts for roughly a quarter of global surimi production. Japan is the largest market for raw surimi product, though other Asian countries such as China and Korea are important and growing raw surimi processing areas.

The 1 million mt of raw surimi produced in 2020 was converted into an estimated 3 million metric tons of surimi seafood products. China was the largest producer of end products – despite importing less surimi raw material than Japan – due to a lower average percentage of seafood in their surimi seafood products.

7.2.3.3.1 Japan Japan is world's second largest end market for surimi products after China. Large companies and artisanal shops in Japan process more than 1,000 different surimi products. Consumption has declined since the mid-1970s but has stabilized since 2010 at a range between 500,000 – 600,000 mt of surimi seafood products per year.[7] In 2020, Japan consumed an estimated 520,000 mt of surimi seafood products.[8]

Alaska Pollock surimi represents almost half (47%) of Japan's surimi imports over the 2017-2021 time period – averaging just over 110,000 mt per year. The amount imported by Japan from the U.S. in 2020 was well below the five-year average, at 85,373 mt. Competing suppliers include Thailand, India, China, and Vietnam. Thailand's tropical surimi production has declined in recent years and India has increased market share as a lower cost producer with access to substantial resources.

Table 7.13: Japan Surimi Imports from Major Producers (mt), 2017-2021

	2017	2018	2019	2020	2021	Pct. of Total (2017-2021)
U.S. (Alaska)	132,960	117,040	107,959	85,373	93,477	47%
India	38,408	39,425	39,538	32,656	39,468	16%
Thailand	22,413	21,878	23,358	21,887	20,738	10%
China	17,416	17,588	18,948	16,853	19,642	8%
Vietnam	15,356	16,912	17,457	14,099	18,798	7%
All Others	31,289	29,813	30,522	24,776	25,892	12%
Total	257,842	242,656	237,782	195,644	218,015	
Pct. from Alaska	52%	48%	45%	44%	43%	

Source: Trade Data Monitor, compiled by McKinley Research Group.

7.2.3.3.2 South Korea The U.S. exported about 72,000 mt of Alaska pollock surimi to South Korea in 2021, the largest volume to that country on record. However, as in past years, Korean import statistics indicate much lower volumes of surimi import volumes compared to U.S. export volumes to South Korea (24,000 mt). Some of the exports to Korea are likely held in bonded, duty-free cold storage warehouses before being shipped to other markets (primarily Japan,

[6] Future Seafood Group (via Undercurrent News).
[7] (Park, 2014)
[8] (Future Seafood Group, 2021)

Europe, and Russia). Despite the prevalent re-export trade, South Korea was the largest direct export market for Alaska surimi in 2020. The 2012 Korea-U.S. Free Trade Agreement has deepened the economic ties between Korea and the U.S. and increased consumption of U.S. pollock surimi.[9]

South Korea imported roughly 110,000 mt of all surimi varieties in 2020, or about one-third as much import volume as China.[10] Vietnam and China are the country's top surimi suppliers, while Alaska accounted for about one-fifth of total surimi imports.[11] South Korea has a small domestic supply of raw surimi, which has dropped off precipitously since 2016 at over 30,000 mt to less than 10,000 mt in 2020. Korea is one of the largest manufacturers of surimi seafood products after China and Japan, supplying its own domestic market and other international markets.[12]

7.2.3.3.3 Europe Europe is the third largest market for Alaska pollock surimi after Japan and South Korea. Alaska producers exported 29,500 mt of surimi worth $87 million to Europe. Direct exports of Alaska pollock surimi accounts for less than half of the market's total surimi base consumption (~50,000 mt annually). The EU market produces a limited amount of surimi base domestically (roughly 5,000 mt) and also imports other U.S. surimi (mostly hake/Pacific whiting) as well as surimi from Vietnam, India, Peru, and other countries.[13] Processors in France, Spain, Lithuania, and Poland produce surimi seafood products for the European market, with relatively little importation of foreign surimi seafood products. Spain and France are Europe's largest surimi consumers, accounting for more than 70 percent of the region's total consumption

7.2.3.3.4 United States The United States market for surimi is dominated by imitation crab products. Five surimi seafood manufacturers operate in North America, several with processing plants in Washington state, consuming roughly 40,000 mt of surimi raw material (mostly Alaska pollock but also whiting/hake and other species) to produce an estimated 120,000 mt of surimi seafood products in 2020.[14] American surimi producers have focused on product innovation in recent years. A promising market entrant is Trident Seafoods' surimi noodles, intended to be sold at select U.S. retailers starting with Costco. Trident also produces surimi products under the brands Sea Legs, Captain Jac, and Louis Kemp, as well as ready-to-eat individually portioned sushi packs (made with Alaska pollock surimi) under the brand MOJI for retailers and convenience stores. The U.S. also imports surimi seafood products from Japan and other countries, though trade data do not allow for a detailed analysis of these product flows.

7.2.3.4 Competing Supply

Pollock surimi accounted for about a quarter of the roughly one million metric tons of surimi produced globally in 2021. Most pollock surimi is produced in Alaska (200,000 mt), though significant production comes out of Japan (46,000 mt) and Russian processors plan to start producing pollock surimi in significant quantities in the coming years. Tropical surimi dominates the market, accounting more than two-thirds of global production.

[9] (Yoo, 2013)
[10] (Future Seafood Group, 2021)
[11] (Seaman, Pollock surimi can't meet global demand as tropical supply continues to drop, 2018)
[12] (Park, 2014)
[13] (Future Seafood Group, 2021)
[14] (Future Seafood Group, 2021)

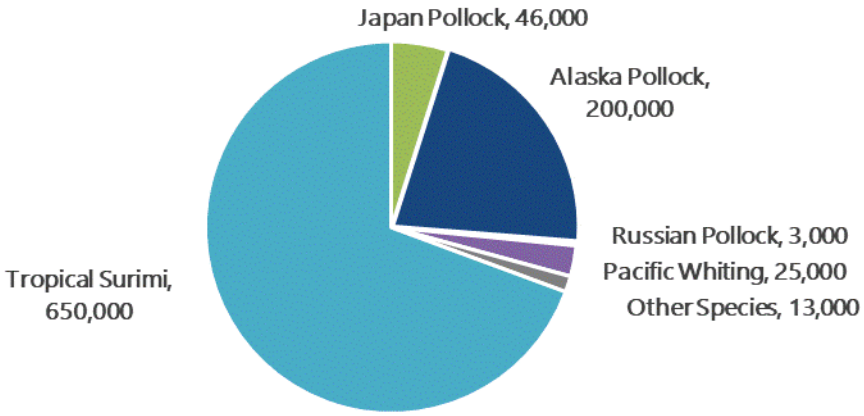

Figure 7.6: Global Surimi Production (mt), by Source Species, 2021

Source: Future Seafood Group.

Surimi can be made from a variety of fish species. Alaska pollock is the most widely used single species, but other types of surimi utilize a range of other fish.

7.3 Pacific Cod

Pacific cod (*Gadus macrocephalus*) is a whitefish found in the coastal Pacific Ocean from Alaska to California, with the largest concentrations found in the Gulf of Alaska and Bering Sea. One of the largest of the Alaska groundfish species, Pacific cod are highly valued for their mild, white flesh and are primarily processed into H&G and fillet products. Final cod products include fillets, salted products, and breaded products. A sharp decline in harvest volumes (magnified by a small decrease in prices) led to a 45 percent drop in Pacific cod wholesale value between 2017 and 2020. Pacific cod quotas in Alaska increased in 2022 so the harvest is expected to increase year-over-year in 2022 for the first time since 2017.

In 2020, Alaska's Pacific cod accounted for 12 percent of the total global (Atlantic and Pacific) cod harvest, down from 18 percent in 2017. In recent years Alaska accounts for nearly all the Pacific cod caught in the United States.

Table 7.14: Summary Profile of Alaska Pacific Cod Wholesale Production and Markets, 2020

Value and Volume		Key Products	H&G	Fillet	Other	
First Wholesale Production (mt)	80,574	Pct. of Value	64%	26%	11%	
Pct. of Global Cod Harvest (2020)	12%	Key Markets	China	Europe	U.S.	Other
First Wholesale Value ($ millions)	281	Pct. of Sales	18%	9%	53%	19%
Pct. of Alaska Groundfish Value (First Wholesale)	13%	YoY Value Change (from 2019)	-41%	-36%	-14%	-32%
Production Volume Exported	53%	Competing Species: Russian Pacific cod and Atlantic cod				

7.3.1 Alaska Production Summary

In 2020, Alaska's processors produced 80,574 mt of Pacific cod products, valued at $281 million. Production volume was the lowest since 2006, closely tracking lower TACs and harvests. Production value was also hurt by a weakening market for Pacific cod in the 2017-2020 period, resulting in lower wholesale prices. The 2020 wholesale value was the lowest since 2009. Pacific cod prices increased substantially in 2021, according to preliminary data.

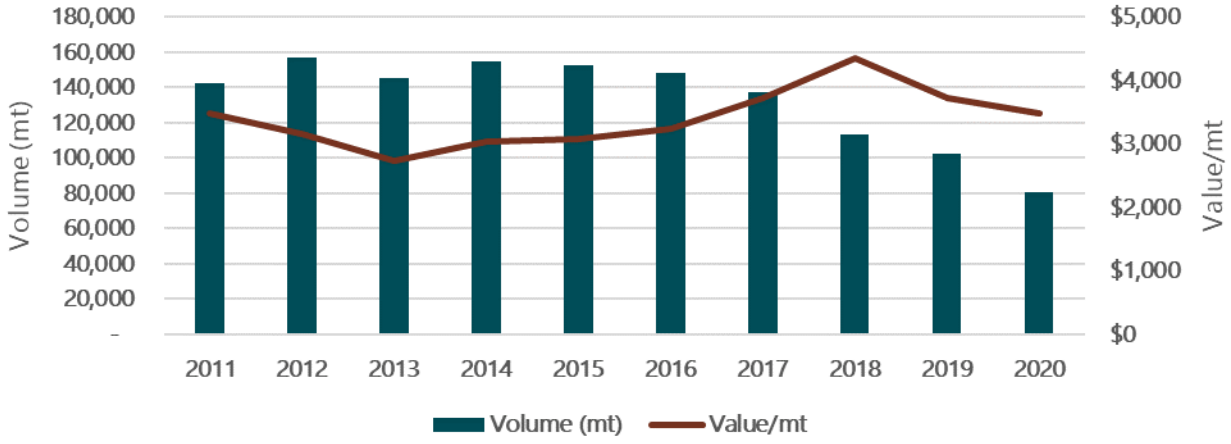

Figure 7.7: First Wholesale Volume and Value/mt for Alaska Pacific Cod, 2011-2020

Table 7.15: First Wholesale Value, Alaska Pacific Cod ($ millions), 2011-2020

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
$497	$495	$397	$471	$467	$480	$510	$491	$382	$281

Source: NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

H&G product accounted for 70 percent of production volume in 2020, and 64 percent of first wholesale value. Fillets accounted for 11 percent by volume and 26 percent of first wholesale value. Other products (e.g., roe, milt, fish meal) collectively made up 20% of the production volume and 10% of first wholesale value.

Cod production focus can vary somewhat annually, as regions (BSAI vs. GOA) and sectors (shoreside vs. at-sea) tend to have different product mixes and allocations among them change over time. The relative demand and prices for different products forms can also incentivize processors to make changes to their product portfolio.

Source: NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

7.3.2 Product Analysis and Supply Chain: Head and Gut and Fillets

The largest cod processing sector in Alaska is the at-sea processors, which focus on H&G production and accounts for more than 68 percent of Alaska's Pacific cod production volume.

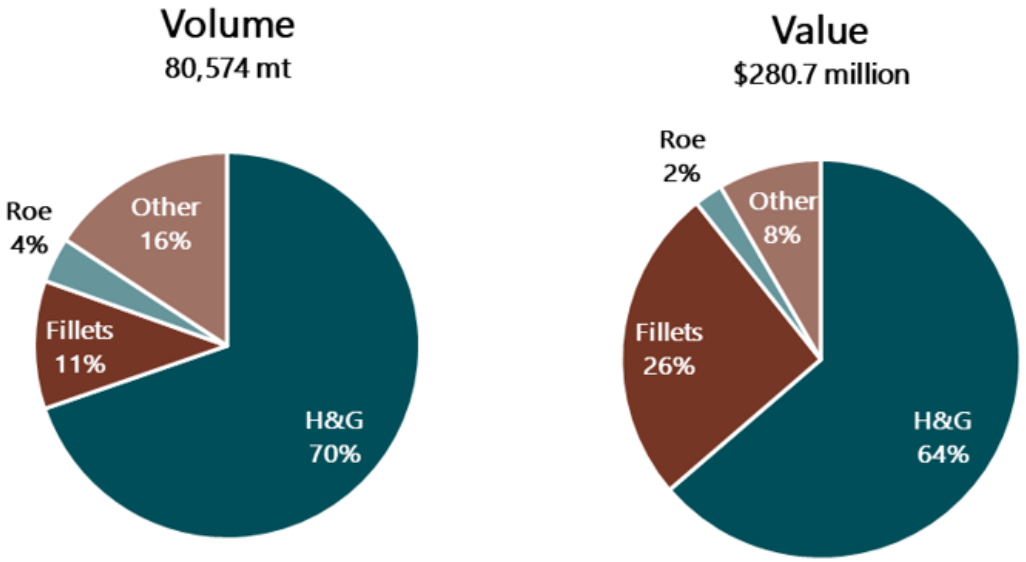

Figure 7.8: Volume and Value of Pacific Cod Wholesale Production in Alaska, by Product Type, 2020

Within the at-sea processing sector, freezer longliners receive higher prices for H&G than at-sea processor trawl vessels, most of which are part of the Amendment 80 fleet and focused primarily on flatfish. In contrast, cod makes up roughly 90 percent of the harvest volume of Alaska's longline catcher-processors, allowing an increased focus on cod-specific harvesting, handling, and processing techniques.[15]

The shoreside sector was responsible for a third of Pacific cod production volume in 2020. These facilities are responsible for almost all of Alaska's cod fillet production (98 percent), mostly in shatterpack form. Some of the largest shoreside locations for cod processing include Dutch Harbor, Akutan, and Adak. Processors in the BSAI produced 87 percent of total cod fillet production, a percentage that has increased sharply in recent years because of the sharp Gulf of Alaska fishing quota reductions.

Most Pacific cod caught in Alaska has been processed into frozen H&G product and exported in recent years. However, an increasing share of H&G cod is sold domestically. The largest secondary processing market is China, which re-exports the bulk of its cod to the U.S. and Europe as twice-frozen fillets. Secondary processing markets are also present in Europe, the U.S., and Japan – with these markets generally focused on higher value production and in-region consumption.

7.3.2.1 Headed and Gutted (H&G)

H&G products – which make up nearly three-quarters of Alaska's cod production – follow complex supply chains spread across numerous markets. Most frozen H&G product is exported, and the largest reprocessing market is China, which re-exports the bulk of their cod imports to the U.S. and Europe. Cod sent to Japan and Europe is reprocessed and consumed in those regions. Some H&G product distributed to domestic U.S. market is thawed and filleted and sold

[15] More specifically, 90 percent of the groundfish harvest volume, excluding halibut.

thawed without refreezing, known as the refresh market. Other U.S. processors create fillet blocks to produce breaded or coated sticks and portions.

7.3.2.2 Fillets

Alaska processors produced 16,538 mt of cod fillets in 2017, worth $127 million. Most Alaska cod fillets are packaged as shatterpacks, consisting of frozen fillet blocks with individual fillets separated by plastic sheets, making them easier to separate without the need for the entire block to be thawed.

7.3.3 Key Market Analysis

7.3.3.1 Head and Gut

In 2020, exports represented 72 percent of Alaska Pacific cod H&G production. These exports totaled 40,365 mt and represented nearly all (95 percent) of Alaska's cod exports.[16]

China has been the largest market for Alaska cod H&G production in recent years, although it rapidly lost market share in recent years: from more than half of Alaska H&G production in 2016 to less than 30 percent in 2020. Most of the H&G cod exported to China is reprocessed and then exported to the U.S. and Europe.

The domestic U.S. market was the second largest market for H&G Pacific cod in 2020, absorbing 28% of production. The U.S. likely overtook China as the largest direct market for H&G Pacific cod from Alaska in 2021, based on preliminary data.

Table 7.16: Sales of H&G Alaska Pacific Cod to Key Markets (mt), 2016-2020

Market	2016	2017	2018	2019	2020	Pct. of Total (2016-2020)
China*	55,428	46,483	32,413	25,500	16,396	42%
Europe	16,338	14,109	9,297	10,588	7,544	14%
Japan	13,853	13,866	9,777	6,979	5,512	12%
South Korea*	8,951	7,404	9,888	10,810	7,882	11%
Canada	1,207	1,550	1,935	1,140	1,500	2%
Other Countries	2,150	2,427	2,083	3,943	1,531	3%
Total Exports	97,928	85,839	65,394	58,961	40,365	84%
U.S. (Estimated)**	9,181	12,649	15,569	14,311	15,809	16%
Alaska Production	107,109	98,488	80,962	73,272	56,174	100%
% Exported	91%	87%	81%	80%	72%	

* Denotes countries which primarily re-process and/or re-export product to other markets.

**Estimated based on annual production less calendar year exports.

Note: Data pertains to primary exports only, does not portray product which may be re-exported to other markets.

Source: NMFS Office of Science and Technology, Annual Commercial Fisheries Statistics Database, compiled by McKinley Research Group.

[16] ASMI Seafood Export Database. Some cod exports are comingled with other fish and not distinguishable by species in export data, including fish meal, organs, and other ancillary products. H&G represent 96 percent of distinguishable cod exports.

7.3.3.2 Fillet

Of the 8,638 mt of Pacific cod fillet produced in Alaska in 2020, most (an estimated 79 percent) went to the U.S. domestic market. As with H&G production, the domestic U.S. market share has been increasing while the Chinese market share has been decreasing, although over a shorter period. While China has been the largest Pacific cod fillet export market in recent years, Spain became the largest export market in preliminary 2021 data.

Table 7.17: Sales of Alaska Pacific Cod Fillets to Key Markets (mt), 2016-2020

Market	2016	2017	2018	2019	2020	Pct. of Total (2016-2020)
China*	1,017	1,491	1,850	1,197	887	10%
Canada	731	595	454	519	423	4%
Portugal	188	586	319	431	213	3%
Spain	114	289	166	112	307	1%
Other	348	215	198	101	20	1%
Total Exports	2,397	3,176	2,987	2,360	1,851	19%
U.S. (Estimated)1	15,502	13,362	9,378	8,029	6,787	81%
Alaska Production	17,900	16,538	12,365	10,389	8,638	100%
% Exported	13%	19%	24%	23%	21%	

* Denotes countries which primarily re-process and/or re-export product to other markets.

[1] Estimated based on annual production less calendar year exports.

Note: Data pertains to primary exports only, does not portray product which may be re-exported to other markets.

Source: AKFIN, NOAA OST, ASMI Seafood Export Database, and McDowell Group estimates.

7.3.3.2.1 United States The U.S. is the largest market for single-frozen Pacific cod fillets produced in Alaska. The U.S. is also moving towards becoming the largest market for H&G Pacific cod from Alaska as of 2022, based on trends and preliminary data.

Pacific cod is a popular menu item in the United States, but at the consumer level it is often not distinguished from Atlantic cod. While the U.S. consumes large volumes of Pacific cod from Alaska, Alaska is not the largest source of cod for the domestic U.S. market. Cod imports consistently account for a larger portion of supply than sales directly from Alaska.

Table 7.18: Volume and Value of Frozen Cod Fillet Imports into the U.S. Market, by Country, 2021

	Volume (mt)	Value ($ millions)	Price per mt
China	33,241	$ 222	$ 6,665
Iceland	6,309	$ 62	$ 9,774
Russia	3,998	$ 33	$ 8,130
Norway	2,168	$ 24	$10,930
Indonesia	1,650	$ 9	$ 5,703
Vietnam	1,567	$ 11	$ 7,023
Canada	1,338	$ 12	$ 8,993
Other	471	$ 4	$ 9,401
Total	50,742	$ 376	$ 7,416

Source: NMFS Office of Science and Technology, Annual Commercial Fisheries Statistics Database.

Note: Includes Atlantic, Greenland, and Pacific cod fillets (indistinguishable in trade data).

Refreshed cod is an important product form for H&G cod from Alaska consumed in the United States. Refreshed cod is thawed H&G cod that is filleted for immediate sale without refreezing. Refresh markets have increased in popularity in the U.S. over the last ten years due to its ability to compete with fresh Atlantic cod in terms of affordability and product quality.

7.3.3.2.2 China China imports H&G cod (both Pacific and Atlantic) as raw material for reprocessing into twice-frozen fillets, frozen portions, and value-added products such as battered or breaded portions. In 2020, Alaska exported 16,396 mt of cod to China, representing 29 percent of Alaska cod production volume and 13 percent of China's total cod imports (Atlantic and Pacific cod). The Chinese reprocessing sector in 2020 imported most of its H&G cod from Russia, Norway, South Korea, and the Netherlands.

Twice-frozen Chinese-produced cod fillets (Pacific and Atlantic cod) are reexported to the rest of the world, with the U.S., Europe, and Canada being the largest markets. Other markets for Chinese cod include countries like Japan, Brazil, and South Korea. While China was the largest market for H&G cod from Alaska during the 2017-2020 period, its market share has dropped because of the US-China trade conflict and Chinese government COVID-19 policies.

Table 7.19: Primary Export Markets for Chinese Twice-Frozen Cod Fillets (mt), 2017-2021

Market	2017	2018	2019	2020	2021	Percent Change, 2017-2021
United States	46,956	43,430	40,249	36,390	33,714	-28%
UK	20,769	18,493	20,370	16,947	16,882	-19%
Germany	15,038	15,418	16,639	10,648	10,616	-29%
Spain	10,732	8,706	9,337	6,764	7,636	-29%
France	8,353	7,159	7,560	6,280	5,275	-37%
Canada	8,001	7,110	7,135	5,350	5,042	-37%
Sweden	5,949	5,412	4,199	2,992	2,325	-61%
Japan	3,168	2,649	2,196	1,336	1,852	-42%
Netherlands	2,512	2,929	2,998	3,158	1,553	-38%
Other	11,257	9,907	11,161	10,328	9,706	-14%
Total	132,735	121,213	121,844	100,193	94,601	-29%

Note: Figures may not sum due to rounding.

Source: Trade Data Monitor.

7.3.3.2.3 Japan & South Korea Japan and South Korea are also important markets for Alaska H&G cod. In 2020, 7,882 mt of Alaska cod products were exported to South Korea and 5,512 mt were exported to Japan, mostly H&G in both cases.

Japan and South Korea are both developed East Asian nations with a tradition of catching, importing, and consuming Pacific cod. However, these markets differ because of South Korea's role as a cold storage and transportation hub as much as a final market. Data from 2020 below show that an estimated 70% of cod (Atlantic and Pacific) imported into or caught in South Korea was exported.

Table 7.20: Estimated South Korea H&G Cod Supply (mt), 2016-2020

	Imports	Est. Domestic Production*	Exports	Est. S. Korea Supply	% Exported
2016	20,380	2,239	8,994	13,625	40%
2017	22,445	2,916	11,969	13,392	47%
2018	19,007	3,380	9,831	12,556	44%
2019	23,395	6,264	19,947	9,712	67%
2020	23,575	4,648	19,653	8,570	70%
16-20 AVG	21,760	3,889	14,079	11,571	55%

Note: Trade numbers include both Pacific and Atlantic cod, but in practice most of the cod imported to South Korea is Pacific cod.

*Estimated from live weight harvest, using H&G recovery rate of 45%.

Source: Trade Data Monitor, NMFS Alaska Region At-Sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

Japan is a larger cod consumer than South Korea based on import/export calculations, but it has a larger domestic harvester and lower volumes of both imports and exports. Japan imported most of its H&G cod from Alaska for the last decade. However, in 2021 Russia overtook Alaska as the main source of H&G cod imported into Japan. Almost all of the H&G cod that Japan exports goes to China.

Table 7.21: Estimated Japan H&G Cod Supply (mt), 2016-2020

	Imports	Domestic Production*	Exports	Est. Japan Supply	% Exported
2016	13,743	19,814	3,676	29,881	11%
2017	14,681	19,943	5,042	29,582	15%
2018	10,816	22,836	6,296	27,356	19%
2019	8,379	24,102	5,409	27,072	17%
2020	10,823	25,307	4,739	31,391	13%
16-20 AVG	11,688	22,401	5,032	29,057	15%

Note: Trade numbers include both Pacific and Atlantic cod, but in practice most of the cod imported to Japan is Pacific cod.

*Estimated from live weight harvest, using H&G recovery rate of 45%.

Source: Trade Data Monitor, NMFS Alaska Region At-Sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

Both Korea and Japan are important markets for cod byproducts, including roe and cod milt, which made up 20% of the Alaska Pacific cod production volume and 10% of its value in 2020.

7.3.3.2.4 Europe The European Union has imported more H&G cod (Atlantic and Pacific cod) than cod fillets in recent years, likely because the EU protects its domestic cod producers by maintaining higher duties on imported cod fillets, whereas frozen H&G cod can generally be imported into the EU with no tariff. For this reason, most of the cod Alaska imports to Europe is

in H&G form. In recent years, the U.S. (Alaska) has supplied about seven percent of the H&G cod imported by Europe, behind the other major cod-producing states of Russia, Norway, and Greenland.[17]

Alaska exports of H&G cod to Europe have dropped especially rapidly since the COVID-19 pandemic began. Increased ocean shipping costs and the strong U.S. domestic market demand for the shrinking volume of Alaska-produced cod in this period were likely drivers of this trend.

Alaska exports low volumes of frozen cod fillet to Europe directly: (less than 1% of European imports in recent years). Some additional Alaska-origin cod fillets enter Europe after reprocessing in China, which is the largest supplier of frozen cod fillet imports to European Union.

Table 7.22: Estimated Japan H&G Cod Supply (mt), 2016-2020

	2017	2018	2019	2020	2021	% Total H&G Cod Imports 2017-2021
China*	47,694	43,217	46,322	37,369	31,391	40%
Iceland	20,360	20,881	21,837	20,089	21,474	20%
Russia	28,381	22,243	23,862	19,797	19,530	22%
Norway	7,164	8,757	7,708	7,168	6,871	7%
Greenland	2,339	1,690	1,278	1,507	2,073	2%
UK**	8,251	6,751	9,222	5,993	1,753	6%
Vietnam*	1,257	1,238	1,004	1,385	1,092	1%
Ukraine*	1,048	840	1,083	693	829	1%
Faroe Islands	300	394	705	473	484	0%
United States	825	223	446	471	221	0%
Other	168	290	342	198	186	0%
Total	117,787	106,524	113,809	95,143	85,904	100%

Note: Includes both Atlantic, Greenland and Pacific cod (indistinguishable in trade data).

*Indicates countries that are key re-processors of Pacific cod from Alaska.

**The United Kingdom left the European Union in 2020.

Source: Trade Data Monitor.

7.3.3.3 Competing Supply

The two main species of cod, Pacific cod (*Gadus macrocephalus*) and Atlantic cod (*Gadus morhua*), are found in the northern hemispheres of the Atlantic and Pacific Oceans. While there are some slight differences, as *Gadus* whitefishes, they are considered almost identical substitutes for each other. In 2020, it is estimated that 404,987 mt of Pacific cod and 1,078,711 mt of Atlantic cod were harvested globally. The U.S. fishery for Atlantic cod is very small and Pacific cod from the North Pacific (almost all in Alaska waters) accounts for almost all U.S cod harvests. Alaska accounted for 54 percent of global Pacific cod harvests over the 2016 to 2020 period, with an average of 246,618 mt annually. It contributed 15 percent to the global cod (Atlantic and Pacific) harvest in this period.

[17] Greenland and the Faroe Islands are both part of the Kingdom of Denmark but are not members of the European Union like the rest of Denmark.

Beginning in 2022, European and other countries placed sanctions and increased tariffs on goods from Russia, including cod and other whitefish, which will continue to influence global whitefish trade routes and play a role in demand and price. Alaska's Pacific cod is well positioned in 2022, with the Alaska harvest quota increase coming at a time of high prices because of strong global demand for cod and limited cod supply. In general, wild whitefish supplies will be down in 2022, because of reduced quota for Alaska pollock.

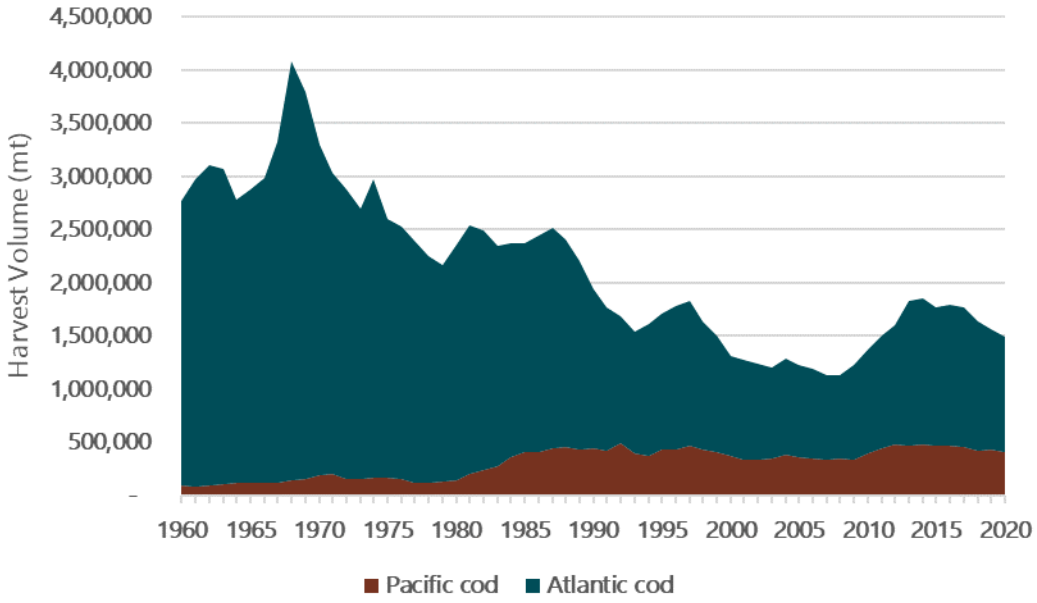

Figure 7.9: Global Supply of Pacific and Atlantic Cod (mt), 1960-2020

Source: FAO.

7.4 Sablefish

Sablefish (*Anoplopoma fimbria*), also known as black cod, is a premium whitefish harvested throughout Alaska by a variety of vessel sizes and gear types. In 2020, Alaska processors produced 7,930 mt in wholesale sablefish products (nearly all H&G), valued at $68.3 million. Sablefish are among the most valuable species on a per pounds basis harvested in Alaska and accounted for 3.2 percent of Alaska groundfish first wholesale value in 2020.

Table 7.23: Summary Profile of Alaska Sablefish Wholesale Production and Markets, 2020

Value and Volume		Key Products	H&G	Fillets	
First Wholesale Production (mt)	7,930	Pct. of Value	94%	4%	
Pct. of Global Sablefish Harvest (2016)	69%	Key Markets	Japan	Mainland China	Hong Kong
First Wholesale Value ($ millions)	68	Pct. of 1st Sales	73%	10%	9%
Pct. Change in Value from Prior 4-yr Avg.	-33%	YoY Change	12%	5%	-3%
Pct. of Alaska Groundfish Value	3.2%	Competing Species: Patagonia toothfish (Chilean Seabass)			

7.4.1 Product Description

Sablefish is a premium whitefish with a high oil content and delicate texture. Sablefish fillets are often marinated and served smoked, grilled, or sautéed. While Japan is the primary market for sablefish, it can be found in upscale restaurants and stores worldwide, including Hong Kong, United Arab Emirates, the U.S., and Europe, among others.

Shoreside processors – which accounted for 85 percent of production in 2021 – typically receive chilled sablefish either in the round (whole fish) or headed and gutted. The dominant sablefish wholesale product is IQF frozen H&G (Eastern cut) fish, often sold in 50-pound boxes. Relatively small amounts of heads, collars, fillets, and other products are also produced. Combined, non-H&G production made up just 6 percent of production volume in 2021.

Sablefish prices and markets are sensitive to the size of the fish, with larger sablefish worth much more than smaller fish. Ex-vessel prices in 2022 ranged from $1.00 per pound for fish less than two pounds to about $7.00 per pound for fish greater than seven pounds.[18] Unfortunately, smaller sablefish have become a larger portion of the harvest in recent years – a trend that is expected to continue in the near-term due to significant recruitment in recent age classes and other factors affecting fish size.

Table 7.24: First Wholesale Volume, Value, and Recovery Rates, Major Sablefish Products, 2020

	2020 Production Volume (mt)	2020 Production Value ($000s)	Recovery Rate Range	Average Price/kg
H&G (mostly Eastern cut)	7,554	$64,477	60-67%	$ 8.54
Fillets	195	$ 3,071	35-46%	$ 15.76
Pectoral Girdle (Collars)	93	$ 329	N/A	$ 3.54
Heads	54	$ 51	N/A	$ 0.95
Other	34	$ 348	N/A	$ 10.23
Total Wholesale Production	7,930	68,277	54%	$ 8.61
Total Retained Harvest	14,740			

Source: NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network); Alaska Sea Grant (Crapo, Paust, & Babbit, Recoveries and Yields from Pacific Fish and Shellfish, 2004).

7.4.2 Alaska Sablefish Production

In 2019 and 2020, first wholesale volume of sablefish products averaged just under 8,000 mt annually. Production is at the highest level in a decade, with the last period of a similar volume being 2011 to 2013. Unfortunately, the higher volume has flooded the market, and this is reflected in a decade-low price for sablefish in 2020. Foodservice closures in 2020 caused by the COVID-19 restrictions also likely contributed to the continued decline in prices that year. Preliminary data from 2021 indicates that prices were up, despite higher production volumes.

[18](Alaska Boats & Permits, 2022) Based on anonymous prices provided by fishermen.

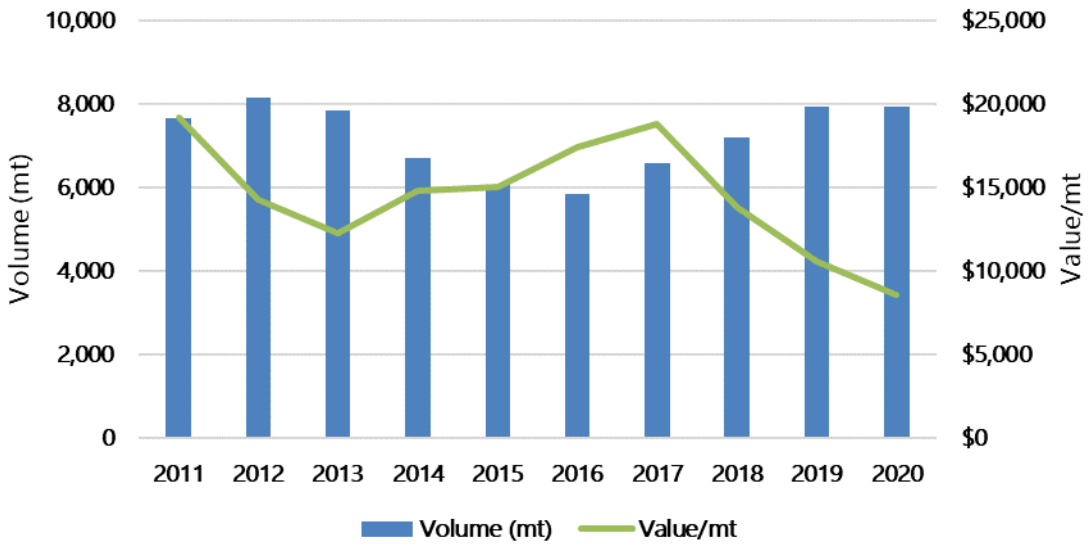

Figure 7.10: First Wholesale Volume and Value/mt for Alaska Sablefish, 2011-2020

Table 7.25: First Wholesale Value of Alaska Sablefish ($ millions), 2011-2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value ($ millions)	$147.4	$116.7	$96.3	$99.1	$91.1	$102.0	$123.8	$99.9	$84.0	$68.3

Source: NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

7.4.3 Market Profile and Analysis

Japan is the primary market for Alaska's sablefish, generally accounting for over 70 percent of total exports by volume. China (including Hong Kong) is the second-largest international market by volume and value in 2021, but their imports remain less than a third of Japan's market. If Hong Kong is split out as a market separate from China, it would be the second most important market by value for Alaska sablefish in the past three years because Hong Kong imports a disproportionate amount of large higher-priced sablefish. These imports serve both Hong Kong foodservice and retail markets as well as re-export markets in Southern China, Singapore, and other Southeast Asia countries with Japanese expatriate communities and business travelers. As a free port, exports to Hong Kong are not subject to Chinese tariffs.[19]

Wealthy markets including Singapore and the UAE usually import a modest but consistent volume of Alaska sablefish. Exports to these markets were down in 2020, likely because of COVID-19 foodservice closures.

[19](International Trade Administration, 2022)

Table 7.26: Estimated Export Volume of Alaska Sablefish, by Country (mt), 2017-2021

	2017	2018	2019	2020	2021	AVG mt 2017-2021	Average $/mt
Japan	3,787	4,349	4,434	5,118	6,401	6,531	$11,830
China	563	438	634	650	956	4,818	$10,900
Hong Kong	333	540	316	368	322	648	$11,016
Singapore	102	166	153	83	90	376	$19,421
United Arab Emirates	112	82	95	30	52	119	$16,949
Other	536	676	493	390	390	74	$18,162
All Exports	5,432	6,250	6,124	6,640	8,212	497	$13,997

Source: NMFS Office of Science and Technology, Annual Commercial Fisheries Statistics Database, compiled by McKinley Research Group.

7.4.3.1 Japan

The primary market for sablefish is Japan, a country that pioneered the commercial harvest of the species in Alaska. The Tokyo Central Wholesale Market plays an important role in sablefish markets.[20] Between 1987 and 2013, an estimated 37 percent of Japan sablefish imports (from all countries) were sold at this market. Prices observed at the Tokyo Central Wholesale Market function as a price index, impacting sablefish values globally. The United States is the primary supplier of sablefish to the Japanese market, accounting for 90 percent of Japanese imports between 2016 and 2021. Canadian supply accounted for most of the remainder, with small amounts of Russian sablefish also going to Japan in recent years.

Currency rates influence sablefish markets, but the market share of U.S. sablefish has been steady in recent years despite fluctuations of the dollar/yen exchange rate. This may change with a particularly strong U.S. dollar and weak yen that developed in 2022, although U.S. sablefish exports to Japan have remained relatively robust as of mid-2022.

Table 7.27: Japan Frozen H&G Sablefish Imports, by Major Trade Partner, 2016-2021

		2016	2017	2018	2019	2020	2021
Import Value ($ millions)		$ 92.23	$ 96.23	$ 69.20	$ 55.82	$ 61.28	$ 87.02
	U.S.	$ 83.80	$ 86.90	$ 63.00	$ 49.10	$ 54.00	$ 75.60
	Canada	$ 8.40	$ 8.90	$ 5.90	$ 6.70	$ 7.10	$ 10.80
Import Volume (mt)		6,234	5,789	6,066	6,151	7,636	9,300
	U.S.	5,691	5,258	5,567	5,542	6,809	8,183
	Canada	544	481	462	602	789	1,030
Import Value/mt							
Avg. Total USD/mt		$14,795.00	$16,623.00	$11,407.00	$ 9,075.00	$ 8,026.00	$ 9,357.00
Avg. Yen/USD Exchange Rate		¥109	¥112	¥110	¥109	¥107	¥110

[20](Sonu S. , 2014)

Source: Trade Data Monitor (HS 03.0389.2960) and St. Louis Federal Reserve Bank (currency rates).

7.4.3.2 United States

The estimated size of the U.S. sablefish market has averaged about 6,000 mt per year in recent years. The volume of Alaska sablefish in the market has been relatively steady in this period, but U.S. imports have fluctuated significantly, with a surge in Canadian imports in 2016 and 2017. Industry interviews indicate Canadian imports were higher in this period because most Alaska sablefish was smaller sized fish during this period. Approximately 80 percent of Alaska sablefish is exported, and the remainder goes to the U.S. domestic market.

Table 7.28: Estimated U.S. Sablefish Market Size (mt), 2016-2020

Year	Est. U.S. Wholesale Production	U.S. Imports	U.S. Exports	Est. U.S. Market Size	% U.S.
2016	9,931	1,747	5,577	6,101	71%
2017	11,146	1,756	5,733	7,169	76%
2018	11,430	357	6,565	5,222	93%
2019	12,005	320	6,209	6,116	95%
2020	12,143	250	6,690	5,703	96%
Five-year Average	11,331	886	6,155	6,062	86%

Note: An average recovery rate of 65 percent is used in this analysis.

Source: McKinley Group estimates, based on data from NMFS and AKFIN.

7.4.4 Global Production and Competing Supply

The United States and Canada account for nearly all global production of sablefish.[21] Alaska is the primary supplier, contributing an annual average of 62 percent between 2016 and 2020. Harvest from other West Coast states accounted for 26 percent of global supply in this period and Canada (British Columbia) contributed 11 percent.

Source: FAO; NMFS Alaska Region At-sea and Shoreside Production Reports (Data provided by the Alaska Fisheries Information Network).

Patagonian toothfish (*Dissostichus eleginoides)* is the primary competitor with sablefish. The toothfish has a high oil content and is also known as Chilean seabass or *mero* in Japan. Between 2016 and 2020, the global supply of Patagonian and Antarctic toothfish (both marketed as sea bass) ranged from about 25,000 mt to 30,800 mt. These historical figures do not include illegal, unreported, or unregulated (IUU) harvests. In the early 2000s, up to half of Patagonia toothfish harvests were estimated to be IUU landings.[22] Actions by management, surveillance, and enforcement agencies, as well as non-governmental organizations, between 2005 and 2014 have

[21] Russia has been a small producer of sablefish in recent years, reaching a height of 431 mt in 2019.
[22] (Catarci, 2004)

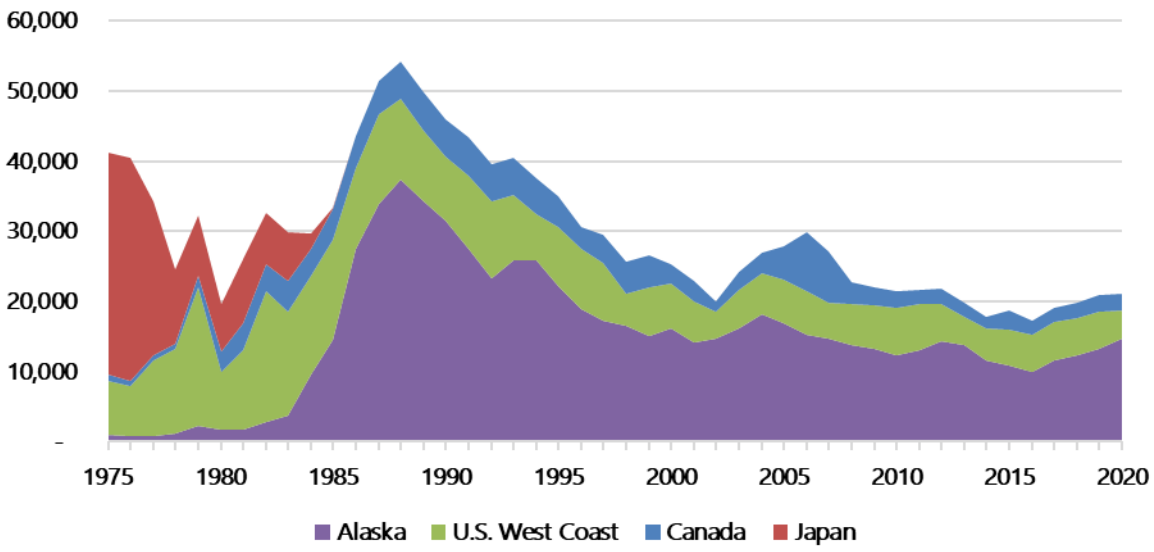

Figure 7.11: Global Supply of Sablefish (mt) from Main Global Producers, 1975-2020

suppressed the illegal harvest of both Patagonian and Antarctic toothfish to their lowest levels in decades.[23]

7.5 A80 Species

Alaska's flatfish fisheries for soles and plaice in the BSAI and GOA, while comprised of more than 10 different species, are dominated by three species of sole (yellowfin, rock, and flathead) and plaice; other species harvested in smaller volumes include Greenland turbot, rex sole, butter sole, Dover sole, and starry flounder. Due to the many harvest and market similarities across this group, this section will treat many species with similar market aspects collectively while including additional detail for the four key species. Alaska's flatfish harvests include considerable volumes of arrowtooth flounder; this species is covered in a separate profile and not discussed here.

Yellowfin sole (*Limanda aspera*) is the most abundant commercial flatfish in the eastern Bering Sea and the world's largest single flatfish fishery by volume, representing 12 percent of the global flatfish harvest in 2020. At $108 million, the species represented 56 percent of Alaska flatfish first wholesale value in 2020.[24] The vast majority of this production is frozen H&G product destined for export to China for reprocessing.

[23] (Coalition of Legal Toothfish Operators, 2021)

[24] "Flatfish" includes all comparable BSAI/GOA flatfish species, including arrowtooth flounder and turbot. It does not include Pacific halibut or skate.

Table 7.29: Summary Profile of Yellowfin Sole Wholesale Production and Markets, 2020

Value and Volume		Key Products	H&G	Whole Round	Other
First Wholesale Production (mt)	81,281	Pct. of Value	93%	7%	<1%
Pct. of Global Flatfish Harvest	12%	Key Markets	China	South Korea	Other
First Wholesale Value ($ millions)	108	Pct. of Exports	82%	16%	1%
Pct. of Alaska Groundfish Production Value	5%	YoY Change	21%	-19%	-66%
Pct. of Alaska Flatfish Production Volume	60%	Competing Species: Other flatfish, tilapia, whitefish			

Rock sole (*Lepidopsetta polyxystra* and *bilineata*), the second most abundant BSAI/GOA flatfish by wholesale volume (after yellowfin sole), accounted for 12 percent of the total first wholesale volume of Alaska flatfish. Alaska is responsible for the vast majority of the global rock sole harvest, producing 15,127 mt, valued at $24 million in 2020. Like yellowfin sole, most of Alaska's rock sole production is exported to China and South Korea, though Japan is also an important export market for females with roe. Rock sole generates a higher unit value per metric ton than yellowfin sole due to export markets for rock sole with roe.

Table 7.30: Summary Profile of Rock Sole Wholesale Production and Markets, 2020

Value and Volume		Key Products	H&G	H&G with Roe	Whole Round	
First Wholesale Production (mt)	15,127	Pct. of Value	90%	10%	<1%	
Pct. of Global Flatfish Harvest (2020)	3%	Key Markets	China	South Korea	Mexico	Japan
First Wholesale Value ($ millions)	24	Pct. of Exports	66%	17%	7%	4%
Pct. of Alaska Groundfish Production Value	1%	YoY Change	9%	111%	-29%	-26%
Pct. of Alaska Flatfish Production Volume	12%	Competing species: Other flatfish, tilapia, whitefish				

Atka mackerel production was valued at $79.1 million in 2020, accounting for 3.8% of the first wholesale value of all Alaska groundfish. Production value was down 25% from the previous four-year average because of both lower harvest volumes and prices since 2018 when Atka mackerel production value was at a peak. Alaska produced 45 percent of global Atka and Okhotsk mackerel harvests in 2020, and nearly all production was exported to Japan, China, or South Korea as a frozen H&G product. Final consumer products include split/salted and surimi products largely consumed in Japan, Korea, and China.

Table 7.31: Summary Profile of Atka Mackerel Wholesale Production and Markets, 2020

Value and Volume		Key Products	H&G	Other	
First Wholesale Production (mt)	34,191	Pct. of Value	98%	2%	
Pct. of Global Harvest (2016)	45%	Key Markets	Japan	China	Korea
First Wholesale Value ($ millions)	79	Pct. of Final Sales	68%	31%	8%
Pct. Change in Value from Prior 4-yr Avg.	-25%	YoY Change	15%	-16%	18%
Pct. of Alaska Groundfish Value	3.8%	Competing Species: Okhotsk Atka mackerel			

Atka mackerel is a key species for Alaska's Amendment 80 fleet, which also targets high volume flatfish (sole/flounder) and rockfish (including Pacific Ocean perch). Atka mackerel accounted for 24 percent of the combined wholesale production value of these target species in 2020.

Pacific Ocean perch (*Sebastes alutus* – also known by the acronym POP) is the most abundant rockfish species in Alaska, comprising about 80 percent of all Alaska rockfish production. Overall, POP represented 2.5 percent of the first wholesale value of all Alaska groundfish in 2020. More than three fourths of Alaska's POP is exported to two countries – China (for processing) and Japan (the species' largest consumer market). Alaska POP accounted for 21 percent of global rockfish harvests in 2020.

POP is a key species for the Amendment 80 fleet, which also harvests high volume flatfish (sole/flounder), Atka mackerel, and other rockfish species. POP accounted for 15 percent of the combined wholesale value of production of these Amendment 80 species in 2020.

7.5.1 Key Market Analysis

7.5.1.1 China

Alaska soles and plaice are usually processed by hand, which is labor-intensive. Due to lower labor costs, China is responsible for reprocessing most Alaska-caught flatfish, with yellowfin and rock sole providing the largest volume. While Chinese reprocessing facilities are important to the Alaska groundfish supply chain in general, this is especially true for soles and other flatfish.

About 80 percent of China's flatfish fillet exports go to Europe, Japan, and the United States. As China's economy has grown, an increasing volume of sole has remained in the domestic market, but the China-U.S. trade conflict has interfered with the ability of the industry in Alaska to take advantage of the growing domestic Chinese market. A more detailed discussion regarding the China-U.S. Trade dispute and China's COVID-19 policies can be found in the full market profiles report.

7.5.1.2 U.S. and Europe

The U.S. and Europe consume a large amount of flatfish, much of it processed in China. Both end markets consume sole, plaice, and flounder (often commingled and sold as "flounder" or "sole") in the grocery store frozen aisle or in fast food restaurants. The U.S. is China's second largest export market for frozen flatfish fillets, receiving 10,025 mt worth $49.5 million in 2021. However, volumes imported by the U.S. from China have dropped by nearly 50 percent from a peak of 18,852 mt in 2013.

While the U.S. and Europe are final markets for Alaska flatfish, industry interviews indicate there is increased processing in these regions as well. Labor costs are too high to hand process H&G flatfish in these markets, but there are existing plants with fillet machines that can process flatfish in Massachusetts and the Netherlands, among other locations.

European trade policy has encouraged increased flatfish production using imported H&G in recent years. Starting in 2020, the EU allowed up to 7,500 tons of whole and H&G frozen flatfish to be imported each year for processing at zero tariff duty (called an Autonomous Tariff Quota, ATQ).[25]

[25] (The Council of the European Union, 2020)

The EU Fish Processors and Traders Association have requested an increase to 20,000 tons in the future ATQ 3-year cycle, although European harvesters advocated against that request. ATQs allow for profitable export from Alaska to the EU of single frozen H&G flatfish; a higher quality product than the EU receives from China. The EU also produces large volumes of competitor species of flatfish that are processed and consumed domestically and exported to the U.S.

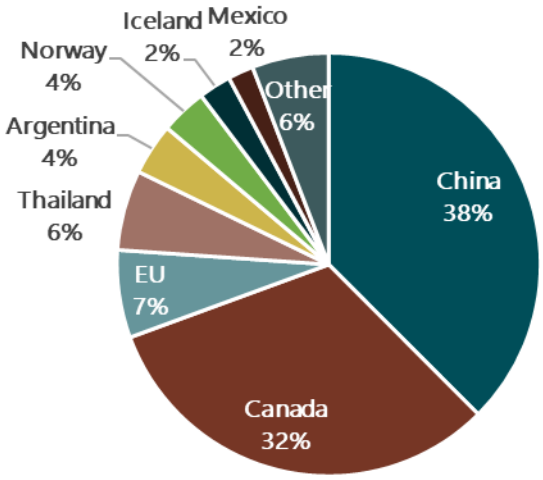

Figure 7.12: Share of U.S. Imports of Flatfish, by Region/Country, 2021

Note: Percentages are percentages of import volumes; does not include Pacific Halibut

Source: NMFS Office of Science and Technology, Annual Commercial Fisheries Statistics Database.

7.5.1.3 Japan and South Korea

As the largest flatfish export market for China, Japan imports a great deal of Alaska flatfish reprocessed in China. Japanese demand for rock sole with roe has decreased since its historical peak, resulting in lower export volumes and values (only 4% of Alaska rock sole exports went to Japan in 2020 compared to 13% in 2017). As with pollock roe, traditional ways of eating rock sole in Japan are declining with the aging population. However, the industry in Japan is working to market new convenient products that use roe and are more likely to appeal to younger shoppers. Also contributing to decreasing rock sole exports is the decline in Alaska's rock sole harvest, which decreased from 60,637 mt in 2013 to 27,400 mt in 2020.

South Korea consumes some yellowfin sole domestically, particularly smaller-size yellowfin sole that sell for a lower price per kilo. Koreans also highly value the whole fish appearance; marks and flaws in the gills and eyes detract from value in this market. Russia supplies South Korea with whole flatfish and caters to the Korean market more than U.S. suppliers.

7.5.2 Competing Supply

Global flatfish supply has remained fairly constant over the past two decades after declining significantly from harvest levels attained in the 1980s that exceeded 1.2 million mt annually. In

contrast, Alaska's contribution to global production of flatfish has grown steadily from tiny volumes in the 1980s. Alaska flatfish continue to compete with species such as European plaice and dabs, and have remained popular for use in frozen meals and as frozen fillets/kirimis in the U.S., Japan, and Europe. Competition comes from fresh flatfish as well as from fresh/frozen whitefish like tilapia, pangasius, pollock, and cod, among others.

Alaska accounted for 42 percent of global Atka mackerel production between 2014 and 2016, the most recent three years with complete data for global harvest. Historically, Japan is the largest producer but its harvests have declined significantly since 2008 - down 90 percent through 2016.

Global rockfish (including POP and other *Sebastes* species) harvests averaged 218,372 mt from 2012 to 2016 and increased roughly 20 percent over the period. Europe is the largest redfish/rockfish producer, accounting for just over half (52 percent) of total production in 2016. Alaska POP accounted for one-fifth (21 percent) of global rockfish production in 2016, and 88 percent of all rockfish production in the United States.

Global flatfish supply has remained fairly constant over the past two decades after declining significantly from harvest levels attained in the 1980s that exceeded 1.2 million mt annually. In contrast, Alaska's contribution to global production of flatfish has grown steadily from tiny volumes in the 1980s thanks to Alaska's fishery management regime and regulatory changes like Amendment 80. Between 2011 and 2020, Alaska flatfish production averaged 21 percent of global flatfish supply. Alaska's yellowfin sole harvest alone represented 12 percent of the global flatfish harvest in this period.