Prepared for:

Alaska Seafood Marketing Institute

The Economic Value of Alaska's Seafood Industry

JANUARY 2020

Prepared by:

McDowell Group

The Alaska Seafood Marketing Institute (ASMI) is a public-private partnership between the State of Alaska and the Alaska seafood industry established to foster economic development of the state's most valuable renewable natural resource.

Alaska Seafood Marketing Institute

ASMI's mission is to increase the economic value of the Alaska seafood resource, benefitting Alaskans in communities across the state. ASMI activities include product demonstrations, collaborative marketing through chef and social media partnerships, outbound and inbound trade missions, and many other marketing, education, and advocacy activities.

ASMI is funded by an industry-directed 0.5% marketing assessment based on the ex-vessel value of Alaska seafood and USDA funding supporting American export industries.

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Introduction

ASMI contracted with McDowell Group to update prior studies (completed in 2013, 2015, and 2017) of the economic impact of Alaska's commercial seafood industry. The analysis quantifies the regional, statewide, and national economic impacts of Alaska's seafood industry, including employment and labor income estimates, tax revenues, and overall economic output.

As the brand manager for Alaska seafood, ASMI recognizes the need to inform the general public and consumers about the important economic benefits of the industry. Alaska's seafood industry covers vast areas of the state but is not always well represented in traditional employment data sources.

Due to biological and environmental factors, harvest of wild seafood is inherently volatile. For example, total odd-year harvests of Alaska pink salmon can be double or triple even-years. In order to reduce the effect of this volatility, most economic impact figures have been averaged or otherwise combined from the two most recent years (2017-2018) where appropriate.

This report considers only the commercial seafood industry and does not address economic impacts stemming from recreational, charter, or subsistence uses of Alaska's seafood resources.

Data Sources & Methods

McDowell Group worked with the Commercial Fisheries Entry Commission, Alaska Department of Fish & Game, and Alaska Department of Labor & Workforce Development to compile data sets used in this study. Economic models used to estimate direct and secondary economic impacts were developed from these datasets, as well as using IMPLAN (a commercially available input-output model), information from industry interviews, and other data sources. Relatively minor methodological differences exist between this report and prior versions.

All photos are courtesy of ASMI, except where noted.

Glossary

Direct Impacts: The impacts occurring in the seafood industry itself, including commercial fishing, seafood processing, and direct support sectors.

Direct Support Sectors: Critical support positions are counted as direct impacts in this analysis, such as fishery managers and hatchery workers.

Secondary Impacts: Additional economic impacts resulting from business and household spending related to the Alaska seafood industry (i.e. multiplier effects).

FTE (full-time equivalent): Many seafood industry workers are employed seasonally or earn a year's worth of income in less than a year. FTE employment figures in this report represent an annualized estimate of jobs, allowing comparison to other industries.

Worker Counts: The total number of people earning income in the industry.

Labor Income: Wages, salaries, bonuses, and benefit payments to seafood industry participants.

Economic Output: The value added to Alaska's seafood in total, and at various stages of the production and supply chain.

Ex-Vessel Value: The dollar amount received by fishermen for their catch when delivered to a processor. This includes both initial payments and any bonuses.

First Wholesale Value: The value of seafood products when sold to buyers outside a processor's affiliate network. This is the value of the raw fish plus the value added by the first processor.

Executive Summary

The Seafood Industry: A Cornerstone of Alaska's Economy

Approximately **58,700 workers** were directly employed by Alaska's seafood industry with just under **$1.7 billion in wages** annually during the 2017/2018 period. An estimated 37,700 full-time equivalent jobs were supported in the state with wages of $2.1 billion, including multiplier impacts that result from the industry circulating money in Alaska's economy.

Alaska fisheries employed an average of **29,400 commercial fishermen** each year with earnings of more than $1.0 billion. The state's commercial fleet includes over 9,000 vessels, which would span just over 64 miles if lined up from bow to stern.

The processing sector employed an average of **26,000 processing workers**. The industry includes 166 shore-based plants, 49 catcher-processor vessels, and about 10 large floating processors, among other participants.

The seafood industry contributed **$5.6 billion in economic output** to Alaska's economy in 2017/2018. This measurement includes all the economic activity supported by harvesting, processing, and support sectors.

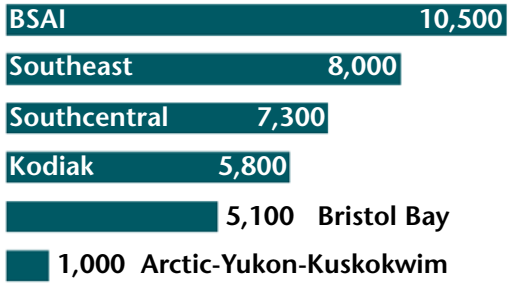
Seafood Industry Impact on Alaska's Economy, 2017/2018 Avg.

Direct Impacts	Number of Workers	Labor Income ($Millions)
Commercial Fishing	29,400	$1,013
Processing	26,000	$435
Management/ Hatcheries/Others	3,300	$227
Total	**58,700**	**$1,675**

Total Impacts	
FTE (Full-Time Equivalent) Jobs	**37,700**
Labor Income	**$2.1 Billion**
Economic Output	**$5.6 Billion**

Note: Figures may not sum due to rounding.

Total FTE Jobs by Region



Feeding the World and Alaska's Economy with Sustainable Fisheries

- Approximately 5.7 billion pounds of seafood worth $2.0 billion was harvested annually in 2017/2018. Processors turned this harvest into 2.8 billion pounds of product worth $4.7 billion.
- Alaska's abundant commercial fisheries have produced over 181 billion pounds since statehood in 1959. The industry produces enough seafood each year to feed everybody in the world at least one serving of Alaska seafood (12.9 billion servings annually).
- Alaska seafood was sold in 97 countries around the world in 2018. Export markets typically account for approximately two-thirds of sales value, while the U.S. market buys the remaining one-third.
- Seafood directly employs more workers than any other private sector industry in Alaska, and is the foundation of many rural communities.
- A commitment to sustainable management has allowed the state's fisheries to produce large, diversified harvests for many decades.

The Significant National Economic Impact of Alaska's Seafood Industry

- Nationally, the Alaska seafood industry creates over 100,000 FTE jobs, $5.6 billion in annual labor income, and $13.9 billion in economic output.
- The national economic impact of Alaska's seafood industry includes $5.9 billion in direct output associated with fishing, processing, distribution, and retail. It also includes $8.0 billion in multiplier effects generated as industry income circulates throughout the U.S. economy.
- Alaska produces two-thirds of the nation's seafood harvest in a typical year and is home to nine of the top 20 U.S. fishing ports by value.
- Alaska seafood exports in 2017 and 2018 averaged more than 1 million metric tons annually, bringing over $3.2 billion in new money into the U.S. economy each year.

Seafood Industry Overview

Commercial Fishing Sector

Alaska has the most prolific commercial fishing industry in the United States, producing more harvest volume than all other states combined. Commercial fishing in Alaska creates substantial benefits for Alaska's economy and provides consumers around the world with a wild, sustainable product.

The scale of commercial fishing activity in Alaska is very diverse. Crews range from one or two fishermen working from skiffs and small boats to large catcher-processors in excess of 300 feet with 100 workers or more.

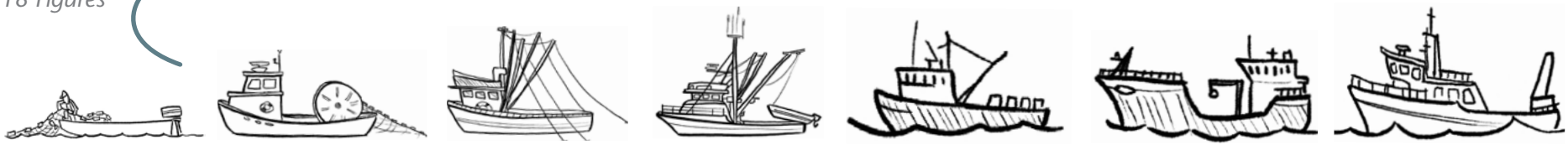
Fishermen involvement in the industry also spans a wide spectrum. Many skippers and crew participate in multiple fisheries as a full-time career, while others fish to supplement income from other jobs, earn money during a summer school break, or work as crew members for friends and family to be part of a uniquely Alaskan cultural tradition.

Regardless of vessel size or involvement, each fishing operation represents a business generating new income from a renewable resource. These businesses spend money throughout the economy, and provide the raw materials on which the rest of the seafood economy is based.

Key Figures	2018
Skippers & Crew	29,400
Skippers	8,700
Crew	20,700
Alaska Residents	16,319
Fishing & Related Vessels	9,000+
Ex-Vessel Value ($ Millions)	$1,994
Percent to AK Residents	36%
Harvest Volume (Millions lbs.)	5,410

If all the vessels used in the Alaska seafood industry were lined up bow to stern they would stretch on for nearly 64 miles!

2018 Figures



Length (feet)	<23′	23′ - 32′	33′- 49′	50′ - 58′	59′ - 99′	100′ - 199′	+200′
Count	2,133	3,259	2,206	730	380	273	37

Note: Skiffs and small craft may be understated in the data above.

Seafood Processing Sector

Seafood is the state's largest international export by volume and value. It's also the largest manufacturing sector in Alaska, accounting for 70% of the state's manufacturing employment in 2018. Nearly all of Alaska's seafood products go through the hands of seafood processors, who add value by turning raw fish and shellfish into myriad products for markets around the world.

The seasonality of many Alaska fisheries, especially salmon, result in a reliance on nonresident workers to fully staff production jobs at remote sites across the state. Though nonresidents comprise approximately 70% of the processing workforce, residents earn a higher share of the sector's income as they are more likely to be employed in management and maintenance positions and work in areas with longer operating seasons.

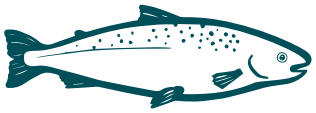
More than 40 different occupations are supported by the processing sector, including machinists, engineers, electricians, cooks, and laborers, among many others.

The sector includes 166 shore-based plants, 49 catcher-processors, approximately 10 floating processors, and various other participants.

Workforce	2018
Peak Monthly Emp.	19,571
Avg. Monthly Emp.	8,808
Total Worker Count*	25,901
Alaska Residents*	7,304
Total Earnings*	$451 Million
Alaska Residents*	$159 Million
Value Added	
Ex-Vessel Value	$1.99 Billion
First Wholesale Value	$4.47 Billion
Value Added by Processors	$2.45 Billion

*2017 data are the latest available.

First Wholesale Value by Product Type, 2017/2018



H/G & Whole Fish
41%

Surimi
13%

Fillets
20%

Roe
10%

Canned
5%

Meal
& Oil 3%

Other
7%

First Wholesale Value by Species, 2017-2018

37% Salmon

31% Pollock

11% Pacific Cod

10% Flatfish, Rockfish, Atka Mackerel

5% Halibut & Sablefish

5% Crab

1% Other

Fishery Management & Regulation

Alaska's fisheries are known worldwide as a model for sustainable management. The efforts of the region's biologists, managers, and policy makers ensure healthy stocks and productive fisheries for Alaska's harvesters and the businesses and communities that rely on their catches. Changing ocean and climate conditions present an emerging challenge that the industry and managers are tracking closely.

A key aspect of Alaska's successful model is the sustainability mandate set forth in the Magnuson-Stevens Act to guide federal fisheries and the Alaska Constitution to guide state fisheries. There is also a separation of entities that set policy (**Alaska Board of Fisheries** and **North Pacific Fishery Management Council**) and those that enforce regulations and manage fisheries in-season. Alaska's commercial fisheries are managed by the **Alaska Department of Fish and Game** (ADF&G) and the **National Marine Fisheries Service** (NMFS), a division of NOAA. With some exceptions, fisheries managed by ADF&G occur within three miles of Alaska's coast while NMFS manages fisheries in federal waters (3 - 200 miles offshore).

Some Alaska fisheries have an international component. Pacific halibut fisheries are jointly managed under a treaty with Canada via the **International Pacific Halibut Commission**. Transboundary salmon harvests in Southeast Alaska and the Yukon River are subject to the **Pacific Salmon Treaty**.

The State of Alaska has several agencies that further support the seafood industry in Alaska:

- The **Commercial Fisheries Entry Commission** implements Alaska's limited entry law by issuing fishing permits for state fisheries and maintaining records of harvest volume/value.
- The **Department of Commerce, Community, and Economic Development** is charged with promoting economic development in Alaska, including the seafood industry.
- The **Alaska Seafood Marketing Institute** is a public-private partnership between the state and the seafood industry with the mission to increase the economic value of Alaska seafood.
- The State provides training opportunities and extension services through the **University of Alaska** system, **Alaska Sea Grant**, and **Alaska's Institute of Technology**.
- The **Department of Environmental Conservation** issues discharge permits for seafood processing facilities.
- The **Department of Labor and Workforce Development** monitors employment associated with the seafood industry, provides workforce training, and operates programs including the Fishermen's Fund.

Statewide Economic Impacts

Seafood Industry Impact on Alaska's Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	29,400	12,900	$1,013	$2,019
Processing	26,000	11,600	$435	$2,539
Mgmt./Other	3,300	2,300	$227	-
Direct Total	**58,700**	**26,800**	**$1,675**	**$4,559**
Secondary Total	**-**	**10,900**	**$463**	**$1,063**
Total Impacts	**-**	**37,700**	**$2,139**	**$5,621**

- **Seafood contributed an annual average of $5.6 billion in economic output to the Alaska economy in 2017 and 2018.**
- In total, seafood contributed 37,700 FTE jobs and $2.1 billion of labor income annually to the state's economy during 2017 and 2018. It is estimated that the commercial seafood industry accounted for about 8% of statewide employment during this period.
- The seafood industry directly employs 58,700 workers in Alaska each year. Through business and household spending, it is estimated the industry created an additional 10,900 jobs and $463 million in labor income, on average, in 2017 and 2018.
- The seafood industry directly employs more workers than any other private sector industry. Including multiplier effects, it is the third-largest basic sector job creator in Alaska after the oil-and-gas and visitor industries.
- The seafood industry directly employed an estimated 26,200 Alaska residents per year in 2017/2018.
- The economic benefits of the seafood industry are broadly distributed across Alaska, from Kotzebue to Ketchikan.

Top Ports (by Landings Value)	**2017**
1) Dutch Harbor	$173 Million
2) Naknek	$154 Million
3) Kodiak	$152 Million
4) Alaska Peninsula	$112 Million
5) Aleutian Islands	$106 Million

Note: Ex-vessel value of landings in each port/port grouping.
Source: NOAA. 2017 represents the latest available data.

Jobs & Labor Income Created by Basic Sector Industries in Alaska

(including multiplier effects)

Oil & Gas

103,900 FTE jobs
$6.0 Billion

Seafood

37,700 FTE jobs
$2.1 Billion

Visitor

43,300 FTE jobs
$1.5 Billion

Mining

9,200 FTE jobs
$715 Million

Basic sectors bring new income into the economy. The industries above collectively account for ~40% of total employment in Alaska.

Source: McDowell Group economic impact studies (2017-2019)

2018 Figures

Harvesting

6,600 Resident-owned Fishing Vessels

16,319 Resident Fishermen

$1.99 Billion Harvest Value

5.41 Billion Pounds of Seafood Harvested

Processing

166 Shore-based Processing Facilities

25,901 Total Processing Workers
(2017, Shoreside)

$4.47 Billion Wholesale Value

2.60 Billion Pounds of Seafood Produced

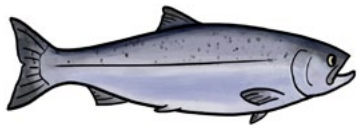
Economic Trends in Seafood Industry

	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	18,538	18,592	18,478	18,161	17,009	16,922	16,319
Gross Earnings ($Millions)	$806	$834	$741	$677	$632	$827	$718
Average Processing Employment*	10,198	10,477	10,596	10,254	9,814	9,445	8,808
Peak Processing Employment*	19,472	20,367	20,788	21,279	21,048	19,940	19,571
Wages & Salaries ($Millions)*	$364	$392	$399	$445	$442	$446	$439
Harvest Value ($Millions)	$2,017	$1,968	$1,920	$1,783	$1,741	$2,068	$1,994
First Wholesale Value ($Millions)	$4,503	$4,554	$4,291	$4,273	$4,198	$4,851	$4,472

*Figures may not include processing activity from all catcher/processor vessels.

Value & Volume of Key Species, 2017/2018

Salmon



$744
Ex-Vessel Value (EV) $Millions

$1,728
First Wholesale Value (FW) $Millions

816
Harvest #Millions

$2.12
FW Value per Round lb.

Pollock

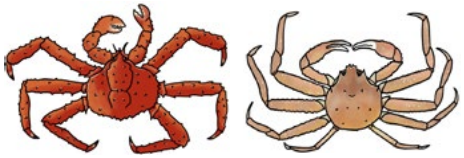
$461
EV Value $Millions

$1,459
FW Value $Millions

3,376
Harvest #Millions

$0.43
FW Value per Round lb.

Crab



$197
EV Value $Millions

$238
FW Value $Millions

40
Harvest #Millions

$5.96
FW Value per Round lb.

Pacific Cod

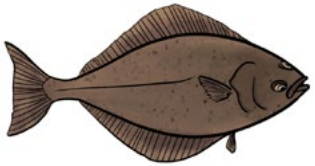
$210
EV Value $Millions

$502
FW Value $Millions

584
Harvest #Millions

$0.86
FW Value per Round lb.

Halibut & Sablefish



$211
EV Value $Millions

$235
FW Value $Millions

45
Harvest #Millions

$5.18
FW Value per Round lb.

Flatfish, Rockfish, & Atka Mackerel

$182
EV Value $Millions

$443
FW Value $Millions

789
Harvest #Millions

$0.56
FW Value per Round lb.

Percent of Ex-Vessel Value & Volume

Species	Value	Volume
Salmon	37%	14%
Pollock	23%	59%
Crab	10%	1%
Pacific Cod	10%	10%
Halibut & Sablefish	10%	1%
Flatfish & Rockfish*	9%	14%
Other Species	1%	1%

*Includes Atka mackerel.

Ex-Vessel Value & Volume by Fishery Region

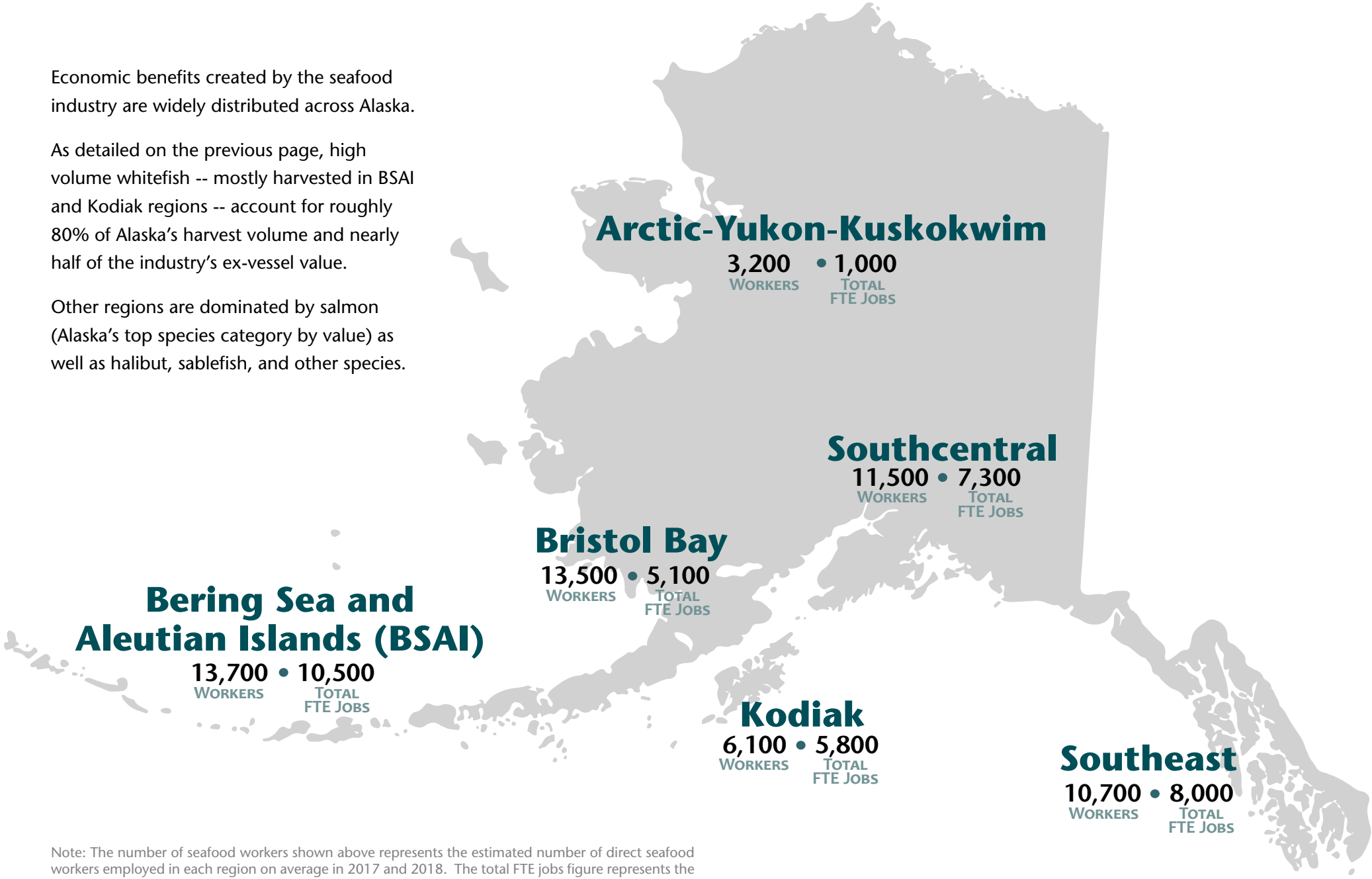
Southeast	Southcentral	Kodiak	BSAI	Bristol Bay	AYK
13% Value	9% Value	8% Value	55% Value	14% Value	<1% Value
4% Volume	3% Volume	8% Volume	81% Volume	4% Volume	<1% Volume

Regional Employment Impacts

Economic benefits created by the seafood industry are widely distributed across Alaska.

As detailed on the previous page, high volume whitefish -- mostly harvested in BSAI and Kodiak regions -- account for roughly 80% of Alaska's harvest volume and nearly half of the industry's ex-vessel value.

Other regions are dominated by salmon (Alaska's top species category by value) as well as halibut, sablefish, and other species.



Note: The number of seafood workers shown above represents the estimated number of direct seafood workers employed in each region on average in 2017 and 2018. The total FTE jobs figure represents the number of full-time equivalent jobs supported by seafood in each region, including multiplier effects.

Arctic-Yukon-Kuskokwim Region

Seafood Industry Impact on Regional Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	2,400	100	$8	$12
Processing	700	400	$4	$5
Mgmt./Other	100	100	$5	-
Direct Total	**3,200**	**600**	**$17**	**$17**
Secondary Total	**-**	**400**	**$15**	**$25**
Total Impacts	**-**	**1,000**	**$32**	**$42**

- Total annual seafood industry-related labor income in the AYK region is estimated at approximately $32 million and the total regional economic impact is measured at $42 million.
- Commercial fisheries are an important source of cash income in remote Western Alaska communities. Seasonal income from seafood supports subsistence lifestyles for many AYK families.
- AYK has a unique collection of fisheries. Most salmon are caught with setnets or fishwheels, king crab pots in Norton Sound are hauled up through ice holes, and it is the only region in the state where lamprey are commercially harvested.
- AYK is home to three (of the six) Community Development Quota program entities (see map at right). These entities are allocated a percentage of all federal BSAI fisheries and use those quota to generate revenue and fund economic development programs and business activities. Most of the AYK seafood industry's economic impacts are underpinned by NSEDC's and YDFDA's seafood processing plants.
- The AYK region includes Fairbanks and surrounding communities, with residents active in fisheries across the state, including Kodiak, Prince William Sound, and Southeast.

Key Ports:

Emmonak Savoonga
Unalakleet Nome Quinhagak

Source: Western Alaska Community Development Association.

AYK Region includes: Bethel Census Area, Denali Borough, Fairbanks North Star Borough, Kusilvak Census Area, Nome Census Area, North Slope Borough, Northwest Arctic Borough, Southeast Fairbanks Census Area, and Yukon-Koyukuk Census Area.

Norton Sound winter king crab fishing through the ice (above). Keta salmon account for most of the region's ex-vessel value, in addition to other salmon species, red king crab, halibut, Bering cisco, and lamprey.

2018 Figures

Harvesting

367 *Resident-owned Fishing Vessels*

2,590 *Resident Fishermen*

$13 *Million Harvest Value*

17 *Million Pounds of Seafood Harvested*

0.6% of Alaska Total

Processing

7 *Shore-based Processing Facilities*

1,138 *Total Processing Workers* *(2017, Shoreside)*

$17 *Million Wholesale Value*

6 *Million Pounds of Seafood Produced*

0.4% of Alaska Total

Regional Economic Trends in Seafood Industry

	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	3,489	3,624	3,316	3,261	2,475	2,508	2,590
Gross Earnings ($Millions)	$19	$18	$20	$16	$18	$23	$20
Average Processing Employment	341	351	354	452	391	385	370
Peak Processing Employment*	-	-	-	-	-	-	-
Wages & Salaries ($Millions)*	-	-	-	-	-	-	-
Regional Harvest Value ($Millions)	$11	$12	$13	$9	$12	$11	$13
First Wholesale Value ($Millions)	$13	$19	$18	$16	$12	$14	$17

**Peak processing employment and wages figures are not available due to confidentiality restrictions.*

Bristol Bay

Seafood Industry Impact on Regional Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	7,900	2,300	$184	$278
Processing	5,400	1,700	$47	$390
Mgmt./Other	200	100	$5	-
Direct Total	**13,500**	**4,100**	**$235**	**$668**
Secondary Total	-	**1,000**	**$51**	**$90**
Total Impacts	-	**5,100**	**$386**	**$758**

Morning on the Nushagak.

Key Regional Ports

Naknek
Dillingham
Ekuk
Egegik
Port Moller
Togiak

- Commercial fisheries in the Bristol Bay region directly employ 13,500 people and generate $235 million in labor income.
- Salmon harvest in Bristol Bay has been record setting in recent years, with production about 40% higher than the 20-year average in 2017 and 2018. In 2018, Bristol Bay accounted for 38% of Alaska's salmon harvests.
- The region typically accounts for 42% of the world's sockeye harvest, and is the largest wild sockeye salmon run in the world.
- Historically, most harvests were either canned or sold to Japan as a frozen H&G product. Now, the fishery's products and markets are much more diversified and the U.S. is the largest market by a wide margin.
- Bristol Bay fishermen have invested millions of dollars to improve fish quality through onboard chilling systems. Over the last decade, salmon deliveries chilled by refrigerated sea water or slush ice have increased from 38% to 79%.

Bristol Bay Region includes: Bristol Bay Borough, Dillingham Census Area, and Lake and Peninsula Borough (less Chignik area communities).

Bristol Bay sockeye salmon - harvested over a short 4-6 week season - make up 98% of regional ex-vessel value. A total of 41.3 million sockeye were harvested in 2018.

Photo courtesy Bristol Bay Regional Seafood Development Association. Photographer: Chris Miller

2018 Figures

Harvesting

453 *Resident-owned Fishing Vessels*

1,473 *Resident Fishermen*

$279 *Million Harvest Value*

263 *Million Pounds of Seafood Harvested*

14% of Alaska Total

Processing

28 *Shore-based Processing Facilities*

5,471 *Total Processing Workers*
(2017, Shoreside)

$752 *Million Wholesale Value*

193 *Million Pounds of Seafood Produced*

17% of Alaska Total

Regional Economic Trends in Seafood Industry

	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	1,607	1,531	1,536	1,519	1,502	1,516	1,473
Gross Earnings ($Millions)	$24	$26	$35	$20	$33	$43	$37
Average Processing Employment	1,514	1,514	1,542	1,095	1,263	1,353	1,393
Peak Processing Employment	5,037	5,312	5,374	4,309	5,116	5,175	5,460
Wages & Salaries ($Millions)	$37	$39	$41	$38	$42	$46	$49
Regional Harvest Value ($Millions)	$151	$157	$224	$127	$191	$277	$279
First Wholesale Value ($Millions)	$330	$358	$437	$421	$527	$585	$752

Bering Sea & Aleutian Islands

Seafood Industry Impact on Regional Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	4,600	4,500	$494	$1,110
Processing	8,700	4,800	$235	$1,400
Mgmt./Other	400	200	$21	-
Direct Total	**13,700**	**9,500**	**$750**	**$2,510**
Secondary Total	**-**	**1,000**	**$39**	**$78**
Total Impacts	**-**	**10,500**	**$789**	**$2,588**

- The BSAI region accounted for 57% of the industry's first wholesale value in 2018.
- BSAI commercial fisheries created 10,500 FTE jobs and $789 million of labor income in 2017/2018.
- The resident population in the BSAI region is approximately 8,300, far too small to harvest and process the region's vast seafood resources. Even after accounting for 40% of all local resident employment in the BSAI region, most seafood workers come from the lower 48 or elsewhere in Alaska.
- Dutch Harbor is consistently the nation's top seafood port by volume, and second-largest in terms of ex-vessel value. In 2017, the port took in 769 million pounds of seafood - an average of 14.8 million pounds per week.
- Western Alaska residents also benefit from the CDQ program, which is allocated approximately 10% of all BSAI groundfish and crab quotas. CDQ groups have significant ownership interests in the vessels and fisheries of the BSAI and collectively hold roughly a billion dollars in net assets.

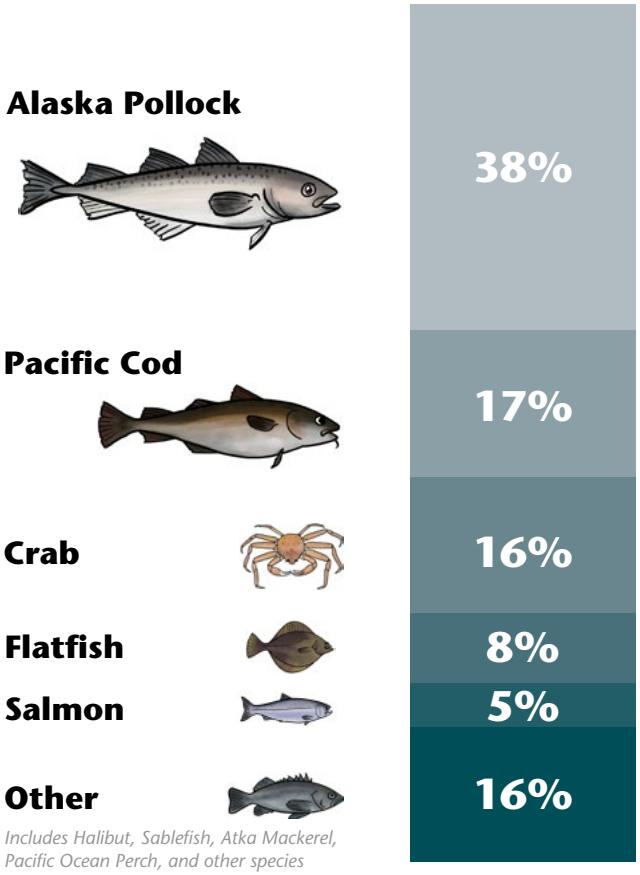
Key Regional Ports

Dutch Harbor
Akutan
St. Paul Island
Atka
King Cove
Adak
False Pass

The C/P Starbound is one of 22 AFA Catcher Processors vessels operating in the Bering Sea. AFA CPs primarily target pollock and can have crews of 100 or more. The Starbound was lengthened 60' in 2015 to accommodate a fish meal plant and other upgrades.

BSAI Region includes: Aleutians East Borough and Aleutians West Census Area.

Regional Ex-Vessel Value By Species, 2017/2018 Avg.



Includes Halibut, Sablefish, Atka Mackerel, Pacific Ocean Perch, and other species

2018 Figures

Harvesting

321 *Resident-owned Fishing Vessels*

746 *Resident Fishermen*

$1.13 *Billion Harvest Value*

4.37 *Billion Pounds of Seafood Harvested*

57% of Alaska Total

Processing

19 *Shore-based Processing Facilities*

6,474 *Total Processing Workers*
(2017, Shoreside)

$2.56 *Billion Wholesale Value*

1.93 *Billion Pounds of Seafood Produced*

57% of Alaska Total

Regional Economic Trends in Seafood Industry

	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	928	930	890	870	841	810	746
Gross Earnings ($Millions)	$45	$47	$41	$50	$47	$62	$53
Average Processing Employment*	3,607	3,725	3,847	3,813	3,949	3,630	3,331
Peak Processing Employment*	5,576	5,557	5,860	5,216	5,842	5,670	4,982
Wages & Salaries ($Millions)*	$130	$137	$147	$178	$205	$200	$196
Regional Harvest Value ($Millions)*	$1,100	$993	$998	$1,105	$1,087	$1,089	$1,131
First Wholesale Value ($Millions)*	$2,738	$2,399	$2,481	$2,406	$2,557	$2,664	$2,561

**Figures may not include employment or production volume from all catcher/processor vessels.*

Kodiak Region

Seafood Industry Impact on Regional Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	2,400	1,600	$80	$168
Processing	2,700	1,600	$50	$158
Mgmt./Other	1,000	800	$87	-
Direct Total	**6,100**	**4,000**	**$217**	**$325**
Secondary Total	-	**1,800**	**$78**	**$180**
Total Impacts	-	**5,800**	**$295**	**$505**

Crew of the F/V Mary Ann seining off Kodiak Island.

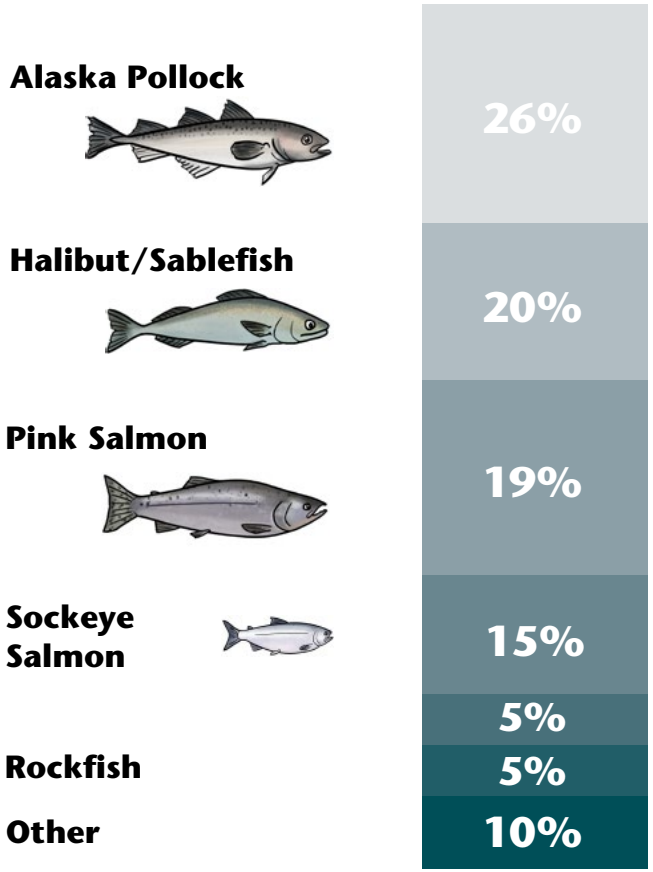
Key Regional Ports

Kodiak
Chignik
Larsen Bay
Old Harbor

- Kodiak was the third largest commercial fishing port in the U.S. by volume landed in 2017, and fourth in terms of ex-vessel value. The industry drives the regional economy and is responsible for much of the region's economic activity and population base.
- Kodiak's seafood processors employ the highest percentage of local residents of any major production region in Alaska. In 2017, 51% of processing workers were year-round residents of Kodiak.
- The region's fishing industry sustains high rates of resident employment because of a diversity of fisheries that occur nearly year-round. In addition to significant pollock, Pacific cod, and flatfish resources in the Gulf of Alaska, the region has more than 440 streams that support salmon runs.
- The U.S. Coast Guard maintains a large presence in Kodiak, using the community as a staging area for safety and rescue missions in both the Gulf of Alaska and Bering Sea.

Kodiak Region includes: Kodiak Island Borough and the communities of Chignik, Chignik Lake, Chignik Lagoon, and Perryville.

Regional Ex-Vessel Value By Species, 2017/2018 Avg.



2018 Figures

Harvesting

602 *Resident-owned Fishing Vessels*

1,157 *Resident Fishermen*

$143 *Million Harvest Value*

421 *Million Pounds of Seafood Harvested*

7% of Alaska Total

Processing

14 *Shore-based Processing Facilities*

2,790 *Total Processing Workers* *(2017, Shoreside)*

$235 *Million Wholesale Value*

202 *Million Pounds of Seafood Produced*

5% of Alaska Total

Regional Economic Trends in Seafood Industry

	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	1,395	1,357	1,405	1,437	1,243	1,209	1,157
Gross Earnings ($Millions)	$166	$164	$150	$134	$118	$155	$134
Average Processing Employment*	1,821	1,799	1,598	1,909	1,636	1,516	1,373
Peak Processing Employment*	2,254	2,480	2,088	2,397	1,980	1,970	1,829
Wages & Salaries ($Millions)*	$77	$73	$68	$77	$53	$50	$48
Regional Harvest Value ($Millions)	$233	$218	$196	$161	$126	$193	$143
First Wholesale Value ($Millions)	$381	$397	$330	$393	$247	$416	$235

**Figures may not include processing activity from all catcher/processor vessels.*

Southcentral Alaska

Seafood Industry Impact on Regional Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	6,800	1,900	$101	$185
Processing	4,200	1,400	$43	$323
Mgmt./Other	500	300	$29	-
Direct Total	**11,500**	**3,600**	**$173**	**$508**
Secondary Total	**-**	**3,700**	**$154**	**$420**
Total Impacts	**-**	**7,300**	**$328**	**$928**

F/V Remedy seining in scenic Prince William Sound.

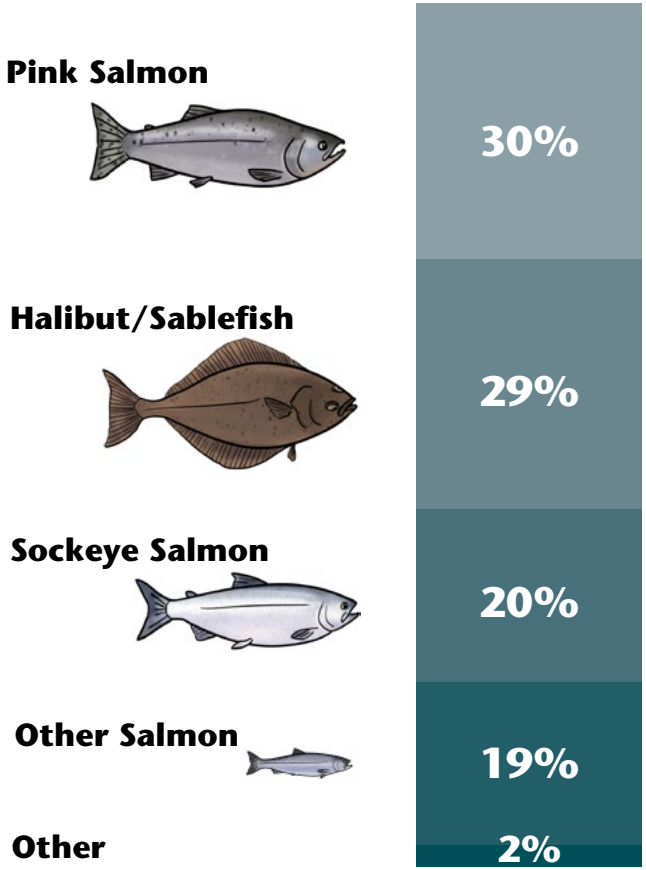
Key Regional Ports

Cordova
Seward
Valdez
Whittier
Kenai
Anchorage
Homer

- The seafood industry directly employs 11,500 workers and creates approximately 7,300 FTE jobs including multiplier effects. These jobs are a result of seafood caught and processed within the region, not including impacts from Southcentral residents bringing home earnings from other Alaska fisheries in other regions.
- 38% of Alaska's resident commercial fishermen live in Southcentral, more than any other region.
- Southcentral featured 18 communities with gross resident fishing earnings greater than $1 million in 2018, and seven communities with more than $5 million. Residents of Homer earned $69 million, followed by Anchorage ($40 million), and Cordova ($33 million).
- Limited entry fishing permits and IFQ shares for halibut and sablefish owned by Southcentral residents were worth an estimated $300 million in 2018.
- Southcentral residents earn more than half of their gross fishing income from fisheries outside the region. The Bristol Bay driftnet fishery was the main source of income for residents in 2018, in addition to longlining and other salmon fisheries statewide.
- Anchorage is a critical hub for fresh seafood shipments, seafood workers, and fishery management meetings, all of which benefit the regional economy.

Southcentral Region includes: Anchorage Municipality, Kenai Peninsula Borough, Matanuska-Susitna Borough, and Valdez-Cordova Census Area.

Regional Ex-Vessel Value By Species, 2017/2018 Avg.



2018 Figures

Harvesting

2,405 *Resident-owned Fishing Vessels*

5,834 *Resident Fishermen*

$164 *Million Harvest Value*

155 *Million Pounds of Seafood Harvested*

8% of Alaska Total

Processing

56 *Shore-based Processing Facilities*

4,219 *Total Processing Workers* *(2017, Shoreside)*

$445 *Million Wholesale Value*

118 *Million Pounds of Seafood Produced*

10% of Alaska Total

Regional Economic Trends in Seafood Industry

	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	6,075	5,976	6,116	6,072	6,052	6,016	5,834
Gross Earnings ($Millions)	$290	$321	$267	$259	$218	$285	$248
Average Processing Employment	1,320	1,341	1,415	1,238	1,206	1,315	1,183
Peak Processing Employment	3,258	3,167	3,300	3,374	3,707	3,699	3,522
Wages & Salaries ($Millions)	$46	$54	$51	$48	$41	$46	$43
Regional Harvest Value ($Millions)	$222	$249	$190	$174	$118	$206	$164
First Wholesale Value ($Millions)	$490	$708	$490	$537	$394	$570	$445

Southeast Alaska

Seafood Industry Impact on Regional Economy, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	5,300	2,500	$146	$267
Processing	4,300	1,700	$66	$265
Mgmt./Other	1,100	800	$80	-
Direct Total	**10,700**	**5,000**	**$292**	**$532**
Secondary Total	**-**	**3,000**	**$119**	**$270**
Total Impacts	**-**	**8,000**	**$411**	**$802**

- Seafood is the largest private sector industry in Southeast Alaska, in terms of workforce size and labor income. Seafood accounted for 15% of regional employment in 2017/2018, including multiplier impacts.
- The harvest of salmon is particularly important to Southeast. The five species accounted for nearly 60% of the region's ex-vessel value in 2017/2018, led by keta. Salmon harvests are supported by the region's four hatchery associations and their 15 hatcheries.
- Southeast includes four of the top 10 communities ranked by resident permit holder gross earnings.
  - Petersburg, 3rd in state, $49 million
  - Sitka, 4th, $41 million
  - Ketchikan, 8th, $16 million
  - Juneau, 9th, $16 million
- Southeast residents own roughly a quarter of Alaska's commercial fishing fleet, more than any other region.

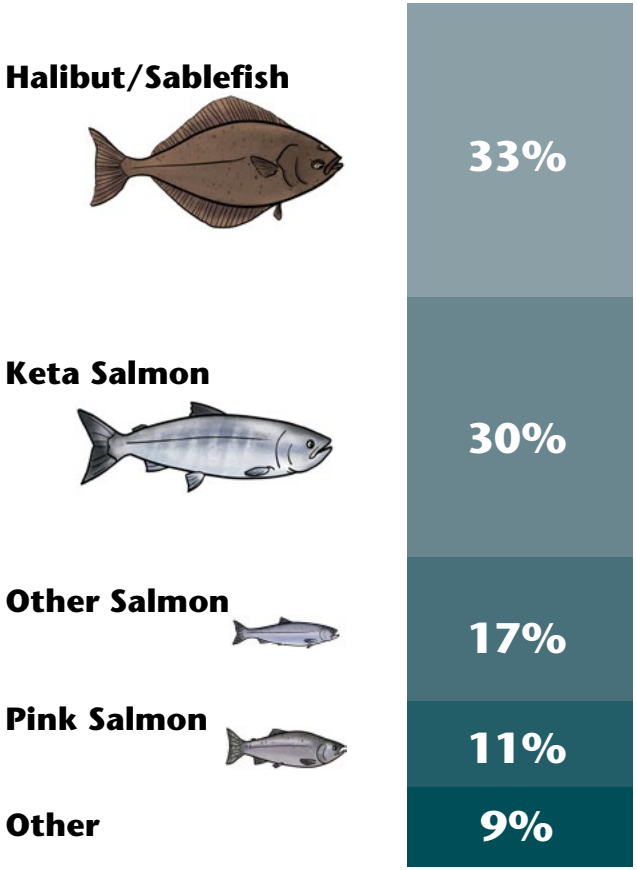
Key Regional Ports

Sitka
Petersburg
Wrangell
Craig
Haines
Ketchikan
Juneau
Excursion Inlet
Yakutat

F/V Fortune geared up for a longlining trip.

Southeast Region includes: Haines Borough, Hoonah-Angoon Census Area, Juneau Borough, Ketchikan Gateway Borough, Petersburg Borough, POW-Hyder Census Area, Sitka Borough, Skagway Borough, Wrangell Borough, and Yakutat Borough.

Regional Ex-Vessel Value By Species, 2017/2018 Avg.



2018 Figures

Harvesting

2,462 *Resident-owned Fishing Vessels*

4,409 *Resident Fishermen*

$251 *Million Harvest Value*

162 *Million Pounds of Seafood Harvested*

13% of Alaska Total

Processing

42 *Shore-based Processing Facilities*

4,448 *Total Processing Workers* *(2017, Shoreside)*

$462 *Million Wholesale Value*

134 *Million Pounds of Seafood Produced*

10% of Alaska Total

Regional Economic Trends in Seafood Industry

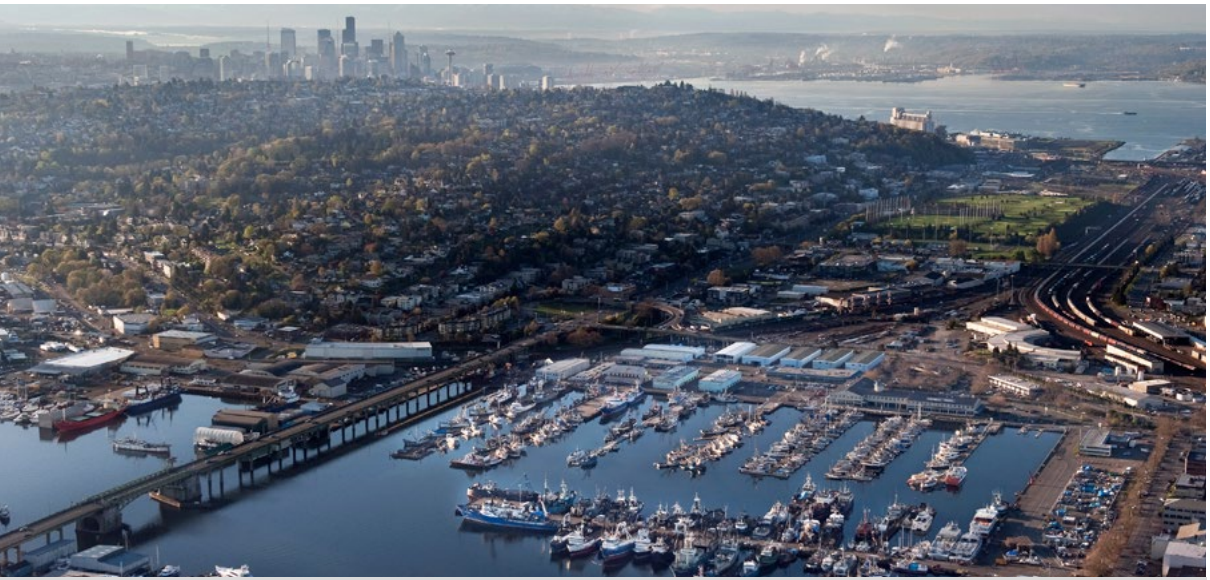
	2012	2013	2014	2015	2016	2017	2018
Resident Commercial Fishermen	4,872	4,980	5,023	4,900	4,766	4,745	4,409
Gross Earnings ($Millions)	$262	$258	$227	$198	$198	$259	$225
Average Processing Employment	2,017	1,968	1,920	1,783	1,741	2,068	1,994
Peak Processing Employment	3,974	4,551	4,775	4,615	3,256	3,162	3,016
Wages & Salaries ($Millions)	$54	$66	$68	$72	$65	$68	$64
Regional Harvest Value ($Millions)	$298	$342	$281	$214	$212	$284	$251
First Wholesale Value ($Millions)	$552	$673	$536	$499	$460	$602	$462

National Impact of Alaska Seafood

National Impact of Alaska Seafood Industry, 2017/2018 Avg.

	Number of Workers	FTE Jobs	Labor Income ($Millions)	Output ($Millions)
Commercial Fishing	29,400	12,900	$1,000	$2,000
Processing	30,500	15,500	$500	$2,500
Mgmt./Other	4,200	2,900	$300	-
Distributors	800	800	$100	$100
Grocers	4,700	4,700	$100	$300
Restaurants	13,500	13,500	$400	$1,000
Direct Total	**83,100**	**50,300**	**$2,400**	**$5,900**
Secondary Total	-	**51,500**	**$3,200**	**$8,000**
Total Impacts	-	**101,800**	**$5,600**	**$13,900**

Note: Values may not total due to rounding. Includes impacts in Alaska as well as other states.



Fishermen's terminal in Seattle supports over 500 vessels, many of which operate in Alaska.

- Alaska's seafood industry supported an estimated 101,800 FTE jobs in the U.S., including jobs throughout the entire production, distribution, and retail chain. Workers in these jobs earned an estimated $5.6 billion in total annual labor income.
- The national economic impact of Alaska's seafood industry includes an estimated 50,300 FTE jobs in fishing, processing, fisheries management, transportation and distribution, and in stores and restaurants. It also includes 51,500 secondary jobs throughout the economy created as a result of spending by businesses in the supply chain and their employees.
- Among all the participants in the national seafood supply chain, fishermen earn the largest share of labor income at $1.0 billion, or 42% of all direct labor income generated by Alaska's seafood industry.
- U.S. economic output related to Alaska's seafood industry totals $13.9 billion including all direct and multiplier impacts. Total output is defined as the value of Alaska's seafood resource, as it moves from the fishing vessel to the consumer's plate, plus output arising from secondary impacts.

Alaska's Commercial Fishermen

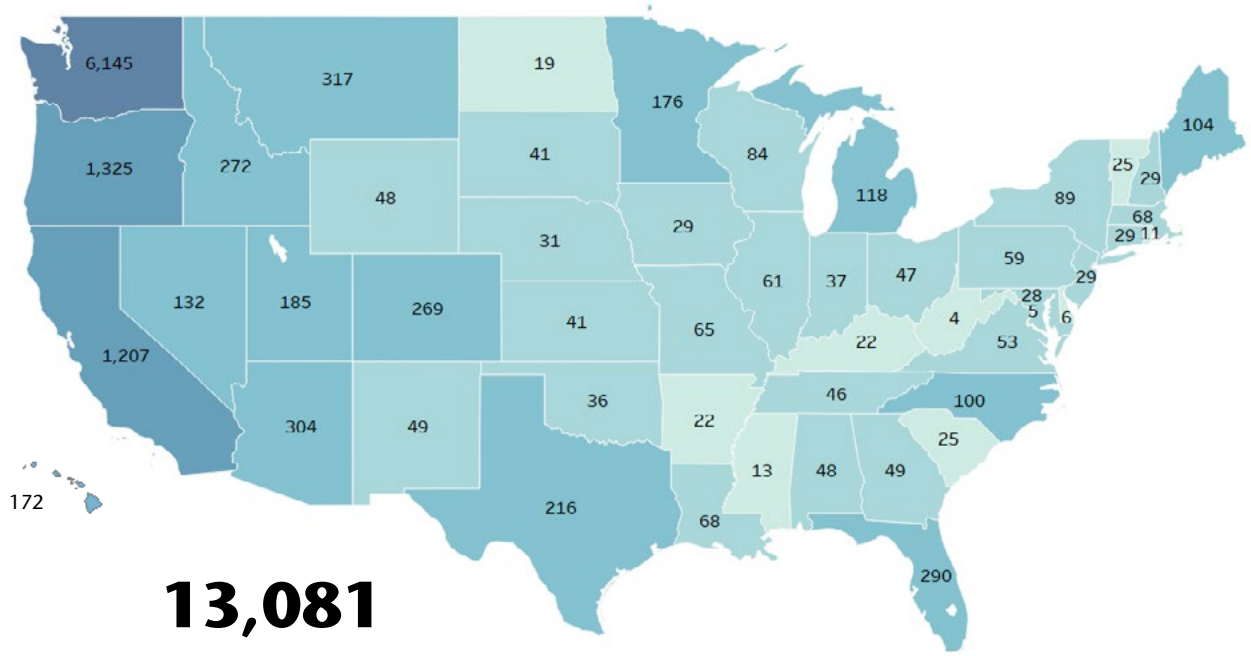
Alaska Skippers and Crew, by State of Residence, 2017/2018 Avg.

People from every U.S. state participate in Alaska's commercial fisheries.

In 2017/2018, 56% of the industry's skippers, active permit owners, and crew were Alaska residents, averaging a total of 16,319 fishermen annually. For many rural Alaska communities, the seafood industry is among the largest source of employment, wages, and tax revenue.

Nonresident fishermen and processors play a key role in Alaska's seafood industry. Without their contributions, it is unlikely the state could provide enough workers to capitalize on available fishery resources.

Regardless of where fishermen live, their earnings contribute to local economies in Alaska and around the country.

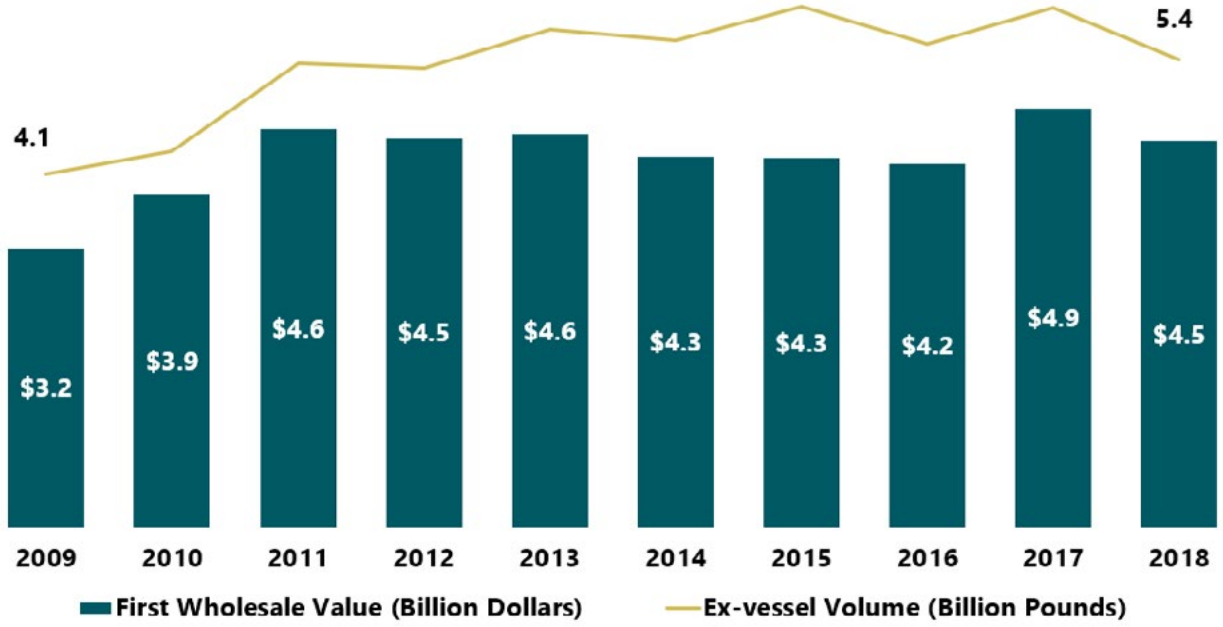


13,081

Value of Alaska Seafood

The first wholesale value of Alaska seafood was $4.5 billion in 2018. Of this total, fishermen earned $2.0 billion in ex-vessel value while processors, both shoreside and at-sea, added $2.5 billion in value.

The value of Alaska's seafood production has exceeded $4.0 billion since 2011. The industry typically harvests between five and six billion pounds of seafood each year.



Many factors impact the value of Alaska seafood, including:

- Competition with other seafood and protein sources from around the globe.
- Status of trade agreements, tariff disputes, and currency exchange rates.
- Product innovation and adaptation to changing consumer preferences.
- Fluctuating wild seafood stocks and harvests allowed under Alaska's world-leading sustainable management practices.
- Promotion of Alaska's wild, natural, and sustainable seafood brand.

Alaska Seafood Marketing Institute

"The true value of Alaska seafood extends well beyond the price at the dock. ASMI works closely with the Alaska seafood industry to increase the value of Alaska's seafood resource to benefit Alaskans and Alaska's communities. "

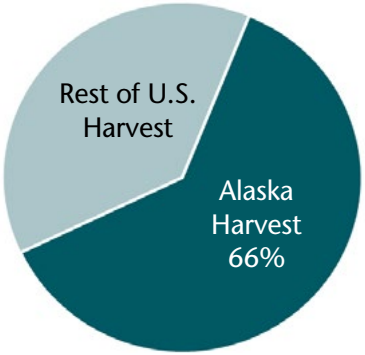
-Jeremy Woodrow,
Executive Director, ASMI

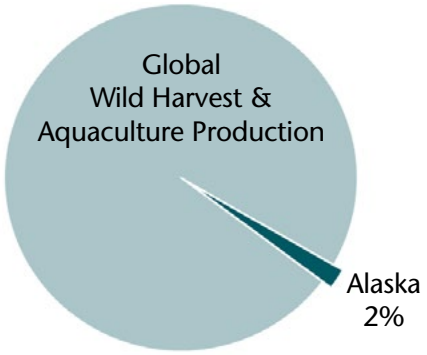
Competing in a Global Seafood Market

Alaska is a major seafood producer on a global scale. If it were a country, Alaska would rank No. 8 in wild harvests. However, Alaska seafood is a small part of a global supply chain that encompasses large volumes of competing wild and farmed species. The species mentioned on this page account for more than 90% of Alaska's ex-vessel value but each faces significant competition from other global producers, often from regions with lower operating costs.

Although Alaska seafood is essentially a commodity, Alaska is a high-cost environment. It is virtually impossible to compete on price alone. Luckily for Alaska, it is the largest seafood producing state in America with sustainable management practices and pristine marine waters - attributes no foreign or domestic competitor can match.

Maximizing the resource value will require market differentiation, product development, consumer awareness, and management leadership. Alaska's seafood industry must continue to invest in these endeavors -- especially in light of the aggresive investments currently being made by Russia and other countries to improve capacity and quality.





Flatfish

AK Pct. of Global Supply: 24%

2017 Figures

Alaska is a prominent producer of flatfish, especially yellowfin sole. Nearly all Alaska flatfish (excluding halibut) is exported to China for reprocessing - exposing it to trade and tariff disputes.

Halibut

AK Pct. of Global Supply: 37%

Alaska competes with Pacific halibut from Russia and Canada. Steadily increasing Atlantic halibut harvests now represent 34% of global supplies - an especially strong competitor on the U.S. Eastern seaboard.

Pollock

AK Pct. of Global Supply: 44%

Alaska pollock competes with Russian pollock, as well as tilapia and pangasius - farmed species whose combined production is more than twice that of pollock.

Salmon

AK Pct. of Global Supply: 13%

Despite large harvests in Alaska, farmed salmon production outnumbers wild harvests 2.7-to-1. Farmed production increased 70% from 2010 to 2017 to 2.6 million metric tons.

Pacific Cod

AK Pct. of Global Supply: 17%

Alaska's Pacific cod harvests pale in comparison to those of Atlantic cod. And Russia's Pacific cod harvests are set to surpass Alaska's in 2020 for the first time in decades.

Crab

AK Pct. of Global Supply: 6%

Alaska is known for its crab, but Canada produces more snow crab while Russia produces more king crab. Pacific Northwest states also produce more Dungeness than Alaska.

Industry Tax Revenues

Commercial fishing and processing businesses incur substantial costs to operate in Alaska, including taxes, fees, and self-assessments of more than **$172 milion in 2018**. These revenue sources include:

- **Unencumbered taxes** are used to fund local, state, and federal government. The Fisheries Business Tax is the largest of these taxes and is especially important as half of the receipts are distributed to local governments, many of which have few other sources of revenue. Taxes not included due to a lack of data include property taxes and federal income taxes, among many others.
- **Agency fees and cost recovery** collections are designed to pay for specific services provided by state/federal government, and nonprofit salmon hatchery operators. State fees on permits, leases, and vessels, as well as test fishery receipts, are generally used to pay for administrative costs associated with commercial fishery management. Federal cost recovery fees are collected for halibut, sablefish, crab, and other fisheries. Salmon hatcheries, which benefit many user groups, are funded almost entirely through cost recovery harvests and enhancement taxes derived from the commercial fishing industry. Data were not available for a number of other agency fees, including those related to business licensing, port and harbor fees, federal vessel documentation fees, and federal fishery endorsements, among others.
- **Industry self-assessments** are collected to fund industry-supported projects, such as seafood marketing efforts through the Alaska Seafood Marketing Institute and Regional Seafood Development Associations.

Overall, of the taxes and fees collected on the Alaska seafood industry and for which data are available, **43%** goes to state government ($73 million), **30%** goes to local governments ($51 million), **23%** to salmon hatchery management ($40 million), and **5%** to the federal government ($8 million).

	2018, $Millions
Taxes	**$85.3**
Fisheries Business Tax	$46.2
Fisheries Resources Landing Tax	$9.7
Marine Motor Fuel Tax	$3.0
Corporate Income Tax	$3.2
Local Raw Fish and Other Taxes	$23.1
Agency Fees & Cost Recovery	**$64.6**
CFEC Permit and Vessel Fees	$7.5
Crew License Sales	$3.3
Test Fishery Receipts	$3.0
Processing/Mariculture/Other Fees	$1.5
Salmon Hatchery Cost Recovery*	$40.0
Federal Cost Recovery Fees - Federal Share	$4.4
Federal Cost Recovery Fees - State Share	$1.5
Federal Observer Program	$3.4
Industry Self-Assessments	**$22.3**
Seafood Marketing (ASMI)	$9.9
Salmon Enhancement	$9.1
Seafood Development (RSDAs)	$2.8
Dive Fishery Management	$0.5
Total	**$172**

Note: Data are for FY 2018. Totals may not sum due to rounding.
**Earnings are retained by salmon hatcheries.*
Sources: ADOR, CFEC, DCCED, ADF&G, NMFS, OMB, & McDowell Group.

Lowering the Cost of Living in Alaska

Photo courtesy Alaska Marine Lines.

The seafood industry provides economies of scale and economic activity which lowers the cost of utilities, shipping, fuel, and local taxes for residents in many Alaska communities. Fishing communities also benefit from marine infrastructure and support services, which are more developed due to the presence of the commercial seafood industry.

The majority of Alaska's consumer freight is a one-way, northbound haul. Shipping seafood on southbound routes provides "backhaul" revenue for shippers, allowing for more competitive rates on northbound freight. Alaska's seafood industry ships approximately one billion pounds of finished product southbound each year, or the equivalent of roughly 23,000 containers.

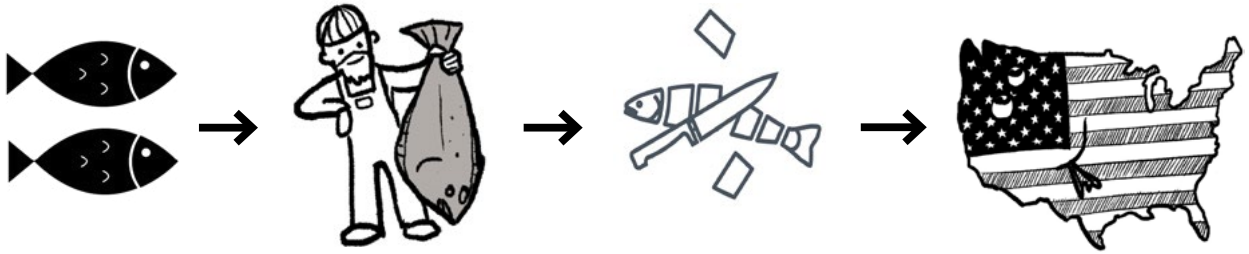
"Everyone benefits from the seafood industry, especially smaller communities in Western Alaska," says Kevin Anderson, president of Alaska Marine Lines, a barge transportation company that provides service between Seattle and nearly 100 ports and villages throughout Alaska. "Our ability to serve smaller communities, like those in Bristol Bay, would be drastically reduced without the prospect of southbound seafood shipments. Instead of six or seven sailings per year there might only be enough freight to support one or two."

Southbound Seafood Shipments
About One Billion Pounds per Year

Feeding the World

Marine resources like fish and shellfish are public goods that belong to all Alaskans and other Americans. Alaska's seafood industry allows all consumers to efficiently access the resource, not just those who live nearby or have the means to access them with private boats. Commercial fishermen and processing companies are the conduit through which hundreds of millions of Americans can enjoy Alaska seafood.

The commercial seafood industry also converts this public marine resource into economic benefits for Americans, such as jobs, tax revenue, and exports.

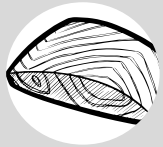


Public Marine Resources → ***Commercial Fishermen*** → ***Seafood Processors*** → ***Global Consumers & U.S. Economic Benefits***

Alaska's marine resources are so prolific, they could feed the entire world at least one serving of delicious, healthy seafood each year, or to all American consumers every day for more than a month.

There's Plenty of Fish in the Sea When it Comes to Alaska Seafood

Number of Servings by Product Type in 2017/18



Fillets & Fish Meat
8.6 Billion

Surimi
2.5 Billion

Roe
1.6 Billion

Crab
150 Million

Other Products
12.9 Million

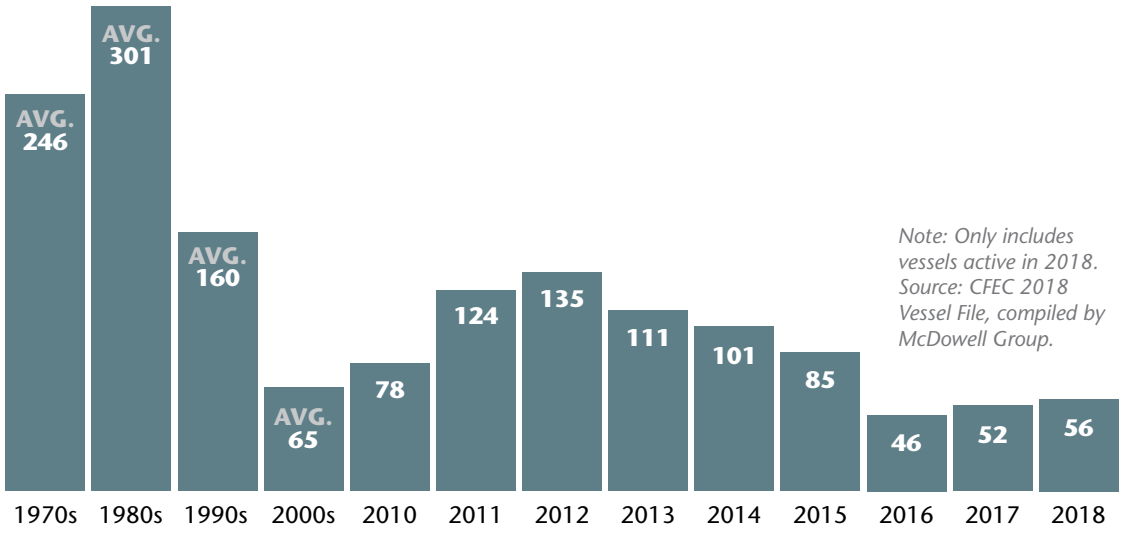
TOTAL:
12.9
Billion Servings

Industry Investment

Fishermen and processors have made significant investments in the future of Alaska seafood. A survey of processors found that seven of the 10 largest shoreside processors invested a total of over **$100 million** per year in capital expenditures from 2012 to 2016. This spending that has continued and increased in recent years. Silver Bay Seafoods, for example, completed a brand new state-of-the-art plant in the remote community of False Pass in 2019.

Processors' investment and multiplier impacts are closely tied to resource value. Expanding value provides processing companies capital to modernize plants, expand production lines, and pay higher fish prices. All of these benefit local communities in Alaska and provide growth elsewhere in the U.S. economy.

Alaska's commercial fishing fleet has expanded over the past five years as well. An average of 75 newlybuilt boats were added to the fleet annually over the 2013-2018 period, representing an estimated average investment of more than **$50 million** per year.



Note: Only includes vessels active in 2018. Source: CFEC 2018 Vessel File, compiled by McDowell Group.

New Commercial Fishing Boats Added to Alaska Fleet

Peter Pan's Port Moller plant was damaged by a 2017 fire and rebuilt in 2018. Reconstruction and upgrades of the plant are examples of processors' investment in Alaska.

Photo courtesy Peter Pan.

In addition to new builds, vessel upgrades are key to sustaining the industry and supporting construction jobs for American workers.

Recent banner years in Bristol Bay, for example, have contributed to a rapid proliferation of RSW fish cooling systems in that fleet. These upgrades will pay dividends for vessel owners for years, create jobs, and increase the value of the catch by improving quality.

Prepared for:

Alaska Seafood Marketing Institute

Prepared by:

McDowell GROUP