1.0 INTRODUCTION

1.1 Purpose

This document profiles 136 Alaska communities significantly involved in commercial fisheries in Alaska, including state waters, and federal waters in the Bering Sea, the Aleutian Islands, and the Gulf of Alaska. For the purposes of this project, these areas are collectively referred to as the North Pacific. This volume will be followed by a document (in preparation) that profiles additional communities that are involved in North Pacific fisheries and are located in Washington, Oregon, California and other states.

Fishing Communities in Law and Policy

A variety of federal laws make clear the imperative for the National Marine Fisheries Service to consider the human communities that are involved in fisheries.

National Standard Eight of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) states:

> Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

In addition, the National Environmental Policy Act requires that agencies assess the impacts of major federal actions on the environment, including the human environment. Typically, an Environmental Impact Statement will include a description of the social environment, and an assessment of the impacts of alternative policy choices on that environment.

Other laws and policies mandating attention to impacts on human communities include Executive Order 12898 on Environmental Justice, which directs agencies to assess impacts that may disproportionately affect low income and minority populations, Executive Order 12866 on Regulatory Planning and Review, which requires agencies to assess the costs and benefits of proposed regulations and alternatives, and the Regulatory Flexibility Act (RFA), which requires agencies to assess impacts of proposed policies on regulated small entities, meaning small businesses, organizations, and governmental jurisdictions as defined in the RFA and the Small Business Act.[1]

[1] "'Small businesses' are defined in section 3 of the Small Business Act, 15 U.S.C. . 632, and in the SBA's regulations at 13 C.F.R. . 121.201 (2002). 5 U.S.C. . 601(3). 'Small organizations' are any not-for-profit enterprises that are independently owned and operated and not dominant in their fields (for example, private hospitals and educational institutions). 5 U.S.C. . 601(4). 'Small governmental jurisdictions' are governments of cities, counties, towns, townships, villages, school districts, or special districts with a population of less than 50,000. The size standard used by the Small Business Administration to define small businesses varies by industry; however, the SBA uses the "fewer than 500 employees" cut off when making an across-the-board classification." Quoted from the U.S. Equal Employment Opportunity Commission *Regulatory Flexibility Act Procedures* posted at http://www.eeoc.gov/policy/regflexibilityact.html .

In order to facilitate implementation of these laws, and improve available information on affected communities, the National Marine Fisheries Service is currently engaged in a nation-wide effort to profile fishing communities. Analysis of social impacts often uses a geographic scale larger than the community, such as county or region, to analyze the data because that is the geographic level at which much of the data is available, and because the resources are not available to conduct an analysis with finer geographical resolution. Detailed analysis at the community level usually focuses on those communities which are most likely to experience the most significant impacts -- an approach that is entirely appropriate given the limited time allotted to most impact assessments. Thus, there are dozens of communities which may be impacted by policy matters that cannot be analyzed on an individual basis. Because the North Pacific already has regional economic profiles,[2] and detailed community-level profiles of some places most heavily involved in federal fisheries,[3] the profiles given here may be particularly useful in providing basic information on some of the fishing communities not included in these other reports.

Fishing Community Profiles

The profiles of Alaskan fishing communities in this document are part of this national endeavor, and form the first phase of the Alaska Fisheries Science Center's efforts. A second phase, in which communities outside of Alaska involved in North Pacific fisheries, will be undertaken in 2004-5 as described in Section 1.2. Selected information from these profiles will be entered into the national database, which will be updated on a regular basis.

The fisheries considered in these profiles include both state and federal fisheries in the commercial, recreational and subsistence sectors. From the perspective of a community dependent on or engaged in fishing, whether a particular fishery is under state or federal jurisdiction is of less importance to the health and resilience of the community than the strength and sustainability of the fishery itself. Furthermore, it can sometimes be challenging to identify from available databases whether a documented fish delivery was taken under a state or federal fishery, particularly where there are parallel seasons for the same species and gear types, and much of the available information concerning involvement in fisheries is not fishery-specific. Finally, this combined state and federal approach is the recommended method for the national profiling project, so the Alaska Fisheries Science Center profiles will be compliant with the larger effort.

The communities profiled in the document were selected by a quantitative assessment method described in detail below. Due to practicalities, this method was based entirely on commercial fisheries data. However, recognizing that in the life of a

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[2] "Regional Profiles in the North Pacific Groundfish Fisheries" prepared for the National Marine Fisheries Service and the North Pacific Fishery Management Council by Northern Economics, Inc. and EDAW, Inc. posted at http://www.fakr.noaa.gov/npfmc/misc_pub/NorthernEconomics/RegionalProfile.pdf

[3] Community-level profiles are included in the Social Impact Assessment sections of various NMFS Environmental Impact Statements, e.g., Alaska Groundfish Fisheries Revised DRAFT Programmatic Supplemental Environmental Impact Statement, September 2003 posted at http://www.fakr.noaa.gov/sustainablefisheries/seis/intro.htm.

community, recreational and subsistence fishing may be of great importance socially, culturally, and economically, these community profiles include information on recreational and subsistence fishing activities as part of the narrative. In future efforts, indicators of recreational and subsistence fisheries will be quantified and included in the selection process, as well as maintained in the narrative.

Faces of the Fisheries

Approximately ten years ago, the North Pacific Fishery Management Council published *Faces of the Fisheries*, a document which profiled communities in Alaska, Washington, and Oregon involved in commercial fisheries in the North Pacific. The present document may be considered a partial update of *Faces of the Fisheries.* As with that document, our purpose was to focus on communities involved with commercial fisheries. Because the selection and analysis of communities relies on population data from the U.S. Census, it is proposed that the narrative portion of this document be updated again when new population and demographic information becomes available following the 2010 Census. Fisheries information, which is available annually and will be updated annually, is being maintained in a separate database which is in preparation.

1.2 Related Projects

Many communities involved in fisheries in the North Pacific are not located in Alaska. In 2004, the AFSC and the NWFSC will undertake a joint project to profile communities in Washington, Oregon, California and other states that are involved in commercial fisheries. In addition to descriptions of the communities, the profiles will include descriptions of local involvement in both North Pacific and West Coast fisheries.

In addition, the Alaska Fisheries Science Center is involved in creating more in-depth profiles of significant fishing communities, based on rapid assessment procedures and ethnographic fieldwork in a limited number of communities.

Other Regional Offices and Science Centers are also in the process of profiling communities involved in commercial fisheries. Eventually, NMFS will create a national database of fishing community information that will be updated on a regular basis.

The profiling of communities involved in fishing is related to, but is not necessarily the same as, the designation of Fishing Communities according to the definitions of the MSFCMA. The process for designating MSFCMA Fishing Communities is at present being discussed by NMFS social science staff. It will likely bear similarities to the process used in this project to decide which communities to profile, but it will also have significant differences. The results of the MSFCMA Fishing Communities designation process may have an effect on which communities are selected for profiling when this document is updated.

Finally, there are a number of projects that have been undertaken by Councils, Commissions, and other fisheries management and information groups which involve narrative profiling of fishing communities. These include the just-released *West Coast Marine Fishing Communities* by Jennifer Langdon-Pollock of the Pacific States Marine Fisheries Commission (funded by NMFS and the Pacific Fisheries Management Council), the 2001 *New England's Fishing Communities* by Madeleine Hall-Arber et al.

at the MIT Sea Grant Program, funded by the Marine Fisheries Initiative (MARFIN) of the National Marine Fisheries Service, and the 2004 *Mid-Atlantic Fishing Communities* by Bonnie McCay et al..

1.3 Acknowledgements

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2.0 METHODS

The task of preparing a document about the Alaskan communities involved in North Pacific fisheries, an area of vast scale and diversity, was a daunting one, and one whose complexity is reflected in the research methods we used. We were fortunate in that the fisheries of the North Pacific, large and lucrative as they are, have a wealth of information about them. Our task was to compile these disparate sources of information in order to produce a document that could serve as a baseline of data for policy analysts and decision-makers, and a starting point for social scientists conducting more complex analytical research. This section explains exactly what we did, how we did it, and what data sources we used. In many cases, online data sources accessible to any researcher were used, and these are cited in this section in the footnotes. In other cases, specific data requests were made to agencies in order to obtain the necessary information. This section

also discusses some of the methodological challenges our team encountered during the course of the project, and how we resolved them.

2.1 Selection of Communities for Profiling

There are hundreds of communities in Alaska involved in commercial fishing worthy of being profiled. We decided to use quantitative selection criteria in order to reduce the number of communities to be profiled to a manageable list consisting of those with the most involvement in commercial fisheries. We chose a wide array of quantitative indicators that measure a variety of types of involvement in fisheries, and selected those communities which rose above the designated threshold in any one of the indicators.

A MSFCMA Fishing Community is a place-based community that is "…substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors…" While this definition includes commercial, recreational, and subsistence fishing, data on recreational and subsistence fishing were not available early enough in the selection process to be incorporated. The profiled communities were selected on the basis of their involvement with commercial fishing. Information on recreational and subsistence fisheries was added to the community narratives and will be accounted for in the selection of communities for Volume II, and for updates to this document.

The selection of Alaska communities to be profiled used eight different types of quantitative indicators about involvement in commercial fisheries (detailed below in Section 2.2). The indicators showed communities that have commercial fisheries landings (landings, number of processors, number of vessels delivering to a community), communities that are the registered homeports of vessels participating in the fisheries, and communities that are home to documented participants in the fisheries (crew license holders, state and federal permit holders, and vessel owners). Data from 2000 were used because they could be matched with Census 2000 population and demographics data.

The data sets used were those which were available to us and appeared to be informative about some aspect of community involvement in commercial fisheries. The thresholds were set at a level which would reasonably include communities that had a significant level of involvement in commercial fisheries. Many of the indicators were calculated as a ratio to the total population of the community as stated by the 2000 U.S. Census, with .15 per capita[4] set as the threshold for profiling.[5] Means for indicators

[4] In some cases, this .15 threshold is a percent. In other cases (e.g., where the numerator is vessels and the denominator is population) the threshold is not properly a percent but rather a ratio or a per capita value.

[5] We used SF 1 population counts of all persons. These counts sometimes differ from SF 3 population estimates, which come from the "population and housing long-form" collected by the US Bureau of the Census from a 1 in 6 sample and weighted to represent the total population.

(other than the aggregate indicator) varied between 0 and .13,[6] so in every case the .15 threshold was selecting for above average communities. A community which met or exceeded the threshold for any single indicator was selected.

The selection procedure did not account for differences between dependence on and engagement in fishing, but future projects will. This was in part because NMFS guidance is still being revised on the meaning and application of these terms as contained in the MSFCMA, and in part because the fishery-specific information necessary for evaluating engagement separately had not been collected with the original dataset. Our expectation is that the procedure captured most Alaska communities that would qualify as engaged or dependent on the basis of commercial fisheries.

Census Place-Level Communities

An important aspect of this project is that it compiles data at the community level. However, it is not always clear what counts as a community, and what a community's boundaries are. For the purposes of generating a list of communities from which to select, we generally considered as communities those localities listed as such in the various other databases we used. For the purposes of profiling, we generally treated as a community any location that the U.S. Census 2000 treats as a "place,"[7] – either an incorporated community or a "census designated place" for unincorporated areas that are nonetheless recognized as place-level communities by the Census. Exceptions are noted below.

Of course, much of the data in the databases on which we relied is taken from forms filled out by persons who are not concerned with issues of place or community. Thus, every database includes both a creative array of spellings of community names, which needed to be standardized in order to correctly count the data by community, and a variety of communities which are not recognized as such by the Census. For spelling issues, the USGS Geographical Names Information System was the final arbiter for disagreements. Zip code information, where available in the data, was particularly helpful in determining whether two communities had similar names, or one community had multiple spellings. For the permit data, spelling corrections were carried out by AKFIN. For all other data, spelling adjustments were carried out by the Alaska Fisheries Science Center.

Communities listed in the fisheries information databases which were not considered as "places" by the Census -- and therefore did not have data for a place-level population -- were generally not included in the selection procedure. Some of these "communities," such as "Bristol Bay," arise in the data because a person recorded something other than a recognized community as their residence, or in the case of "Bristol Bay," listed it as the homeport of their vessel. In other cases, the community or

[6] Standard deviations varied from 1 to 22, with the standard deviation being higher than the mean in every case. Since the numbers used were full counts rather than the product of sampling procedures, the higher-than-the-mean standard deviations simply indicate a large amount of variation between communities.

[7] "Place" refers to one of the geographies used by the US Census Bureau, which include geographies generally larger than place, such as state and county, and geographies generally smaller than place, such as tract and block group.

sub-community has been subsumed by a larger "place" in the U.S. Census. Where this latter situation was detected prior to the selection procedures, fisheries data for sub-communities were combined with fisheries data for the Census place-level community for the purpose of selection. More detailed information on these particular communities and situations is included in Appendix B.

2.2 Indicators and Selection Thresholds

The following procedures were used for each of the indicators to generate the list of communities. Together, these indicators produced data for 396 communities in Alaska, of which 249 had Census populations. Descriptive statistics for the indicators (i.e. ranges, means and standard deviations) showed a great deal of variation between communities, as illustrated in Table 2.1.1.[8] Exceeding the threshold for any single indicator, including the aggregate indicator, was sufficient to trigger selection as a community to be profiled.

1. *Landings, Processors, and Number of Vessels Delivering.*

A) Tons of Landings. We collected landings data for all species combined delivered to shore-based processors in the community, based on state fish tickets. Landings were indicated in tons, except for communities with fewer than four processors where the landings data is confidential. For these communities, a -1 in the data we received indicated that there was some amount of landings, but the specific amount is confidential, while a 0 indicated that there were actually no landings recorded.

B) *Number of Processors.* We collected data on the number of shoreside processors in the community that filed fish tickets with the state in 2000.

Table 2.2 Descriptive Statistics for Indicators Across 396 Alaskan Communities

Indicator	**Range**	**Mean**	**Standard Deviation**
1A. Tons of landings	Descriptive statistics not valid because landings data for communities below the state confidentiality threshold of 4 processors was not collected. These communities were marked with a -1 to differentiate them from communities with 0 landings.		
1B. Number of Processors	0-13	0.46	1.71
1C. Number of Vessels Delivering	0-946	33	128
2. % Vessels Homeported	0-1.47	.10	.19
3. % Vessel Owner Residences	0-1.69	.08	.16
4. % Crew Licenses	0-.56	.00	.11
5A. % Registered State Permits	0-1.80	.13	.22
5B. % Fished State Permits	0-.97	.07	.13
6. % State Setnet Permits	0-.23	.02	.04
7. % Federal Vessel Permits	0-.13	.00	.01
8. % Aggregated Indicators	0-6.38	.50	.76

C). *Number of Vessels Delivering.* We collected data on the number of unique vessels that delivered to processors in the community, based on state fish ticket data.

In 2000 in Alaska, the three data sets, 1A, 1B, and 1C, apply to a co-extensive set of communities (i.e. each community which has landings also has a processor as well as some number of fishing vessels delivering, and no community had activity in just one or two of these indicators without the others), allowing the three to be treated as a single complex.[9] We did not detect any communities with processors that did not also have landings, although it is possible that some fish were landed in one community, and then processed in another. Future assessments may include a separate indicator for processing based on data other than shoreside processor fish tickets. Communities with any activity in this complex of indicators were selected for profiling.

2. *Vessel Homeport Data*. We summed the number of vessels homeported in each community in 2000. This number was then divided by the community's population in 2000. Communities above the threshold ratio of .15 (i.e. greater than or equal to .15 vessels homeported per capita) were selected for profiling.[10]

3. *Vessel Owner Residence Data*. We summed the number of vessels registered to an owner residing in each community in 2000. The number of vessels with owners in each community was divided by the community's population in 2000. Communities above the threshold (i.e. greater than or equal to .15 vessels owned per capita) were selected for profiling.

4. *Crew License Data*. We summed crew licenses issued in 2000 for each community, according to ADF&G crew license records. The number of crew licenses in a community was divided by its population in 2000, according to the U.S. Census. Communities above the threshold of .15 (i.e. 15% of the population held a crew license) were selected for profiling.

5. *State Fishing Permit Data*.

A) AKFIN provided us with a custom report summing by community the number of registered state-issued gear operator (i.e. commercial fishing) permits in 2000.[11] The number of registered permits in each community was divided by its population in 2000 to obtain ratio of permits to population. Communities above the threshold of .15 (i.e.

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[9] In some regions of the United States, landings may occur in communities which have no processing plants. The fish are then trucked to another community where they are processed. Thus, the list of communities with some activity in 1A might not be the same as the communities showing activity in indicator 1B. In theory, there should not be any communities which indicate landings, but do not have any vessels delivering those landings. However, due to the normal error found in an extremely large database, it could be theoretically possible to find such a situation in the data.

[10] It should be noted that the designation of a home port is not necessarily linked to location or usage patterns of the vessel. It is simply any location designated by the owner at vessel registration. Future selection processes will not involve this indicator.

[11] Because unique gear operator permit numbers were used, the number of permits does not necessarily equal the number of permit holders.

greater than or equal to .15 registered state-issued fishing permits per capita) were selected for profiling.

B) The report also summed by community the number of state-issued fishing permits that were actually fished in 2000, based on cross-referencing with fish ticket records of landings. The number of fished permits in each community was divided by its population to obtain a ratio of fished permits to population. Communities above the threshold of .15 (i.e. greater than or equal to .15 fished permits per capita) were selected for profiling.

6. *State Setnet Permit Data*. The AKFIN report also summed by community the number of state-issued setnet fishing permits in 2000. This data was treated separately from the gear operator permit data because it was provided that way by AKFIN, and because unlike other fisheries, setnet operations do not necessarily require a vessel. The number of setnet permits in each community was divided by its population in 2000 to obtain a ratio of permits to population. Communities above the threshold of .15 (i.e. greater than or equal to .15 setnet permits per capita) were selected for profiling. Data on active versus inactive setnet permits was not provided by AKFIN.[12]

7. Federal Vessel Permit Data. The AKFIN report also summed the number of federal vessel permits registered to residents of the community. This number was then divided by the 2000 population to obtain the number of federal vessel permits per capita. It should be noted that no communities in Alaska had values above the .15 threshold. This does not mean that the .15 threshold is inappropriate for this indicator, but rather that concentrations of these permits are found in Washington and Oregon. The same procedure applied to Washington and Oregon community data does produce communities that rise above the threshold. This reflects the structure of these federal fisheries, compared to the state-permitted fisheries.

8. *Aggregated Indicators*. Aggregate indicators can help to select communities that are close to the threshold in a number of indicators, but never rise above the mark in any particular indicator. We created a formula which aggregated the six indicators that had applied the .15 threshold (numbers two through seven) as follows:

> *(Vessel Homeport Data [2] + Vessel Owner Residence Data* [3] + *Crew License Data [4] + State Fishing Permit Data* [5A+5B] + *State Setnet Permit Data [6] + Federal Vessel Permit Data [7]) ÷ Census 2000 population [SF1]*

The mean of the aggregated indicator values, .50, was used as the selection threshold. Two communities which did not exceed the threshold for any single indicator were added as a result of applying the aggregate indicator (Napakiak at .57 and Pilot Station at .51)

[12] Using indicators 4, 5, and 6 as selection criteria likely resulted in some individuals being counted more than once, since it is possible for an individual to be both a licensed crew member and a state permit holder. At present, it is not possible to track unique individuals across these different databases.

2.3 Selected Communities

Communities which met or exceeded the threshold in any one of the indicators were selected for profiling. Whether a community met or exceeded the threshold for one, many, or all of the indicators did not affect the amount of attention devoted to profiling it in this project. All communities, once selected by the above procedures, were given the same treatment.

The selection procedures generated a list of 120 communities. By the time the final data was received and the final selection procedure implemented, the project team had already profiled 16 communities which met an earlier version of the selection criteria, but did not meet the final selection criteria. The earlier procedure was instituted before the profiling team had access to the permit and crew data, and was based solely on landings, processing plants, vessels delivering fish, vessels homeported, and vessel owner residences. This data was divided into different fisheries (crab, groundfish, sablefish, halibut, salmon, herring, scallops, and combined-federal), and communities were selected if they had a value of five or more for any one of the indicators in any one of the fisheries. The standard of selecting communities with a value of five or higher for any indicator was applied prior to our receiving the data and is a common method used at the Alaska Fisheries Science Center for reducing data.

This original procedure was superseded by the one described above when we acquired the crew license and permit data sets, and when it became questionable whether the data allowed for reliable or meaningful divisions by the fisheries selected, and whether using a threshold based on a data value, rather than a ratio to population, was a valid method for ascertaining which communities had the most significant involvement in commercial fisheries. With a threshold set by an absolute number (a direct count from the data), rather than by a relative number (a ratio derived as indicator/population), it is easier for large communities, such as Fairbanks, Palmer, and Wasilla, to qualify because of their comparatively large population bases. The final selection procedure, based on per capita values, does not contain this bias.[13] Because the profiles for these communities were already written, they have been included in this document, for a total of 136 communities. All selected communities, along with a description of which selection criteria they met, are listed in Table 2.3.

[13] This "bias" in favor of large communities may not be a bias at all when specifically measuring engagement. It would depend on the specific fishery. However, the consensus on the meaning and measure of engagement was reached after this project was essentially completed.

Table 2.3 Communites and Selection Criteria

Table 2.3 Communities and selection criteria.

COMMUNITY	INDICATOR 1 Landings Delivered (Yes/No)	INDICATOR 2 Processors (#)	INDICATOR 3 Vessels Delivering Landings (#)	INDICATOR 4 Vessels Home-ported (Per Capita)	INDICATOR 5 Vessel Owners Residing in Community (Per Capita)	INDICATOR 6 Crew Licenses (Per Capita)	INDICATOR 7 State-issued Gear Operator Permits (Per Capita)	INDICATOR 8 State-issued Gear Operator Permits Fished (Per Capita)	INDICATOR 9 State-issued Setnet Permits (Per Capita)	INDICATOR 10 Federally Issued Vessel Permits (Per Capita)	INDICATOR 11 Aggregate Indicators	SELECTION CRITERIA MET (#)
Threshold for Selection	*Yes*	*>0*	*>0*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*> mean (.50)*	
ADAK	yes	2	71	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03	3
AKHIOK	no	0	0	0.03	0.00	0.15	0.15	0.10	0.08	0.00	0.50	3
AKIACHAK	no	0	0	0.04	0.04	0.17	0.16	0.13	0.11	0.00	0.65	3
AKUTAN	yes	1	112	0.01	0.01	0.03	0.01	0.01	0.00	0.00	0.07	3
ALEKNAGIK	no	0	0	0.52	0.14	0.22	0.24	0.16	0.04	0.00	1.31	5
ALITAK BAY	yes	1	132									3
ANCHOR POINT +	no	0	0	0.03	0.06	0.07	0.09	0.05	0.01	0.01	0.31	0
ANCHORAGE	yes	7	46	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.02	3
ANGOON	no	0	0	0.14	0.13	0.04	0.19	0.08	0.00	0.00	0.58	2
ATKA	yes	1	10	0.08	0.07	0.21	0.18	0.11	0.00	0.00	0.64	6
AUKE BAY *												
BETHEL	yes	6	259	0.01	0.01	0.04	0.05	0.03	0.02	0.00	0.15	3
CHEFORNAK	no	0	0	0.07	0.08	0.05	0.15	0.06	0.00	0.00	0.41	1
CHIGNIK (BAY)	yes	2	136	1.08	0.44	0.47	0.53	0.28	0.00	0.03	2.82	9
CHIGNIK LAGOON	no	0	0	0.41	0.45	0.51	0.74	0.37	0.00	0.01	2.49	6
CHIGNIK LAKE	no	0	0	0.03	0.07	0.26	0.07	0.06	0.00	0.00	0.49	1
CHUGIAK **												
CLAM GULCH	no	0	0	0.14	0.18	0.20	0.29	0.17	0.12	0.02	1.13	5
CLARKS POINT	yes	1	87	0.57	0.16	0.40	0.44	0.29	0.07	0.00	1.93	9
CORDOVA	yes	8	711	0.27	0.22	0.17	0.28	0.19	0.01	0.01	1.14	9
CRAIG	yes	4	42	0.16	0.17	0.11	0.31	0.15	0.00	0.02	0.92	8
DILLINGHAM	yes	2	441	0.17	0.11	0.20	0.19	0.12	0.04	0.00	0.82	7
DOUGLAS *												
EAGLE RIVER **												
EDNA BAY	no	0	0	0.24	0.27	0.16	0.41	0.16	0.00	0.04	1.29	6
EEK	no	0	0	0.10	0.11	0.18	0.19	0.15	0.13	0.00	0.86	4
EGEGIK	yes	2	613	1.14	0.33	0.41	0.66	0.38	0.10	0.02	3.03	9
EKUK	yes	1	122	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.00	3
EKWOK	no	0	0	0.12	0.15	0.10	0.05	0.02	0.00	0.00	0.44	1
ELFIN COVE	yes	2	8	1.47	1.69	0.56	1.59	0.94	0.00	0.13	6.38	9
ELIM	no	0	0	0.03	0.05	0.09	0.16	0.08	0.05	0.00	0.46	1
EMMONAK	yes	1	1	0.04	0.03	0.17	0.15	0.11	0.11	0.00	0.61	6
EXCURSION INLET	yes	1	224	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.30	4
FAIRBANKS +	no	0	0	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0
FALSE PASS	no	0	0	0.27	0.25	0.20	0.45	0.33	0.03	0.05	1.58	6
FRITZ CREEK +	no	0	0	0.00	0.01	0.01	0.02	0.01	0.00	0.00	0.05	0
GALENA	yes	1	1	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.06	3
GIRDWOOD **												
GOODNEWS BAY	no	0	0	0.17	0.13	0.16	0.23	0.14	0.11	0.00	0.95	4
GUSTAVUS	yes	2	19	0.11	0.12	0.04	0.16	0.06	0.00	0.01	0.49	4
HAINES	yes	5	169	0.05	0.07	0.09	0.14	0.08	0.00	0.01	0.44	3
HALIBUT COVE	no	0	0	0.66	0.29	0.03	0.31	0.20	0.00	0.03	1.51	5
HOBART BAY	no	0	0	0.33	0.00	0.33	0.00	0.00	0.00	0.00	0.67	3
HOMER	yes	7	173	0.17	0.16	0.19	0.30	0.18	0.01	0.04	1.05	9
HOONAH	yes	1	357	0.15	0.14	0.14	0.27	0.13	0.00	0.01	0.84	6
HOOPER BAY +	no	0	0	0.03	0.03	0.08	0.06	0.03	0.00	0.00	0.23	0
HYDABURG	no	0	0	0.09	0.11	0.11	0.19	0.08	0.00	0.01	0.60	2
IGIUGIG	no	0	0	0.66	0.25	0.15	0.11	0.06	0.00	0.00	1.23	4
ILIAMNA	no	0	0	0.58	0.45	0.44	0.18	0.17	0.08	0.00	1.89	6
IVANOF BAY	no	0	0	0.14	0.18	0.41	0.00	0.00	0.00	0.00	0.73	3
JUNEAU	yes	13	393	0.05	0.02	0.02	0.04	0.02	0.00	0.00	0.15	3
KAKE	yes	1	30	0.07	0.08	0.10	0.19	0.06	0.00	0.00	0.51	5
KARLUK	no	0	0	0.07	0.07	0.22	0.00	0.00	0.00	0.00	0.37	1
KASILOF	yes	3	48	0.28	0.29	0.30	0.46	0.30	0.15	0.04	1.83	10
KENAI	yes	9	651	0.05	0.03	0.04	0.05	0.03	0.01	0.00	0.22	3
KETCHIKAN	yes	11	858	0.07	0.07	0.06	0.12	0.05	0.00	0.00	0.38	3
KING COVE	yes	2	720	0.14	0.14	0.25	0.18	0.13	0.02	0.03	0.88	6

Table 2.3 Communites and Selection Criteria

COMMUNITY	INDICATOR 1 Landings Delivered (Yes/No)	INDICATOR 2 Processors (#)	INDICATOR 3 Vessels Delivering Landings (#)	INDICATOR 4 Vessels Home-ported (Per Capita)	INDICATOR 5 Vessel Owners Residing in Community (Per Capita)	INDICATOR 6 Crew Licenses (Per Capita)	INDICATOR 7 State-issued Gear Operator Permits (Per Capita)	INDICATOR 8 State-issued Gear Operator Permits Fished (Per Capita)	INDICATOR 9 State-issued Setnet Permits (Per Capita)	INDICATOR 10 Federally Issued Vessel Permits (Per Capita)	INDICATOR 11 Aggregate Indicators	SELECTION CRITERIA MET (#)
Threshold for Selection	*Yes*	*>0*	*>0*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*> mean (.50)*	
KING SALMON	yes	2	12	0.26	0.38	0.16	0.15	0.11	0.05	0.00	1.11	8
KIPNUK	no	0	0	0.13	0.14	0.13	0.20	0.13	0.01	0.00	0.74	2
KLAWOCK	yes	1	2	0.06	0.05	0.03	0.09	0.03	0.00	0.00	0.27	3
KODIAK	yes	12	720	0.13	0.12	0.20	0.25	0.15	0.01	0.03	0.88	7
KOKHANOK	no	0	0	0.02	0.02	0.18	0.05	0.04	0.02	0.00	0.33	1
KOLIGANEK	no	0	0	0.07	0.07	0.21	0.13	0.07	0.02	0.00	0.56	2
KONGIGANAK +	no	0	0	0.05	0.07	0.11	0.10	0.06	0.03	0.00	0.42	0
KOTLIK	no	0	0	0.06	0.06	0.16	0.16	0.12	0.11	0.00	0.66	3
KWIGILLINGOK	no	0	0	0.07	0.09	0.08	0.16	0.06	0.01	0.00	0.48	1
LARSEN BAY	no	0	0	0.33	0.23	0.25	0.19	0.13	0.08	0.01	1.23	5
LEVELOCK	no	0	0	0.06	0.07	0.17	0.11	0.09	0.02	0.00	0.52	2
MANOKOTAK	no	0	0	0.08	0.15	0.24	0.41	0.19	0.10	0.00	1.17	5
MARSHALL	no	0	0	0.03	0.03	0.17	0.12	0.10	0.11	0.00	0.57	2
MEKORYUK	no	0	0	0.21	0.22	0.24	0.54	0.40	0.00	0.00	1.61	6
METLAKATLA	yes	1	39	0.04	0.05	0.07	0.09	0.03	0.00	0.00	0.28	3
MEYERS CHUCK	no	0	0	0.48	0.29	0.24	1.33	0.71	0.00	0.05	3.10	6
NAKNEK	yes	9	946	0.48	0.10	0.24	0.24	0.18	0.10	0.00	1.35	8
NAPAKIAK	no	0	0	0.06	0.06	0.13	0.14	0.09	0.08	0.00	0.57	1
NELSON LAGOON	no	0	0	0.55	0.35	0.28	0.36	0.31	0.19	0.00	2.05	7
NEW STUYAHOK	no	0	0	0.02	0.07	0.20	0.13	0.08	0.02	0.00	0.52	2
NEWHALEN +	no	0	0	0.03	0.03	0.13	0.06	0.05	0.01	0.00	0.31	0
NEWTOK +	no	0	0	0.07	0.09	0.09	0.13	0.06	0.00	0.00	0.44	0
NIGHTMUTE	no	0	0	0.13	0.15	0.11	0.23	0.15	0.00	0.00	0.77	4
NIKISKI +	no	0	0	0.00	0.01	0.02	0.02	0.01	0.01	0.00	0.07	0
NIKOLAEVSK +	no	0	0	0.00	0.04	0.13	0.13	0.08	0.00	0.03	0.41	0
NINILCHIK	yes	1	83	0.13	0.10	0.08	0.11	0.07	0.02	0.01	0.51	4
NOME	yes	2	17	0.01	0.01	0.01	0.03	0.01	0.00	0.00	0.05	3
OLD HARBOR	no	0	0	0.19	0.19	0.27	0.29	0.15	0.02	0.01	1.11	6
OUZINKIE	no	0	0	0.12	0.13	0.16	0.23	0.12	0.01	0.03	0.80	3
PALMER +	no	0	0	0.01	0.02	0.02	0.03	0.02	0.01	0.00	0.10	0
PEDRO BAY	no	0	0	0.22	0.18	0.10	0.06	0.04	0.04	0.00	0.64	3
PELICAN	yes	1	125	0.35	0.37	0.15	0.59	0.33	0.01	0.06	1.85	9
PERRYVILLE	no	0	0	0.09	0.16	0.27	0.20	0.13	0.00	0.00	0.85	4
PETERSBURG	yes	9	602	0.18	0.19	0.16	0.40	0.26	0.00	0.02	1.22	9
PILOT POINT	no	0	0	0.09	0.10	0.33	0.20	0.11	0.06	0.00	0.89	3
PILOT STATION	no	0	0	0.03	0.04	0.13	0.11	0.10	0.10	0.00	0.51	1
PLATINUM	no	0	0	0.24	0.29	0.17	0.37	0.15	0.10	0.00	1.32	6
POINT BAKER	no	0	0	0.80	1.11	0.51	1.80	0.97	0.00	0.03	5.23	6
PORT ALEXANDER	no	0	0	0.57	0.46	0.33	0.91	0.54	0.00	0.11	2.93	6
PORT ALSWORTH	no	0	0	0.33	0.24	0.02	0.04	0.02	0.00	0.00	0.64	3
PORT GRAHAM +	no	0	0	0.04	0.06	0.07	0.10	0.02	0.00	0.01	0.30	0
PORT HEIDEN	no	0	0	0.16	0.18	0.18	0.24	0.13	0.02	0.00	0.91	5
PORT LIONS	no	0	0	0.15	0.14	0.16	0.18	0.10	0.01	0.01	0.74	4
PORT MOLLER	yes	1	215									3
PORT PROTECTION	no	0	0	0.22	0.02	0.00	0.03	0.02	0.00	0.00	0.29	1
PORTAGE CREEK	no	0	0	0.28	0.06	0.08	0.08	0.03	0.00	0.00	0.53	2
PRUDHOE BAY	no	0	0	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.20	1
QUINHAGAK	no	0	0	0.15	0.10	0.10	0.25	0.17	0.12	0.00	0.89	4
SAINT GEORGE +	no	0	0	0.08	0.08	0.02	0.09	0.06	0.00	0.00	0.33	0
SAINT MARYS	no	0	0	0.06	0.05	0.19	0.13	0.11	0.12	0.00	0.65	2
SAINT PAUL	yes	3	49	0.05	0.06	0.12	0.08	0.05	0.00	0.01	0.38	3
SAND POINT	yes	1	161	0.24	0.26	0.24	0.33	0.21	0.05	0.05	1.37	9
SCAMMON BAY +	no	0	0	0.07	0.07	0.05	0.13	0.08	0.06	0.00	0.47	0
SELDOVIA	yes	2	3	0.17	0.17	0.16	0.36	0.21	0.07	0.04	1.18	9
SEWARD	yes	5	407	0.07	0.05	0.07	0.06	0.03	0.00	0.01	0.29	3
SHAKTOOLIK	no	0	0	0.13	0.10	0.17	0.16	0.11	0.07	0.00	0.73	3

Table 2.3 Communites and Selection Criteria

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Threshold for Selection	*Yes*	*>0*	*>0*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*>.15*	*> mean (.50)*	
SITKA	yes	8	857	0.08	0.09	0.07	0.17	0.10	0.00	0.02	0.54	5
SKWENTNA	no	0	0	0.42	0.26	0.00	0.00	0.00	0.00	0.00	0.68	3
SOLDOTNA	yes	1	2	0.08	0.12	0.07	0.06	0.04	0.01	0.00	0.39	3
SOUTH NAKNEK	yes	2	509	0.35	0.13	0.28	0.37	0.31	0.23	0.00	1.68	9
STERLING +	no	0	0	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.06	0
TENAKEE SPRINGS	no	0	0	0.15	0.17	0.16	0.37	0.15	0.00	0.02	1.03	6
THORNE BAY +	no	0	0	0.06	0.07	0.02	0.11	0.04	0.00	0.00	0.30	0
TOGIAK	yes	1	38	0.27	0.28	0.17	0.49	0.18	0.07	0.00	1.46	9
TOKSOOK BAY	no	0	0	0.15	0.17	0.15	0.29	0.19	0.00	0.00	0.95	6
TUNTUTULIAK	no	0	0	0.09	0.10	0.13	0.21	0.14	0.11	0.00	0.79	2
TUNUNAK	no	0	0	0.16	0.17	0.07	0.26	0.15	0.00	0.00	0.81	5
TWIN HILLS	no	0	0	0.14	0.09	0.19	0.17	0.09	0.04	0.00	0.72	3
UGASHIK	no	0	0	0.91	0.55	0.27	1.00	0.45	0.18	0.00	3.36	7
UNALAKLEET	yes	1	67	0.14	0.12	0.09	0.21	0.09	0.05	0.00	0.70	5
UNALASKA/DUTCH HARBOR	yes	11	324	0.01	0.01	0.05	0.03	0.02	0.00	0.00	0.12	3
VALDEZ	yes	3	533	0.03	0.02	0.02	0.02	0.01	0.00	0.00	0.10	3
WARD COVE ***												
WASILLA +	no	0	0	0.01	0.03	0.04	0.04	0.02	0.01	0.00	0.15	0
WHALE PASS	no	0	0	0.28	0.00	0.02	0.00	0.00	0.00	0.00	0.29	1
WHITTIER	yes	1	335	0.25	0.07	0.09	0.10	0.01	0.00	0.00	0.52	5
WILLOW	no	0	0	0.06	0.16	0.08	0.22	0.16	0.05	0.04	0.79	4
WRANGELL	yes	4	293	0.11	0.11	0.10	0.25	0.14	0.00	0.01	0.72	5
YAKUTAT	yes	2	144	0.19	0.21	0.08	0.41	0.25	0.13	0.01	1.29	8
AVERAGE (MEAN) of Above (selected) Communities		1.39	99.36	0.19	0.15	0.15	0.23	0.13	0.03	0.01	0.96	3.89
STANDARD DEVIATION		2.76	209.46	0.24	0.20	0.12	0.28	0.16	0.05	0.02	1.28	2.71
MINIMUM		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
MAXIMUM		13	946	1.47	1.69	0.56	1.80	0.97	0.23	0.13	11.00	10.00
AVERAGE (MEAN) of All 396 Communities in Database		0.46	33.00	0.10	0.08	0.00	0.13	0.07	0.02	0.00	0.50	
STANDARD DEVIATION		1.71	128	0.19	0.16	0.11	0.22	0.13	0.04	0.01	0.76	
MINIMUM		0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MAXIMUM		13	946	1.47	1.69	0.56	1.80	0.97	0.23	0.13	6.38	

* Information about these communities is included in the profile for the City and Borough of Juneau. No separate selection criteria are available for these communities, but our team selected them because U.S. Census and CFEC data for Juneau included them.
** Information about these communities is included in the profile for the Anchorage Municipality. No separate selection criteria are available for these communities, but our team selected them because U.S. Census and CFEC data for Anchorage included them.
*** Information about this community is included in the profile for Ketchikan. No separate selection criteria is available for this community, but our team selected it because U.S. Census and fish ticket data for Ketchikan included it.
+ These 16 communities were selected using an earlier selection method, and profiles were completed before the final selection criteria were established.

2.4 Profile Structure and Sources

Each community profile contains three sections: *People and Place*, *Infrastructure*, and *Involvement in North Pacific Fisheries*. *People and Place* describes the location, history, and basic demographic structure of the community. *Infrastructure* offers a picture of the current economic situation, the structure of governance, and the facilities of the community. Finally, *Involvement in North Pacific Fisheries* details the nature and level of community involvement in commercial, sport, and subsistence fishing. Below, we outline how we compiled and used the data for each of these sections. We also discuss some of the methodological challenges we encountered along the way, and how we sought to resolve them.

People and Place. It was our intention to situate each community in time and space by providing information not only on the current condition of the community but also on its historical development. Each community is first described in terms of geographic location and demographics, followed by a brief account of local history. We used data from the U.S. Bureau of the Census[14] and the Alaska Department of Community and Economic Development (DCED),[15] as well as scholarly and popular works, to provide a rounded picture of each community.

The depth of information available at the community level was highly variable from place to place. A wealth of information is available, for example, about urban centers such as Anchorage and Juneau, while information about smaller and more remote communities is less readily available. This is reflected in the level of detail with which we were able to portray the history and development of each community.

Infrastructure. The infrastructure section is an overview of the economic, governmental, and physical infrastructures that support the community. The description of the current economy is useful for understanding where fishing stands in relation to other economic opportunities in a community, and predicting how a community might be affected when faced with a change in fishing patterns. Physical infrastructure -- as the foundation of a logistical basis for supporting both economic and social activities -- is also indicative of how a community may respond to change. Governance structures can vary tremendously within Alaska, with city, borough, Native village, and state interests each represented by separate entities.

For data on the current economic conditions in each community we consulted the U.S. Bureau of the Census, as well as the Alaska Department of Community and

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[14] We used Census data for the year 2000. The data specific to Alaska has been organized geographically by the Alaska Department of Labor and Workforce Development.
See: http://labor.state.ak.us/research/cgin/cenmaps/statemap.htm. The original Census data is available at the US Census Bureau's American FactFinder site, http://factfinder.census.gov/home/saff/main.html.

[15] The Alaska Department of Community and Economic Development provides perhaps the most comprehensive information about the social and economic characteristics of Alaskan communities, boroughs, and census areas. The DCED home page is located at: http://www.dced.state.ak.us/home.htm. The community database online can be found at:
http://www.dced.state.ak.us/cbd/commdb/CF_COMDB.htm#.

Economic Development. The DCED also provided detailed information on the physical facilities in each community, including marine, sea and land-based facilities. Facilities information includes data on basic support systems such as roads, airports, docks, water, and electricity, as well as institutions which support the community such as schools, clinics, and public safety offices. This information was supplemented by data from the Bering Sea Communities and Fisheries Organization,[16] a project conducted by the Tanadgusix Native Corporation, which often had information on non-profit organizations performing quasi-governmental tasks (social services, etc.). In addition, individual chambers of commerce, particularly for the larger communities, were consulted regarding local businesses and employment structures.

We faced several challenges during the process of combining data from these disparate sources. Information on unemployment from the DCED, for example, occasionally did not match the information reported by the U.S. Census. In these cases, we opted to use the U.S. Census information, since DCED reports were extrapolations of the original census data. We report both the percentage of unemployed workers and the percentage not in the labor force (not seeking work) in order to provide as complete a picture as possible of unemployment for each community.

Descriptions of physical and even social infrastructure may have a tendency to treat communities in isolation. However, the ways in which a community is connected to other places is a critical element of how it functions. Connectivity or isolation can affect language, culture, trade, tourism, health, opportunity, and quality of life – though it is not always possible to say in what manner, as individuals differ in what they consider desirable. Connectivity or isolation can also be difficult to measure, as actual travel is always more than a matter of mere distances. Cost, for example, may be more prohibitive of travel than distance. Weather patterns and landing/docking facilities may also affect connectivity/isolation. If a community's air strip is inaccessible due to visibility or storm conditions for days at a time, price and distance may have less effect on participation in out-of-town business than weather windows.

We provide estimates of distance between individual communities and Anchorage, the central economic hub in Alaska, with the assumption that access to urban power centers is an important part of participation in North Pacific Fisheries, and that Anchorage is the most consistent and influential locus (though not the only one) of fisheries governance. Juneau, the state capital, is also important in this respect, but is less of an economic center. Seattle is also very important, except that, from some Southeast locations, most air trips to Seattle probably go through Anchorage.

More important than distance, in many ways, is cost of travel. Travelocity[17] and Expedia,[18] on-line travel planning services, provided information on the cost of air travel between each community and Anchorage; costs were based on travel during September, 2003. For communities that were selected for profiling later in the process, travel costs

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[16] The Bering Sea Communities and Fisheries Organization promotes community development and provides resources and networking opportunities for Native communities throughout Alaska. Their home page is located at: http://www.beringsea.com.

[17] Travelocity's home page is located at: http://www.travelocity.com.

[18] Expedia's home page is located at: http://www.expedia.com.

were calculated based on travel during November and December, 2003. Although Anchorage is not the only place one might need to travel to participate in governance or other aspects of fisheries management, it is such a travel hub for the state that costs for continuing on to locations such as Seattle or Washington, DC may be assumed to be uniform.

In addition to distance and travel information to Anchorage, we provide the location of the nearest offices of three governmental organizations important to the fishing industry: NOAA Fisheries (National Marine Fisheries Service),[19] the Alaska Department of Fish and Game,[20] and the U.S. Bureau of Citizenship and Immigration Services,[21] formerly known as Immigration and Naturalization Services (INS). As the key bodies regulating fisheries, access to NOAA and ADF&G can help with the flow and clarification of information (from research reports to grounds closures), as well as influencing a community's enfranchisement in a regulatory system. In addition, the location of permanent or semi-permanent U.S. Bureau of Citizenship and Immigration Services can affect the labor practices of industry, particularly the seafood processing sector, through level and intensity of monitoring, and may also affect use of local services by undocumented residents.

Involvement in North Pacific Fisheries. In nearly every case, the section on involvement in North Pacific fisheries is the longest and most detailed for each community. It was our goal to provide the most comprehensive information possible on commercial, sport, and subsistence fishing practices for each community, based on available data. Characterization of fisheries is both in terms of the nature and degree of involvement. The commercial fishing section contains information on vessel owners, crew members, commercial licenses by species and gear type, as well as information on landings and processing activities. Much of this information was compiled from Alaska's Commercial Fisheries Entries Commission (CFEC) database.[22]

We also reported on two recent programs designed to provide assistance to distressed sectors of the fishing industry, as these were indicative to some extent of the relative importance of two major issues facing numerous Alaska communities: falling salmon prices and Steller sea lion protection measures. We disclosed amounts received

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[19] NOAA Fisheries' Alaska Regional Office (http://www.fakr.noaa.gov/default.htm), provides a list of all branch offices in Alaska.

[20] The Alaska Department of Fish and Game, http://www.adfg.state.ak.us/.

[21] The U.S. Bureau of Citizenship and Immigration Services, formerly Immigration and Naturalization Services, http://uscis.gov/graphics/aboutus/thisisimm/index.htm, although the website does not post a complete list of field offices. Our list of Alcan, Anchorage, Dutch Harbor, Eagle, Fairbanks, Haines, Ketchikan, Kodiak, Nome, and Skagway was obtained through a personal communication with the Dutch Harbor office, June 2003.

[22] The Commercial Fisheries Entry Commission is an agency responsible for promoting the sustained-yield management of Alaska's fishery resources by regulating entry into the fisheries. CFEC provides logs of all fishing permits issued by the State of Alaska. Such a permit is required to land fish at a shore-based processor, even if the fish were taken in a federally-regulated fishery. The CFEC Internet address is: http://www.cfec.state.ak.us/.

by communities through the salmon disaster/revitalization funds provided by the State of Alaska in July 2003,[23] and Stellar Sea Lion Mitigation Funds provided by the U.S. Congress through the Southwest Alaska Municipal Conference (SWAMC).[24] It should be noted, however, that each of these programs gave larger amounts of money to entities that were not communities, such as boroughs, or in the case of SWAMC, individuals and firms. These amounts are not reported.

The sport fishing section outlines the major sport species in each community, as well as sport license sales and charter and guiding services. The Alaska Department of Fish and Game (ADF&G) provided the data for this section.[25] We used guide business data from 2002, since 2000 data was not available and 2003 data was incomplete at the time of writing.

The subsistence fishing section, based on data from the Subsistence Division of ADF&G, [26] provides a breakdown of subsistence activities in each community, including per capita harvests, percentage of households using subsistence resources, and the composition of subsistence harvests. Data is also noted regarding community eligibility for the new halibut subsistence program administered by NOAA, [27] and the number of subsistence salmon permits issued by the state.[28]

Our team encountered various challenges while compiling data for the fisheries section. Many of the difficulties arose from the volume and complexity of CFEC data. Crew member counts for each community, for example, were reported differently by CFEC and ADF&G. This is because the CFEC matches individual crew license applications with permit holder data, and eliminates crew license holders who are also permit holders. In other words, the CFEC data attempts to eliminate double counting of permit-holding licensed crew members. We began working with the CFEC data for the year 2000, but it was removed from online access during the course of the project and CFEC was not able to provide us with the original data. We were able to obtain the original ADF&G crew license database for 2000, and began working with this data – replacing all earlier entries in order to achieve uniformity. Thus, in our community

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[23] Amounts are posted at http://www.intrafish.com/images/salmonrevit.jpg

[24] Information on the amounts disbursed to communities under the Stellar Sea Lion Mitigation Program was not posted on the web, but was provided by Southwest Alaska Municipal Conference in response to a request for the data.

[25] The ADF&G Division of Sport Fish Registered Sport Fishing Guide Business lists are posted at http://www.sf.adfg.state.ak.us/statewide/sfguides/html/index.cfm. Data on Sport Fish Licenses for 2000 was obtained on CD by request to ADF&G Division of Sport Fish, RTS.

[26] The ADF&G Division of Subsistence Community Profile Database is available for download at http://www.subsistence.adfg.state.ak.us/geninfo/publctns/cpdb.cfm.

[27] Federal Register Volume 68, No. 72, Tuesday, April 15, 2003, pp. 18157 - 18159

[28] ADF&G. 2001. Alaska Subsistence Fisheries 1999 Annual Report. Division of Subsistence, Alaska Department of Fish and Game, Juneau, Alaska. Available for download at http://www.subsistence.adfg.state.ak.us/geninfo/publctns/articles.cfm. Year 2000 report was not online at time of data collection, but is available now at same website.

profiles, an individual that held both a commercial gear operator (fishing) permit and a crew license was counted as both a permit holder and a licensed crew member.

In addition, the commercial fishing section of each profile contains an accounting of commercial gear operator permits in two different manners: those that are registered to community members (based on CFEC permit files) and those that were actually fished by community residents (based on fish ticket records). On occasion, the number of permits fished is greater than the number of permits issued. This is because "permit holders" are counted once by CFEC at the end of the season, while "permits fished" includes everyone who fished at any time during the course of the season. A higher number of fished permits than issued permits may be due to one of the following factors: 1) one or more permits were revoked during the course of the season, resulting in a lower count of permit holders at the season's end; or 2) one or more permits were used by multiple fishermen under a temporary permitting system or permit transfer system.

Another issue for the team was that certain types of fisheries-related data in Alaska are confidential under NOAA Administrative Order 216-100 and Alaska Statue 16.05.815. The agreement between NMFS and ADF&G regarding the release of data obtained from state fish tickets requires at least four individuals or firms for a given statistic in order for that statistic to be made public. Some of the communities profiled in this document therefore contain no data on fish landings. In such cases, the profile indicates that one or two or three processors are present but contains a statement such as, "In accordance with confidentiality regulations, data for fish landings in the community is unavailable."

The subsistence fishing section brought unique challenges of its own. First, a shifting policy environment due to conflict between the State and the Federal governments has made the accounting of subsistence practices difficult. Federal authority was extended over subsistence management on federal waters in Alaska in 1999 under Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA). An interagency Federal Subsistence Board is managing most federal subsistence fishing, except for subsistence halibut, which, as a marine species, is now regulated by NMFS in conjunction with the North Pacific Fishery Management Council. Thus, subsistence fishing in a given community may be taking place under any of three jurisdictions: the State of Alaska, the Federal Subsistence Board, and the National Marine Fisheries Service.

In addition, because separate management of subsistence on federal lands is relatively new, some of the programs and regulations are still being developed. For example, the NMFS registration for subsistence halibut permits was underway as this document was being composed, and so it would not have been accurate to report on the number of permits issued per community, as the number was changing on an almost daily basis. Also, several communities profiled in this document—including Adak and Ninilchik—are in the process of appealing federal decisions governing their access to subsistence resources.

Finally, we relied on the quantitative characterization of subsistence harvesting provided by the Alaska Department of Fish and Game's Division of Subsistence electronic Community Profile Database (CPDB). The CPDB provided adequate data for most of our selected communities; however, the data was collected during different years for different communities. Where more than one year of data was available for a

community, we used the year designated as most representative of the community's practices by ADF&G. In addition, ADF&G subsistence data is often lacking for a given community – and this is particularly true for the communities selected in Western Alaska, where subsistence uses are known to be high. In some cases, additional data on wild food harvests were found in Wolfe (1997).[29] Finally, it should be noted that the subsistence database contains harvest information for resources taken under a variety of regulations, including subsistence regulations, commercial fishery removals, and in some cases, recreational regulations (e.g., as per Fall et al. 2000). There is legitimate scholarly and policy debate over whether such harvests may all be considered subsistence. Although the CPDB uses the terminology of subsistence, it is probably more accurate to say that it reports on "home use" (J. Fall, ADF&G Division of Subsistence, personal communication 2003). In some, but not all, communities, home use and subsistence use are essentially the same.

Combined Communities

It is important to note that many communities in this document are extremely intertwined socially and economically with neighboring communities. It is also the case that community boundaries are defined and recognized differently by different agencies, and in different situations. We found that two of our most important data sources, the U.S. Census and the Alaska CFEC did not always correspond in their treatment of intertwined communities. Thus, for some communities, the CFEC listed separate fisheries information for two nearby places, while the US Census gives place-level information that treats the two as one. In addition, we also encountered communities which were named in non-CFEC fisheries data (e.g. fish tickets or vessel registrations), but for which no Census information was available. We dealt with these cross-agency community designation disparities and other data gaps, on a case-by-case basis. More detailed information on each case is available in Appendix B.

2.5 Figures and Graphs

In addition to the narrative community profiles, each community has an associated set of figures that are graphical displays of demographic data. There are five per community, each displaying data that is also included in the narrative section, and a sixth graph for communities with group housing. The five graphs in each community are for the following social indicators: employment structure, population structure, race, ethnicity, and group housing. All of the data for the graphs comes from the 2000 U.S. Census. A brief description of the types of information conveyed in each graph follows, along with a graph with the information for Alaska and for the United States. These may be referred to later in order to provide context for the graphs for each community.

[29] Available online at http://www.subsistence.adfg.state.ak.us/download/nutri97.pdf.

- Employment Structure - A pie chart displays information about employment, including percentages for employed, unemployed, armed services personnel, and persons not seeking employment.

Figure 2.5-1Employment Structure Alaska

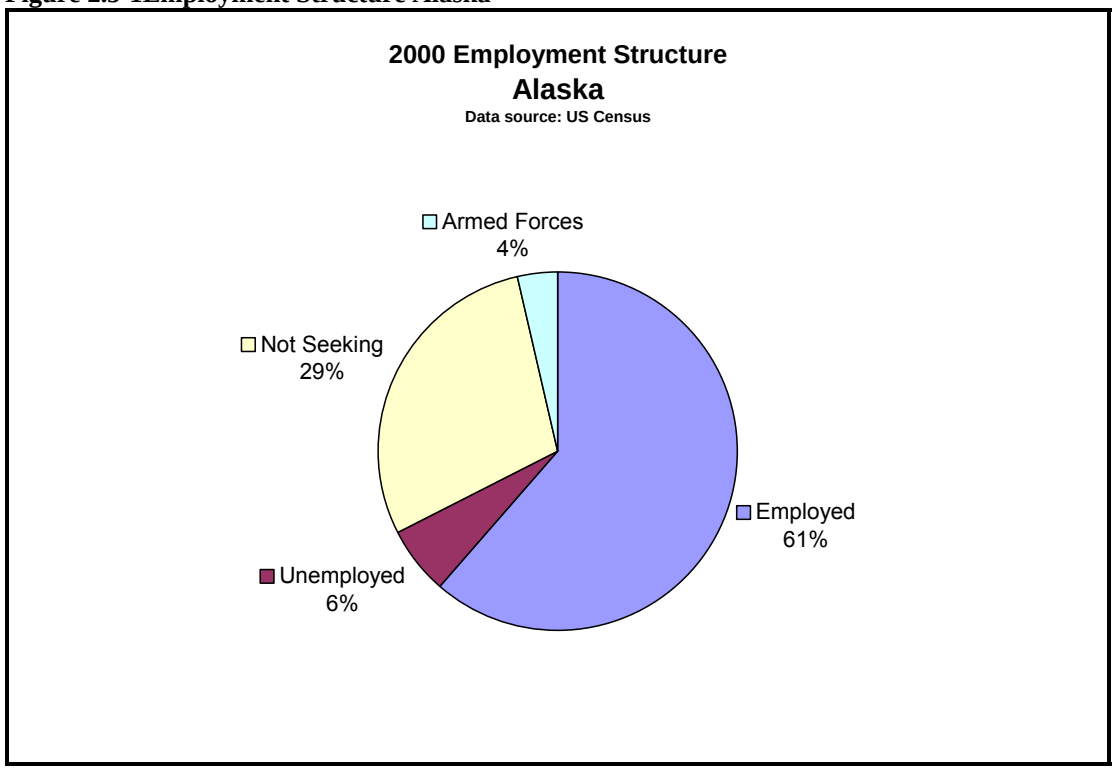
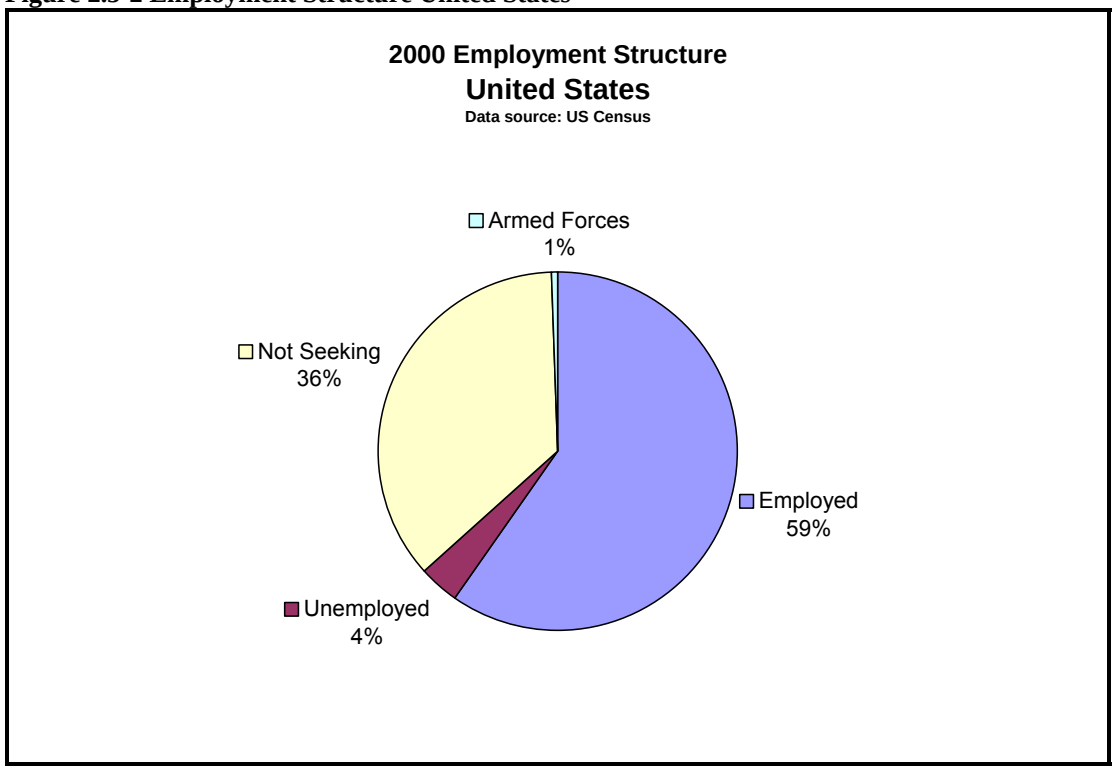
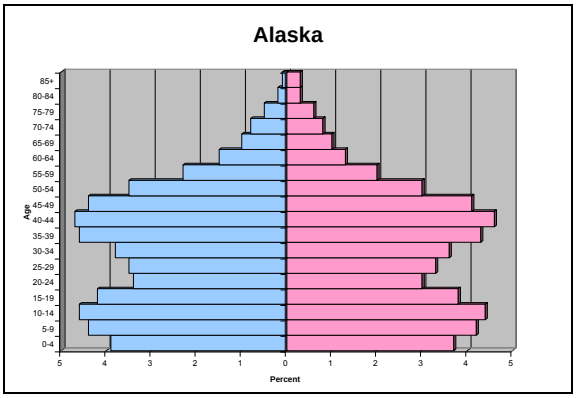


Figure 2.5-2 Employment Structure United States



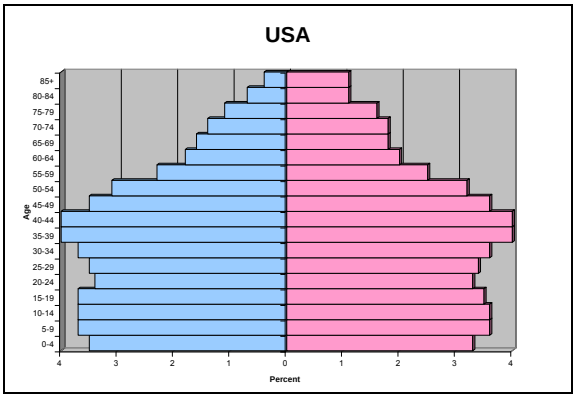
- Population Structure – a bi-directional bar chart indicating both age (in 10 year intervals) and gender (male = left bars, female = right bars) of the population, known as a "population pyramid." Many of the population pyramids in fishing communities show a distinct bulge of working-age males that is unusual when compared to more typical population pyramids. For comparison of general shapes, the population pyramids for the State of Alaska, the United States, and the World are reproduced below. World population is included because it best exemplifies the theoretical population structure against which other structures can be compared. The State and national structures are included because they provide relevant geographical units against which a particular community may be compared. Because many Alaska villages had very small populations, we used 10 year intervals, which create smoother diagrams. The diagrams below, created from very large populations, use 5 year intervals.

Figure 2.5-3 Population Structure Alaska



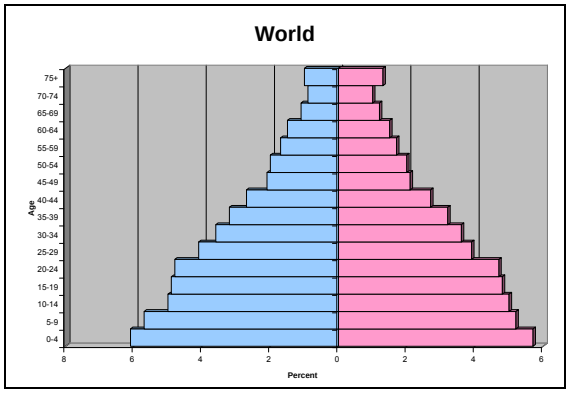
Data Source: Census 2000 as analyzed by the Social Science Analysis Network (SSDAN), CensusScope

Figure 2.5-4 Population Structure United States



Data Source: Census 2000 as analyzed by the Social Science Analysis Network (SSDAN), CensusScope

Figure 2.5-5 Population Structure World



Data Source: Oxford Concise Atlas of the World, 2001

- Race – taken from U.S. Census data, using their mandated minimum five categories: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. For space reasons in the graphs, we shorten three of the terms as follows: Native (for American Indian or Alaska Native), Black (for Black or African American), and Pacific Islander (for Hawaiian or Other Pacific Islander).

Figure 2.5-6 Racial Structure Alaska

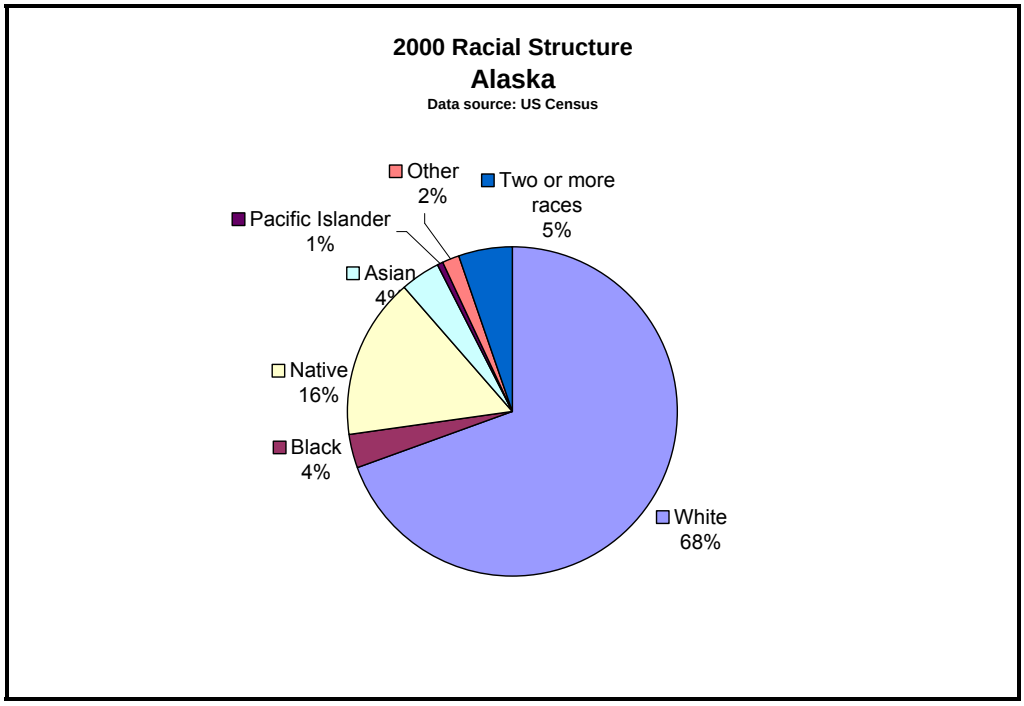
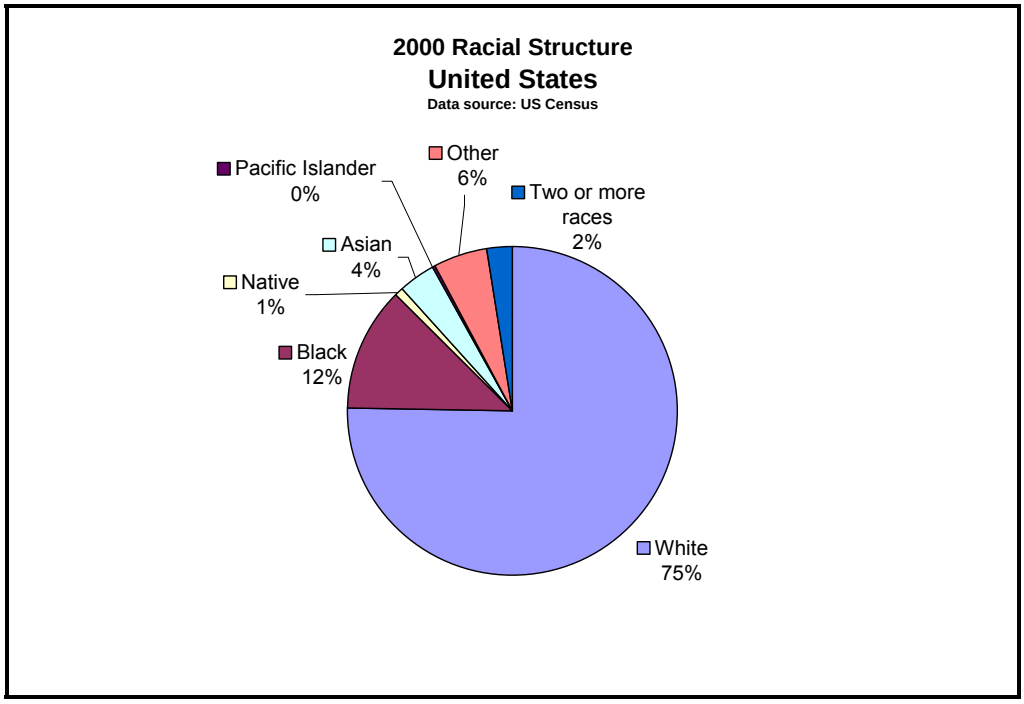


Figure 2.5-7 Racial Structure United States



- Ethnicity – the U.S. Census Bureau has designated Hispanic or Latino identity as an ethnic rather than a racial category. Federal agencies are required to comply with Census standards in reporting this information.[30] Thus, the two possible ethnicities, shortened for space reasons in the charts to Hispanic and non-Hispanic, are reported in a pie-chart format separate from Race. Hispanics and Latinos may be of any race.

Figure 2.5-8 Ethnic Structure Alaska

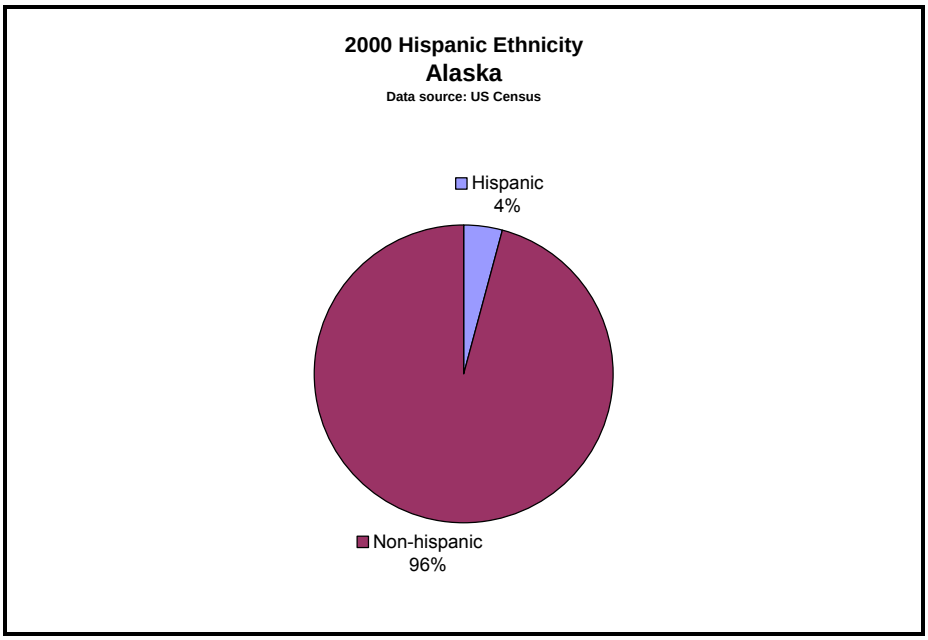
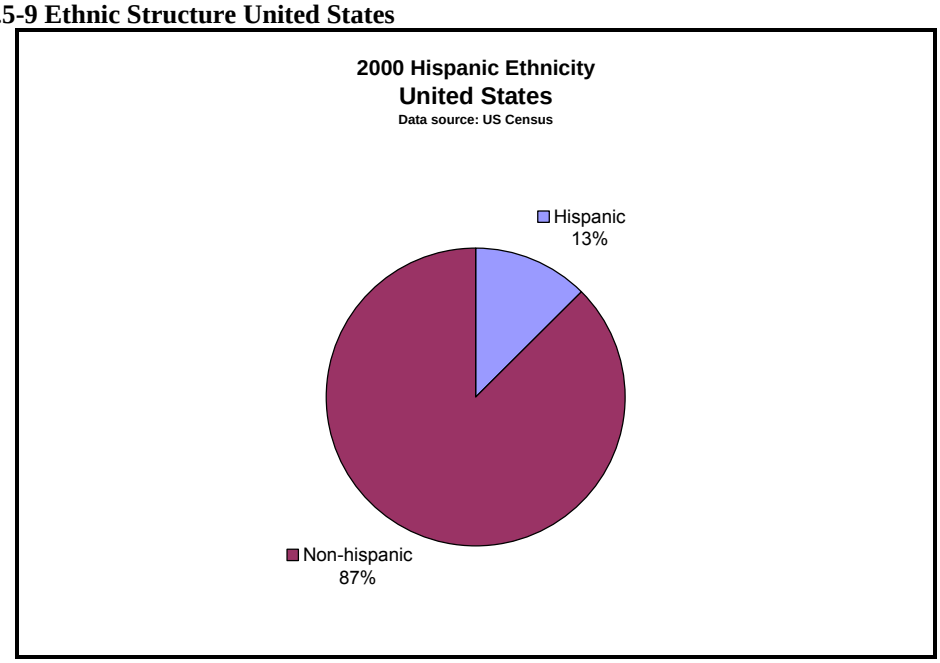


Figure 2.5-9 Ethnic Structure United States



[30] See http://www.census.gov/population/www/socdemo/race/racefactcb.html for an explanation of the categories and standards.

- Group Housing – information on group housing is only reported for communities where group housing exists. Any community without a group housing chart may be assumed to consist of 100% non-group housing. Group housing is reported in a multi-parameter bar chart (% group housing and % non-group housing) for both the 1990 and 2000 Census. Since the vast majority of group housing indicated in these graphs is corporate-sponsored housing for seafood industry workers, change between 1990 and 2000 may indicate changes in the seafood processing industry**.** In these charts, "non-group housing" includes single and multi-family households, military housing, and institutional (schools, hospitals) housing.

Figure 2.5-10 Percentage Living in Group Quarters Alaska

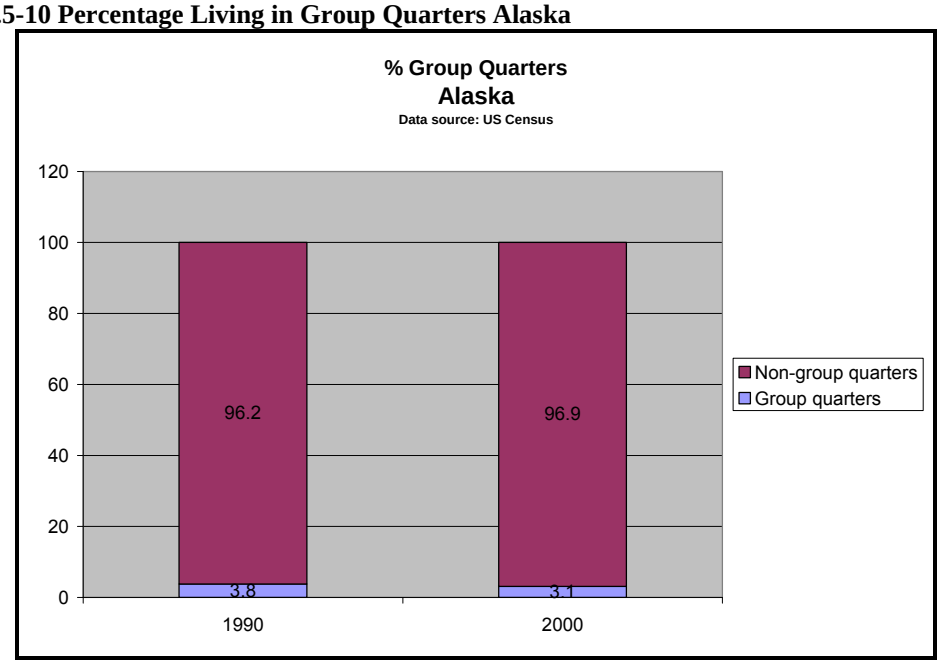
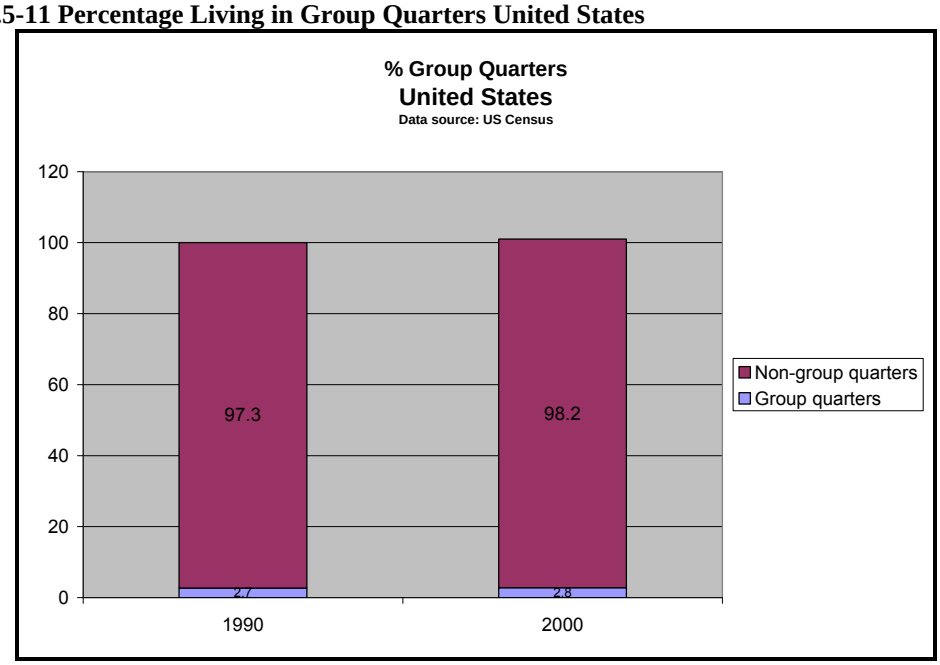


Figure 2.5-11 Percentage Living in Group Quarters United States



2.6 Community Comments

After drafting the Alaska community profiles, the profiling team made a substantial effort to solicit comments and suggestions for improvement to the draft from within NOAA and from representatives of the communities profiled. Initially, the draft introduction and methods section, along with a few example profiles, were circulated within NOAA for internal review. Comments were also sought from other social scientists. The introduction and methods section was then revised in response to these comments, and this second draft was mailed to a series of contacts within the communities profiled, along with the relevant community profile, asking for their comments, corrections, and other suggested changes.

The process of requesting comments from communities began with the formulation of a list of official contacts within the community, compiled from the State of Alaska Department of Community and Economic Development's Community Database Online, as well as from the Bering Sea Fishermen's Association Community Development Quota Website, and internet searches for additional information. We included governmental bodies, such as city governments and village councils, as well as quasi-governmental resource management bodies such as village Native corporations, regional Native corporations, and Community Development Quota (CDQ) groups. The goal was to involve a broad representation of any particular community, through official representative bodies, without creating an overwhelming task. The ability to locate contact information for the organizations was also a factor in compiling the list. Unfortunately, no contact information of any kind was located for 15 communities.[31] A total of 296 separate organizations were contacted by mail for the remaining 121 communities included in the profiling effort.

In only 29 of the 136 communities was it possible to contact all five types of organizations. About two-thirds (68.4%) of the communities were not part of CDQ groups, about one-third (33.1%) of the communities were part of neither a village Native corporation nor a regional Native corporation, 27.9% of the communities did not have a village council active in the community, and 19.1% did not have a city government of any kind operating in the community.

An initial letter was sent out to the list of community contacts to inform them of the project and to alert them that the profiles would soon be mailed to their community for comments. The letter requested that if the recipient was not the correct person to review the profiles, that the correct person and contact information be indicated to the profiling team. Many contact people requested, by telephone, mail, email or fax, that the profiles be sent to someone else in the community. In response, we updated the contact list as appropriate. The letter had the additional effect of alerting other people in the communities to the project and the request for comments, and many of these people requested information or copies of the profiles.

Some weeks following, the profiles were mailed to the revised list of community contacts. The profiles were sent with their corresponding graphs, along with the introduction and methods section, a pre-addressed and pre-stamped return envelope, and

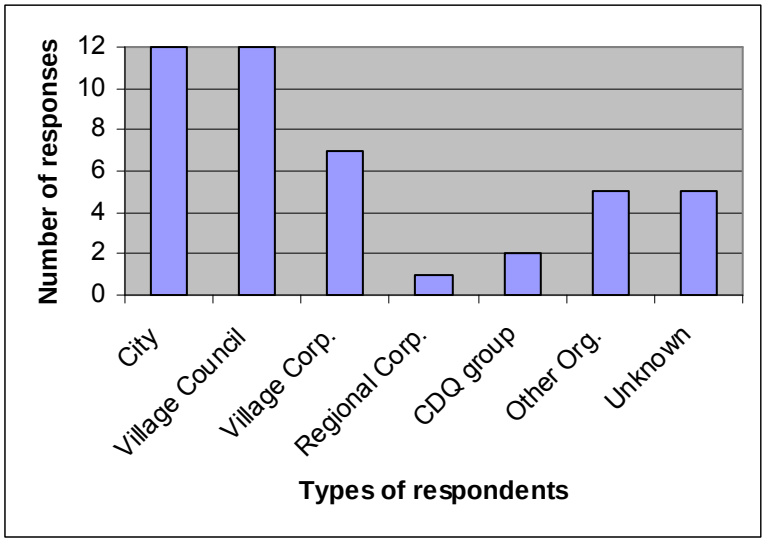
[31] Alitak Bay, Auke Bay (included in Juneau profile and mailed to Juneau contacts), Clam Gulch, Excursion Inlet, Fritz Creek, Girdwood (included in Anchorage profile and mailed to Anchorage contacts), Halibut Cove, Hobart Bay, Kasilof, Meyers Chuck, Nikolaevsk, Port Moller, Prudhoe Bay, Sterling, and Ward Cove (included in Ketchikan profile and mailed to Ketchikan contacts).

an accompanying cover letter. Comments received by February 2005 were incorporated into the document, at which time the final text was sent through the AFSC publications process.

Comments were received by mail, email, fax, and telephone from a total of 44 separate organizations representing 52 communities. Thus, of the 296 organizations from which we solicited comments, the response rate was 15%, and information was received about 43% of the 121 communities contacted.

Respondents included city governments, village councils, village corporations, two CDQ groups (one group commented on four communities and the other gave general comments) and one regional Native corporation (which commented on five communities), as well as an unsolicited regional non-profit Native organization and two other unsolicited regional non-profit organizations. As shown in Figure 1, the largest number of comments were received from city governments and from village councils; following were the village Native corporations, other organizations, CDQ groups, and the regional Native corporations. Some of the comments were returned to us without any form of identification and it is not known who responded. For the most part comments were only received from one organization in each community; however in some cases a few organizations in a community responded with comments (three communities had comments from two organizations and three communities had comments from three organizations).

Figure 2.6 Responses to Request for Review by Type of Respondent.*



Review of the profiles was apparently taken on by community members in a variety of different ways: at least one community presented the profile at their City

* In several organizations multiple members in the same organization submitted their comments, which we considered one response by that organization. Comments were also in some cases received for multiple communities from one organization (i.e. for CDQ groups and Regional Corporations with interests in many communities) which was considered one response as well for the purposes of representation in a graphical form.

Council Meeting and addressed the needed corrections at that time; others, it appears, passed the profile around to a few people within the organization or community in general; and some provided their city's visitor's guide as an information source. However the communities chose to deal with the process of providing of comments, they were immensely helpful.

Overall, the reaction to the profiles project was positive and those community members who responded appeared to be enthusiastic about the profiling effort and appreciative of the opportunity to give suggestions. The content of the comments ranged from indicating that there were no corrections to be made, to providing a complex description of how subsistence in the village is affected by regulations, and providing whole sections to add to the profile from an already existing source. Some comments included a detailed review of the profile text, indicating such things as incorrect names, whereas others included few or no suggestions, and still others did not pertain directly to the text.

For the majority of comments, the corrections suggested were to the data elements included in the facilities and governance sections, specifically correcting such things as village school information, the type of garbage collection/disposal, barge service, harbor information, lodging, the borough the community is included in, number of city council members or type of government, heating method, health care center, taxes, plumbing, transportation, and so on. These comments were particularly welcomed by the profiling team, since our limited resources sometimes prevented us from gathering information in this level of detail. Corrections were also included for such things as misspellings, the year a particular event occurred, general history, sport fishing information (such as species and lodges), businesses located in the community, processor information, and changes to commercial fishing permit information.

Disagreements with the Census data (demographics and employment) were expressed somewhat frequently, as were problems with the aggregation of fishing data for multiple communities as presented by the Commercial Fisheries Entry Commission (CFEC). In such cases, data from published sources were still relied upon, even if changes were suggested, in order to maintain the same standard for all profiles. These comments prompted us to check our sources, and numerical changes were made only if a recording error had been made; however in some cases the qualitative description was changed based on the comments received.

The comments provided were incorporated into the text using the editors' best judgment. Community members were considered experts on their own communities; however, in a few cases the suggested changes or additions could not be made for reasons of length or uniformity. For suggestions regarding facilities, governance, and history, community members' comments were in most cases directly incorporated. The types of comments that could not be incorporated tended to be general suggestions for the complete document which were not feasible given the scope, time frame, and resources of the project. A number of these general suggestions were constructive and will be noted for future profiling efforts.

3.0 OVERVIEW

Our goal in this project was to select communities for profiling from the whole of Alaskan communities. With the exception of three communities that had fish landings but no Census Place-level populations,[32] selected communities had to first have some fishery data associated with them in the Commercial Fisheries Entry Commission (CFEC) or ADF&G fish ticket database, and second be recognized as a "Place" by the Census in 2000. The 2000 Census reports a total of 349 "Places" in Alaska; these are cities, towns, and communities with populations. Of these, 248 had commercial fishery data associated with them.[33] This was the total pool of Alaskan communities involved in North Pacific commercial fisheries from which we selected communities for inclusion in the profile project. Applying the selection criteria described in the Methods section of this document, we selected 120 communities for profiling. In addition, we had already profiled 16 other communities as described in the Methods section, for a total of 136 community profiles. Of that 136, three were not recognized as Places by the Census. As a result, of the 349 Census-recognized Places in Alaska in 2000, 71% (248) were involved to some degree in commercial fishing, and just over half of these (133, or 38% of Census-recognized Places) were profiled in this document.

These numbers say several things about the nature of community involvement in commercial fishing in Alaska. First, the breadth of commercial fishery involvement is significant. More than two-thirds of communities in the state were involved in commercial fishing-related activities with some CFEC or ADF&G data associated with them. Second, it is striking that more than one-third of Alaskan communities were involved enough in fishing to meet the selection criteria for this project. This substantial degree of participation points toward the significance of fishery-related activity to the overall economy and social organization of Alaska.

This section of the profile document is meant to serve as an overview of the communities selected for this project. It provides aggregate information for these communities as well as a context in which to interpret this information.

3.1 People and Place

3.1.1. Location

Vast in scale and diverse in latitude and topography, Alaska exhibits tremendous variation in its climate, from maritime climatic zones in the Gulf of Alaska to arctic zones in the far north. All regions, however, are influenced to some extent by storms from the North Pacific Ocean as they move eastward from Asia. There is also a great deal of variability in Alaska's weather from one year to the next, primarily due to the shifting path of the jet stream.

Climate, topography and latitude all have an influence on the ecology of Alaska's different regions, and these ecological differences in turn determine the species composition of fish and patterns of human use. Alaska's ecology produces a variety of

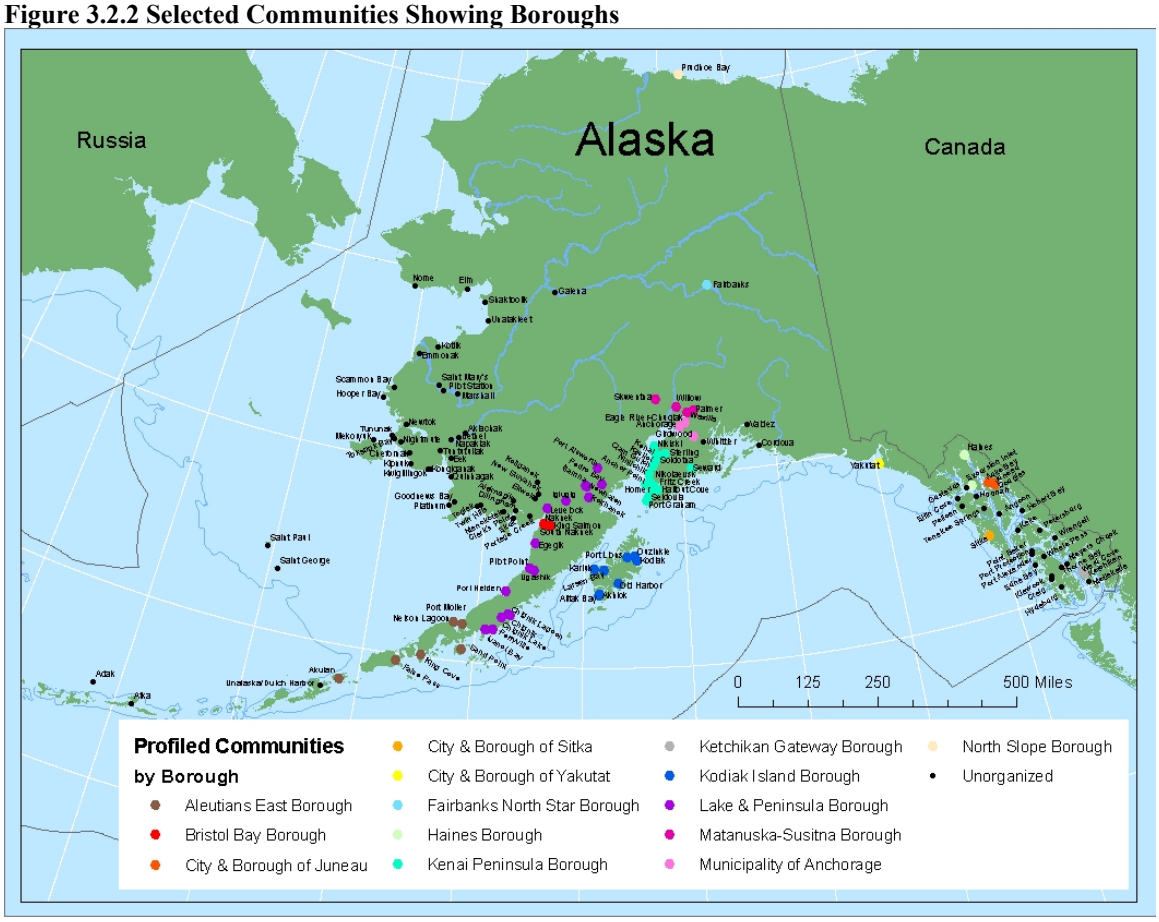
[32] Alitak Bay, Ekuk, and Port Moller.

[33] An additional 147 communities had some fishery data associated with them but were not recognized as "Places" by the Census in 2000. Three of these communities (Port Moller, Ekuk, and Alitak Bay) were selected for inclusion in the profiles project because they had recorded fish landings.

the standard composition includes all cities within counties, or in the case of the State of Louisiana, parishes; all communities thus have a resulting form of higher governance and the services which are provided normally by that county/parish level. County-level services include in many cases: court services, housing, emergency, solid waste, transportation and additional community services.

Of the Alaskan communities profiled in this document, only 46.3% of communities are part of an organized borough. When considering all communities in the state, the percentage is even less: only about 44.9% of communities reported on by the State of Alaska Department of Commerce Community and Economic Development were located within an organized borough.

Figure 3.2.2 Selected Communities Showing Boroughs



Map by Angie Grieg, Alaska Fisheries Science Center, NMFS

Although fewer than 50% of Alaskan communities are located within organized boroughs, boroughs play a vital part in the governance and support of communities that

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Gateway Borough, Kodiak Island Borough, Lake & Peninsula Borough, Matanuska-Susitna Borough, North Slope Borough, Northwest Arctic Borough, City and Borough of Sitka, and City and Borough of Yakutat.

are relatively isolated and have only a few dozen inhabitants. There are 145 city governments in Alaska[34] and 16 organized boroughs (Bockhorst 2001). A First Class City, or Home Rule City, must have at least 400 permanent residents. A city may incorporate as Second Class if it has 25 voters. In the rest of the United States, the difference between a 400-person and a 25-person (voter) community would hardly be recognized, since both communities would be considered quite small. But in Alaska, 400 residents is relatively substantial. Of the 349 Census communities (Places) in Alaska, 63% (221 communities) have fewer than 400 residents, with 6% (21 communities) having fewer than 25 residents (see Table 3.1.2-1). Other States – California is given below as a comparative example – have a very small percentage of their populations living in communities of less than 400.

Table 3.1.2-1 Census Places in Alaska and California by population size, and cumulative percent.

Population	Census Places in Alaska	Cumulative %	Census Places in California (for comparative purposes)	Cumulative %
≤25	21	6%	10	1%
25-400	200	63%	89	9%
400-12,000	125	99%	579	63%
12,000+	3	100%	403	100%

The 249 communities for which there is both a Census place-level population and a record of commercial fisheries data are distributed similarly to the Alaska Census places. Sixty percent (150 communities) have fewer than 400 residents with 4% (10 communities) having fewer than 25. Places with populations under 12,000 comprise 99% of the 249 Alaska communities involved in commercial fisheries. Of the 128 Census places profiled, 56.3% (72 communities) have fewer than 400 residents, and 5.5% (7 communities) have fewer than 25 residents. Places with populations under 12,000 comprise 96.9% of the 128 Census places profiled in this document.

One of the most important stories that emerges from these community profiles is how quickly many Alaskan communities have experienced demographic change. Population numbers in certain communities have swelled in recent years, a trend that is in large measure driven by fishery-related activities. Unalaska, for example, transformed itself from a community of less than 200 in 1970 into a booming small city of more than 4,000 residents in 2000. This dramatic transformation coincided with the Magnuson-Stevens Fisheries Management and Conservation Act's "Americanization" of the groundfish fleet in North Pacific waters and the subsequent growth of the fish processing industry, both onshore and at sea. Communities in Southeast Alaska underwent a similar transformation in response to the growth of the international market in salmon, which has been tempered in recent years by foreign competition. In general, communities that have experienced rapid population growth have also seen an influx of racial and ethnic

[34] Incorporated cities are automatically recognized by the Census as Places.

minorities—particularly Asians and Latinos—as the fishing industry has become a global enterprise that draws labor from around the world. By contrast, many Native communities that participate in commercial fishing have lived in situ for centuries and have maintained relatively stable populations since the beginning of the U.S. Census data. Some communities have experienced population decline in recent years as local economic conditions (especially those recently influenced by global trends) make getting by more difficult and opportunities elsewhere draw residents away.

When considering a snapshot of the nation's population as provided by the decennial U.S. Census, the population is segmented into racial categories (White, Black, Alaska Native or American Indian, Asian, Native Hawaiian or Other Pacific Islander, Some Other Race, and Two or More Races) as well as ethnic categories (Hispanic or Non-Hispanic). The profiles supply this snapshot for each selected Alaskan community, which is followed by a historical account of the community which helps explain and contextualize the contemporary composition of the specific communities' populations.

In 2000 about 75.1% of the United States was White, according to the U.S. Census. By comparison, about 69.3% of the population of Alaska was White. For the communities profiled in this document, the average percentage of White residents was approximately 39.2%, with a range from 0% to 100% (see Table 3.1.2-2). Approximately 38% of the profiled communities had a population that was more than 50% White in 2000. Many of the profiled communities with the highest percentages of White residents are located in Southeast Alaska or on the Kenai Peninsula, both areas which had a large boom of White settlers partly because of resource extraction—Southeast Alaska in the late 1800s and early 1900s, and the Kenai Peninsula in the 1950s. Today, both areas are also the densest sites of sport fishing in the state, providing sport lodges and a plethora of guiding services.

Table 3.1.2-2 Top Ten Profiled Communities by White Percentage of Population

Rank	Community	2000 Population	% White	Region
1	Ekuk	2	100	Western
2	Excursion Inlet	10	100	Southeast
3	Halibut Cove	35	97.1	Kenai
4	Whale Pass	58	96.6	Southeast
5	Edna Bay	49	95.9	Southeast
6	Elfin Cove	32	93.8	Southeast
7	Fritz Creek	1,603	93	Prince William Sound
8	Skwentna	111	92.8	Anchorage-Matsu
9	Sterling	4,705	92.7	Kenai
10	Clam Gulch	173	92.5	Kenai

Source: 2000 U.S. Census

The United States consisted of about 12.3% Black or African American residents in 2000. By comparison, Alaska's population was about 3.5% Black. On average, those communities selected for profiling were only about 0.4% Black, with a range from 0% to 11.2% (see Table 3.1.2-3). About 35.9% of the profiled communities included residents who identified themselves as Black. The largest communities in the state contain higher

percentages of Black or African American residents than other communities (Fairbanks 11.2%, Anchorage 5.8%, and Juneau 0.8%). The remaining communities with higher percentages of Black residents are located for the most part in on the Alaska Peninsula and Aleutian Islands.

Table 3.1.2-3 Top Ten Profiled Communities by Black Percentage of Population

Rank	Community	2000 Population	% Black	Region
1	Fairbanks	30,224	11.2	Interior
2	Anchorage	260,283	5.8	Anchorage-Matsu
3	Unalaska/Dutch Harbor	4,283	3.7	AK Pen/Aleutian Is.
4	Seward	2,830	2.4	Kenai
5	Akutan	713	2.1	AK Pen/Aleutian Is.
6	Napakiak	353	1.7	Western
7	King Cove	792	1.6	AK Pen/Aleutian Is.
8	South Naknek	137	1.5	AK Pen/Aleutian Is.
9	Sand Point	952	1.5	AK Pen/Aleutian Is.
10	Adak	316	1.3	AK Pen/Aleutian Is.

Source: 2000 U.S. Census

In 2000 the U.S. was about 0.9% Alaska Native or American Indian, whereas Alaska was about 15.6%. Of the profiled communities, the average composition was about 52.4% Alaska Native or American Indian only. The communities ranged from 0% Alaska Native or American Indian to 98.9%, with over half of the profiled communities having more than 50% Alaska Native or American Indian residents. When the percent reporting Alaska Native or American Indian identity in combination with one or more race is added, the number is even higher; about 57.8% of the profiled communities were comprised of more than 50% Native residents (see Table 3.1.2-4). The profiled communities with the highest percentages of Native residents are predominantly located in Western Alaska and have populations ranging from 107 to 644 persons. Western Alaska is home to a predominantly Native population, in part because the region has a less extensive history of European colonization and natural resource extraction compared to other areas of the state.

Table 3.1.2-4 Top Ten Profiled Communities by Native Percentage of Population

Rank	Community	2000 Population	% Native*	Region
1	Tuntutuliak	370	98.9	Western
2	Perryville	107	98.1	AK Pen/Aleutian Is.
3	Chefornak	394	98	Western
4	Kipnuk	644	98	Western
5	Kwigillingok	338	97.9	Western
6	Marshall	349	97.7	Western
7	Toksook Bay	532	97.6	Western

8	Pilot Station	550	97.6	Western
9	Scammon Bay	465	97.4	Western
10	Quinhagak	555	97.3	Western

*Percent reporting Alaska Native or American Indian alone or in combination with one or more race.
Source: State of Alaska, Department of Commerce, Department of Community and Economic Development

In 2000 about 3.6% of the population of the United States was Asian; in Alaska about 4% of the population was Asian. Of the profiled communities, Asians accounted for 2% of the population on average, with a range from 0% to 38.6% (see Table 3.1.2-5). The communities with the largest percentages of Asian residents are primarily major fishing ports with large fish processing plants. Fish processing remains an under-studied sector of Alaska's fisheries; however, according to anecdotal evidence, Asian migrant workers, particularly from the Philippines and other areas of Southeast and East Asia, make up a large portion of fish processing workers in many communities. Unalaska, for example, has a particularly high percentage of Filipino processing workers. About 46.7% of the profiled communities did not include any Asian residents.

Table 3.1.2-5 Top Ten Profiled Communities by Asian Percentage of Population

Rank	Community	2000 Population	% Asian	Region
1	Akutan	713	38.6	AK Pen/Aleutian Is.
2	Kodiak	6,334	31.7	Kodiak
3	Unalaska/Dutch Harbor	4,283	30.6	AK Pen/Aleutian Is.
4	King Cove	792	26.7	AK Pen/Aleutian Is.
5	Sand Point	952	23.3	AK Pen/Aleutian Is.
6	Cordova	2,454	10.1	Prince William
7	Adak	316	9.8	AK Pen/Aleutian Is.
8	Whittier	182	7.1	Prince William
9	Ketchikan	7,922	6.9	Southeast
10	Anchorage	260,283	5.5	Anchorage-Matsu

Source: 2000 U. S. Census

About 0.1% of the population of the United States in 2000 was comprised of Native Hawaiian or Other Pacific Islanders. By comparison, Native Hawaiians or Other Pacific Islanders made up about 0.5% Alaska's population. The average percentage of the profiled communities was 0.2%, with a range from 0% to 3.1% (see Table 3.1.2-6). Only about 27.3% of the profiled communities included any Native Hawaiians or Other Pacific Islanders. Many of the communities with the highest percentages of Native Hawaiian or Other Pacific Islanders are small communities where one person or one family can have a large impact on the percentages.

Table 3.1.2-6 Top Ten Profiled Communities by Native Hawaiian or Other Pacific Islander Percentage of Population

Rank	Community	2000 Population	% Native Hawaiian or Other Pacific Islander	Region
1	Elfin Cove	32	3.1	Southeast
2	Chignik Bay	79	2.5	AK Pen/Aleutian Is.
3	Adak	316	1.9	AK Pen/Aleutian Is.
4	Clark's Point	75	1.3	Western
5	Nikolaevsk	345	1.2	Kenai
6	Atka	92	1.1	AK Pen/Aleutian Is.
7	Tenakee Springs	104	1	Southeast
8	Kodiak	6,334	0.9	Kodiak
9	Anchorage	260,283	0.9	Anchorage-Matsu
10	Yakutat	680	0.9	Southeast

Source: 2000 U.S. Census

About 12.5% of the population of the United States was Hispanic in 2000; whereas Hispanics comprised only 4.1% of Alaska's population. On average, communities selected for profiling were only 1.8% Hispanic, with a range of 0% to 20.8% (see Table 3.1.2-7). Communities with the highest percentage of Hispanic residents tend to be heavily involved in fish processing, which provides job opportunities for seasonal workers. Many of these communities are located on the Alaska Peninsula and the Aleutian Islands.

Table 3.1.2-7 Top Ten Profiled Communities by Hispanic Percentage of Population

Rank	Community	2000 Population	% Hispanic	Region
1	Akutan	713	20.8	AK Pen/Aleutian Is.
2	Sand Point	952	13.6	AK Pen/Aleutian Is.
3	Unalaska/Dutch Harbor	4283	12.9	AK Pen/Aleutian Is.
4	Kodiak	6334	8.5	Kodiak
5	King Cove	792	7.4	AK Pen/Aleutian Is.
6	Egegik	116	6.9	AK Pen/Aleutian Is.
7	Whale Pass	58	6.9	Southeast
8	Fairbanks	30224	6.1	Interior
9	Anchorage	260,283	5.7	Anchorage-Matsu
10	Angoon	572	5.4	Southeast

Source: 2000 U.S. Census

The ratio of men to women in many Alaskan communities tells the peculiar story of labor mobility in industries such as fishing and oil extraction. Most of the communities

profiled in this document have more men than women, but this is particularly true of communities that rely heavily on fishing and fish processing. When compared both to the World (50.4% male) and the United States (49.1% male), which are approximately equally distributed, and even when compared to the disproportionately male State of Alaska (51.7% male), a majority of the communities profiled in this document are predominantly male. Over 70% of the profiled communities had male percentage greater than the state average of 51.7%, according to the 2000 U.S. Census. A considerable number of those communities which have the highest ratio of men to women are located in Southwest Alaska (in the Alaska Peninsula and Aleutian Islands), and in Southeast Alaska (see Table 3.1.2-8). Both of these areas are heavily involved in commercial fishing and fish processing, labor sectors that tend to be male-dominated.

Table 3.1.2-8 Top Ten Profiled Communities by Male Percentage of Population

Rank	Community	2000 Population	% Male	Region
1	Excursion Inlet	10	80	Southeast
2	Akutan	713	77	AK Pen/Aleutian Is.
3	Ivanof Bay	22	72.7	AK Pen/Aleutian Is.
4	Hobart Bay	3	66.7	Southeast
5	Unalaska/Dutch Harbor	4,283	66.1	AK Pen/Aleutian Is.
6	Adak	316	64.9	AK Pen/Aleutian Is.
7	Sand Point	952	62.3	AK Pen/Aleutian Is.
8	Skwentna	111	62.2	Anchorage-Matsu
9	Edna Bay	49	61.2	Southeast
10	Port Protection	63	60.3	Southeast

Source: 2000 U.S. Census

By contrast, large communities, communities with less transient employment opportunities, and some traditional Native communities, tend to be much more balanced in terms of gender composition. Anchorage (50.6% male), Ketchikan (50.4% male), and Juneau (50.4% male) are all relatively balanced in terms of gender composition and all have large populations by Alaska standards. These communities also have a wider variety of employment opportunities such as tourism, finance, real estate, communications, government, mining, timber, and oil and gas industries. These more metropolitan communities follow the relatively balanced gender pattern of other major metropolitan areas in the United States. Some remote and largely Native communities, such as Newhalen (50% male) and Hooper Bay (49.7% male), have very balanced gender structures as well, in part because of the somewhat more limited commercial fishing opportunities; neither community had a fish processing plant. Atka, Ekuk, and False Pass all have exactly balanced gender structures; each of these communities has a population under 100 and lack commercial crew or processing employment.

Some communities selected for profiling have more females than males, but this is considerably less common, with only 12.5% of the communities included in this document having more than 50% women (see Table 3.1.2-9)

Table 3.1.2-9 Top Ten Profiled Communities by Female Percentage of Population

Rank	Community	2000 population	% Female	Region
1	Igiugig	53	56.6	AK Pen/Aleutian Is.
2	Pilot Point	100	56	AK Pen/Aleutian Is.
3	Pedro Bay	50	56	AK Pen/Aleutian Is.
4	Twin Hills	69	55.1	Western
5	Ouzinkie	225	54.2	Kodiak
6	Port Alsworth	104	53.8	AK Pen/Aleutian Is.
7	Soldotna	3759	52.4	Kenai
8	Saint George	152	52	AK Pen/Aleutian Is.
9	Chignik Lake	145	51.7	AK Pen/Aleutian Is.
10	Scammon Bay	465	51.4	Western

The age structure in many of the communities in this document is also telling. The average age of communities selected for profiling is 32.7 years, significantly younger than the U.S. average of 35.3 years. Over 60% of the communities profiled in this document have a lower median age than the U.S. average (see Table 3.1.2-10). This is due in part to the physical demands of the work and the transient nature of employment in fishing and fish processing. It is also influenced by the relative absence of the elderly in the small coastal communities of Alaska, except in traditionally Native communities (see Table 3.1.2-11). This trend toward a young working-age population with few elderly residents holds true for the entire State of Alaska, which has a median age of 32.4 years, 2.9 years younger than that of the U.S. age median.

Table 3.1.2-10 Top Ten Profiled Communities by Lowest Age Median of Population

Rank	Community	2000 Population	Age Median	Region
1	Prudhoe Bay	5	11.5	Northern
2	Portage Creek	36	14	Western
3	Scammon Bay	465	18.3	Western
4	Hooper Bay	1014	18.4	Western
5	Kotlik	591	18.5	Western
6	Pilot Station	550	19.5	Western
7	Newhalen	160	20.5	AK Pen/Aleutian Is.
8	Kipnuk	644	20.6	Western
9	Newtok	321	20.7	Western
10	Chefornak	394	20.8	Western

Source: 2000 U.S. Census

Table 3.1.2-11 Top Ten Profiled Communities by Highest Age Median of Population

Rank	Community	2000 Population	Age Median	Region
1	Ekuk	2	75	Western
2	Excursion Inlet	10	60	Southeast
3	Ugashik	11	50.5	AK Pen/Aleutian Is.
4	Meyers Chuck	21	50.3	Southeast
5	Elfin Cove	32	47.5	Southeast
6	Halibut Cove	35	47.3	Kenai
7	Tenakee Springs	104	46.6	Southeast
8	Seldovia	286	45.3	Kenai
9	Skwentna	111	44.6	Anchorage-Matsu
10	Hobart Bay	3	44.5	Southeast

Source: 2000 U.S. Census

3.1.3 History

Although the precise date of initial occupation of Alaska's coastline is still somewhat in dispute, it is widely confirmed that people from northeast Asia came to Alaska during the peak of the last glacial period more than 10,000 years ago (Ames and Maschner 1999: 57). These early arrivals spread across the coastal (and later interior) lands of Alaska, and gave rise to quite different material cultures, languages, subsistence patterns and cultural identities. There are twenty Alaska Native languages from four distinct language families: Eskimo-Aleut, Tsimshian, Haida, and Athabascan-Eyak-Tlingit. Migration, descent, and cultural diffusion over the millennia help to explain the complex cultural mosaic that is Native Alaska.

The history of contact between Europeans and Alaska Natives is turbulent and ever-changing. The first European to enter Alaskan territory was Vitus Bering, who, sent by Peter the Great of Russia in 1728, sailed into the strait that now bears his name. By the mid-18th century, the intensive resource extraction that would characterize Alaska's colonial history had begun: Russian expeditions began harvesting North Pacific sea otters and fur seals in great quantities for the international market. This early contact for primarily economic purposes resulted in a long and significant cultural exchange; many coastal communities throughout Alaska have residents with Russian surnames and maintain a faith in the Russian Orthodox Church.

In 1867, the United States government purchased Alaska from Russia for $7.2 million. The deal, signed by Secretary of State William H. Seward, was widely referred to as "Seward's Folly," as most U.S. citizens could see no use or value in acquiring 586,000 square miles of northern land (Gislason no date). Throughout the mid- and late-19th century, gold was discovered in various locations, including near Sitka, Windham Bay, Gastineau, and, most famously, at the mouth of the Klondike River in 1897, beginning the great Klondike gold rush. Many North American towns and cities, including the metropolis of Seattle, owe their early population growth in part to the Alaskan gold rush, which brought supply-hungry miners, explorers and settlers to the area.

Military operations have long been an important part of Alaska's history. Early operations were in support of trading companies, targeting fractious Native groups, as with the shelling of Angoon in 1882. In 1942, during the height of World War II, the Japanese attacked Dutch Harbor where the U.S. had amassed a force 40,000, including civilian support personnel (Rourke 1997). The Japanese attacked and occupied the island of Attu, taking the Aleut residents back to Japan as prisoners (Mitchell 2000). The US responded by forcibly evacuating the entire Aleut population and holding them in internment camps in Southeast Alaska for the duration of the war (Kohlhoff 1995). The war also precipitated the Alaska-Canada highway, built through about 1500 miles of Canadian wilderness in just eight months as an overland supply route to the territory, and used today by thousands of adventurous tourists each summer. In the 1960's and 70's, the United States used the Aleutian Islands as a nuclear weapons testing ground, exploding three devices including the largest underground nuclear explosion ever conducted by the United States (Kohlhoff 2002). Although the end of the Cold War changed Alaska's immediate strategic position, it is still a critical part of U.S .presence in the Pacific. Most recently, Adak was selected as a key site for the new U.S. missile defense system.

Beginning in the early 1900s, and expanding in the 1950s, oil extraction has been a mainstay of the state economy. With the completion of the Trans-Alaska Pipeline from Prudhoe Bay to Valdez in 1977, Alaskan oil began flowing in high volumes to the U.S. and international markets. In 1980, the Alaska Legislature established the Alaska Dividend Fund to distribute Permanent Fund earnings from oil extraction on the North Slope to Alaska residents. For all its benefits, the oil industry in Alaska also brings significant risks and liabilities. In what has become one of the most widely publicized environmental disasters and clean-up efforts in history, the *Exxon Valdez* oil tanker ran aground on March 24, 1989, spilling 11 million gallons, and fouling shoreline from Prince William Sound to the Alaska Peninsula.

Marine species were among the earliest and most important of Alaska's commercial resources, especially marine mammals. The fur trade, based on sea otter and fur seals, drove the economics of the Russian colonial empire. Commercial whaling was an important factor in the late 19th century. Some marine mammal populations have recovered from over-exploitation, while other populations remain low or are declining, affecting subsistence users and commercial fisheries.

Commercial fisheries began in the mid 1800s with salted cod, and later canned salmon. Lucrative offshore fisheries were conducted by fishing fleets from Russia, Japan and Korea, until the 1976 Magnuson Fishery Conservation and Management Act claimed the area between 3 and 200 miles offshore as the exclusive economic zone of the United States (Rigby et al, 1995). Crab and other shellfish, herring, halibut, salmon and groundfish have all contributed to this important industry for the state, supporting a fishing economy that ranges from family fishing operations to multinational corporations, and transforming the social landscape by the immigration of workers from around the world.

Alaska's economic, social and cultural milieu continues to evolve. Major industries including oil, military, and commercial fishing remain tremendously important to the state's continued growth. At the same time, new sectors such as tourism have begun to contribute noticeably to Alaska's economy. Cruise ships, recreational fishing

excursions, cultural tourism and eco-tourism are on the rise as people from around the world discover Alaska's unique character.

3.2 Infrastructure

3.2.1 Current Economy

Important Economic Sectors

One way of analyzing the importance of a given economic sector to the state's economy and operations is to look at its share in state government operating revenues. The State of Alaska's total revenue intake in fiscal year 2000 amounted to $6.9 billion. Of this sum, investment earnings (both restricted and unrestricted) provided 34.5%, followed closely by oil (both restricted and unrestricted) at 34.3%. Other restricted and non-restricted revenue sources (including taxes on alcohol and tobacco, general corporate taxes, licenses and permits, federal funds, etc.) amounted to 31.1% of total state revenues. Fish taxes, which will be described in greater detail in the next section on Alaska's governance structure, were considered "other unrestricted" and constituted just 0.3% of total state government revenues in fiscal year 2000 (Alaska Department of Revenue 2000).

Employment figures tell a slightly different story. There were 284,000 workers in Alaska in 2000. The government sector—including federal, state and local levels—was the largest in terms of employment figures, with 74,500 jobs, followed by services/miscellaneous (73,300), trade (57,000), transportation, communications and utilities (27,300), manufacturing (13,800, with seafood processing contributing the bulk of jobs at 8,300) and mining (10,300, with oil and gas extraction contributing the most jobs at 8,800) (Alaska Department of Labor and Workforce Development 2001). Employment in commercial fishing has declined over the past decade but remains an important factor in the statewide employment picture (Carothers and Sepez 2005).

Throughout 2000, the service sector—especially health care and business services—showed the strongest growth in terms of job-creation in the state. Manufacturing, meanwhile, and particularly natural resource processing (timber and seafood processing) have experienced steady declines. This is in part due to lower salmon harvests because of falling prices and foreign competition. (Alaska Department of Labor and Workforce Development 2001). Despite this decline, the commercial fishing and fish processing industries remain an important factor in Alaska's employment picture.

3.2.2 Governance

The governance structure of Alaska differs from that of the other United States. The state is divided into 13 home-rule and second-class boroughs which are roughly analogous to counties in many other states, though certainly larger in terms of land and smaller in terms of population than a typical county (see Figure 3.2.2). In addition, there are three "unified municipalities" (Anchorage, Juneau and Sitka) that are borough-level jurisdictions. However; not every community is contained in an organized borough and in fact, much of the state's land mass is not included within the borders of the 16 organized boroughs[35], which comprise less than 30% of the state. In all other states in the Union,

[35] Aleutians East Borough, Municipality of Anchorage, Bristol Bay Borough, Denali Borough, Fairbanks North Star Borough, Haines Borough, City and Borough of Juneau, Kenai Peninsula Borough, Ketchikan

the standard composition includes all cities within counties, or in the case of the State of Louisiana, parishes; all communities thus have a resulting form of higher governance and the services which are provided normally by that county/parish level. County-level services include in many cases: court services, housing, emergency, solid waste, transportation and additional community services.

Of the Alaskan communities profiled in this document, only 46.3% of communities are part of an organized borough. When considering all communities in the state, the percentage is even less: only about 44.9% of communities reported on by the State of Alaska Department of Commerce Community and Economic Development were located within an organized borough.

Figure 3.2.2 Selected Communities Showing Boroughs

Map by Angie Grieg, Alaska Fisheries Science Center, NMFS

Although fewer than 50% of Alaskan communities are located within organized boroughs, boroughs play a vital part in the governance and support of communities that

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Gateway Borough, Kodiak Island Borough, Lake & Peninsula Borough, Matanuska-Susitna Borough, North Slope Borough, Northwest Arctic Borough, City and Borough of Sitka, and City and Borough of Yakutat.

are located within them. In the case of the Kenai Peninsula Borough, for example, the borough devotes a 2% consumer sales tax to the schools of the borough. Other typical responsibilities of borough-level government include: solid waste disposal, 911 communications, college funding, senior citizen funding, planning and zoning, solid waste disposal, education, and tax assessment and collection (Kenai Peninsula Borough 2005). Boroughs have the ability to institute taxes including such taxes as: sales and use tax and property tax.

In Alaska, an incorporated place falls into one of three municipal classifications: home rule cities, first class cities, and second class cities. City classification depends largely on population. Home-rule and first-class cities must each have at least 400 residents, while second-class cities must have at least 25 registered voters. The municipal classification scheme determines the powers that municipalities may exercise, including the passage of land use regulation and the assessment and collection of taxes. Many Alaskan communities are unincorporated, and so do not fall under the municipal system, although most of these are nonetheless designated as Places by the Census. The communities profiled in this document are divided between various types of incorporation, but are made up largely of second-class cities or unincorporated communities, although some first-class cities and unified home rule municipalities were selected for profiling (see Table 3.2.2-1). Approximately 57.4% of the communities profiled in this document have incorporated status of some form; by contrast, Alaskan communities as a whole have an incorporation rate of 39% (see Table 3.2.2-2).

Table 3.2.2-1 Profiled Communities by Type of Incorporation

Type of Incorporation	Number	Percent of Communities
First Class City	17	12.5%
Second Class City	47	34.6%
Home Rule	11	8.1%
Unified Home Rule Municipalities*	3	2.2%
Unincorporated	58	42.6%
Total	136	

*Includes: Anchorage, Juneau, and Sitka.
Source: State of Alaska, Department of Commerce, Department of Community and Economic Development

Table 3.2.2-2 Percent of Profiled Communities Compared to Percent of All Alaska Communities by Type of Incorporation

Type of Incorporation	Percent of Profiled Communities	Percent of Alaska Communities
First Class City	12.5%	5.2%
Second Class City	34.6%	29.7%
Home Rule	8.1%	3.4%
Unified Home Rule Municipalities*	2.2%	0.8%
Unincorporated	42.6%	61.0%

*Includes: Anchorage, Juneau, and Sitka.
Source: State of Alaska, Department of Commerce, Department of Community and Economic Development

Communities generate revenue in a variety of ways, including the implementation of taxes, the sale of permits, involvement in enterprise, and through outside funding programs. Incorporated communities have two types of municipal revenues: local operating revenues (generated from taxes, licenses/permits, service charges, bingo, enterprise, and other sources) and outside operating revenues (generated from federal operating revenues, state revenue sharing, state safe communities, state fish tax sharing, other state revenue, and other inter-government sources), and state/federal education funds. For many communities, much of their local operating revenue (and much of their total revenue in general) is generated by locally administered taxes, which may include sales tax, property tax, accommodations tax, bed tax, rental car tax, raw fish tax (see Fish Taxes in Alaska section), alcohol tax, tobacco tax, and gaming tax. In Anchorage, for example, municipality-administered taxes, including property, bed, rental car, cigarettes, and other tobacco products tax, generated $324,217,752 of revenue locally (out of a total $535,756,277 in local operating revenue) for the year 2002.

Unincorporated communities and communities located outside of organized boroughs are eligible for the State Revenue Sharing (SRS) program (as are communities which are incorporated which are in either an organized or unorganized borough). This program helps to fund public services including education, water and sewer, police, road maintenance, health care, and fire protection (State of Alaska, Department of Commerce, Department of Community Advocacy 2002).

Alaska is the only state that does not collect state sales or income tax (sales tax in many cases is collected by cities and boroughs). However, other state taxes are in place including: alcoholic beverages, games of chance and contests of skill, conservation surcharge on oil, corporate net income, dive fishery management assessment, electric cooperative, estate (phased out in 2003), fisheries business, fishery resource landing, mining license, motor fuel, oil & gas property, oil & gas production, regulatory cost charge, salmon enhancement, salmon marketing (repealed 2005), telephone cooperative, tire fee, tobacco, and vehicle rental tax. The largest percentage of General Fund taxes collected in 2000 by the State was made-up of oil & gas severance (production tax and conservation surcharge) which was 53% of the $1,334,388,911 in total tax collections. A large percentage as well of the total taxes were from other oil and gas taxes: oil & gas

property (20%) and oil & gas corporate (12%). The remaining pieces of the total tax collections were made-up of: other corporation (4%), fisheries business (3%), other fisheries (1%), motor fuel (3%), tobacco (1%), alcohol (1%), and other taxes (2%) (Alaska Department of Revenue, Tax Division 2000).

In addition to money provided at the higher levels of the State of Alaska, boroughs, and communities, all Alaskan residents[36] individually receive dividends by mail annually from the Alaska Permanent Fund. The Fund has distributed an average of $1,040.42 per year (between $331.29 in 1984 at the lowest amount and $1,963.86 at the highest in 2000) to each resident since 1982 (State of Alaska, Permanent Fund Dividend Division 2005). The Permanent Fund Dividend (PFD) "provides for equal distribution of the oil wealth" income earned by the State of Alaska through investments in capital markets (Kasson 1997). According to Fund Law in Article IX, Section 15 of the Alaska Constitution, it is required that "at least twenty-five percent of all mineral lease rentals, royalties, royalty sale proceeds, federal mineral revenue-sharing payments and bonuses received by the state shall be placed in a permanent fund, the principal of which shall be used only for those income producing investments." The realized earnings of the Fund supply residents with their dividends through a formula which considers the Fund's Statutory Net Income from the previous five years, in order to maintain a relatively constant amount awarded to citizens each year (Alaska Permanent Fund Corporation 2005).

Permanent Fund dividends are in many cases a significant source of income for state residents, particularly in lower income families, who receive dividend payments for each family member in the autumn of every year. This large lump sum can provide opportunities for a family who is not otherwise able to be granted a loan or have access in general to larger sums with which to make large purchases. The social impacts of the Permanent Fund have never been formally studied; however this is one of the generally recognized impacts of the annual Permanent Fund distribution (Goldsmith 2002). It manifests in, for example, advertisements from new and used car dealers timed to target permanent fund recipients.

Village councils are the politically representative bodies of federally recognized Alaskan Native groups. A village council is either an Indian Reorganization Act (IRA) council or a traditional council. There are over 226 Native village councils in the State of Alaska. Some communities which have village councils also have a municipal city government, and some do not. Of the profiled communities, about 71.3% contained a village council. Of all the communities in the State of Alaska (as enumerated in the State of Alaska Department of Commerce Department of Community and Economic Development database), about 59.3% had a village council.

Many communities have additional layers of tribal representation through Alaska Native Claims Settlement Act village and regional corporations that manage natural resources. There are 13 such Native regional corporations (12 for the state, and one to represent those living outside of Alaska), 168 village corporations, and four urban corporations. Government social services are frequently provided by regional non-profit associations. The resulting multi-faceted governance of each community is discussed in the profiles.

[36] Equal payments are made to all six-month residents of the state.

Fish Taxes in Alaska

Taxes generated by the fishing industry, particularly the fish processing sector, are a very important revenue source for communities, boroughs and the state. The Fisheries Business Tax, begun in 1913, is levied on businesses that process or export fisheries resources from Alaska. The tax is generally levied on the act of processing, but it is often referred to as a "raw fish tax," since it is based on the ex-vessel value paid to commercial fishers for their catch. Tax rates vary under the Fisheries Business Tax, depending on a variety of factors, including how well established the fishery is, and whether processing takes place on a shoreside or offshore processing facility. Although the Fisheries Business Tax is typically administered and collected by the individual boroughs, revenue from the tax is deposited in Alaska's General Fund. According to state statute, each year the state legislature appropriates half the revenue from the tax to the municipality where processing takes place or to the Department of Community and Economic Development. The Fisheries Business Tax contributed $18.2 million in fiscal year 2000 to total Alaska state revenue (Alaska Department of Revenue 2000).

In addition to the Fisheries Business Tax, the state has collected the Fishery Resource Landing Tax since 1993. This tax is levied on processed fishery resources that were first landed in Alaska, whether they are destined for local consumption or shipment abroad. This tax is collected primarily from catcher-processor and at-sea processor vessels that process fishery resources outside of the state's three-mile management jurisdiction, but within the US Exclusive Economic Zone, and bring their products into Alaska for transshipment to other locales. Fishery Resource Landing Tax rates vary from 1% to 3%, depending on whether the resource is classified as "established" or "developing." According to state statute, all revenue from the Fishery Resource Landing Tax is deposited in the state's General Fund, but half of the revenue is available for sharing with municipalities (Alaska State Tax Sourcebook 2003). The Fishery Resource Landing Tax contributed $2.2 million in fiscal year 2000 to total Alaska state revenue. Taken together, the Fisheries Business Tax and the Fishery Resource Landing Tax make up only a small portion of Alaska's budget, contributing only 0.3% of total state fiscal revenues in 2000 (Alaska Department of Revenue 2000).

3.2.3 Facilities

Because economic development tends to vary tremendously across different regions of Alaska, the communities profiled in this document are quite different from one another in terms of accessibility. While some communities such as Anchorage, Dutch Harbor/Unalaska, and Bethel have airport facilities capable of landing jet aircraft at them, others have only small airstrips; still others are accessible primarily by sea. Many small communities in the Bethel and Dillingham Census Areas of Western Alaska, for example, have no roads at all, relying primarily on marine and river transport, and in some places, winter ice landing strips; ground transportation in these areas is by ATVs in the summer and snow machines in the winter.

Similarly, there is a great deal of variation between the communities in terms of marine and other facilities, and this variation is underpinned by significant differences in economic development. Kodiak, for example, which serves as a major commercial fishing and seafood processing center, has two boat harbors with moorage for 600 vessels

and three commercial piers. Thirteen commercial seafood processors operate in Kodiak. By contrast, many of the smaller coastal communities, especially in Western and Northern Alaska, lack dock and harbor facilities. Many of these communities do not have stores, and residents rely on coastal supply shipments by barge from Seattle. Where there are no harbor facilities, residents must use small skiffs to offload the supplies and ferry them to shore. Although fishing activity occurs in these areas and provides a vital source of employment and income, the relative underdevelopment of infrastructure and facilities remains a significant barrier to economic development.

In addition to marine facilities, there is tremendous variation in access to other types of facilities, such as hospitals, hotels, and shopping centers. A few large metropolises and many smaller micropolises serve as regional hubs, providing an array of services to surrounding villages.

3.3 Involvement in North Pacific Fisheries

3.3.1 Commercial Fishing

The profiles in this document examine Alaska communities and their involvement in North Pacific fisheries. Even with brief regional introductions however, analysis at the community level of geography does not allow for the larger picture of fisheries in Alaska to emerge. In view of that, the following section examines statewide fisheries data in order to provide a rough picture of the larger fisheries context in which the selected communities operate.

In particular, fisheries in Alaska have a high volume of landings compared to other areas of the country. The industry supplies the largest source of employment in the state through harvesting and processing jobs, and the economic activity of fishing produces important sources of both private and public (tax) income. Each of these topics will be discussed more below. Together, they indicate that Alaska is a very important contributor to US fisheries, and that the fishing industry is a very important aspect of Alaska's economy.

A notable characteristic of Alaska fisheries from a statewide perspective is that the types of fisheries conducted are fairly diverse. Groundfish, salmon, crab, and herring all make substantial contributions to the state's fishery profile, and except for herring, each of those resource groupings involves multiple species which can be very different from one another. These fisheries are engaged in by a diverse fishing fleet with vessels ranging in size from small skiffs to more than 300 feet. These vessels utilize many harvest methods, including pelagic trawl, bottom trawl, troll, longline, purse seine, drift gillnet, setnet, pot, jig, and other commercial gear types. Divided, as they are, by species, gear type, vessel size and management area, the state limited entry permit system issues harvest permits in 292 different categories (State of Alaska, Commercial Fisheries Entry Commission 2005). However, this diversity at the state level does not necessarily translate to communities. While a few communities, such as Kodiak, participate in the broadest range of fisheries, most communities are sustained largely by a single dominant fishery and/or gear type.

The North Pacific's commercial fisheries have changed through time with increased technology, man-power, demand, legislation, and the changing of hands of ownership from Russia to the United States. The 1860s brought the first considerable

commercial harvests by U.S fishermen, which were focused on Pacific cod. Salmon canning and salting operations developed after the purchase of Alaska from Russia in 1867, and the increased United States interest in Alaska fisheries. Halibut, herring, crab, other groundfish, as well as other species were added to the catch statistics lists over the next century, as they increased in the amount commercially harvested (Rigby et. al 1995). The groundfish fisheries have developed in recent years to exceed the amount of salmon harvested in terms of volume, and also in terms of landings. In the 1990s, crab rivaled the highly profitable salmon industry; however today both crab and salmon have declined immensely from their peaks in the 80s and groundfish is the leader of the North Pacific fisheries.

Salmon: For the year 2003, the Alaska Fisheries Information Network (AKFIN) estimated that about 286,003 metric tons of salmon were landed commercially in Alaska for a total value of approximately $168 million. The majority of commercial salmon are caught using troll, gillnet, and purse seine gear; customarily on a large number of small boats. Five salmon species are commercially harvested: pink salmon, sockeye or red salmon, chum or dog salmon, coho or silver salmon, and king or Chinook salmon (in order of largest 2003 landings in metric tons of Alaska commercial catch). According to AKFIN, of the salmon species commercially harvested in 2003, sockeye had the highest exvessel value of about $108.3 million, pink came in second at about $24.3 million, chum at $13.8 million, coho at $12.4 million, and lastly king at $9.3 million. The exvessel value paid to fishermen for their salmon has declined over the years from highs in 1988 at above $700 million, to the utmost lows in 2002 at about $162 million (Gilbertson 2003 and ADF&G Division of Commercial Fisheries 2005). Landings numbers have remained relatively stable in comparison, over that time.

The profitability of salmon for Alaskan fishermen has gone down greatly in the last two decades, brought about largely by the year round availability of farmed salmon to the world, mostly grown in Chile and British Columbia, Canada (farming salmon is not allowed by law in the State of Alaska). Correspondingly the value of fishermen's permits, vessels and gear, and the amount of money received for their catch have crashed, despite the fact that the commercial catches of wild Alaska salmon continue to be high. From the years of 1990 to 2000, the number of salmon fishermen declined by 37% which also resulted in a decline in the number of opportunities for crewmembers. Processors in many cases have dealt with this collapse in salmon prices with plant closings and the consolidation of operations, including the ceasing of salmon operations by the Wards Cove Packing Company in 2002 (Gilbertsen 2003), which has likely adversely affected many rural Alaskan communities included in this document. In July of 2003 checks were mailed from the Department of Community and Economic Development to 63 coastal communities and boroughs for a total of $7 million in federal salmon disaster funds, ranging from $500 at the minimum, up to $1.7 million at the highest allocation. Amounts were allocated to those municipalities to which salmon processing was "an important economic activity" (State of Alaska 2003).

Crab: AKFIN estimated that about 25,834 metric tons of crab was landed commercially in Alaska in 2003 for value of approximately $166 million. Crab is commercially harvested in the North Pacific using pot gear or ring nets. The baited pots range in different sizes to catch different target species, and target species are also caught at varying depths ranging from 20m for Dungeness, up to 200-1000m for golden king

crab. Seven species of crab are commercially caught in the Bering Sea: red king crab, blue king crab, golden king crab, Tanner crab (bairdi and opilio), snow crab, hair crab, and Dungeness crab (Rigby et. al 1995). The commercial crab catch rate today is a far cry from the crab heyday of 1980; however, recently with the elimination of the extremely dangerous derby style crab fisheries and the implementation of an IFQ system, the fishery will likely become much safer with a lower number of fatalities. The 2005 crab season was the last derby style crab fishery.

Initially, Bering Sea crab was targeted by Japanese trawlers starting in the late 1800s with a break during World War II, with Japanese fishers returning in the mid-1950s. In the 1920s American boats began fishing in Cook Inlet, Kodiak, and the Alaska Peninsula and the first crab cannery opened at that time. Crabbing was revolutionized with the freezing of catches which had never been done before. In 1959 tangle nets and trawlers were banned in the state of Alaska and it was necessary that crab fishermen find a new harvest method. Alaskan crabbers developed new pots based on those used by fishermen in the Lower 48, but immensely stronger – in the end weighing up to 800 pounds and reaching eight feet by three feet. In the 1960s the demand and price for crab increased and by the end of that decade the crab fisheries around the Alaska Peninsula and Kodiak had decreased and fishermen's attention was focused on the eastern Bering Sea where "the average boat's catch quadrupled from 1968 to 1978" and prices rose immensely "from 38 cents a pound to $1.23 in four years" (Gay 1997). Fortunes could be made overnight or at least in a short crabbing season for both boat owners and crewmembers and money flowed freely.

The peak of the Bristol Bay king crab fishery was in 1980, where 130 million pounds was landed by a fleet of 236 boats in fewer than six weeks, for an average amount landed per boat of $500,000, and an average crew share of about $10,000 per week. Suddenly the next year the fishery crashed to only 34 million pounds landed, and in 1982 only 3 million were landed (Gay 1997). It's still not totally clear as to why the fishery crashed so suddenly, but it still has never recovered to the extremely high levels of 1980. Recently, the total crab landings of all crab species according to AKFIN only reached about 57 million pounds in 2003, whereas snow crab had at one time been "among the most valuable of all Alaska commercial fisheries, behind only Pollock and salmon" (Loy 2005).

Herring: About 31,291 metric tons of herring is estimated by AKFIN to have been landed in 2003 for value of about $9 million. Herring has been important as subsistence for Alaska Natives for a very long time. As subsistence, it is still commonly utilized by Bering Sea villages in the dried form or as eggs gathered on hemlock boughs by those in the Southeast. The commercial herring fishery began in the Northwest by European settlers who salted the herring as a method of preservation. After World War I, the production of both pickled and salted herring peaked. In Alaska around the 1920s plants sprung up from Kodiak to Craig to turn herring into meal and oil, or "reduce" the herring. As with other fisheries, the herring fishery hit a high in the 1920s and 30s and has declined since. Stocks may have been impacted by the high catches during those years, but also another cheaper alternate for herring meal and oil, Peruvian anchoveta became dominant in the 1950s. By 1966 all of the Alaskan herring reduction plants had closed. In the 1960s and 70s, a herring food products foreign fishery was in place, but this was extinguished by the MFCMA. Herring roe either as the sac roe fisheries (harvested using

purse seine or gillnet) for Japanese consumption, as spawn on kelp fisheries (collected by scuba, rake, or by hand – or gathered on fronds from impounded herring), or as a bait fishery are common today (Rigby et. al 1995).

Groundfish and halibut: For the year 2003, AKFIN estimated that about 2,015,119 metric tons of groundfish were landed for an approximate value of $467 million. It is also estimated that about 34,753 metric tons of halibut was landed in 2003 for about $166 million. The groundfish fishery began in the North Pacific as a Pacific cod fishery after the first schooner in 1865 conducted an initial expedition in the Bering Sea. The Pacific cod fishery had its peak at about 1916 to 1920 and then declined until approximately 1950; however the halibut and sablefish fisheries which still remain today, developed initially in the 1880s but at that time were limited by slow moving vessels and the absence of refrigeration methods. With diesel power came the expansion of these fisheries by hook and line ships. Halibut and sablefish were being caught by vessels in the thousands of tons by the 1920s in the Gulf of Alaska (Rigby et. al 1995).

The groundfish fisheries off of Alaska have been fished by a series of foreign nations; including Japan, Russia and Canada as major players. Canada was very active in the fishing of halibut in Alaska waters, but after 1980 the Canadian fishery in U.S. waters was phased out. Japan has been involved in flounder (yellowfin sole) and the Pollock fishery, as has Russia. The flounder fisheries by both Japan and Russia declined with the collapse of yellowfin sole, with the peak in the fishery having been in 1960 at about 500,000 metric tons. More heavily targeted by both the Russians and the Japanese was the Pollock fishery which started in the 1960s by Japanese trawlers. The peak of the Pollock catch was in 1972 with over 1.7 million metric tons harvested by the Japanese in the Bering Sea. Russian maximum harvests of Pollock were also during this time, but were on somewhat of a smaller scale of 300,000 metric tons per year. The Bering Sea was also fished during the 60s and 70s by a small Korean fleet. The maximum total foreign catch of Pollock, flatfish, rockfish, cod, and other groundfish was in 1972 at 2.2 million metric tons. The foreign fleets also moved into the Gulf of Alaska in 1960 and targeted additional species. Additional foreign nations became involved and added to this time of overexploitation including: Taiwan, Poland, West Germany, and Mexico (Rigby et. al 1995).

By the 1970s it was in Alaska's obvious interest to control foreign involvement. The groundfish fishery was Americanized with the Magnuson Fishery Conservation and Management Act (MFCMA) in 1976, and by 1991 the foreign fishers had been transitioned out and the entire American groundfish fisheries were harvested by U.S. vessels. The fisheries changed with the introduction of the first independent factory trawler in 1980 and the subsequent over-harvest (Rigby et. al 1995). Sablefish and halibut IFQs were introduced as a management method in 1995. Other federally managed groundfish species have been organized into a License Limitation Program (LLP) permitting system. Halibut are caught currently on longliners. Longliners are about 50 to 100 feet in length. Groundfish are still caught in trawl nets and some of this is delivered to onshore processors or floating processors, but the majority are caught on large catcher/processors the size of a football field and frozen at sea (Gay 1997). Today the groundfish fisheries are the largest in terms of both weight and value out of all the North Pacific fisheries. Pollock is the largest species in terms of weight of landings and is the new focus of the North Pacific.

State-wide Landings

In comparison to other states, and even to other regions, the sheer volume of Alaska's fish landings dwarfs the competition. Over half of the nation's fishery resources are taken from waters off the coast of Alaska. Landings across the state for all species in 2000 totaled 2.25 million tons, or 4.5 billion pounds, with a total ex-vessel value of $956 million. In fact, the next largest state in terms of landings was Louisiana, with 1.4 billion pounds and a total value of $421 million. The port of Dutch Harbor-Unalaska alone, located in the middle of the Aleutian Island chain in the heart of the world's largest groundfish fishery, reported 699.8 million pounds in landings for 2000, the highest landings by pound of any port in the United States (NOAA Annual Commercial Landing Statistics 2000).

A glance at state-wide landings by species reveals several notable things about the nature of commercial fishing in Alaska (see Table 3.3.1-1 and Table 3.3.1-2). First, there is a dichotomy between weight and value. Walleye pollock, for example, makes up a huge share of total state-wide landings in terms of weight, with 57.9% of the state-wide total in 2000. Pollock constitute the core of the North Pacific groundfish fishery, with almost five times the volume of the landings of the next most-landed species, Pacific cod. In terms of monetary value, however, the contribution of pollock to total statewide landings is modest, accounting for only 16.8%. By contrast, sockeye salmon, with only one-tenth of the volume of pollock, contributes a nearly equal monetary value (16.3%). Another dramatic example of the weight-value dichotomy in Alaskan fisheries is the appearance of King crab and snow crab on the top ten list of landings by value. These two species are not landed in enough volume to make the top ten list of landings by weight, but nevertheless produce a significant monetary value because of their high per-unit price.

Table 3.3.1-1 Top Ten Species by landings (weight) in the state

Rank	Species	Landings (Million Pounds)	% of Total Landings (All Species)
1	Walleye pollock	2,606.8	57.9%
2	Pacific Cod	529.7	11.8%
3	Pink Salmon	208.2	4.6%
4	Sockeye Salmon	204.9	4.6%
5	Chum Salmon	159.3	3.5%
6	Yellowfin Sole	154.3	3.4%
7	Pacific Halibut	71.7	1.6%
8	Pacific Herring	68.0	1.5%
9	Rock Sole	60.6	1.4%
10	Pacific Ocean Perch Rockfish	39.3	0.9%
	Top Ten Species Combined	**4,402.8**	**97.8%**
	Total Landings (All Species)	**4,500***	**100%**

* Total state-wide landings of all species at both inshore and offshore processors. Landings of the top ten species listed here sum to 4,402.8 million (4.4 billion) pounds, or 97.8% of all state-wide landings. Source: NOAA Annual Commercial Landings Statistics 2000.

Table 3.3.1-2 Top Ten Species by landings (value) in the state

Rank	Species	Value (Million Dollars)	% of Total Value (All Landings, All Species)
1	Walleye pollock	$160.5	16.8%
2	Sockeye Salmon	$155.7	16.3%
3	Pacific Cod	$141.9	14.8%
4	Pacific Halibut	$134.8	14.1%
5	Sablefish	$80.2	8.4%
6	King Crab	$61.6	6.4%
7	Snow Crab	$60.5	6.3%
8	Chum Salmon	$38.0	4.0%
9	Pink Salmon	$27.1	2.8%
10	Chinook Salmon	$10.2	1.1%
	Top Ten Species Combined	**$870.5**	**91.1%**
	Total Value of Landings (All Species)	**$956***	**100%**

* Total value of all species landed at both inshore and offshore processors. And CPs? The value of landings of the top ten species listed here sum to $870.5 million, or 91.1% of the value of all-species landings statewide. Source: NOAA Annual Commercial Landings Statistics 2000.

Fish Landings and Processing

One notable aspect of many Alaskan fisheries is the high volume of processing activity that occurs offshore on floating processors. Of the 2.25 million tons of fish landed and processed in Alaska in 2000, more than half was processed offshore. The remaining portion of landings, some 979,327 tons, was processed at inshore facilities. Because this document focuses on “fishing communities” as defined in the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 38 §1802 (16) and further specified in NMFS guidelines (NOAA 2001:13, NOAA 1998), we are primarily concerned with inshore processing activity. Offshore activities are relevant insofar as they affect local communities through purchase and loading of goods and services, employment, employee furloughs, and processed product offloading. Fish processed offshore and offloaded in Alaska communities as processed product is converted into a whole fish weight by NOAA for statewide tabulation (NOAA 2003), as in Table 1.13. Offshore product is not credited to specific communities, as below with Table 1.15.

The amount of fishery resource landings in each community depends on the community’s proximity to productive fisheries, the size of the local fleet, and existing port facilities. For landings, Dutch Harbor tops the list in both weight and value. But the changing order of communities between volume and value underscores the difference in fishery resource value.

Table 3.3.1-3 and Table 3.3.1-4, below, list the top ten communities by weight and value of landings. Not surprisingly, Dutch Harbor ranks highest both in terms of ex-vessel weight of landings and in terms of the monetary value of landings. But Akutan, ranked second in terms of weight, comes in behind Kodiak in terms of value. This is because Akutan is located along the Aleutian Island chain and processes primarily pollock and other groundfish species, a high volume, low per-unit value niche, while Kodiak processes salmon, halibut and other high-value species. Geographic location affects community access to particular species of fishery resources, and this access in turn exerts an important influence on the community's economic vitality.

Table 3.3.1-3 Top Ten Communities by landings (ex-vessel weight)

Rank	Community	Processors in Community
1	Dutch Harbor	11
2	Akutan	1
3	Kodiak	13
4	Sand Point	1
5	King Cove	2
6	Ketchikan	12
7	Cordova	7
8	Petersburg	8
9	Naknek	11
10	Seward	5
	Top Ten Communities Total Processors	**71**
	Top Ten Communities Combined Landings (weight)	**869,349 tons**
	Total Statewide Landings (weight)	**979,327 tons***

* Total tons of fish landed at inshore processors statewide. Landings for the top ten communities listed here sum to 869,349 tons, or 88.8% of total inshore statewide landings.[37] Source: Commercial Fishery Entries Commission (Fish Tickets 2000).

[37] Note that NOAA Annual Commercial Landings Statistics report total statewide landings at 2,250,000 tons. That's because at least 50% of statewide landings are made to offshore processors.

Table 3.3.1-4 Top 10 Communities by Landings (ex-vessel value)

Rank	Community	Processors in Community
1	Dutch Harbor	11
2	Kodiak	13
3	Akutan	1
4	Seward	5
5	King Cove	2
6	Petersburg	8
7	Naknek	11
8	Ketchikan	12
9	Cordova	7
10	Sand Point	1
	Top Ten Communities Total Processors	**71**
	Top Ten Communities Combined Landings (value)	**$514.1 million**
	Statewide Total Landings (value)	**$703.9 million***

* Total value of all statewide landings. The value of landings for the top ten communities listed here sum to $514.1 million, or 73% of the value of all statewide landings. Source: Commercial Fishery Entries Commission (Fish Tickets 2000).

The fish processing industry provides vital employment opportunities, income sources, and tax revenues for many Alaskan communities. In many cases, it is the most value-added point in the fishery process. Whether a community serves as a processing center, and whether fish processing is economically productive for a community, depend on a number of factors including location, population size, proximity to major fishing fleets, and the composition of species being processed. Consider again, for example, the two communities of Akutan and Kodiak. As they were for landings, the two are again listed as top ten communities for processing by both weight (Table 3.3.1-5) and value (Table 3.3.1-6). In addition to the value-per-unit factor affected by the types of fish processed, the structure of processing differs by community. Akutan, with only a single facility, processes a greater volume of fish than Kodiak with its 13 processors. This underscores the profitability of operating many small-scale specialty processors in a high per-unit value market such as Kodiak.

Table 3.3.1-5 Top Ten Communities by Processing (Tons)

Rank	Community	Processors in Community
1	Dutch Harbor	11
2	Akutan	1
3	Kodiak	13
4	Ketchikan	12
5	Naknek	11
6	King Cove	2
7	Petersburg	8
8	Cordova	7
9	Seward	5
10	Valdez	3
	Top Ten Communities Total Processors	**73**
	Top Ten Communities Combined (weight)	**368,457 tons**
	Statewide Total	**455,212 tons***

* Total tons of fish processed statewide at inshore facilities. Landings for the top ten communities listed here sum to 368,457, or 81% of total statewide landings at inshore facilities. This total is for processing at inshore facilities only; prior to 2002 offshore processors were not required to file the Commercial Operator's Annual Report. Source: Commercial Operator's Annual Report (Collected by ADF&G).

Table 3.3.1-6 Top Ten Communities by Processing (Value)

Rank	Community	Processors in Community
1	Dutch Harbor	11
2	Kodiak	13
3	Akutan	1
4	Naknek	11
5	King Cove	2
6	Ketchikan	12
7	Seward	5
8	Petersburg	8
9	Cordova	7
10	Sitka	9
	Top Ten Communities Total Processors	**79**
	Top Ten Communities Combined (value)	**$1.2 billion**
	Total Value of Fish Processed Statewide	**$1.5 billion***

* Total value of fish processed statewide at inshore facilities. The total value of fish processed in the ten communities listed here sums to $1.16 billion, or 77.3% of the total value of processed fish statewide at inshore facilities. This total is for processing at inshore facilities only; prior to 2002 offshore processors were not required to file the Commercial Operator's Annual Report. Source: Commercial Operator's Annual Report (Collected by ADF&G).

As part of the selection procedure, all communities with an operating processor were selected for profiling. This data was taken from the Commercial Fisheries Entry Commission's fish tickets. The Intent to Operate listings were used to assign port codes to those processors that appeared in the fish tickets. Those processors which did not appear in fish tickets for the year were not included; therefore communities whose processors operated in other years but not in 2000 for a variety of reasons (i.e. low salmon prices for the year 2000) could theoretically have been excluded from being profiled may not have been selected for profiling, depending on their qualifications under the other criteria. Of the 136 communities which were profiled, 51 communities included processors which were in operation in 2000. Sixteen communities included more than three processors (see Table 3.3.1-7), 3 communities included 3 processors, 12 communities included 2 processors, 20 communities had 1 processor, and 79 communities did not have an operational processor.[38]

Table 3.3.1-7 Profiled communities with more than three processors

Community	Processors in Community
Juneau	13
Kodiak	12
Ketchikan	11
Unalaska/Dutch Harbor	11
Kenai	9
Naknek	9
Petersburg	9
Cordova	8
Sitka	8
Anchorage	7
Homer	7
Bethel	6
Haines	5
Seward	5
Craig	4
Wrangell	4

[38] Six of the profiled communities did not appear in the commercial fishing data as separate communities with their own processor data: Auke Bay, Chugiak, Douglas, Eagle River, Girdwood, and Ward Cove and are not included in the total of 79 communities without an operational processor.

Labor in Alaska's Fishing Industry

The commercial fishing sector is the largest private employer in Alaska. The fishing industry provides a variety of employment opportunities, including fishing, processing, transport, and dock and harbor work. According to the Commercial Fisheries Entry Commission (CFEC) there were 25,151 commercial permits sold for all fisheries in Alaska; 11,440 permits were actually fished.

The number of licensed crew members employed annually in Alaskan commercial fisheries has declined over the past decade, from more than 32,000 in 1993 to approximately 17,500 in 2003, an average decrease of 5.7% per year during that period (Carothers and Sepez 2005). The decline is likely due to a combination of declining salmon prices, fishery management policy changes, and other factors. Although the majority of licensed crewmembers are Alaska residents (59%), the labor pool also draws from Washington (22%), other U.S. states, and around the world. The industry remains male-dominated, with women accounting for just 14% of licensed crew over the past decade. In addition, personnel turnover is high; the average crew member holds a license for just 1.8 years (Carothers and Sepez 2005).

In addition to fishing, the fish processing industry in Alaska is a major source of employment, with some 18,675 employees statewide in 2002. Nonresident workers, most of whom come to Alaska for seasonal employment, make up 70.6% of total employment in the fish processing industry (Alaska Department of Labor and Workforce Development 2005). The number of jobs in this industry has declined markedly over the last decade, from 30,439 in 1991 (Hadland and Landry 2002), in part because of declining prices in high-value markets such as salmon and management changes improving economic efficiency. Nevertheless, fish processing remains an important employment sector in Alaska; wages earned in fish processing totaled $235.9 million in 2000.

The employment data collected by the U.S. Census noticeably under-represents those involved in the fishing industry. Despite the heavy reliance on data supplied by the Census for the composition of the profiles contained in this document, the employment data given on fishing was not reported in the profiles because of its visible deficiencies. The figures originate from Census form questions which are phrased in a way that likely deters answers from self-employed persons (as most fishermen are). In the results of the Census; agriculture, forestry, fishing and hunting were combined together into one reported figure, which makes it difficult to discern which individuals were involved in the fishing portion of the category. Also, when examining the total figure for the category which includes fishing, the number is simply too small to be accurate even when compared to just the number of individuals in a community which fished their permits. The numbers of CFEC permits fished/not fished were given in the profiles however; as well as the number of community members which held a crew license. Processing sector employment data was not available to us at the community level and is not included in the profiles. Processing sector data is available at a higher aggregation level, such as at regional levels, but at this time is not available at the level of community. Employment information for the important offshore processing sector is also not discussed in the profiles because the effect on Alaska communities is indirect; however this sector is

brokered for the most part out of Seattle and information will be included in a document which profiles West Coast fishing communities.

3.3.2 Sport Fishing

Sport fishing continues to be an important part of Alaska's economy. In 2001 about 3,078,100 fish were caught in Alaska by sport fishermen (1,517,015 salmon and 1,561,085 were fish other than salmon). Also during 2001, residents of the U.S. spent $537 million on fishing equipment and fishing trips in Alaska. For the same year, 11,064 people were employed by the sport fishing industry which accounted for $238 million in salaries and wages (Vaccaro and Sepez 2003).

Opportunities for recreational fishing vary widely by region. Southeastern Alaska, Kodiak and the Kenai Peninsula are the most popular sport fishing destinations in the state; license sales and guide/charter businesses play a vital role in the local economies of these regions (see Table 3.3.2). In 2000 the Alaska Department of Fish and Game sold 440,636 sport licenses and of those 60% were sold to visitors from other states or countries. And in 2002, over 4000 licenses were issued to charter operations and fishing guides by the Alaska Department of Fish and Game (Vaccaro and Sepez 2003). The five species of Pacific salmon, halibut, steelhead, trout and northern pike are the most commonly fished sport species. Most other areas of the state offer sport fishing opportunities to some extent, but do not see the high volume of fishermen that the southeast and central regions attract. These other areas tend to offer less productive stocks of sport species and have more remote locations.

Although revenues generated from sport fishing license sales and guide/charter businesses are important, they are by no means the only forms of community development that stem from the sport fishing industry. Communities that have a reputation as good fishing locations also tend to be linked to the tourism industry in general, with more tourism infrastructure such as lodging accommodations, restaurants and other amenities. Sport fishing, in many cases, is merely one component of a growing tourism industry throughout the state.

Table 3.3.2 Top Ten Communities by Sport Fishing License Sales

Rank	Community	Region	Sport Licenses Sold (2000)
1	Anchorage	Anchorage-Matsu	98,516
2	Ketchikan	Southeast	34,509
3	Soldotna	Kenai Peninsula	31,917
4	Juneau	Southeast	26,569
5	Homer	Kenai Peninsula	20,550
6	Wasilla	Anchorage-Matsu	19,949
7	Sitka	Southeast	18,400
8	Fairbanks	Interior	16,387
9	Seward	Kenai Peninsula	13,923
10	Kodiak	Kodiak	11,331

3.3.3. Subsistence Fishing

Many Alaskan communities participate in the harvesting of fish, wildlife and other wild resources to a degree unseen in other parts of the United States. This is in part because of the high reliance on subsistence resources that characterizes many Native Alaskan communities. In addition, other communities located in remote places or lacking full-time employment opportunities typically rely heavily on subsistence resources. Among several types of legally recognized uses of fish and wildlife (including subsistence, commercial and recreational), subsistence harvesting is accorded the highest priority in Alaska by both the state and federal government. Because of the sheer volume of fish harvested by commercial fishing operations, however, subsistence harvests account for only about 2% of total fish and wildlife harvests in Alaska (Subsistence Management in Alaska 2003: 5). Despite this seemingly small percentage of the total wildlife harvest, the wild food which was harvested in Alaska in 2000 had a replacement value of $267,273,090 at $5 per pound (Vaccaro and Sepez 2003).

The regulations governing the harvest of subsistence resources in Alaska are complex and changing. For many years, the federal government allowed the State of Alaska to manage subsistence harvesting on federal lands. Beginning in 1980 with the adoption of Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), “non-rural” area residents were prohibited from harvesting subsistence resources on federal lands and waters. A 1989 court case, *McDowell v. State of Alaska*, challenged this designation and a decade-long legal battle ensued. By 1999, the federal government had taken over subsistence management of its own lands and waters; residents of populated areas like the Matanuska-Susitna area and the Kenai Peninsula have been designated “non-rural” and are thus ineligible to harvest subsistence resources on federal lands and waters. Residents of non-rural areas are, however, eligible to harvest subsistence resources on lands and waters of the State of Alaska. This divided system of management between state and federal agencies, known as “dual management,” creates a patchwork of differing regulations mapped to the different jurisdictions. For State lands, the Board of Game and the Board of Fisheries, whose members are appointed by the governor and approved by the legislature, create subsistence regulations. For federal lands, the Federal Subsistence Board, whose membership is comprised of leaders from five federal agencies in Alaska and an appointee of the Secretary of Interior, create subsistence regulations.

Both the state and federal government designate eligibility to harvest subsistence resources based on customary and traditional uses and availability of alterNative resources. In addition, the federal government considers residence when designating subsistence eligibility. Since 1992, in order to reduce resource pressure, the state government has designated several “non-subsistence areas” where subsistence fishing and hunting is not allowed. These areas include the Fairbanks area, the Anchorage-Mat-Su-Kenai area, Juneau and Ketchikan. The federal government limits access to certain subsistence resources; halibut, for example, may be harvested for subsistence only by residents of communities with customary and traditional uses of halibut who hold a Subsistence Halibut Registration Certificate (SHARC) issued by NOAA Fisheries. The state government issues permits for the subsistence harvest of salmon.

Unfortunately, detailed information on subsistence activities was available for only 95 (69.9%) of the communities profiled in this document, despite the fact that the

majority of Alaskan communities participate in subsistence harvesting to some degree. In a survey completed of 220 Alaskan communities, the urban communities had an average harvest of 22 pounds per person per year, and in rural communities they had an average of 375 pounds per person per year (Vaccaro and Sepez 2003). For those communities studied by the ADF&G Division of Subsistence, there are several measures of participation in subsistence fishing, and we have reported on these in the profiles. These include: the percentage of households using subsistence resources, the per capita yearly harvest of subsistence resources, and the composition by species of this harvest. Based on these measures, there is tremendous variation in the amount and type of subsistence resources harvested in Alaska. Table 3.3.3 lists the top ten communities, of all those studied by ADF&G, in terms of per capita yearly harvest of subsistence resources.

Table 3.3.3 Top ten list of communities by per capita yearly harvest of subsistence resources

Rank	Community	Region	Year Studied	Amount (lbs)	Fish Species Commonly Harvested
1	Akiachak	Western AK	1998	1,328.3	Salmon, blackfish, pike
2	Tununak	Western AK	1986	1,092.6	Salmon, herring, smelt, halibut,
3	Kokhanok	AK Penn.	1992	1,013.3	Salmon, dolly varden, trout, pike
4	Levelock	AK Penn.	1992	884.0	Salmon, herring, char, pike
5	Iliamna	AK Penn.	1991	847.6	Salmon, herring, flounder, halibut
6	Koliganek	Western AK	1987	830.5	Salmon, herring, char, pike
7	Ugashik	AK Penn.	1987	814.4	Salmon, herring, cod, halibut
8	Ekwok	Western AK	1987	796.6	Salmon, herring, blackfish, pike
9	Galena	Interior AK	1985	787.1	Salmon, blackfish, pike, trout
10	Quinhagak	Western AK	1982	767.9	Salmon, smelt, cod, char

Source: ADF&G. Data is given for the “most representative year” according to ADF&G records.

A notable aspect of Table 3.3.3, aside from the huge volume of subsistence resources harvested on a per capita basis, is the regional breakdown of dependence on such resources. Out of the nine regions into which we group the communities contained in the profiles, only three (Western Alaska, Alaska Peninsula/Aleutian Islands, and Interior Alaska) appear on the top ten list of communities by per capita subsistence harvest. Not surprisingly, these three regions are, in comparison to other areas of the state, more remote and further removed from the economic activities of urban centers. In addition, the communities exhibiting patterns of intense subsistence resource use are, as most of their names suggest, primarily Alaska Native communities. Reliance on subsistence resources is certainly not restricted to the Native population, but the average percentage of Alaska Native residents for these top ten communities is 83.4%, and many

of the communities have established patterns of resource use that date back long before European contact. Salmon comprises a key component of the subsistence diet in each of these communities, but other fish species common to northern waters are harvested as well. The composition of the statewide subsistence harvest is about 65% fish, 18.5% game, 9.7% marine mammals, and 6.4% other (Vaccaro and Sepez 2003). For most Native Alaskan communities, the harvesting and use of subsistence fish and game has both economic and cultural significance.