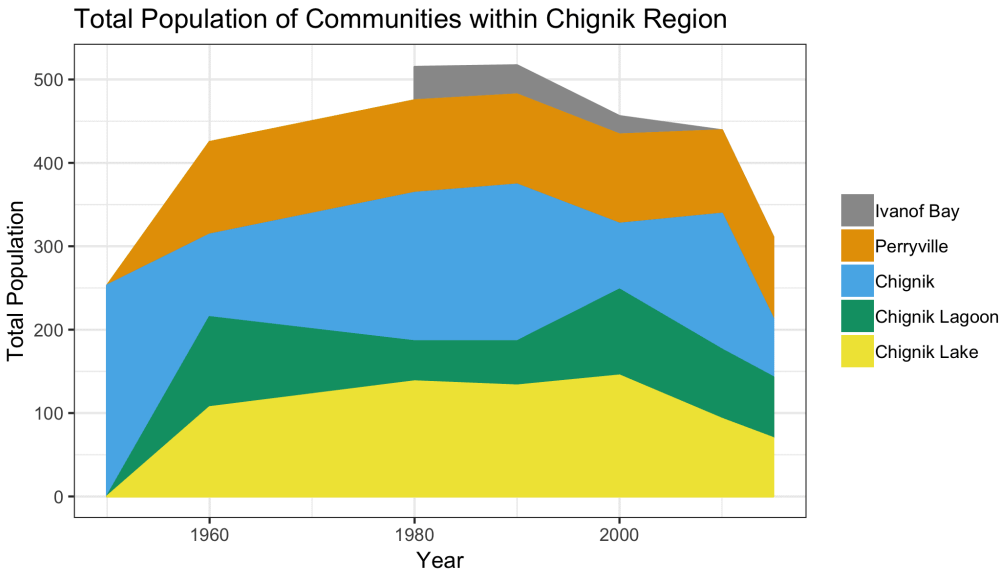
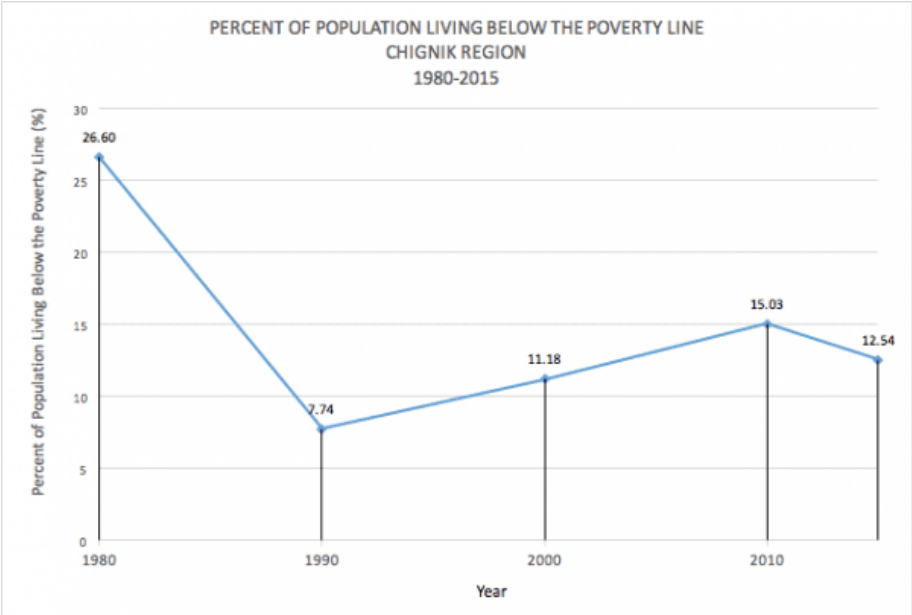
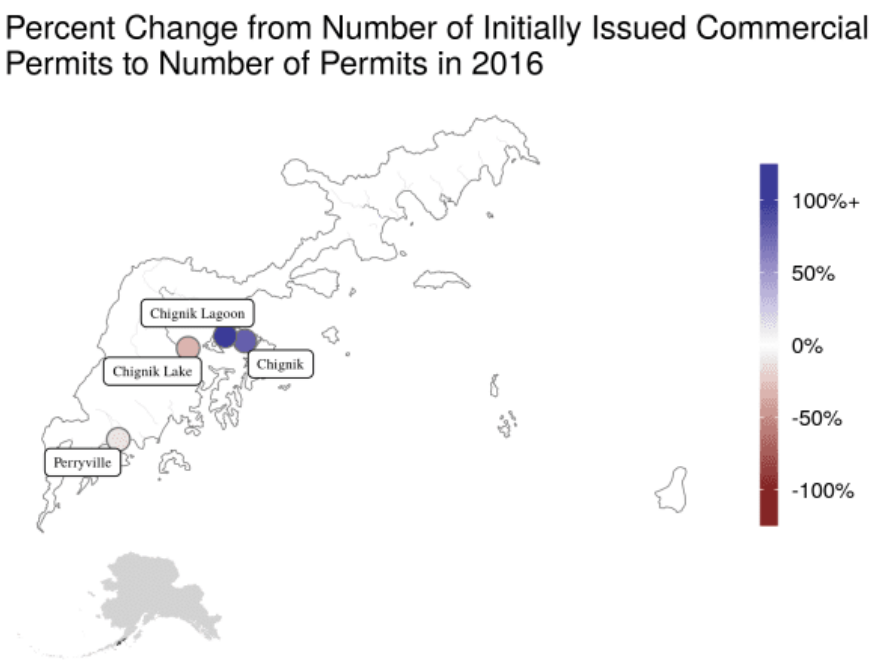


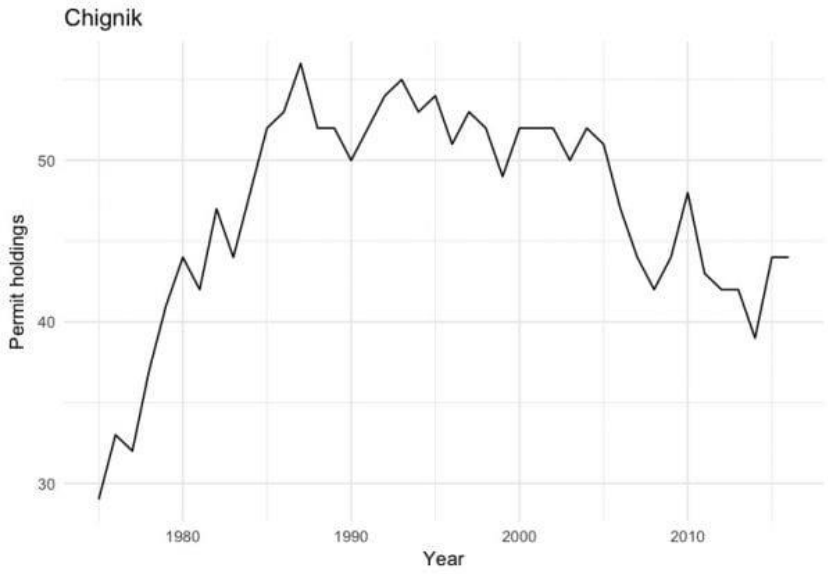
Changes in the populations of five communities in the Chignik Region. United States Census Bureau, Juliet Bachtel, John Randazzo, and Erika Gavenus. 2018. Alaskan Population Demographic Information from Decennial and American Community Survey Census Data, 1940-2016. Knowledge Network for Biocomplexity. doi:10.5063/F1XW4H3V.



Percent of the population in the Chignik region living below the poverty line. United States Census Bureau, Juliet Bachtel, John Randazzo, and Erika Gavenus. 2018. Alaskan Population Demographic Information from Decennial and American Community Survey Census Data, 1940-2016. Knowledge Network for Biocomplexity. doi:10.5063/F1XW4H3V



Percent change from number of initially issued (ranging from 1975-1982) permanent commercial salmon permits held by Alaska residents to number of permits in 2016 by community. Alaska Department of Fish and Game, Commercial Fisheries Entry Commission. 2017. Commercial Fisheries Entry Commission (CFEC) Public Permit Holders by Community of Residence 1975-2016. Knowledge Network for Biocomplexity. doi:10.5063/F189144V.

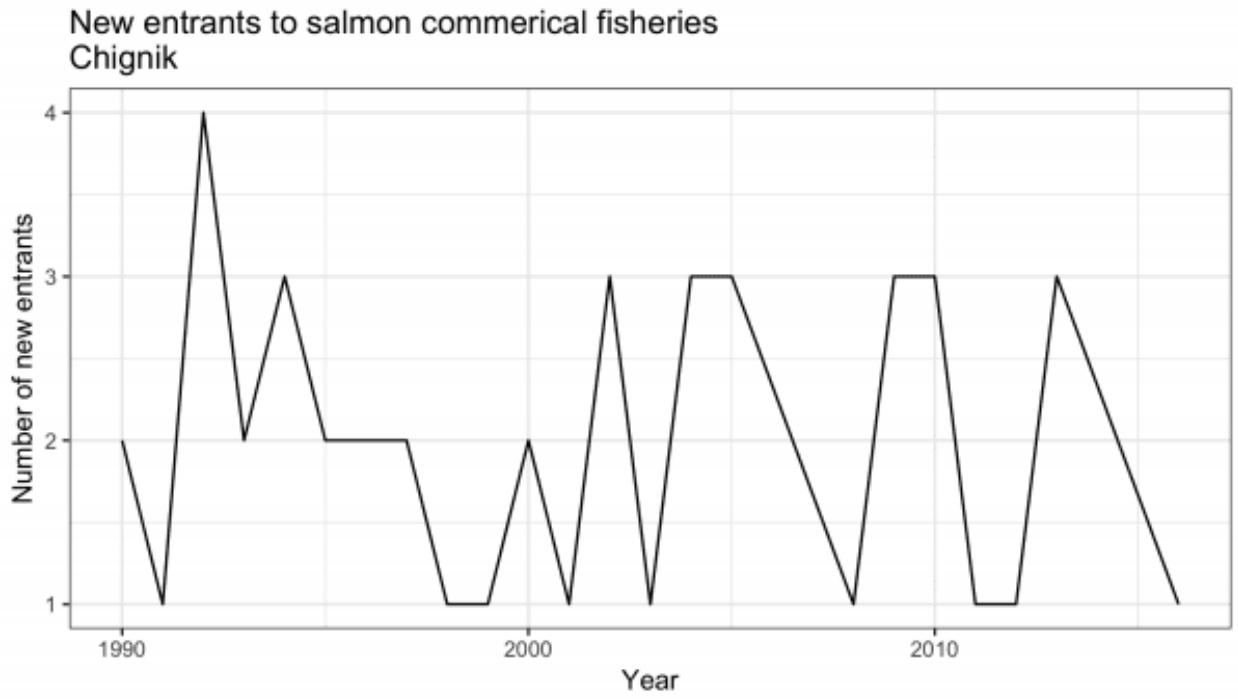


Commercial fishery permit holdings among communities in the Alaska Peninsula and Aleutian Islands from 1975 to 2016. Alaska Department of Fish and Game, Commercial Fisheries Entry Commission. 2017. Commercial Fisheries Entry Commission (CFEC) Public Permit Holders by Community of Residence 1975-2016. Knowledge Network for Biocomplexity. doi:10.5063/F189144V

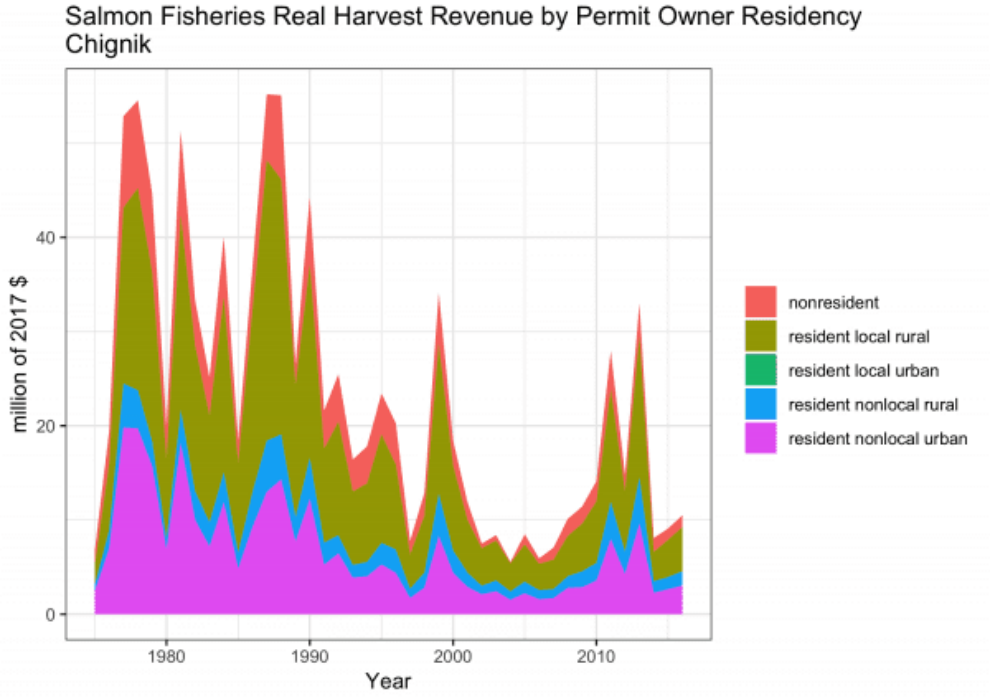
Salmon and economy

Historically, salmon fisheries in the Chignik region have been the seventh-largest in the state, generating almost $1 billion in revenue since 1975. Even though the Chignik commercial salmon fishery is not among the state's largest, it is one of the most stable with the third-lowest variability in year-by-year fishing revenues. All five species of Pacific salmon are harvested in the commercial fishery, with sockeye being primarily targeted and the most important species in this region.

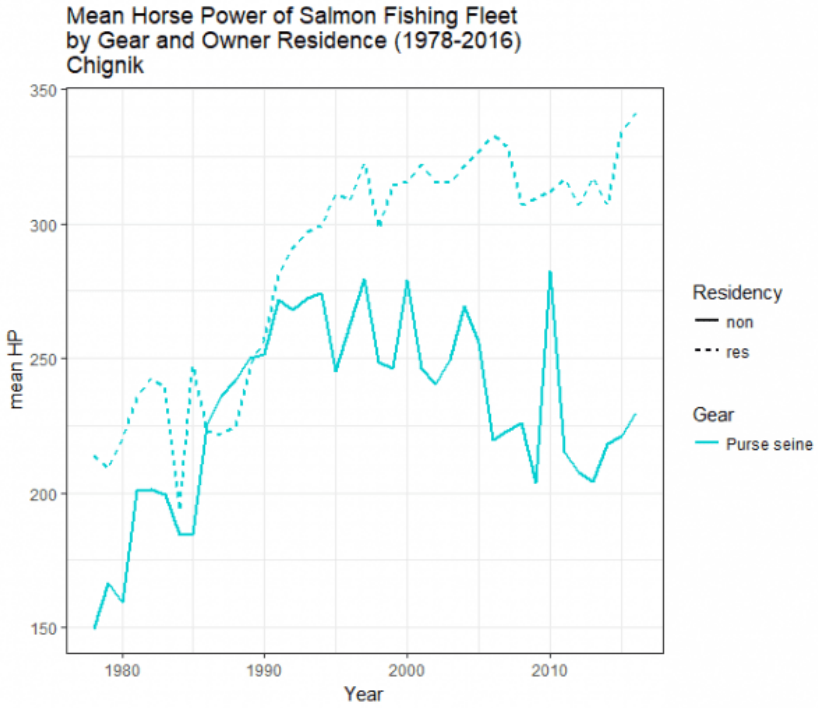
Interesting to note, despite the low risk for fishermen and the relatively high value generated in this fishery, the proportion of nonresidents participating in this fishery has been historically very low. Through the fishery's history, local rural residents of Chignik have consistently retained between a third and half of the harvest revenue generated. Nonlocal urban Alaska residents retained the other third, and the final third is shared among nonlocal rural Alaska residents and nonresidents. The region has also seen the lowest permit migration of any region, as measured by the number of permit holders who either move out of the region or sell their permit to residents from elsewhere.



New entries into commercial salmon fisheries in the Chignik region, 1980 - 2016. Commercial Fisheries Entry Commission CFEC and Tobias Schwoerer. 2016. Commercial Fisheries Entry Commission Public Permit Database from 1975-2016. Knowledge Network for Biocomplexity. doi:10.5063/F1CV4G17



Earnings by permit owner type, Chignik region, 1975 - 2016. Tobias Schwoerer. Regional commercial salmon permit earnings by residency status, Alaska, 1975-2016. Knowledge Network for Biocomplexity. doi:10.5063/F1WW7FZ2.



Horsepower of Chignik salmon fishing fleets, by gear type and permit owner residence, 1978 - 2016. Alaska Department of Fish and Game, Commercial Fisheries Entry Commission and Tobias Schwoerer. 2018. Commercial vessel characteristics by year, state, Alaskan census area and city, 1978-2017. Knowledge Network for Biocomplexity. doi:10.5063/F14F1P2Q

Salmon and subsistence

State Regulatory Framework

Participants in the Chignik Management Area subsistence salmon fishery must obtain a permit from the Alaska Department of Fish and Game, record their harvests on the permit, and return the permit to ADF&G at the end of the season. Harvest limits are 250 salmon per permit, which are issued to individuals–not households as in most other Alaska subsistence fisheries. Legal gear under state regulations includes set nets and seines. For a complete summary of state regulations, see 5 AAC 01.450 – 490.

The Alaska Board of Fisheries' ANS finding for Chignik Area salmon (5 AAC 01.466(b)) is one of the most precise in the state in separating out stocks by species and subareas. In 1993, the Board had made an "administrative" ANS finding (i.e., one that had not been adopted in regulation) of 19,000 "salmon" for the Chignik Area, treating all salmon in the area as a single stock for evaluating whether reasonable opportunities for subsistence were being provided. In 2002, the Board changed the ANS to address concerns that residents of Chignik Lake and Perryville had expressed about management of late run sockeye salmon into the Chignik River system and their opportunity to harvest "redfish" (spawning sockeye salmon). The revised ANS was intended to reflect particular subsistence harvest and use patterns within the area.

This current ANS is as follows:

1. In the Perryville and Western Districts, combined:

1. 1,400 – 2,600 coho salmon;
2. 1,400 – 2,600 salmon, other than coho salmon;

2. In the Chignik Bay, Central, and Eastern Districts, combined:

1. 5,200 – 9,600 early-run sockeye salmon;
2. 2,000 – 3,800 late-run sockeye salmon;
3. 100 – 150 king salmon;
4. 400 – 700 salmon, other than sockeye and king salmon.

Federal Regulatory Framework

Federal regulations for the Chignik Area also allow subsistence salmon fishing by qualified local rural residents with rod and reel; these regulations apply to waters within and adjacent to the Alaska Peninsula National Wildlife Refuge (NWR), the Aniakchak National Monument and Preserve, and the Alaska Maritime NWR. In

2013, federal permits became available for federally qualified local residents who wish to take advantage of the federal subsistence fishing opportunities in the Chignik Area. ADF&G attempts to incorporate the data from this federal program in annual harvest assessment programs (Fall et al. 2018:127).

Subsistence Salmon Harvest Patterns

For the period 1977 through 2016, the average annual subsistence harvest of salmon in the Chignik Management area was 11,121 fish (Figure 4-1). Since 1994, the largest portion of the Chignik subsistence harvest was sockeye (74%) (including spawning sockeye taken as "redfish"), followed by coho (14%), pink (9%), chum (2%), and Chinook (1%) (Figure 4-2).

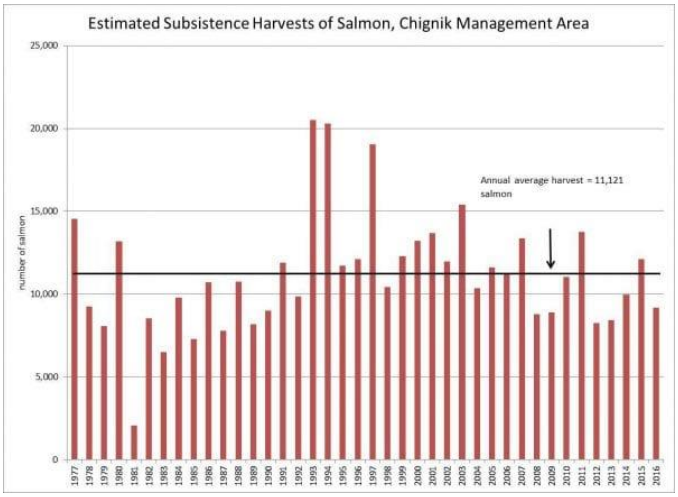


Fig. 4-1. Alaska Department of Fish and Game, Division of Subsistence. Subsistence and personal use harvest of salmon in Alaska, 1960-2012. Knowledge Network for Biocomplexity. doi:10.5063/F18P5XTN

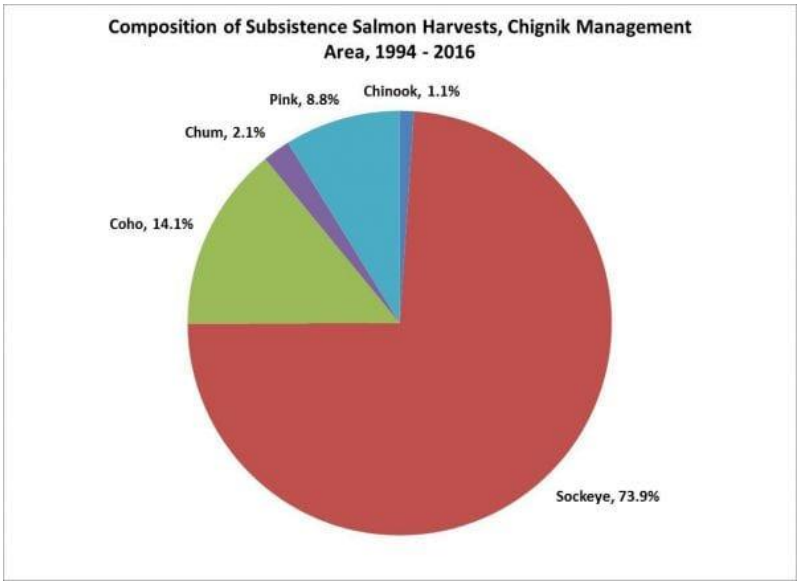


Fig. 4-2. Alaska Department of Fish and Game, Division of Subsistence. Subsistence and personal use harvest of salmon in Alaska, 1960-2012. Knowledge Network for Biocomplexity. doi:10.5063/F18P5XTN

Most participants in the Chignik Management Area subsistence salmon fishery live in one of the five local communities; 73% of permits issued for 2012 – 2016 were local residents. Local residents accounted for 89% of the subsistence salmon harvest in the area and averaged a harvest of 102.5 salmon per permit. Non-local residents held 27% of permits, took 11% of the harvest, and averaged 32.9 salmon per permit (Figure 4-3). Most non-local participants are former local residents who return seasonally to participate in subsistence and commercial fishing (Morris 1987:210-212).

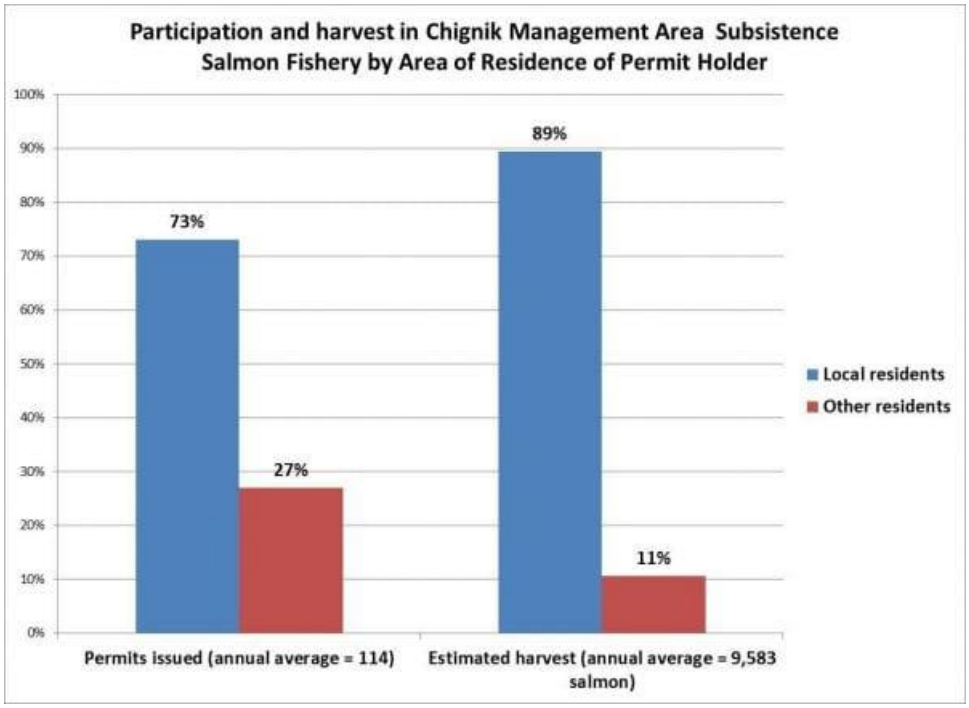


Fig. 4-3. Alaska Department of Fish and Game, Division of Subsistence. Subsistence and personal use harvest of salmon in Alaska, 1960-2012. Knowledge Network for Biocomplexity. doi:10.5063/F18P5XTN.

Based upon the most recent comprehensive household harvest surveys, salmon comprise approximately 46% of the total harvests of wild resources for home use by residents of the Chignik Management Area (which is a portion of the Lake and Peninsula Borough) (Figure 4-4). This includes salmon harvested in subsistence fisheries, sport fisheries, and retained by commercial fishers for home use ("home pack") (ADF&G 2017). In 2011 (the most recent year for which comprehensive harvest data by gear type are available), 84% of the salmon harvest for home use was taken in subsistence nets or seines, 14% from commercial "home pack," and 2% with rod and reel (N = 13, 032 salmon); subsistence methods provided most of the salmon in all four local communities (Ivanof Bay had a very small year-round population in 2011 and was not part of the study). In all four communities, however, the majority of king salmon taken for home use were fish retained from commercial harvests, including 88% for the

four communities combined (N = 428 king salmon) (Figure 4-5; Hutchinson-Scarbrough, Marchioni, and Lemons 2016).

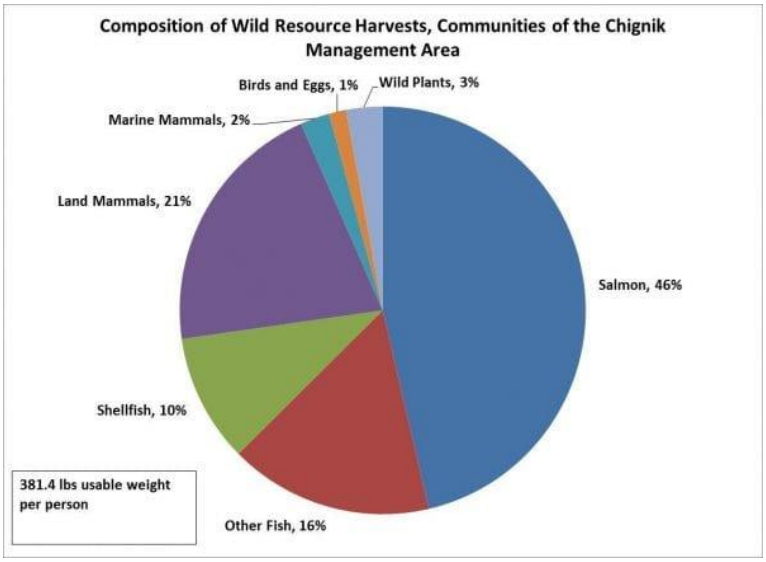


Fig. 4-4 Composition of wild harvest in Chignik region communities (381 pounds per person per year). Alaska Department of Fish and Game, Division of Subsistence. 2018. Subsistence harvest information by region, community, resource, and year, 1964-2015. Knowledge Network for Biocomplexity. doi:10.5063/F1S75DNC.

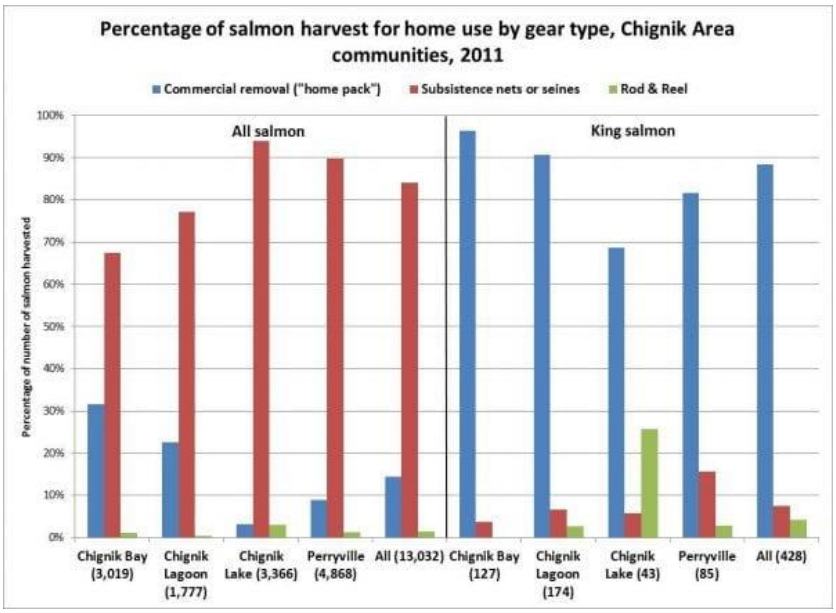


Fig. 4-5 Percentage of harvest for home use by gear type in five Chignik communities, 2011. Alaska Department of Fish and Game, Division of Subsistence. Subsistence and personal use harvest of salmon in Alaska, 1960-2012. Knowledge Network for Biocomplexity. doi:10.5063/F18P5XTN.

Until the early 1990s, most residents of Perryville and many residents of Chignik Lake moved in spring to fish camps on the north side of Chignik Lagoon. These camps were bases for commercial and subsistence salmon fishing. However, by the mid-1990s and early 2000s, most of these camps were no longer occupied, for several reasons. A key factor was the closure of the Columbia Ward cannery, which had been a source of supplies and facilities for the camps. A second factor was the imposition of use fees by the Alaska Native corporation that owned the land. Third, during the years in which the Chignik commercial salmon cooperative was operative (2002 – 2005), fewer Perryville and Chignik Lake residents directly participated in the commercial fishery as captains or crew and therefore discontinued their use of the camps. Since the mid-1990s, most subsistence fishing by Chignik Lake and Perryville residents has taken place near the communities, although commercial fishers continue to bring “home pack” fish back to their villages to share (Hutchinson-Scarbrough, Marchioni, and Lemons 2016:176-182).

Salmon and governance

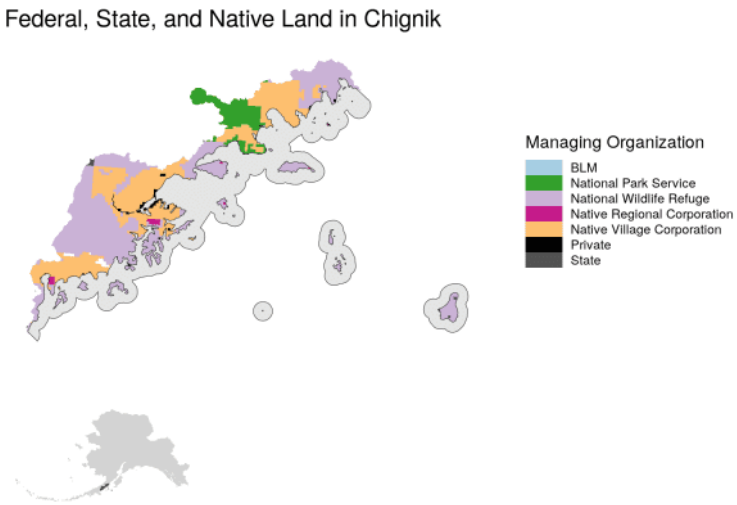
Governance actions under state jurisdiction in the Chignik region have recently addressed subsistence ANS levels, timing of commercial openings, and experimental mechanisms for distributing salmon harvests. The Chignik area commercial salmon fishery undertook a unique experiment between 2002 and 2005 as a co-op was created to allow a few designated fishermen to harvest the salmon and distribute the revenue equally among participating salmon permit holders. When the arrangement was legally challenged, the court determined that the Board of Fisheries lacked the authority to authorize the arrangement. Purse seine fishermen, the sole permitted fishery in the area, have been very actively involved with the Board of Fisheries and the biological managers.

Between 2000-2018, the Chignik area salmon fisheries were declared a disaster on two occasions, most recently the sockeye salmon return in 2018.

Land Ownership

Territorial governance units for the Chignik region are shown in the figure to the right. The US Fish and Wildlife Service is the major federal agency with jurisdiction in the region; the National Park Service governs lands in the eastern part of the region. Unique among the regions and due to the small spatial area encompassed, Alaska Native village corporations, primarily, own a majority of the land. Virtually all of the Native land holdings are in federal jurisdictions. There are a number of small private land holdings associated with salmon and seafood processing industry in the Chignik Bay and Lagoon areas, the primary location of salmon fishing in the region.

The region and its communities are a part of the Lake and Peninsula Borough. There are five recognized federal tribes in the region. There are no hatcheries in the region. The commercial fishermen of the region are organized as the Chignik Seiners Association. There are no nonprofit environmental organizations or habitat partnerships operating in the Chignik region.



Emily O'Dean and Jeanette Clark. Land status in Alaska, 2018. Knowledge Network for Biocomplexity. doi:10.5063/F1NK3C9X.

Board of Fisheries

The Chignik region ranked ninth in proposals submitted to the Board of Fisheries over the study period. Proposals submitted addressed the co-op fishery through allocation and gear/vessel specifications in the period from 2000-2005. Nearly all of the proposals submitted from the Chignik region addressed commercial topics.

While ADF&G has had the most Board proposals for the Chignik region over the study period, the Advisory Committee, fishermen's association, individuals and Village Council/Tribe have also seen proposals passed.

There is one rural, multi-community, non-road type Advisory Committee for the region. There are designated seats for all five communities in the region. The committee met approximately once per year over the period from 2000-17. The communities and their location can be seen here.