

Methodology

Data Sources

Most of the harvesting data in these tables and charts are based on fish ticket landing records retained by the Commercial Fisheries Entry Commission (CFEC). These records provide permit holder, vessel, landing date, permit type and landing port information, as well as catch information such as species, value and poundage.

A secondary source of harvesting data is the National Marine Fisheries Service, or NMFS. Their records are similar to CFEC's but do not include residency or permit type information. NMFS records capture harvest activity that takes place far offshore in Alaska's Exclusive Economic Zone (EEZ) - anywhere between three and 200 miles off Alaska shores.

First wholesale value data are from the Alaska Department of Fish and Game's Commercial Operators Annual Report (COAR). Home office addresses were used to determine processor "residency".

The Alaska Department of Labor and Workforce Development's Occupational Database (ODB) is the primary source of seafood processing employment data. The ODB contains quarterly information for all Alaska workers covered by unemployment insurance (UI). Data for federal workers and self-employed workers such as fishermen are NOT collected by the ODB.

Residency and demographic data for seafood processing workers come from Permanent Fund Dividend (PFD) records.

General Statements

Unless stated otherwise, harvesting and processing data are counted in the region where the seafood was harvested or processed. Since some fishermen live in one region but fish in another, this is an important distinction.

For the purpose of this project, we are counting/estimating workers, not jobs. Counts of workers are not directly comparable to full-time equivalency (FTE) measures or average monthly counts of fish harvesting jobs.

The seafood industry is mostly seasonal and workers often work only a few months out of the year. Assessments of workforce include those by region, species and gear type.

Workers employed in two or more different regions are included in the workforce counts for each of those regions, but are counted only once in the statewide totals.

Regional Seafood Harvesting Worker Estimates

Neither CFEC nor NMFS collect data on where crew members fish. The only crew member data available are counts of people who bought crew licenses, where they live and where they bought their licenses.

The total number of workers who participated in Alaska fisheries in a given year was determined by summing the number of permit holders who made landings with the number of people who purchased crew licenses.

To estimate the total number of people who participated in a region's fisheries, we applied a crew factor multiplier to catch data. Crew factors are simply the average number of people necessary to fish a particular permit, including the captain (who is usually the permit holder). Crew factor multipliers were established by surveying fishermen and industry experts and then applying the multiplier to catch data from individual vessels. If a vessel fished in more than one fishery and required different crew factors, only the highest crew factor for that particular species, region or gear was assigned. Crew factors for each vessel were then summed to arrive at an estimated total number of workers for each species, region and gear type.

Below are tables that illustrate steps taken to produce workforce estimates using a hypothetical example for three boats:

<u>Vessel ID</u>	<u>Permit Type</u>	<u>Region</u>	<u>Species</u>	<u>Crew Factor</u>
00001	S 01A - Purse Seine	Southeast	Salmon	5.2
00001	G 01A - Purse Seine	Southeast	Herring	5.5
00002	S 03A - Drift Gillnet	Southeast	Salmon	1.5
00002	S 03T - Drift Gillnet	Bristol Bay	Salmon	3.0
00003	S 15B - Power Troll	Statewide	Salmon	1.5

<u>Region</u>	<u>Species</u>	<u>Estimated Workforce</u>
Southeast	ALL	7.0 (5.5 + 1.5)
Southeast	Salmon	6.7 (5.2 + 1.5)
Southeast	Herring	5.5
Bristol Bay	Salmon	3.0
Statewide	Salmon	9.7 (5.2 + 3.0 + 1.5)
Statewide	ALL	10.0 (5.5 + 3.0 + 1.5)

The workforce estimates for each region, species and gear type are conservative because only the number of crew members needed for each vessel is counted. Turnover is not factored in. In some cases, more workers were hired throughout the year than were deemed necessary by the crew factor calculation. At this time, we have no way of counting "extra" workers due to turnover, and in that regard, we tend to undercount workers. Conversely, crew members regularly work on multiple vessels and this approach would tend to double count these crew members.

Estimated totals for each region do not include salmon fishermen who made five commercial landings or less. Nor do they include vessels in other fisheries that made five commercial landings or less and earned less than \$2,000 in gross earnings. These excluded records were often found to be errors, or were only marginally involved in commercial fishing. They were not included in order to provide a more accurate estimate of actual commercial fishing activity.

In order to determine workforce numbers for fisheries where vessels are seldom used such as the set-net fishery, permit holders' identification numbers were inserted in the Vessel field. This counted the permit holder as the vessel - the entity which generated employment - and thus provided a more complete estimate of the total number of workers in these fisheries.

Every year, some permits go un-fished and those permit holders do not record landings. Only permit holders who have actually fished and made landings in the data category Fishermen Fishing Permits are included in this project.

Actual crew counts were available only at the statewide level. Those counts were based on crew licenses sold. Regional crew counts were estimated by subtracting the number of individuals who fished permits from the total estimated harvesting workforce.

Notes on Groundfish

Supplemental data from NMFS were used to estimate groundfish harvesting activity in the EEZ because CFEC records do not cover all groundfish harvest that far offshore. It's not possible to identify permit holder residency for each landing in the NMFS database, so nonresident percentages in the report come only from CFEC data. Anecdotally, we know the groundfish fleet operating in EEZ waters is made up mostly of "nonresident" boats, but exact counts of those vessels are unavailable. To facilitate understanding of the two data sets, all NMFS records were placed in an 'Offshore - EEZ' category in order to keep them separate. Most EEZ activity is trawl fishing in the Bering Sea. Slightly more than half of these vessels do show up in CFEC records.

NMFS records include harvest weight, but do not include landing value information. CFEC species prices were multiplied by NMFS harvest weight to determine total earnings for EEZ groundfish landings.

Finally, it's important to note that many vessels with catches included in regional fishery data do harvest fish in the EEZ. These vessels capture their fish far offshore, but bring their catch back to port or a near-shore floater, and their landing is counted by CFEC officials. They are then placed in the region according to their permit type or harvest area. Consequently, Offshore - EEZ could be considered Additional Aleutian and Pribilof Islands Groundfish Activity since the source of nearly all the NMFS harvest data is the Bering Sea.