

# Slight decline for fishing jobs

## Modest harvester loss in 2021 followed big drop in 2020

By JOSHUA WARREN

Seafood harvesting employment declined slightly in 2021 after a large drop in 2020. The industry lost more than 1,000 jobs during the first year of the pandemic — the biggest decline since data collection began — and another 134 last year.

While some harvests were notably large in 2021, no fishery significantly boosted its employment. Larger harvests don't necessarily translate to job growth.

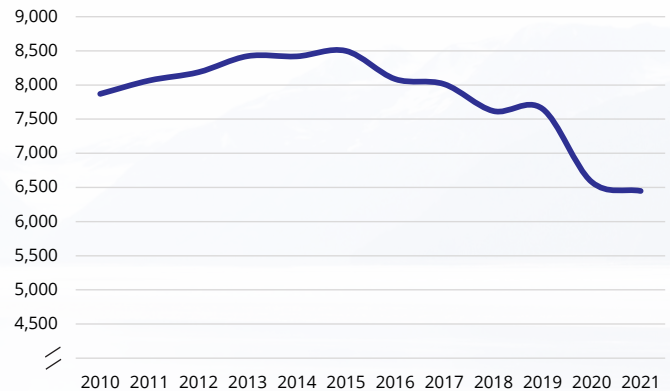
The pandemic was less of an obstacle in 2021 than the year before, but restrictions and outbreaks continued to put a damper on the industry. Biological and environmental changes were also ongoing issues for some areas and species.

August and October employment declined most from 2020, and seven months had fewer jobs than the year before. August has taken a long-term hit; less than a decade ago, it was typical for Alaska to have more than 16,000 fish harvesting jobs in August. August 2021 had less than 12,000.

July is the typical peak, although the July 2021 count of 20,627 jobs was also down considerably from a high of more than 25,000 in 2013.

Winter and spring fisheries performed well, however,

### Alaska fishing jobs, 2010-2021



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

with job gains in February, March, and April. December is the lowest employment month, but its count has risen over the decade. While December didn't reach a new peak in 2021, it hit a five-year high.

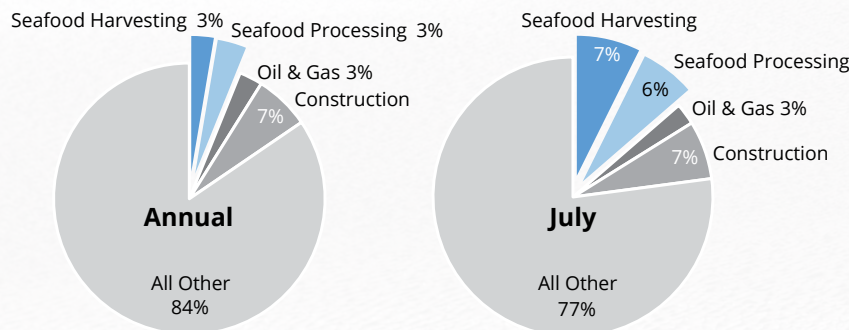
### Fish harvesters by species

#### Salmon

The 2021 statewide salmon harvest was the third-highest on record, according to the Department of Fish and Game, and nearly double 2020's poundage. Similarly, the reported ex-vessel value was the third-highest since the mid-1970s. The number of salmon harvesters was essentially flat, however — down 1 percent — aside from the drastic decline in the Yukon Delta. (The Yukon Delta's salmon fishery has been collapsing in recent years, which the regional section will discuss in more detail.)

Every region fishes salmon, and

### Fishing as a share of Alaska's total jobs, 2021



Note: For more on harvesters' share of the economy, [see November 2021's fishing issue](#).  
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

# Alaska's total seafood harvesters by month, 2001 to 2021

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
2001	2,972	4,286	4,505	4,681	7,053	18,884	21,571	13,921	8,095	6,194	2,617	726	7,959
2002	3,590	4,047	4,334	4,913	6,715	16,292	18,224	11,975	6,983	5,794	2,632	524	7,168
2003	3,284	3,609	4,378	5,797	6,233	17,610	19,670	11,922	7,191	5,969	2,660	526	7,404
2004	3,594	3,492	4,110	5,050	6,476	17,139	19,634	12,308	7,371	6,023	2,259	509	7,330
2005	3,561	3,150	4,227	5,115	6,283	18,169	20,566	12,889	7,192	4,958	2,768	953	7,486
2006	2,700	3,038	4,573	4,293	5,709	17,748	20,066	13,700	7,719	5,003	2,507	720	7,314
2007	2,584	2,966	3,930	4,348	5,949	17,528	20,137	13,567	7,500	4,738	3,080	791	7,260
2008	2,738	3,138	4,511	4,445	5,572	17,022	20,446	13,633	8,225	4,202	2,708	602	7,270
2009	2,527	3,817	3,126	4,874	5,693	17,609	20,076	13,687	7,148	4,593	2,388	507	7,087
2010	2,668	3,060	4,005	5,255	5,685	18,878	23,128	15,287	7,759	4,992	2,887	850	7,871
2011	2,898	3,214	4,010	4,729	5,642	20,112	23,824	15,586	7,918	5,721	2,303	849	8,067
2012	2,923	3,409	4,609	5,402	6,163	19,237	24,761	16,191	6,988	5,453	2,274	853	8,189
2013	2,736	2,930	4,091	5,516	6,270	22,012	25,351	15,419	7,559	5,496	2,780	930	8,424
2014	2,242	2,776	4,879	5,407	6,489	21,167	24,594	16,593	8,018	5,190	2,596	1,097	8,421
2015	2,520	3,247	4,961	5,029	6,749	21,164	24,649	16,283	8,232	5,252	2,661	1,264	8,501
2016	2,678	3,374	5,222	5,363	6,329	18,840	23,695	16,055	7,909	4,953	1,886	765	8,089
2017	2,205	3,076	4,444	5,026	5,646	19,881	23,541	15,407	8,562	5,334	2,292	754	8,014
2018	2,126	2,538	3,379	4,310	5,166	18,942	22,790	14,763	9,211	4,849	2,681	689	7,620
2019	2,347	2,548	3,637	4,372	4,721	18,154	23,440	15,632	8,664	5,201	2,443	679	7,653
2020	1,975	2,296	2,983	3,113	4,020	16,286	20,917	12,325	7,310	5,104	2,193	473	6,583
2021	1,573	2,339	3,305	4,017	3,997	15,732	20,627	11,616	6,995	4,017	2,268	902	6,449

**Note:** Because of a change in how harvest jobs are calculated, data before 2010 are not comparable to data from 2010 forward.

**Sources:** Commercial Fisheries Entry Commission and Alaska Department of Labor and Workforce Development, Research and Analysis Section

the number of salmon harvesters dwarfs the other fisheries. The annual average was 3,611 jobs, which doesn't convey the magnitude of Alaska's salmon harvesting peak and its extreme seasonality. While the peak was lower in 2021, July still recorded almost 18,000 jobs. The low is April, with zero. For context, the next-largest employment peak was just over 1,800 halibut harvesters — 10 percent of salmon's peak.

## Sablefish

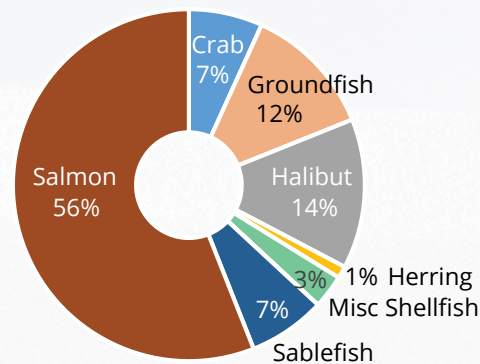
Catching sablefish, or black cod, is also widespread in Alaska, with harvesters in five of the state's seven regions. Most years see a mix of regional ups and downs for sablefish jobs, but all five areas lost harvesting jobs in 2021. September, the peak month, fell 300 jobs below 2020, a loss big enough to make October the peak.

Across the state, the number of sablefish harvesting jobs fell 13.9 percent; averaged over the year, it was a loss of 74, to 458 total jobs.

## Other groundfish

The "other groundfish" category is mostly Pacific cod and walleye pollock; it excludes halibut and sablefish. In poundage terms, groundfish is easily the state's largest fishery. Salmon is higher-value and requires more harvesters to catch it, but if sablefish and other groundfish were combined, the value would also top salmon.

## Majority of fish harvesters catch salmon in Alaska



**Source:** Alaska Department of Labor and Workforce Development, Research and Analysis Section

Nearly 60 percent of other groundfish harvesters are in the Aleutians, so an 18 percent drop in that region put a dent in the fishery as a whole. Some groundfish harvesters fish in areas that aren't attributable to a specific region, and an increase in that category pushed March numbers up. It wasn't enough to boost groundfish employment into growth territory, though. The fishery's employment shrank by 6.8 percent, to 783.

Alaska cod harvesting has shown signs of weakness



over the last few years, especially in the Gulf of Alaska, with the drop attributed to “the blob.” Warm water in 2014 cut fish stocks by more than half by 2017. The fishery still hasn’t recovered and has shut down several times. Unless it rebounds, further job losses in the Aleutians and other regions are likely in the coming years. Kodiak, for example, has the state’s second-largest pool of groundfish harvesters.

## Halibut

Southeast, Southcentral, and Kodiak gained halibut harvesting jobs last year. Southeast added the most at 16, but Kodiak was close behind at 14 — a much larger percent gain for that region’s smaller fishery.

Statewide, halibut harvesting employment increased from 858 to 888, or about 3.5 percent, despite a dip during August, the typical peak. September became the peak month in 2021 at 1,623 jobs, but that total was still less than August or September of 2020. The annual increase came from March and June.

## Crab

Crab harvesting employment is largely in Southeast, where it increased slightly in 2021, and the Aleutian Islands, where it held steady.

The Southcentral Region’s small crab fishery lost some jobs, and Kodiak took the biggest hit with zero

**For detailed harvesting data, visit:  
[live.laborstats.alaska.gov/seafood](https://live.laborstats.alaska.gov/seafood)**

jobs between January and March following closures in the area. Kodiak would typically have more than 100 January crab harvesting jobs.

Crab harvesting peaks in February and October, but it’s a far less seasonal fishery than most in Alaska. Fishermen catch crab all year, with most months hovering around the yearly average. February employment fell from 867 in 2020 to 769 in 2021, and October declined from 841 to 464 with losses bleeding into November. Gains in some of the other months muted 2021’s loss to just 13 jobs.

Red king and snow crab closures were announced in late 2022, and those declines will show up in 2022 and 2023 numbers. (See the Aleutians and Bristol Bay sections.)

## Other shellfish

Shellfish harvesting (largely sea cucumber and shrimp) is limited to Southcentral, Southeast, and Kodiak, with Southeast representing 175 of the 200 total jobs.

The number of shellfish harvesters peaked at 795 in

## How we use landings to estimate seafood harvesting jobs

Unlike the wage and salary job numbers we and our federal partner the Bureau of Labor Statistics publish each month, data on the employment fish harvesting generates is not readily available. Harvesters are self-employed, and permit holders aren’t required to report the number of people they employ in the same way as employers subject to state unemployment insurance laws.

To estimate fisheries employment that’s roughly comparable to wage and salary job numbers, we infer jobs in a given month from landings. A landing, or the initial sale of the catch, signals recent fishing activity.

Because fishing permits are associated with a specific type of gear, including boat size, we know roughly how many people a landing requires under various types of permits. The number of people associated with a certain permit is called the crew factor.

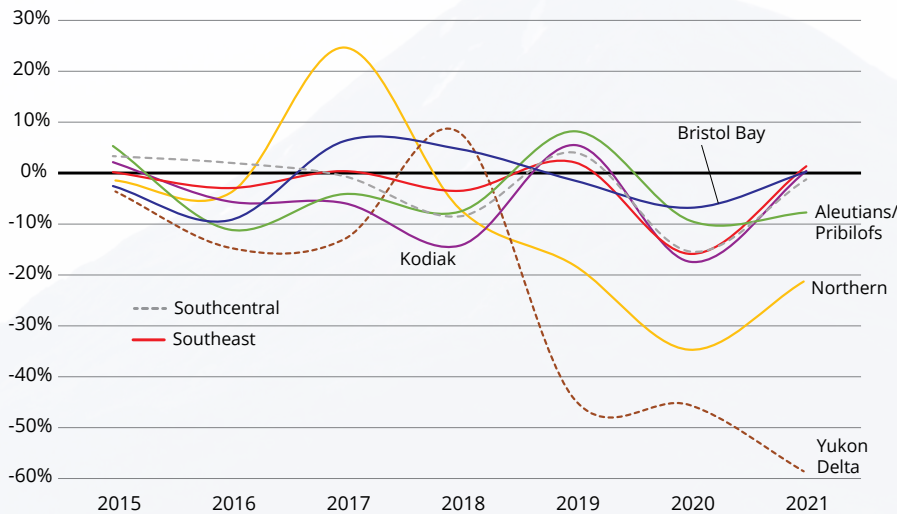
For example, a permit to fish for king crab in Bristol Bay with pot gear on a vessel more than 60 feet long requires about six people, according to a survey of those

permit holders. So when crab are landed under that permit, we assume it generated six jobs that month. We count each permit once per month regardless of the number of landings, which is similar to the way wage and salary employees work different numbers of hours.

Most permits designate where specific species can be harvested, so we assign jobs to the harvest location rather than the residence of the permit holder. This approach also best approximates wage and salary employment, which is categorized by place of work rather than residence. Jobs generated under permits that allow fishing anywhere in Alaska receive a special harvest area code and are estimated and allocated differently.

We produce the job counts by month because, as with location, that comes closest to wage and salary employment data. And because seafood harvesting employment is much higher in summer than winter, similar to tourism and construction, averaging employment across all 12 months allows for more meaningful comparisons among job counts in different industries.

## Percent change in seafood harvesting jobs regionally



Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

October, but most months record some jobs. More than half have at least 100. The lowest month was September, at 23, right before the peak.

The number of shellfish harvesters rose about 2.2 percent, but that was just five more jobs for the year.

### Herring

Herring is typically a one-month harvest, and Southeast has 59 of the 72 yearly jobs. Herring is a small fishery, but that number averages 12 months — of which 11 are zero. At the peak in April, Southeast had nearly 600 herring harvesting jobs.

The Northern Region's herring fishery lost 20 jobs in its single active month, but overall, the state's herring harvesting employment grew 23 percent.

## Fish harvesters by region

### Southeast

Southeast caught a banner salmon harvest in 2021, landing four times the poundage harvested in 2020 and double the value. Salmon harvesting employment peaked at higher levels and also had a higher average monthly job count in 2021.

The opposite was true for sablefish, down nearly 100 jobs at its peak and 14.3 percent annually. Shellfish was stable, but summer activity was far below normal — down almost 100 jobs in those months. However, winter harvests offset the job losses.

The small herring fishery grew 22 percent, from 48 to

59 jobs. Southeast herring harvesters got an early start last year, with landings beginning in March and leading into a higher-than-usual peak month.

Southeast halibut harvesting grew slightly, to 447 total jobs with losses and gains scattered over the year. Groundfish harvesting was similar, with many ups and downs equaling an overall decline. The loss was just four jobs, but that was nearly 17 percent of Southeast's groundfish harvesting employment.

Southeast crab harvesting employment grew 5.5 percent, with more harvesters in most high-activity months.

### Aleutians and Pribilofs

Salmon harvester counts in the Aleutian and Pribilof islands grew more in percentage terms than in any other region, with gains in all active months, but salmon represents only about 20 percent of the region's harvesting jobs. Crab and groundfish are larger fisheries. Aleutians groundfish harvesting employment declined by over 18 percent (-105).

While Kodiak has weathered crab closures and a dramatic annual job loss, we have yet to see similar decreases in the Aleutians. Aleutians crab harvesting employment was stable in 2021. Future reports will reflect big losses in crab fisheries, however, because of 2022-2023 snow crab closures announced just before this article was published.

The region also has small numbers of halibut, herring, and sablefish harvesting jobs, all of which stayed about the same in 2021. However, the drop

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# FISH HARVESTERS

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in groundfish harvesting employment pushed the region's total down 7.8 percent, or by 92 jobs.

## Bristol Bay

Bristol Bay has seen flat or rising employment for the last few years, even as other regions lost jobs. Bristol Bay salmon fishing employment was flat overall last year, with some ups and downs over the season. July, the peak, was slightly lower but a more active June offset the loss.

Bristol Bay's red king crab fishery remained closed (and will not reopen this year). The other fishery, herring, is small — but all of Bristol Bay's annual harvesting job gains came from herring. Herring harvesters work only in May, but jobs that month jumped from 10 in 2020 to 37 in 2021.

Still, Bristol Bay's salmon harvest represents 99.8 percent of its fishing jobs, keeping overall employment essentially flat (1,300 jobs in 2020 and 1,303 in 2021).

## Yukon Delta

The Yukon Delta's salmon harvest continued to crash in 2021, with the employment peak in July falling from 441 in 2020 to just 144. Only four years ago, the yearly peak was more than 1,000 jobs.

The spring groundfish harvest provided some jobs, but not enough to offset the loss of salmon stocks. With its largest fishery stalling, the region's total harvesting job count fell from 93 to 38 for the year.

The last few years of job losses in the Yukon Delta have been the largest our data have recorded in Alaska. Salmon harvesting jobs have plunged to near-zero as the fish fail to return in adequate numbers for both subsistence and commercial use. The reasons the fish aren't returning (called escapement) are under debate, but a combination of factors is likely. Young salmon headed into the Pacific are vulnerable to warmer waters, competition with hatchery salmon, and bycatch. In the past, phytoplankton blooms have also hampered regional runs.

## Kodiak

Harvesting employment in Kodiak was a mixed bag in 2021. The overall job count didn't change much, but the mix of species did. Crab essentially closed, for example, with one brief window in late fall.

Kodiak's sablefish fishery also lost about a third of its annual jobs, mainly because the peak month dropped from 181 to just 81.

Salmon and halibut harvesting employment grew. The number of jobs fishing salmon increased in the summer and halibut jobs rose in November and December after salmon fishing stopped.

Overall, Kodiak's average employment grew 0.4 percent, and its peak month rose from 1,178 to 1,194 jobs.

## Southcentral

Southcentral depends on salmon harvesting, and the job count declined by 2.1 percent in 2021. The numbers of sablefish and crab harvesting jobs also decreased, although crab is a small fishery. Groundfish and halibut, also small fisheries, saw modest gains. Employment in Southcentral's herring fishery was stable, which is typical. This mix of losses and gains resulted in a 1.8 percent decline for the year, from 1,419 to 1,393 average jobs.

## Northern

The Northern Region typically has the smallest number of fishing jobs, but the Yukon Delta's catastrophic job losses moved it into last place in 2021.

The Northern Region has single-digit job counts for all of its species except salmon. Still, the region lost around 19 percent of its salmon harvesting employment in 2021, which combined with other losses produced a 21 percent drop in fishing jobs overall.

## The outlook for 2022 so far

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Harvests in 2022 have followed many of 2021's trends. Bristol Bay continues to catch more salmon each year, and the Yukon Delta sustained further closures in 2022, to the degree that subsistence was also restricted. Fish and Game projects a 32 percent drop in salmon runs in 2022, and as mentioned earlier, two major crab fisheries were closed late this year — something that will show up in future data.

Although climate science and biology are outside this article's scope, the concern that ocean warming will cause large-scale biological shifts is important to note. Fish harvesting numbers don't yet capture these impacts for most regions, but they will be key influences on current and future harvests.

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