



**Southwest Alaska  
Comprehensive  
Economic  
Development  
Strategy  
2009-2014**

# Southwest Alaska Comprehensive Economic Development Strategy

prepared for the United States  
Department of Commerce Economic  
Development Administration

by Southwest Alaska Municipal Conference  
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# 1.0 Introduction

The Southwest Alaska Comprehensive Economic Development Strategy (CEDS) is the product of an ongoing regional planning process designed to facilitate sustainable, long-term, responsible economic development, job creation, and overall improvement in the quality of life in Southwest Alaska. This process began in 1991 when the Southwest Alaska Municipal Conference (SWAMC) first prepared and submitted an Overall Economic Development Plan (OEDP) to the Economic Development Administration (EDA).

A thorough review of the Southwest Alaska Comprehensive Economic Development Strategy is warranted for several reasons. First off, the existing 2003 – 2008 document is well outdated and quotes information from the 2000 and 1990 U.S. Census. Since then, the Census Bureau has released updated estimates and the State of Alaska has also published 2007 and 2008 statistics. Secondly, advancements in technology and recent events warrant substantial changes to the document. Finally, the 2010 – 2014 CEDS will provide SWAMC an opportunity to utilize new information and data, along with enriching the existing document.

Anecdotal and empirical evidence points to dramatic and profound changes in the region's economy due to the restructuring of both state and federal fisheries. The ex-vessel value of once lucrative salmon fisheries has been severely impacted by foreign farmed salmon, unemployment has increased – dramatically in some areas- municipal tax revenues have declined, and the elimination of municipal revenue sharing by the State of Alaska, as well as other factors are impacting the residents,

businesses, and communities of Southwest Alaska. Other near-term changes in federal fisheries may alter the volume and pattern of commercial fish harvesting and processing in some communities, bringing still more change.

The CEDS development process has incorporated a review of local, state and federal plans from a number of agencies. SWAMC has worked with sub-regions to incorporate local economic planning efforts, infrastructure needs assessments, and other local knowledge into the CEDS. These documents are referenced herein and enumerated in the references section.

Throughout the CEDS, the focus has been on developing a region-wide orientation. However, in order to develop this orientation, data was collected and is presented herein by boroughs and census areas. Where appropriate the CEDS examines variations at the community level to reveal differences that might not otherwise be obvious.

The CEDS was developed with an eye toward looking at both long-term and near-term trends. For the purposes of comparison and trend analysis, most data is presented from 1990 and 2000 to 2008. For the purposes of revealing more recent trends, the CEDS includes data for 2007 and 2008 when it is available.

# 2.0 Southwest Alaska Municipal Conference

The Southwest Alaska Comprehensive Economic Development Strategy is prepared, in part, as a requirement of the region's designation as an Economic Development District (EDD). Additionally, it fulfills SWAMC's obligation as an Alaska Regional Development Organization (ARDOR) to develop a regional plan.

The Southwest Alaska Municipal Conference (SWAMC) is a regional nonprofit economic development organization for Southwest Alaska. According to its bylaws, SWAMC's boundaries are defined as that area of southwest Alaska that conforms to the boundaries of the Aleut Corporation, the Bristol Bay Native Corporation, and Koniag, Inc. – three ANCSA regional corporations. This area corresponds to the incorporated boundaries of the Aleutians East Borough, the Bristol Bay Borough, the Kodiak Island Borough, and the Lake & Peninsula Borough\*, as well as two federally designated census areas – the Aleutians West Census Area and the Dillingham Census Area.

SWAMC is one of 12 Alaska Regional Development Organizations (ARDORs) and receives funds from the Alaska Industrial Development and Export Authority (AIDEA) through the Alaska Department of Commerce, Community and Economic Development (DCCED). The ARDORs form a network of locally-based economic development organizations that focus on a variety of issues important to their regions.

SWAMC is also one of four federal Economic

\*A portion of the Lake & Peninsula Borough falls into the traditional boundaries of Cook Inlet Region, Inc. However, this area is considered part of the Southwest Alaska region.

Development Districts (EDD) in Alaska and receives funding from the U.S. Economic Development Administration. One of the most important roles of an EDD is to develop and maintain a Comprehensive Economic Development Strategy (CEDS) for the region.

## Mission

SWAMC is a regional membership organization that advances the collective interests of Southwest Alaska people, businesses, and communities. SWAMC helps promote economic opportunities to improve the quality of life and influences long-term responsible development.

## Organization

At its inception in 1986, SWAMC was formed from the realization that communities in the region hold many common interests: the economic reliance on fisheries resources, the need for community infrastructure, the challenges of rural development, and the certainty that by joining forces more could be accomplished for the region and its communities. Several of the region's mayors joined forces and headed to Juneau to make inroads in state policy and resource allocation.

Flush with initial success, the mayors worked to develop an organization that would coalesce the needs of the region into a single voice. The Southwest Alaska Municipal Conference was incorporated in January 1988 and received 501 (c) 4 nonprofit status from the Internal Revenue Service. In 1989, SWAMC received

designation as an ARDOR. EDD designation followed in 1991.

A timeline of SWAMC's history is provided in Appendix A. This review of milestones in the organization's development was developed by the Board of Directors as part of a strategic planning exercise.

## Board of Directors & CEDS Committee

The SWAMC Board of Directors, representing key areas within the Southwest region, act as the committee to oversee the Southwest Alaska Comprehensive Economic Development Strategy (CEDS). The Board of Directors has served as either the previously approved Overall Economic Development Program (OEDP) Committee and the CEDS Committee since 1991. SWAMC's bylaws call for no less than an eleven member Board of Directors with a requirement that at least 25 percent of its members represent minority populations in the region.

Board members are elected annually by the membership, which includes municipal and associate members. A quorum of the municipal members is required to hold elections.

Three board member are elected from each of the three ANCSA regions (Aleutians/Pribilofs, Bristol Bay and Kodiak) and two board members are elected at large. Members of each sub-region caucus to elect their board members. There are two municipal members and one associate member elected from each sub region on staggered terms. The at-large associate

members are elected by a vote of the membership. Table 2.1 provides a profile of the Board of Directors and CEDS Committee.

In addition to the oversight provided by the CEDS Committee, SWAMC has four standing committees that consist of professionals and business leaders who volunteer their time and expertise. These standing committees provide focused attention to specific areas of interest to the organization, including fisheries; energy, infrastructure, and tourism. The role of these committees is to vet issues and ideas and provide recommendations to the SWAMC Board/CEDS Committee and SWAMC staff.

The ongoing work of the SWAMC Board/CEDS Committee, as well as the four standing committees will direct, monitor, and inform the implementation of the CEDS Action Plan.

The SWAMC Board/CEDS Committee will evaluate the CEDS throughout the implementation process.

## Southwest Alaska Municipal Conference Staff

Michael Catsi, Executive Director

Andy Varner, Economic Development  
Specialist

Brett Welcher, AmeriCorps VISTA

Katie Abbott, AmeriCorps VISTA

## Southwest Alaska Municipal Conference Membership

The SWAMC membership serves as an additional resource for funding, local information, industry insights, and other assistance throughout the CEDS development and implementation process. Municipal members pay dues based on their population multiplied by \$0.65. Associate members pay between \$130 - \$390 depending on their business category and gross revenues.

An alphabetical roster of SWAMC members follows on the next page.

Table 2.1: SWAMC Board of Directors

Name	Residence	Race	Gender	SWAMC Seat	Affiliation	Occupation
Glen Gardner Jr.	Sand Point	Aleut	Male	Aleutians/Pribilofs Municipal	City of Sand Point	Commercial Fisherman
Shirley Marquardt	Unalaska	White	Female	Aleutians/Pribilofs Municipal	City of Unalaska	Sales/Customer Service
Paul Gronholdt	Sand Point	Native	Male	Aleutians/Pribilofs Associate	Aleutians East Borough	Commercial Fisherman
Ernest Weiss	Pilot Point	White	Male	Bristol Bay Municipal	City of Pilot Point	City Manager
Lamar Cotten	Anchorage	White	Male	Bristol Bay Municipal	Lake & Peninsula Borough	Borough Manager
Alice Ruby	Dillingham	White	Female	Bristol Bay Associate	Bristol Bay EDC	Permit Broker
Terry Haines	Kodiak	White	Male	Kodiak Municipal	City of Kodiak	Commercial Fisherman
Louise Stutes	Kodiak	White	Female	Kodiak Municipal	Kodiak Island Borough	Retired
Trevor Brown	Kodiak	White	Male	Kodiak Associate	Kodiak Chamber of Commerce	Development Specialist
Joe Sullivan	Seattle	White	Male	At-Large Associate	Mundt MacGregor LLC	Attorney
Kara Sandvik	Anchorage	Iñupiaq	Female	At-Large Associate	Wells Fargo Alaska	Vice President Relationship Manager

## Membership of the Southwest Alaska Municipal Conference 2009

City of Adak  
 City of Akutan  
 Akutan Traditional Council  
 Alaska Airlines  
 Alaska Commercial Fishing and Agriculture Bank  
 Alaska Cruise Association  
 Alaska Groundfish Data, Inc.  
 Alaska Industrial Development & Export Authority  
 Alaska Housing Finance Corporation  
 Alaska Municipal League  
 Alaska Seafood Marketing Institute  
 Alaska State Chamber of Commerce  
 Alaska State Legislature  
 Alaska Village Electric Cooperative, Inc.  
 Alaska Wilderness Recreation & Tourism Association  
 Alaskaone.com  
 City of Aleknagik  
 The Aleut Corporation  
 Aleut Enterprise Corporation  
 Aleutian Housing Authority  
 Aleutian/Pribilof Island Community Development Association  
 Aleutians East Borough  
 Aleutians West Coastal Resource Service Area  
 Alyeska Seafoods, Inc.  
 American Seafoods Company LLC  
 City of Atka  
 At-Sea Processors Association  
 Auriga/Aurora General Partnership  
 Belkofski Tribal Council  
 Boyd, Chandler & Falconer, LLP  
 Bristol Bay Borough  
 Bristol Bay Coastal Resource Service Area  
 Bristol Bay Economic Development Corporation  
 Bristol Bay Housing Authority  
 Bristol Bay Native Association

Bristol Bay Native Corporation  
 City of Clarks Point  
 City of Chignik  
 Co-Man Services  
 Crowley Maritime Corporation  
 Curyung Tribal Council  
 Delta Western Inc.  
 Denali Commission  
 Dillingham Chamber of Commerce  
 City of Dillingham  
 Eastern Aleutian Tribes  
 Economic Development Administration  
 City of Egegik  
 Fairbanks Economic Development Corporation  
 City of False Pass  
 First National Bank Alaska  
 Grand Aleutian Hotel & Unisea Inn  
 Gulf of Alaska Coastal Communities Coalition  
 HDR Alaska, Inc.  
 Iccle Seafoods, Inc.  
 Jamin, Schmitt & St. John, P.C.  
 Katmailand Inc.  
 Key Bank of Alaska  
 King Cove Corporation  
 City of King Cove  
 Kodiak Area Native Association  
 Kodiak Chamber of Commerce  
 Kodiak Convention & Visitors Bureau  
 City of Kodiak  
 Kodiak Inn  
 Kodiak Island Borough  
 Koniag, Inc.  
 Lake and Peninsula Borough  
 City of Larsen Bay  
 Mac Enterprises, Inc.  
 Magone Marine Service, Inc.  
 City of Manokotak  
 Marine Conservation Alliance  
 Naknek Electric Association, Inc.  
 Nelson Lagoon Village Council

City of New Stuyahok  
 Northern Economics, Inc.  
 Nushagak Electric & Telephone Cooperative, Inc.  
 Ounalashka Corporation  
 City of Ouzinkie  
 Pacific Seafood Processors Association  
 Pebble Partnership  
 Pedro Bay Village Council  
 Peninsula Airways, Inc.  
 Peratrovich, Nottingham & Drage, Inc.  
 Petro Star, Inc.  
 City of Pilot Point  
 Pilot Point Village Council  
 City of Port Heiden  
 Qagan Tayagungin Tribe  
 City of Saint Paul  
 City of Sand Point  
 Southwest Alaska Vocational & Education Center  
 F/T Starbound LLC  
 Tanadguisx Corporation  
 TDX Power  
 Tryck Nyman Hayes, Inc.  
 Ugashik Traditional Village  
 Ugashik Wild Salmon Company  
 City of Unalaska  
 Unalaska Convention & Visitors Bureau  
 UniSea, Inc.  
 United States Surimi Commission  
 University of Alaska Anchorage  
 University of Alaska Fairbanks - Bristol Bay Campus  
 USDA Rural Development  
 Wells Fargo Alaska  
 Westward Seafoods  
 World Trade Center Alaska

# 3.0 Physical Geography

## Location

Southwest Alaska is a vast area that includes portions of mainland Alaska as well as hundreds of islands. The region encompasses four incorporated boroughs and two federally recognized census areas: the Aleutians East Borough, the Aleutians West Census Area, the Bristol Bay Borough, the Dillingham Census Area, the Kodiak Island Borough and the Lake & Peninsula Borough.

As the name implies, the region is located in the southwest portion of Alaska. It is bordered by the Yukon-Kuskokwim to the northwest, the Bering Sea to the west, the North Pacific Ocean to the south, the Gulf of Alaska to the south and east, and portions of the Kenai Peninsula Borough and an unorganized portion of southcentral Alaska to the east and northeast. Map 3.1 shows the location of Southwest Alaska in relation to the entire state.

From Anchorage, Alaska’s largest city and population center, it is 180 air miles to the nearest Southwest community of Port Alsworth. In contrast, to reach Attu Island, the farthest west community in the region, it would require a flight of nearly 1,700 miles. Table 3.1 provides air mileage distances to selected communities in Southwest Alaska. Table 3.2 shows mileage distances to those communities served by the Alaska Marine Highway, the only form of surface transportation into the region.

**Table 3.1: Air Mileage from Anchorage to Selected Communities in Southwest Alaska**

From Anchorage to:	Air Miles
Port Alsworth	180 miles SW
Kodiak	252 miles SW
King Salmon	289 miles SW
Dillingham	329 miles SW
Sand Point	571 miles SW
Saint Paul	750 miles SW
Akutan	766 miles SW
Unalaska	795 miles SW
Adak	1,250 miles SW
Attu	1,694 miles SW

Sources: U.S. Coast Guard, Lake Clark Air LLC, FAA

**Map 3.1 Location of Southwest Alaska**



# Land Area

The combined area of the four boroughs and two census areas equal 93,875 square miles. Of that total area, nearly 61,000 square miles is land mass and an additional 33,000 square miles is water surface. It is an area roughly equivalent to the State of Oregon, the tenth largest state in the U.S, or 16.5% of the total area of the State of Alaska.

The Lake & Peninsula Borough accounts for roughly one-third of the total area of the region. Together, the Dillingham Census Area and the Lake & Peninsula Borough make up more than half of the area of the region. At 888 square miles, the Bristol Bay Borough is the smallest sub-region comprising less than one percent of the region. For two sub-regions, the Aleutians East Borough (53%) and the Aleutians West Census Area (69%), the water surface area is greater than the land mass. Table 3.3 enumerates the area of each borough or census area in Southwest Alaska. Map 3.2 illustrates the boundaries and locations for each borough or census area.

**Table 3.2: Mileage to Southwest Alaska Communities via the Alaska Marine Highway**

City	to	City	Running Time (Hours)	Nautical Miles	Statute Miles
Homer	to	Kodiak	9.5	136	155
Kodiak	to	Chignik	18.5	249	283
Chignik	to	Sand Point	9.25	138	157
Sand Point	to	King Cove	6.5	98	111
King Cove	to	Cold Bay	2	25	28
Cold Bay	to	False Pass	4.25	58	66
False Pass	to	Akutan	10.5	134	152
Akutan	to	Unalaska	3.3	45	51

Source: Alaska Department of Transportation/AMHS

**Table 3.3: Southwest Alaska Area by Boroughs and Census Areas**

Borough or Census Area	Land Area (sq. miles)	Water Area (sq. miles)	Total Area (sq. miles)	%
Aleutians East Borough	6,988.10	8,023.5	15,011.6	16.0%
Aleutians West Census Area	4,397.00	9,719.7	14,116.5	15.0%
Bristol Bay Borough	504.9	382.8	887.7	0.9%
Dillingham Census Area	18,675.00	2,253.6	20,928.40	22.3%
Kodiak Island Borough	6,559.80	5,463.8	12,023.70	12.8%
Lake & Peninsula Borough	23,782.00	7,125.0	30,907.00	32.9%
Southwest Region Total	60,906.80	32,968.5	93,874.80	100.0%

Source: U.S. Census Bureau and Alaska Department of Community & Economic Development

**Map 3.2: Alaska Boroughs and Census Areas**



## Geology

The physical features of Southwest Alaska have origins in the forces that helped to create the Alaska landform. Based on plate tectonics theory, the earth's surface is a collection of gigantic plates that move over the shifting, underlying mantle. Alaska is formed by three terranes or bands of similar plates that have drifted toward the North American continental plate. Southwest Alaska is composed entirely of terranes that originated in the Pacific Ocean region, drifted northward, and abutted to the edge of the continental plate.<sup>1</sup>

Plate tectonic theory offers explanation for the seismically active nature of Southwest Alaska. Where the Pacific Plate meets the North American Continental Plate, a subduction zone is formed. The Aleutian Trench is a dramatic drop in the ocean floor that parallels the Aleutian Chain and extends into the Gulf of Alaska. This subduction zone has created a trench nearly five miles deep that forms a concave arc just south of the region.

Southwest Alaska is a zone of frequent earthquakes and volcanic eruptions. It is part of a series of volcanic arcs and ocean trenches around the Pacific Basin that form the so-called Ring of Fire.<sup>2</sup> About 80 major volcanic centers consisting of one or more volcanoes dot the Alaska Peninsula and the Aleutian Islands.<sup>3</sup> According to the U.S. Geological Survey and the Alaska Volcano Observatory, 36 of the 41 active volcanoes in Alaska are in Southwest Alaska. Four other historically active volcanoes border the northeastern boundary of the Lake & Peninsula Borough along Cook Inlet.<sup>4</sup>

Shifting tectonic plates also result in earthquakes. Two of the world's top ten magnitude earthquakes have had epicenters in Southwest Alaska (see Map 3.3).<sup>5</sup> Each year Alaska has about 5,000 earthquakes, including 1,000 that measure above a magnitude of 3.5. Alaska typically sees half a dozen quakes each year above magnitude 6. According to the Alaska Earthquake Information Center (AEIC) there are over 200 earthquakes with magnitude 4 and greater per year in the region from Kodiak Island westward through Attu Island. There were about 60 earthquakes with magnitude 7 and greater in that region in the past 100 years. Due to limited seismic tracking stations in the Aleutians, the AEIC data focuses on moderate to large magnitude events.<sup>6</sup>

Southwest Alaska is also vulnerable to the aftereffects of seismic activity in other regions. The 1964 Good Friday earthquake, with an epicenter near Valdez, generated tsunamis that wiped out villages on the Alaska Peninsula, destroyed much of downtown Kodiak, and caused land subsidence that resulted in the abandonment of still more villages. Similarly, earthquakes in Southwest Alaska have impacted Hawaii, California, Oregon, Japan, and the Russian Far East.

With the exception of numerous cirque and valley glaciers scattered throughout the region, significant areas of present day glaciation are limited to four areas on the Alaska Peninsula, the northeastern reaches of the Lake & Peninsula Borough, and the Aleutian Islands. Much of the glaciated areas are contained within Lake Clark National Park and Katmai National Park and Preserve. Estimated total area for present day glaciations in the region is

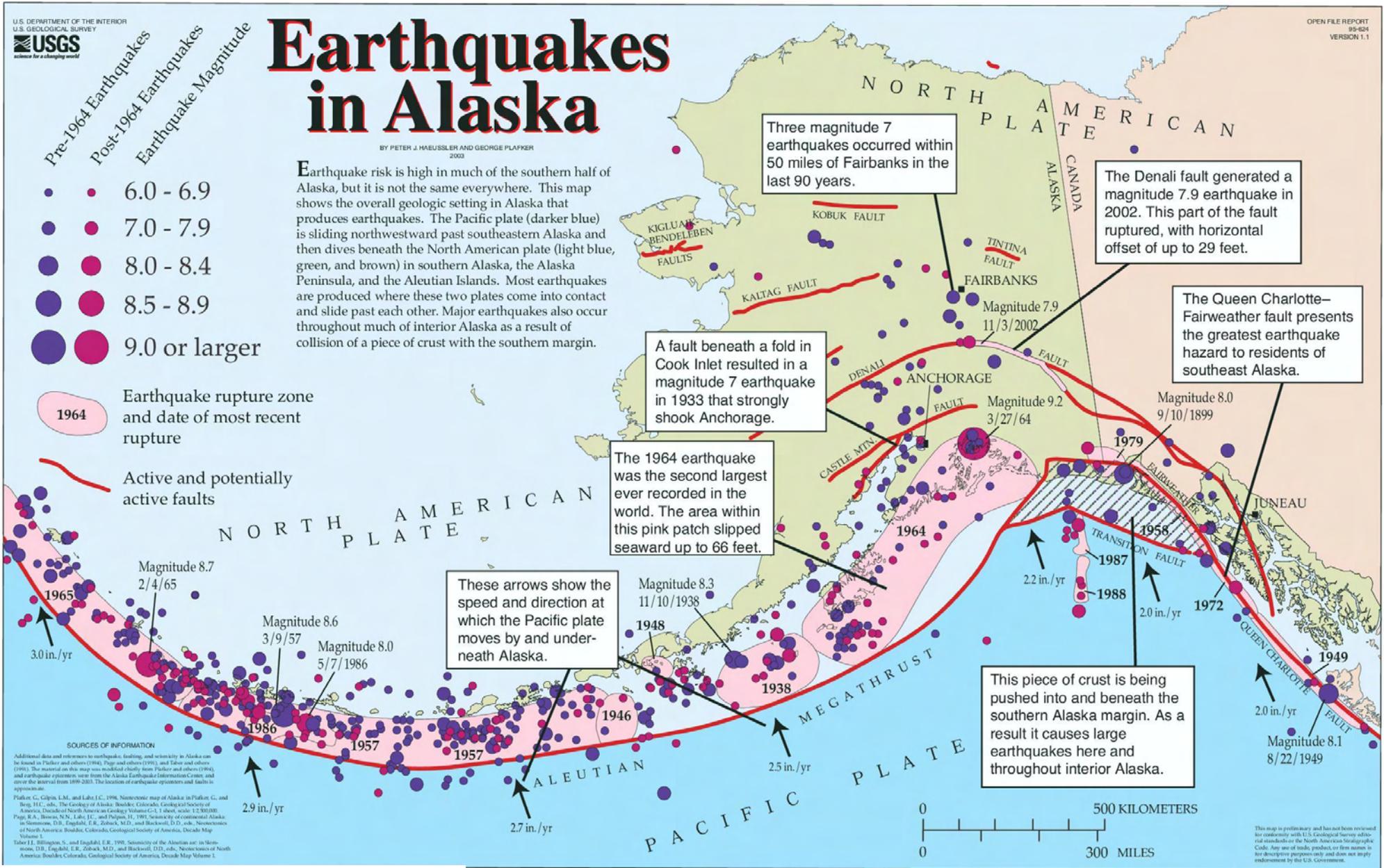
854 square miles. However, during the Great Ice Age and the Little Ice Age, most of Southwest Alaska was covered by glaciers. Glacial advances and retreats left a profound impact on the topography of the region, creating vast lakes, carved peaks, and expansive valleys.

Southwest Alaska is divided into two physiographic divisions: the Pacific Mountain System and the Intermontane Basins and Plateaus. Both systems extend throughout western North America.<sup>7</sup>

The Pacific Mountain System splits into northern and southern arcs as it reaches into Alaska. Shelikof Strait and the Kodiak Archipelago are the farthest southwest extension of the southern arc, while the northern arc includes the Alaska Range, the Aleutian Range, and the Aleutian Islands.

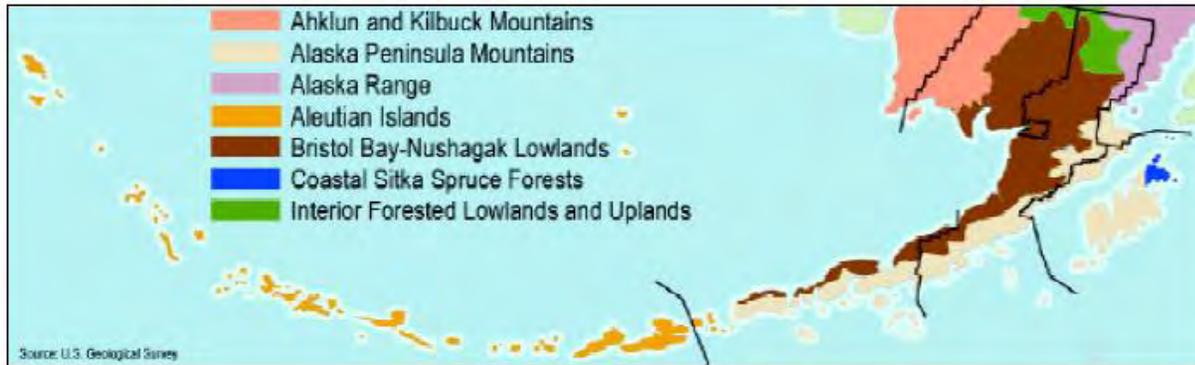
A broad expanse of uplands, valleys and lowland basins form the Intermontane Basins and Plateaus. This physiographic system includes the Nushagak-Bristol Bay Lowlands, the Ahklun and Kilbuck Mountains, and Interior Forested Lowlands and Uplands.

Map 3.3: Earthquakes, Active Faults and Rupture Zones in Alaska



Source: Alaska Earthquake Information Center

Map 3.4: Ecoregions of Southwest Alaska



## Ecosystems

Map 3.4 delineates the seven ecoregions of Southwest Alaska as determined by the U.S. Geological Survey. A variety of natural habitats can be found within each ecosystem including: estuaries and lagoons; wetlands and tideflats; rocky islands and seacliffs; exposed high-energy coasts; rivers, streams and lakes; boreal forests/taiga; alpine and low arctic tundra; glaciers and barren alpine; and temperate rainforests. Each ecoregion has distinctive topography, vegetation patterns, climate zones and fauna.<sup>8</sup>

The following ecoregion descriptions were developed by the U.S. Geological Survey:

**Ahklun-Kilbuck Mountains:** This coastal group of rugged steep-walled mountains forms a boundary to the west of the Bristol Bay Lowlands. Here, strongly-deformed sedimentary and volcanic rocks are cut by great northeast-trending faults including portions of the Denali Fault. Mountain glaciers formed

during the Pleistocene ice age carved many broad U-shaped valleys. On the south side of the mountains, these valleys have subsequently filled with water forming large “finger” lakes. These lakes have resident rainbow trout and nurture abundant runs of sockeye salmon during the summer. Mountain soils have formed in very stony and gravelly colluvium over bedrock, whereas valley soils have formed in glacial till. Dwarf shrub-lichen tundra dominates mountain crests and upper slopes where permafrost is discontinuous. Shrubs (willows, birches, and alders) become progressively more abundant and robust at lower elevations as permafrost becomes more fragmented. In valleys, shrublands are punctuated by sedge-tussock tundra meadows (on very wet areas) and mixed forests. Moose, beavers, and Arctic hares thrive in these shrubby habitats. Walrus and sea lions haul-out in great numbers along the rocky beaches. Seabirds also inhabit these areas. At this latitude, ice normally spans the Bering Sea in winter allowing access for cold Siberian air.<sup>9</sup>

**Alaska Peninsula Mountains:** The Aleutian Range serves as the spine of this peninsula which divides Bristol Bay from the North Pacific Ocean. The Alaska Peninsula narrows progressively towards the south-west as the range becomes increasingly submerged. The folded and faulted sandstone bedrock is dotted with symmetrical cinder cones clad with ice, pumice, and volcanic ash. Earthquakes are common and some of the most active volcanoes on the continent occur here. The Pleistocene Glaciation has produced strongly contrasting topographies along this peninsula with smooth glacial moraines and colluvial shields on the north side and rugged deeply-cut fjordlands on the south side. In turn, glacial-fed streams flowing northward have low-energy, shallow channels whereas those flowing southward have high-energy, deeply-incised channels. Along the north side, huge lakes have filled behind young glacial moraines that act as dams.

The peninsula is generally free of permafrost, however sea ice occasionally forms in Bristol Bay demarcating the northern extent of sea otters. The coastline habitat supports numerous shorebirds and sea mammals. Many Steller sea lion rookeries and haul outs are present. Large populations of brown bears survive on abundant pink, chum, and silver salmon runs. Dominant vegetation is low shrublands of willow, birch, and alder interspersed with ericaceous/ heath and Dryas-lichen communities. Alpine tundra and glaciers occur on mountaintops.<sup>10</sup>

**Alaska Range:** A series of accreted terranes conveyed from the Pacific Ocean have fused to form this arcing mountain range. In turn, these

towering mountains harbor a complex mix of folded, faulted, deformed metamorphic rocks. Landslides and avalanches frequently sweep the steep, scree-lined slopes. Discontinuous permafrost underlies shallow and rocky soils. Because of its height, a cold continental climate prevails and much of the area is barren of vegetation. Occasional streams of Pacific moisture are intercepted by the highest mountains and help feed small icefields and glaciers. At their termini, swift glacial streams with heavy sediment loads course down mountain ravines and braid across valley bottoms. Alpine tundra supports populations of Dall sheep and pikas on mid and upper slopes. Shrub communities of willow, birch, and alder occupy lower slopes and valley bottoms. Forests are rare and relegated to the low-elevation drainages. Brown bears, gray wolves, caribou, Dall sheep, and wolverines are common denizens in the Alaska Range.<sup>11</sup>

**Aleutian Islands:** These sometimes fog-shrouded islands represent volcanic summits of a submarine ridge extending from the Alaska Peninsula to the Kamchatka Peninsula. The Aleutian island arc and deep sea trench are products of the Pacific plate subducting beneath the North America plate. It is one of the most seismically and volcanically active areas in the world. The topography features glaciated and rubble-strewn volcanic cones indented with fjords and bordered by sea cliffs or wave-beaten platforms. These islands are free of permafrost, covered by volcanic-ash soils, and dissected radially by short, swift streams. A cool maritime climate with abundant year-around precipitation prevails over these permafrost-free islands. Terrestrial warming is subdued by incessant cold ocean

winds, perpetual overcast clouds and fog which limit solar insolation. The flora is a blend of species from two continents, grading from North American to Asian affinities from east to west. Mountain flanks and coastlines dominated by low shrubs of willow, birch, and alder interspersed with ericaceous-heath, *Dryas*-lichen, and grass communities. Alpine tundra and glaciers occur on mountains. This island chain demarcates the southern boundary of the Bering Sea and the North Pacific Ocean, which are important grounds for marine mammals (northern fur seals, Steller sea lions, and sea otters), waterfowl (Aleutian Canada geese, emperor geese) and seabirds (various species of auklet, red-legged kittiwakes). With their vast numbers, seabirds serve as important nutrient suppliers by splattering these islands with guano.<sup>12</sup>

**Interior Forested Lowlands and Uplands:**

This ecoregion represents a patchwork of ecological characteristics. Regionwide unifying features include a lack of Pleistocene glaciation, a continental climate, a mantling of undifferentiated alluvium and slope deposits, a predominance of forests dominated by spruce and hardwood species, and a very high frequency of lightning fires. On this backdrop of characteristics is superimposed a finer grained complex of vegetation communities resulting from the interplay of permafrost, surface water, fire, local elevational relief, and hillslope aspect.<sup>13</sup>

**Bristol Bay-Nushagak Lowlands:** This flat to gently-rolling lowland is comprised mainly of glacial till and outwash deposited by various Pleistocene glaciers from the surrounding Ahklun Mountains and Aleutian Range. This

basin is underlain with mixes of glacial, alluvial, and marine sediments all cloaked with varying amounts of loess. Regardless of substrate, these lowlands harbor large concentrations of lakes, ponds, meandering rivers, and wetlands that serve as important staging and migration areas for an abundance of waterfowl. This habitat supports the largest run of sockeye salmon in the world which, in turn, sustains large populations of brown bear, eagles and osprey. Permafrost occurs in scattered isolated masses. Wet organic soils support low and dwarf shrub communities of willow, birch, and alder. Mosses and lichens are abundant groundcovers. The climate is maritime polar with substantial moderation afforded by the southern Bering Sea and the North Pacific Ocean. At this latitude, ice occasionally spans the Bering Sea in winter allowing access for cold Siberian air.<sup>14</sup>

**Coastal Western Hemlock-Sitka Spruce**

**Forest:** Part of a temperate rain forest zone that extends from southeast Alaska across the Gulf of Alaska with a western boundary that ends in the northern reaches of the Kodiak Archipelago. West of Cook Inlet, Sitka spruce dominates within this forest and is the lone native conifer on Kodiak and Afognak Islands. This forest requires cool temperatures, high humidity, and abundant rainfall. Soil types and conditions vary greatly throughout the forest. This vegetation type generally occurs in areas where permafrost is absent. The terrain of this ecoregion is a result of intense glaciation during late advances of the Pleistocene. The deep, narrow bays, steep valley walls that expose much bedrock, thin moraine deposits on hills and in valleys, very irregular coastline, high sea cliffs, and deeply dissected glacial

Map 3.5 Climatic Zones of Southwest Alaska



moraine deposits covering the lower slopes of valley walls are all evidence of the effects of glaciation. The region has the mildest winter temperatures in Alaska, accompanied by large amounts of precipitation.<sup>15</sup>

## Climate

Climate dramatically influences daily life in Southwest Alaska. It can facilitate or prevent economic activity. Air and marine transportation and other forms of human activity can be significantly curtailed or enhanced by the right climatic conditions. While many Americans can pay only cursory attention to weather conditions without any consequences, the residents of Southwest Alaska must pay particular attention to current weather conditions and forecasts for climatic changes. In addition to standard weather forecasts, marine and aviation forecasts are of particular importance to the region.

Based on variations in temperature and precipitation, there are four climatic regions in Southwest Alaska.<sup>16</sup> Latitude and topography

contribute to variations across climatic zones. Most of the region has a distinctive maritime influence, but transition zones in the northern reaches of the Dillingham Census Area and the Lake & Peninsula Borough are also impacted by continental influences. Map 3.5 illustrates the four climatic zones, which are briefly described below.<sup>17</sup>

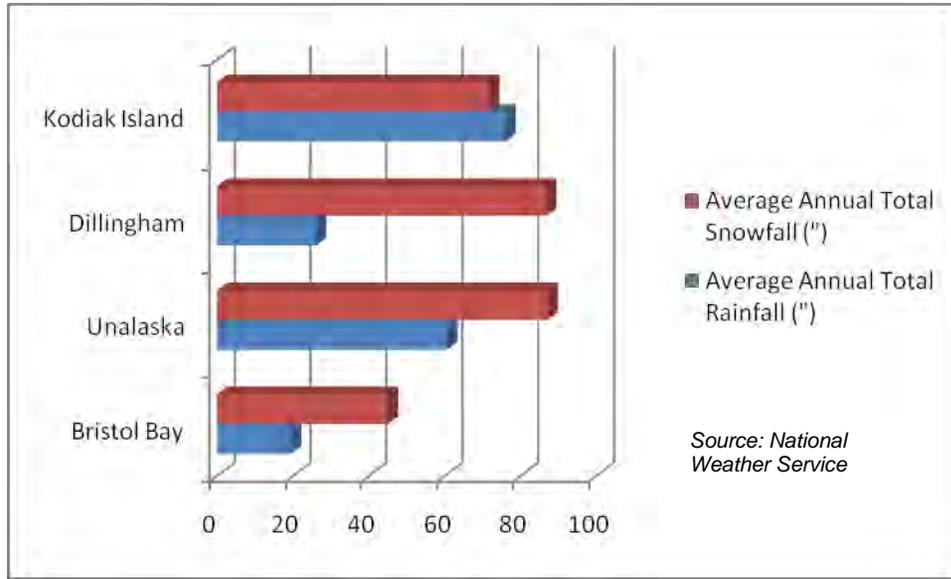
**Western Maritime Climatic Zone:** All of the Aleutians East Borough, the Aleutians West Census Area, and the Kodiak Island Borough are within the Western Maritime Climatic Zone. The southern portion of the Lake & Peninsula Borough is also in this zone. Characterized by equable temperatures, this area is not impacted by continental influences that produce extreme temperature variations in Alaska's interior. Ocean influences can serve a dual role, bringing both warming and cooling effects. Overcast skies and foggy conditions are common. Wind conditions are generally moderate to strong. Severe winter storms with hurricane or cyclone force winds are not uncommon. Wind chill factors can be extreme during such storms.<sup>18</sup>

**Southcentral Climatic Zone:** A substantial portion of the Lake & Peninsula Borough from the Alaska Peninsula through the Lake Clark region, the eastern portion of the Bristol Bay Borough, and most of the Kodiak Island Borough land on the Alaska Peninsula are in the Southcentral Climatic Zone. Impacted by both maritime and continental influences, this area is characterized as a transitional zone. Warming from the Gulf of Alaska and cooling influences from the interior converge in this area generating greater temperature variation. Weather is generally more variable, manifesting aspects of interior, maritime and combination conditions. On average, temperatures are more extreme than in the maritime zone, but less than in the interior. Precipitation amounts also fluctuate between the two zonal influences. Surface winds are generally light with numerous exceptions.<sup>19</sup>

For an indication of typical characteristics of this climatic zone, please refer to the climatic conditions for Iliamna in Table 3.5.F.

**West Coast Climatic Zone:** Most of the Dillingham Census Area, the Bristol Bay Borough, and a portion of the Lake & Peninsula Borough are in the West Coast Climatic Zone. While the primary climatic influence is maritime, continental influences from the Interior also affects the Bristol Bay coast. Temperatures vary more than the Western Maritime Zone. Both precipitation and snowfall are lower than in the Western Maritime Zone, but greater than the Southcentral Zone. In general, conditions are cool, humid and windy.<sup>20</sup>

**Chart 3.1: Average Annual Temperatures for Selected Southwest Regions**

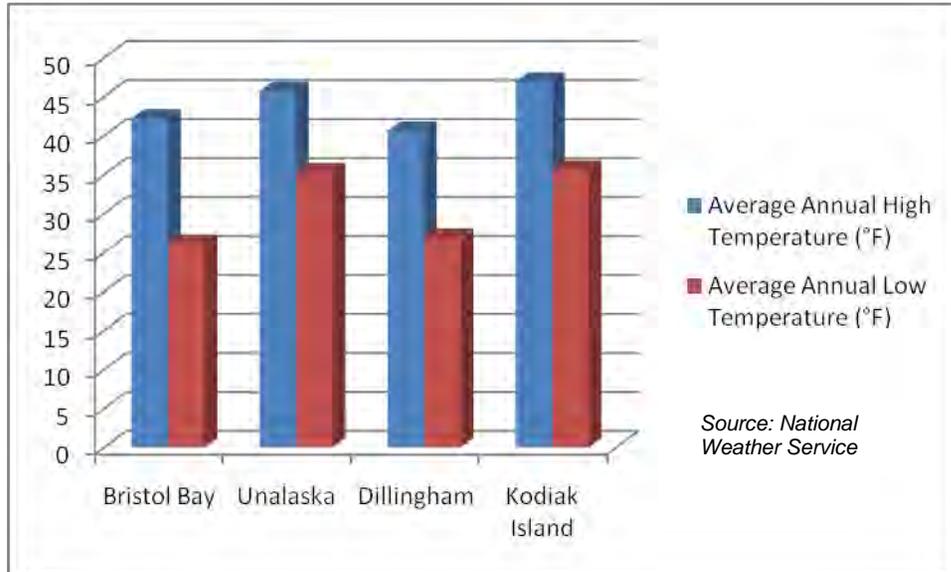


**Interior Climatic Zone:** The colder continental influences of interior Alaska reach into the region forming a small Interior Climatic Zone that spans the boundary between the Dillingham Census Area and the Lake & Peninsula Borough. This zone is also characterized as a transition zone because maritime influences do moderate the colder temperatures that define the zone as it extends to the north. In comparison to the rest of the region, temperature varies more in this zone.<sup>21</sup>

## Hydrology

Given the extensive coastline and density of islands within Southwest Alaska, the hydrosphere is a major element of the region. Both fresh and salt waters are essential to the primary economic activity of commercial seafood harvesting and processing. Bordered by the Bering Sea, the North Pacific Ocean, and the Gulf of Alaska, these important marine ecosystems serve as the basis for much of the region's economy. Southwest Alaska has nearly 12,000 miles of shoreline, which accounts for nearly 40% of the shoreline for the State of Alaska. In comparison, the contiguous 48 states have a combined shoreline of 16,900 miles. Table 3.6 presents shoreline comparisons for the boroughs and census areas, as well as for the state.

**Chart 3.2: Average Annual Precipitation for Selected Southwest Regions**



Ocean basin topography, currents, the extent of sea ice, water temperature and other environmental characteristics influence the productivity of the region's salt water environments. The Kuroshio Current flows across the Pacific Ocean from Japan, splitting into two currents as it approaches North

America. One current, the Alaska Current, turns north creating a counterclockwise flow into the Gulf of Alaska. Currents from the North Pacific move through passes in the Aleutian Chain into the Bering Sea. Currents in the Bering Sea are very complex, but generally tend to move counterclockwise. The interaction of ocean currents with nutrient-rich freshwater runoff from the region's uplands is part of what makes the area such a productive fisheries ecosystem.

The ocean basin topography around Southwest Alaska forms three basic structures. A relatively shallow expanse of the continental shelf (less than 1,600 m below sea level) begins at the Albatross Shelf east of Kodiak, continues across Bristol Bay and the Bering Sea past Unimak Island in the Aleutian Chain, and then narrows along the remainder of the Aleutian Chain. Just south of the Aleutians, the topography drops to a narrow band of greater depth (1,601 – 2,800 m) before dropping off into the much deeper North Pacific (greater than 4,000 m). To the north of the Aleutians, the Bering Sea drops into the enormous Aleutian Basin with depths ranging between 1,600 – 4,000 m.<sup>22</sup>

Historically, the formation of sea ice in the Bearing Sea usually advances into Bristol Bay, arcing from Goodnews Bay to just south of Egegik. The maximum winter advance of sea ice has extended as far south as Unimak Island. Sea ice formation and its impact on ocean temperatures has been an area of increasing interest as scientists examine regime shifts in the Bering Sea. In recent years, the formation of sea ice has been less predictable. Sea ice formation has not extended as far south as

**Table 3.6: Shoreline of Southwest Alaska by Boroughs and Census Areas**

Borough or Census Area	Miles of Shoreline	% of Region
Aleutians East Borough	2,547	21.3%
Aleutians West Census Area	3,700	30.9%
Bristol Bay Borough	156	1.3%
Dillingham Census Area	984	8.2%
Kodiak Island Borough	2,774	23.1%
Lake & Peninsula	1,824	15.2%
Southwest Region Total	11,985	*35.3%
Alaska Total	33,904	**38.3%

\*% of State  
 \*\*% of U.S.

Source: U.S. Department of Commerce; National Oceanic and Atmospheric Administration

usual in some years, while in others it has reached near maximum advance. The far west reaches of the Aleutians, the south side of the Alaska Peninsula, and the Kodiak Archipelago are free from sea ice formation.

Tidal action and tidal variation are also important aspects of the ocean environment around Southwest Alaska. Although tidal variation is not as great in Southwest Alaska as it is in other regions of Alaska, it is still significant in some parts of the region Table 3.7 illustrates high and low tidal ranges within the boroughs and census areas. Tidal variation tends to be greatest at river outlets and nearly nonexistent on some of the Aleutian Islands.

**Lakes:** The State of Alaska is estimated to have more than three million freshwater lakes. According to the U.S. Geological Survey, seven of the ten largest lakes in the state are in

Southwest Alaska. Table 3.8 enumerates the largest lakes in the region. With the exception of Naknek Lake, all of these lakes are within the boundaries of the Lake & Peninsula Borough. The westernmost portion of Naknek Lake falls within the boundaries of the Bristol Bay Borough.

Lake Iliamna and Becharof Lake are the first and second largest lakes in the state, respectively. These lakes also hold the distinction of being the second and fourth largest lakes in the U.S. Lake Iliamna is situated between Lake Clark and Katmai National Parks. At 1,150 square miles in area and 80 miles in length, the lake is approximately the size of the state of Connecticut. Lake Iliamna is the centerpiece of a large lake system that also includes Lake

**Table 3.7: Largest Lakes in Southwest Alaska**

Lake	Area (sq. mi.)	Ranking in Alaska
Lake Iliamna	1,150	1
Becharof Lake	458	2
Naknek Lake	242	4
Lake Clark	110	6
Upper Ugashik	75	8
Lower Ugashik	72	9
Kukaklek Lake	72	10

Source: U.S. Geological Survey

Clark. Iliamna has a mean depth of 144 feet and is over 900 feet deep in some areas.<sup>23</sup> The system drains into Bristol Bay via the Kvichak River.

Becharof Lake is situated in the Becharof National Wildlife Refuge on the Alaska Peninsula. It covers 458 square miles and has a mean depth of 186 feet. Becharof Lake is located in the Egegik River watershed and feeds into Bristol Bay. Numerous other lakes dot the region. The extensive Wood-Tikchik lake system in the Dillingham Census Area includes Nunavaugaluk Lake, Lake Aleknagik, Lake Nerka, Lake Middle Nerka, Lake Beverly, Lake Kulik, Nuyakuk Lake, and Tikchik Lake.

Numerous other lakes dot the region. The extensive Wood-Tikchik lake system in the Dillingham Census Area includes Nunavaugaluk Lake, Lake Aleknagik, Lake Nerka, Lake Middle Nerka, Lake Beverly, Lake Kulik, Nuyakuk Lake and Tikchik Lake.

In the Aleutians East Borough, small lakes such as Bear Lake, Shishkof Pond, Sandy Lake and Sapsuk Lake can be found. Long, shallow lakes are common on the southwest portion of Kodiak Island, including Karluk Lake, Fraser Lake, and Red Lake. Several other large lakes in this area are Uganik Lake and Afognak Lake. In addition to these larger lakes, there are many unnamed pothole lakes that pockmark the lowlands of virtually every area of Southwest Alaska.

**Rivers, Streams, and Creeks:** The Alaska Department of Fish & Game lists 3,174 entries for Southwest Alaska in the *Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes*.<sup>24</sup> It is estimated that only half of all anadromous waters are currently listed in the catalog. Most streams and creeks in the region remain unnamed.

There are two drainage zones within the region. Most drainage and river discharge falls into the Southwest Alaska Drainage Region, as

**Map 3.6: Wetlands Distribution in Southwest Alaska**



designated by the U.S. Geological Survey. Waters in the Kodiak Archipelago and on the southeast ridge of the Aleutian Range flow into the Southcentral Alaska Drainage Region.

The most extensive river systems in Southwest Alaska can be found in the Bristol Bay lowlands encompassing the Dillingham Census Area, the Bristol Bay Borough, and portions of the Lake & Peninsula Borough on the north side of the Alaska Peninsula. There are eight major river systems in this region: the Wood River, Nushagak River, Kvichak River, Naknek River, Egegik River, Ugashik River, Meshik River, and Chignik River. Elsewhere in the region, most rivers and creeks are generally shallow and short in length, frequently originating from lakes or glaciers. Many are steep with swift moving water, especially along the Aleutian Range.

Five rivers in Southwest Alaska have been designated National Wild & Scenic Rivers (WSR) by the U.S. Government. Each of the five rivers is designated for wild and scenic values within a unit of the National Park system. Within Katmai National Park, the Alagnak River (74 mi.) has WSR designation. Within the boundaries of the Aniakchak National Monument & Preserve, 63 miles of the Aniakchak River has WSR designation. Three rivers in Lake Clark National Park & Preserve have WSR designation: the Chilikadrotna River (11 mi.), the Mulchatna River (24 mi.), and the Tlikakila River (51 mi.).

**Ground Water:** Wetlands within Southwest Alaska are generally confined to the Dillingham Census Area, the Bristol Bay

Borough, the Lake & Peninsula Borough and the Aleutians East Borough. The largest concentrations of wetlands are in the Bristol Bay-Nushagak Lowlands ecosystem. Map 3.6 identifies the distribution of wetlands in the region.

According to the U.S. Geological Survey, information about the aquifers or water-bearing geologic formations outside of Alaska's urban areas is sparse. Alaska's groundwater is generally of good quality and is suitable for most uses, although hard water and naturally high iron concentrations are common. There are localized water quality problems with various natural and man-made causes. These include natural geologic conditions, such as aquifers in marine sedimentary rocks that can produce brackish water. Natural biologic processes and contamination from septic tank discharges can cause high nitrate concentrations, and intensive pumping in aquifers near the coasts can mix sea water with freshwater, making it unfit for most uses.<sup>25</sup>

Most of the groundwater pumped in Alaska comes from sand and gravel aquifers that are typical of a relatively small part of the state. The consolidated bedrock that covers more than 70 percent of Alaska forms aquifers with great variability, and much remains to be learned about the groundwater that might potentially be tapped.<sup>26</sup>

## Endnotes

<sup>1</sup> Alaska in Maps, page 22 with supplemental information from: <http://www.usgs.gov>

<sup>2</sup>  
<http://pubs.usgs.gov/publications/text/fire.html>

<sup>3</sup>  
<http://pubs.usgs.gov/gip/volcus/ustext.html#Alaskan>

<sup>4</sup>  
<http://www.avo.alaska.edu/avo4/pdfs/usgsfs118-00.pdf>

<sup>5</sup> Alaska Earthquake Information Center  
<http://www.aeic.alaska.edu/>

<sup>6</sup> Natalia Ratchkovski, Ph.D., Seismologist, Alaska Earthquake Information Center, Personal communication, June 19, 2003

<sup>7</sup> Pearson, Roger. Alaska in Maps: A Thematic Atlas, page 21. July 1998.

<sup>8</sup>  
<http://www.fs.fed.us/land/pubs/ecoregions/index.html>

<sup>9</sup> IBID

<sup>10</sup> IBID

<sup>11</sup> IBID

<sup>12</sup> IBID

<sup>13</sup> IBID

<sup>14</sup> IBID

<sup>15</sup> IBID

<sup>16</sup> Pearson, Roger. Alaska in Maps: A Thematic Atlas, page 23 and 33. July 1998.

<sup>17</sup> IBID

<sup>18</sup> IBID

<sup>19</sup> IBID

<sup>20</sup> IBID

<sup>21</sup> IBID

<sup>22</sup> IBID

<sup>23</sup>  
[http://www.lakeandpen.com/index.asp?Type=B\\_BASIC&SEC={AFCFD48C-BDE5-47FF-BD61-FB50625F46CE}](http://www.lakeandpen.com/index.asp?Type=B_BASIC&SEC={AFCFD48C-BDE5-47FF-BD61-FB50625F46CE})

<sup>24</sup>  
<http://www.sf.adfg.state.ak.us/SARR/AWC/index.cfm/FA/main.overview>

<sup>25</sup> Jay Johnson, ADF&G, personal communication with additional data manipulation by author, June 2003

<sup>26</sup>  
<http://waterdata.usgs.gov/ak/nwis/>

# 4.0 Political Geography

## Local Governments

Alaska Statute Title 29 defines the forms and powers of municipal governments in the state. Table 4.1 summarizes the forms of government, number of incorporated and unincorporated communities, State House and Senate districts, school districts, ANCSA regional corporations, ANCSA village corporations, and tribal governments for each borough and census area in Southwest Alaska.

The Aleutians East, Bristol Bay and Kodiak Island Boroughs are incorporated as Second Class Boroughs. Second Class Boroughs may, by ordinance, exercise the following powers on an areawide basis: provide transportation systems; license, impound and dispose of animals; provide air pollution control under AS 46.14.400; provide water pollution control; and license day care facilities. On a non-areawide basis, second class boroughs may, by ordinance: provide transportation systems; regulate the offering for sale, exposure for sale; sale, use, or explosion of fireworks; license, impound, and dispose of animals; subject to AS 29.35.050, provide garbage, solid waste, and septic waste collection and disposal; provide air pollution control under AS 46.14.400; provide water pollution control; participate in federal or state loan programs for housing rehabilitation and improvement for energy conservation; provide for economic development; provide for the acquisition and construction of local service roads and trails under AS 119.30.251; establish an emergency services communications center under AS 29.35.130; and subject to AS 28.01.010, regulate the licensing and operation of motor vehicles and operators.<sup>1</sup>

The Lake & Peninsula Borough is incorporated as a Home Rule Borough. A Home Rule Borough is a municipal corporation and political subdivision that has adopted a home rule charter and has all legislative powers not prohibited by Alaska law or its home rule charter.<sup>2</sup>

The State of Alaska identifies any area of the state that is not within the boundaries of an organized borough as a single unorganized borough.<sup>3</sup> As unincorporated areas, the Aleutians West and Dillingham Census Areas are recognized as part of the unorganized borough. In these regions, cities and tribal organizations typically provide community services while education is delivered by the state through Regional Educational Attendance Areas (REAAs). REAAs are state designated service areas chartered to provide public education to the unorganized borough, except within home rule and first class cities

Twenty-nine municipalities within Southwest Alaska are incorporated as home rule, first class, or second class cities. Twenty-nine additional communities are recognized as Alaska Native Village Statistical Areas (ANVSA) or Census Designated Places (CDP) by the federal government or as unincorporated areas by the State of Alaska. For unincorporated communities, the State of Alaska generally recognizes the local tribal government, if one exists. Fifty-five tribal entities in Southwest Alaska are recognized by the U.S. Bureau of Indian Affairs (BIA).<sup>4</sup> Table 4.1 provides a summary of the local governments, legislative districts and ANCSA corporations in Southwest Alaska.

Tables 4.2.A-F and Maps 4.2.A-F identify the communities for each borough or census area as well as its corresponding legislative districts, school district, ANCSA Regional Corporation, village corporation, and tribal government. Table 4.3 identify the area for each city, ANVSA or CDP for each sub-region.

## Congressional and Legislative Representation

As part of the Alaska At-Large Congressional District, the Southwest Alaska region is represented in the U.S. House of Representatives by Congressman Don Young. Alaska is represented in the U.S. Senate by Senators Lisa Murkowski and Mark Begich.

Based on the most recent Alaska redistricting

plan, which became effective in April of 2002, Southwest Alaska is divided into two senate districts and two house districts (see Map 4.1).<sup>5</sup> Senate District ‘S’ encompasses the Aleutians East Borough, the Aleutians West Census Area, the Dillingham Census Area, and the southern portion of the Lake & Peninsula Borough. Additionally, Senate District ‘S’ extends to the Lower Kuskokwim River area, which is not part of Southwest Alaska. Senator Lyman Hoffman of Bethel has represented District S and its residents since 1990.

Senate District ‘R’ includes all of the Kodiak Island Borough, the northern portion of the Lake & Peninsula Borough, as well as portions of the Kenai Peninsula Borough. The latter is outside the Southwest Alaska region. Gary Stevens of Kodiak was named to the Senate District ‘R’ seat when his predecessor was named to a gubernatorial appointment. Stevens previously served one and a half terms in the

Alaska House of Representatives.

The boundaries of House District 37 include the Aleutians East Borough, the Aleutians West Census Area, the Dillingham Census Area, and the southern portion of the Lake & Peninsula Borough. Democratic Representative Bryce Edgmon of Dillingham has been elected to represent the district since 2006.

House District 36 incorporates the Kodiak Island Borough and the northern portion of the Lake & Peninsula Borough. Republican Alan Austerman of Kodiak currently represents the 36<sup>th</sup> district. Austerman previously served as an Alaska State Senator from 2000-2003, and before that he represented the 36th district in the House from 1994-1999.

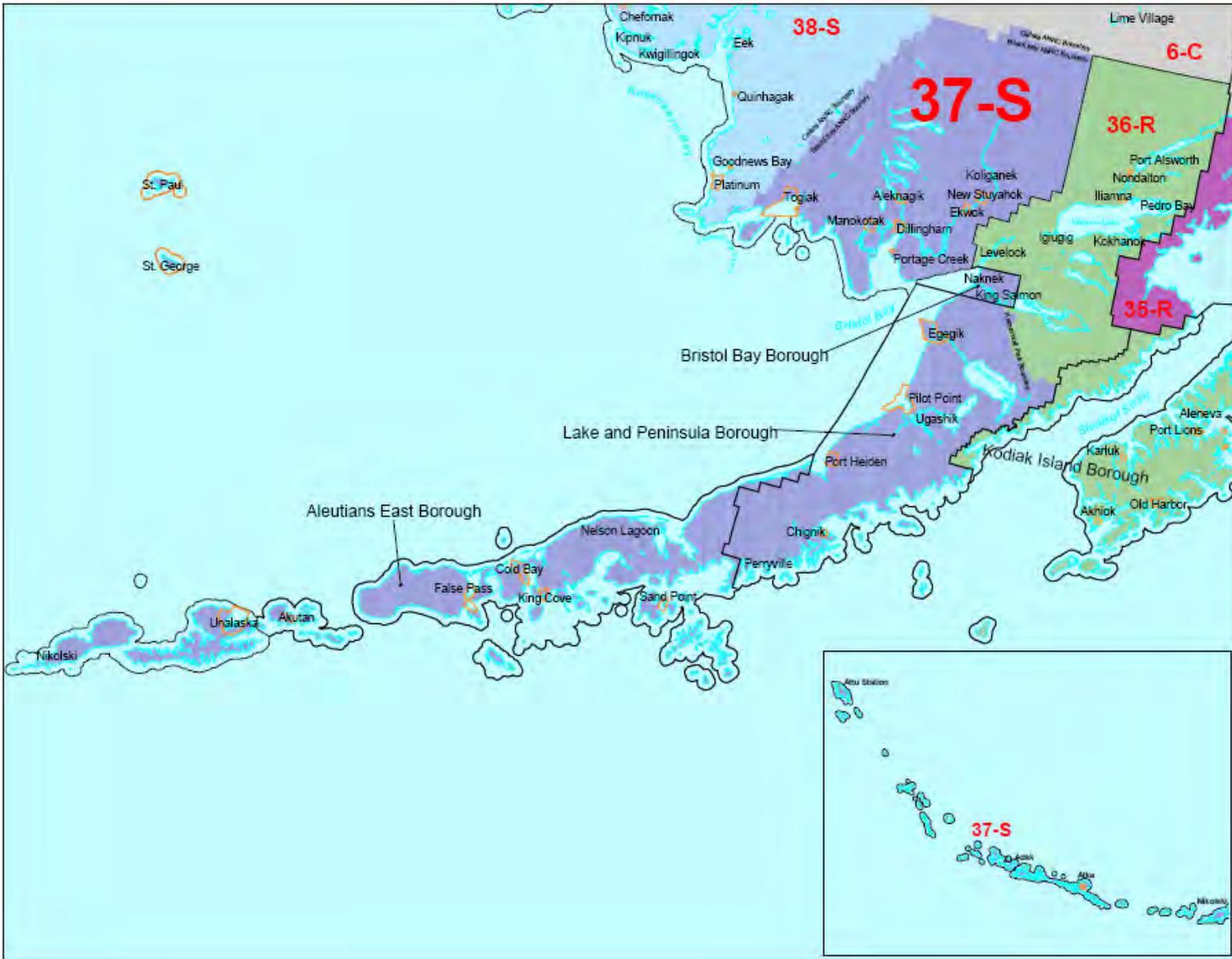
A census count in 2010 and revised reapportionment plan for 2011 may lead to different political boundaries in 2012.

**Table 4.1: Local Governments, Legislative Districts and ANCSA Corporations in Southwest Alaska**

Borough or Census Area	Form of Government	Est.	Inc. Cities	Uninc. Comm.	Senate District	House District	School District	ANCSA Regional Corporation	ANCSA Village Corps	Tribal Governments
Aleutians East Borough	Second Class Borough	1987	5	2	S	37	1	The Aleut Corporation	8	8
Aleutians West Census Area	Unorganized Borough	N/A	5	3	S	37	3	The Aleut Corporation	5	5
Bristol Bay Borough	Second Class Borough	1962	0	3	S	37	1	Bristol Bay Native Corporation	2	3
Dillingham Census Area	Unorganized Borough	N/A	7	4	S	37	2	Bristol Bay Native Corporation	9	11
Kodiak Island Borough	Second Class Borough	1963	6	5	R	36	1	Koniag, Inc.	8	11
Lake & Peninsula Borough	Home Rule Borough	1989	6	12	R/S	36/37	1	Bristol Bay Native Corporation, CIRI	14	17

Sources: Alaska Department of Commerce, Community & Economic Development; Alaska Federation of Natives; The Aleut Corporation; Bristol Bay Native Corporation; Koniag, Inc.

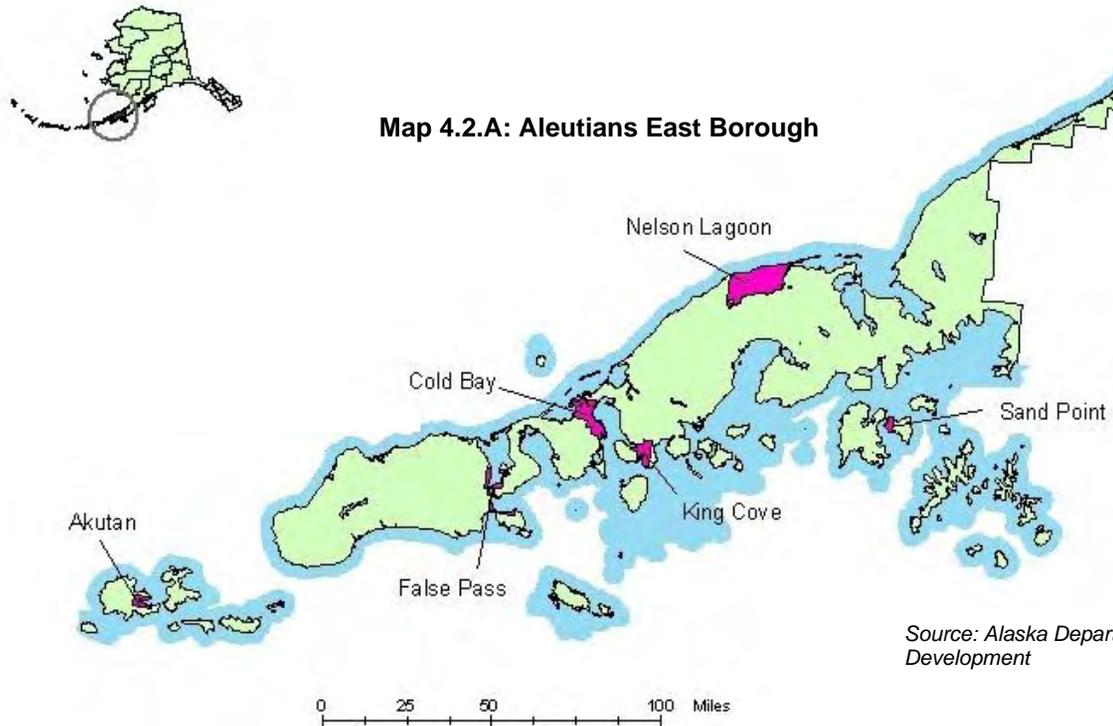
Map 4.1: Legislative Districts in Southwest Alaska



Source: <http://www.elections.alaska.gov/maps/districts/dist37.pdf>

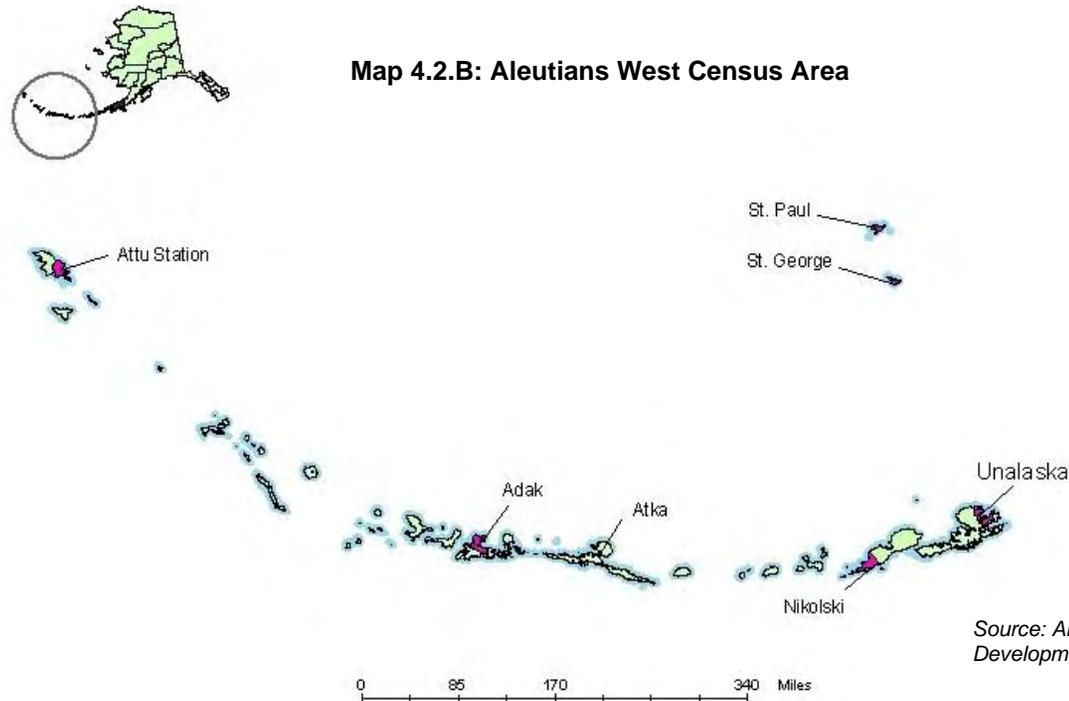
**Table 4.2.A: Local Government, Legislative Districts and ANCSA Corporations in the Aleutians East Borough<sup>6</sup>**

Aleutians East Borough	Form of Government	Est.	Senate District	House District	School District	ANCSA Regional	ANCSA Village Corporation(s)	Tribal Government	Regional Non-Profit
Aleutians East Borough	Second Class Borough	1987	<b>S 37</b>		<b>Aleutians East School District</b>	<b>The Aleut Corporation</b>	N/A	N/A	<b>Aleutian/Pribilof Islands Association &amp; Eastern Aleutian Tribes</b>
Akutan	Second Class Borough	1979					Akutan Corporation	Akutan Traditional Council	
Belkofski ANVSA	Unincorporated	N/A					Belkofski Corporation	Belkofski Village Council	
Cold Bay	Second Class City	1982					N/A	N/A	
False Pass	Second Class City	1990					Isanotski Corporation	False Pass Village Council	
King Cove	First Class City	1949					King Cove Corporation	Agdaagux Tribal Council	
Nelson Lagoon CDP	Unincorporated	N/A					Nelson Lagoon Corporation	Nelson Tribal Council	
Pauloff Harbor	Unic	N/A					Sanak Corporation	Pauloff Harbor Village Council	
Sand Point	Second Class City	1966					Shumagin Corporation, Unga Corporation	Qagan Tayagungin Tribe of Sand Point, Village, Unga	



**Table 4.2.B: Local Governments, Legislative Districts and ANCSA Corporations in the Aleutians West Census Area<sup>6</sup>**

Aleutians West Census Area	Form of Government	Est.	Senate District	House District	School District	ANCSA Regional	ANCSA Village Corporation(s)	Tribal Government	Regional Non-Profit
Aleutians West Census	Unorganized Borough	N/A	S	37	Aleutian Region Schools	The Aleut Corporation	N/A	N/A	Aleutian/Pribilof Islands Association
Adak CDP	Second Class City	2001					N/A	N/A	
Atka	Second Class City	1988					Atkam Corporation	Atka IRA Council	
Attu Station CDP	Unincorporated	N/A					N/A	N/A	
Eareckson AFS (Shemya Station)	Unincorporated	N/A			N/A		N/A		
Nikolski CDP	Unincorporated	N/A			Chaluka Corporation		Nikolski IRA Council		
St. George	First Class City	1983			St. George Tanaq		St. George Tribal Council		
St. Paul	First Class City	1971			Tanadgusix Corporation		Tribal Government of St. Paul		
Unalaska	First Class City	1942			Unalaska Corporation		Qawalangin Tribal Council of Unalaska		



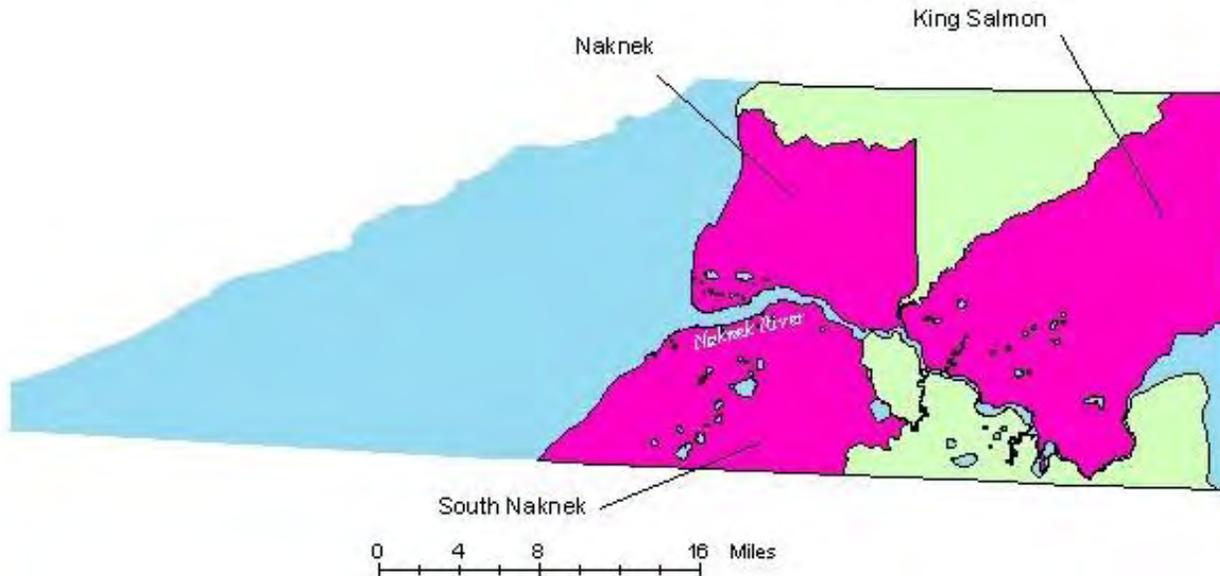
Source: Alaska Department of Labor and Workforce Development

**Table 4.2.C: Local Governments, Legislative Districts and ANCSA Corporations in the Bristol Bay Borough<sup>6</sup>**

Bristol Bay Borough	Form of Government	Est.	Senate District	House District	School District	ANCSA Regional	ANCSA Village Corporation(s)	Tribal Government	Regional Non-Profit
Bristol Bay Borough	Second Class Borough	N/A	<b>S</b>	<b>37</b>	<b>Bristol Bay Borough Schools</b>	<b>Bristol Bay Native Corporation (BBNC)</b>	N/A	N/A	<b>Bristol Bay Native Association (BBNA)</b>
King Salmon CDP	Unincorporated	2001					Paug-Vik Ltd.	King Salmon Village Council	
Naknek CDP	Unincorporated	1988					Paug-Vik Ltd.	Naknek Village Council	
South Naknek CDP	Unincorporated	N/A					Alaska Peninsula Corporation	South Naknek Village Council	



**Map 4.2.C: Bristol Bay Borough**



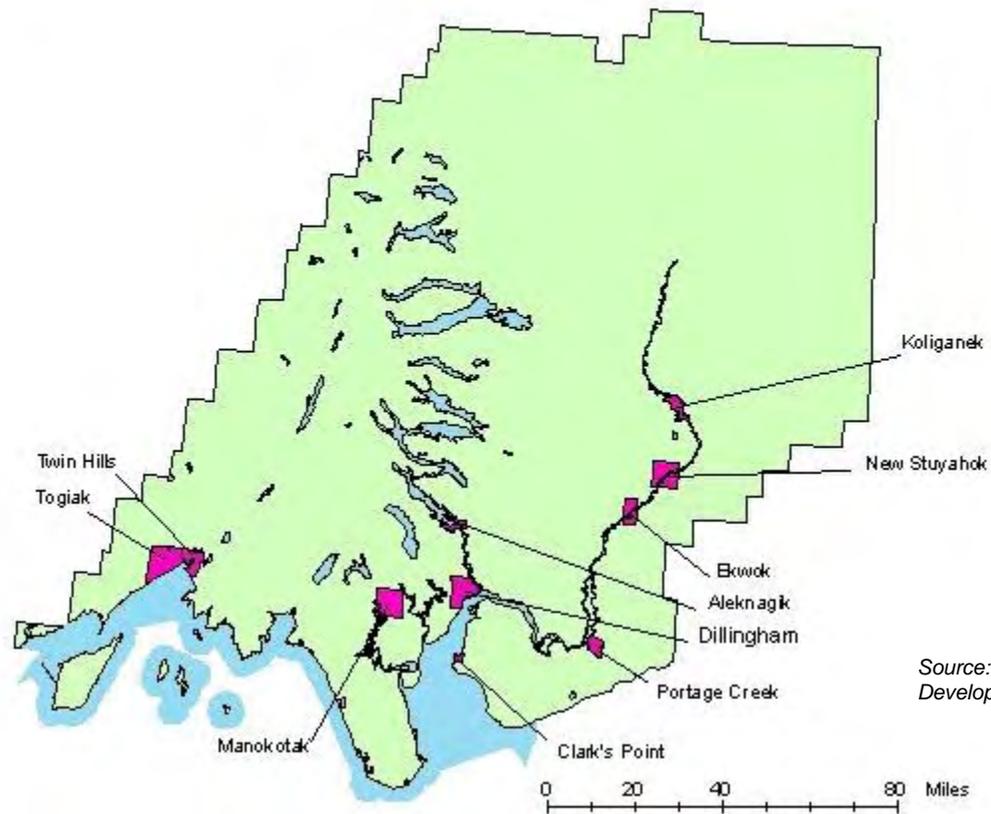
Source: Alaska Department of Labor and Workforce Development

**Table 4.2.D: Local Governments, Legislative Districts and ANCSA Corporations in the Dillingham Census Area<sup>6</sup>**

Dillingham Census Area	Form of Government	Est.	Senate District	House District	School District	ANCSA Regional	ANCSA Village Corporation(s)	Tribal Government	Regional Non-Profit	
Dillingham Census Area	Unorganized Borough	N/A	S	37	Southwest Region School District	Bristol Bay Native Corporation (BBNC)	N/A	N/A	Bristol Bay Native Association (BBNA)	
Aleknagik	Second Class City	1973					Aleknagik Natives Ltd.	Aleknagik Traditional Council		
Clark's Point	Second Class City	1971					Saguyak, Inc.	Clark's Point Village Council		
Dillingham	First Class City	1963			Dillingham		Southwest Region School District	Choggiung Ltd.		Curyung Tribal Council
Ekuk ANVSA	Unincorporated	N/A						Choggiung Ltd.		Ekuk Village Council
Ekwok	Second Class City	1974						Ekwok Natives Ltd.		Ekwok Village Council
Manokotak	Second Class City	1970						Manokotak Natives Ltd.		Manokotak Village Council
New Koliganek ANVSA	Unincorporated	N/A						Koliganek Natives Ltd.		New Koliganek Village
New Stuyahok	Second Class City	1972						Stuyahok Natives Ltd.		New Stuyahok Village Council
Portage Creek CDP	Unincorporated	N/A						Choggiung Ltd.		Portage Creek Village Council
Togiak	Second Class City	1969						Togiak Natives Ltd.		Togiak Traditional Council
Twin Hills CDP	Unincorporated	N/A						Twin Hills Native Corporation		Twin Hills Village Council

(Map of Dillingham Census Area on next page)

Map 4.2.D: Dillingham Census Area



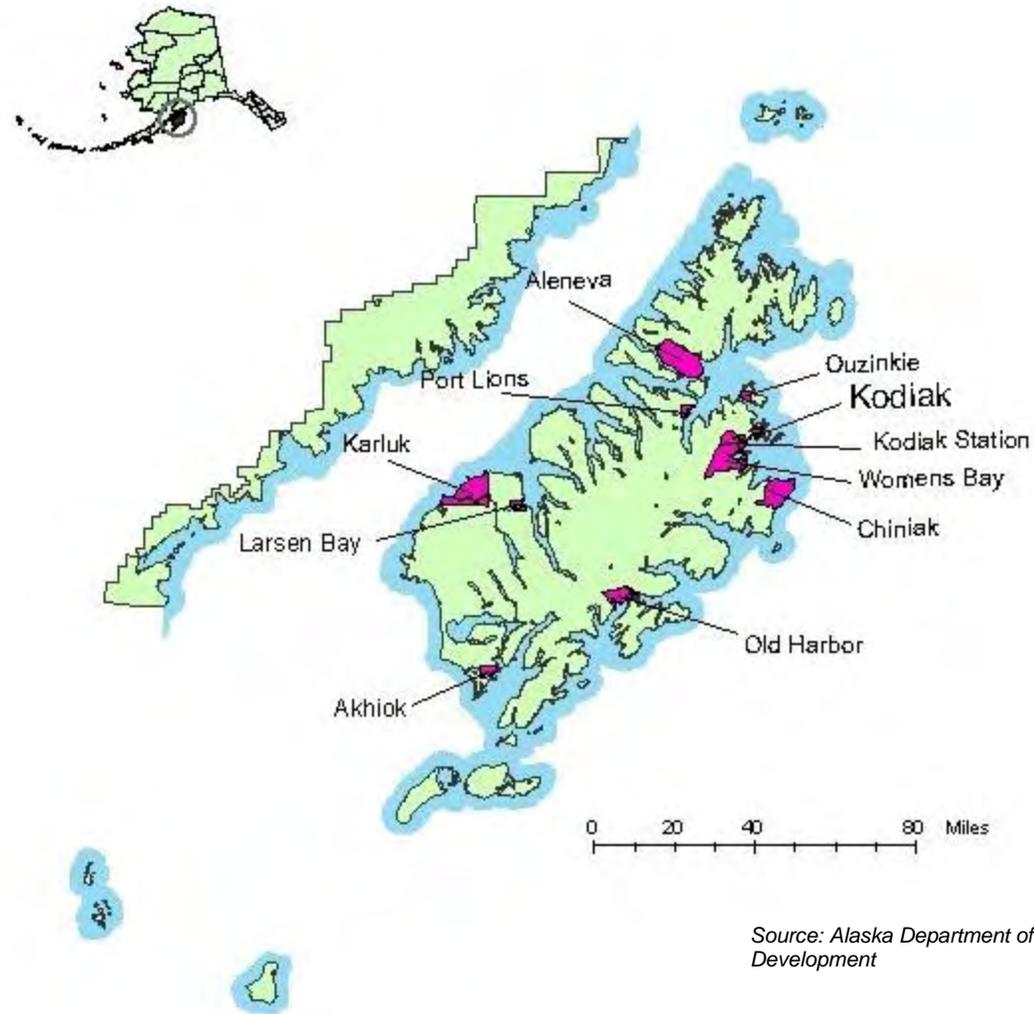
Source: Alaska Department of Labor and Workforce Development

**Table 4.2.E: Local Government, Legislative Districts and ANCSA Corporations in the Kodiak Island Borough<sup>6</sup>**

Kodiak Island Borough	Form of Government	Est.	District	District	District	Regional	ANCSA Village Corporation(s)	Tribal Government	Regional Non-Profit
Kodiak Island Borough	Second Class Borough	1963	R	36	Kodiak Island Borough School District	Koniag, Inc.	N/A	N/A	Kodiak Area Native Association (KANA)
Akhiok	Second Class City	1972					Akhiok-Kaguyak	Natives Village of Akhiok	
Aleneva CDP	Unincorporated	N/A					N/A	Natives of Afognak, Inc.	
Chiniak CDP	Unincorporated	N/A					N/A	N/A	
Karluk CDP	Unincorporated	N/A					Partitioned to Koniag	Karluk IRA Council	
Kodiak	Home Rule City	1940					Natives of Kodiak	Shoonaq Tribe of Kodiak	
Kodiak Station CDP	Unincorporated	N/A					N/A	N/A	
Larsen Bay	Second Class City	1974					Partitioned to Koniag	Native Village of Larsen Bay	
Old Harbor	Second Class City	1966					Old Harbor Native Corporation	Old Harbor Tribal Council	
Ouzinkie	Home Rule City	1967					Ouzinkie Native	Ouzinkie Tribal Council	
Port Lions	Second Class City	1966					Afognak Native	Village of Port Lions	
Woody Island	Unincorporated	N/A					Leisnoi, Inc.	Woody Island Tribal Council	
Womens Bay CDP	Unincorporated	N/A					N/A	N/A	
Abandoned Villages	N/A	N/A					Anton Larsen Inc.; Ayakulik, Inc.; Bells Flats Natives, Ltd.; Uyak, Inc.; Litnik, Inc.; Shuyak, Ltd.; Uganik, Inc.	Kaguyak Village, Native Village of Kanatak	

(Map of Kodiak Island Borough on next page)

Map 4.2.E: Kodiak Island Borough



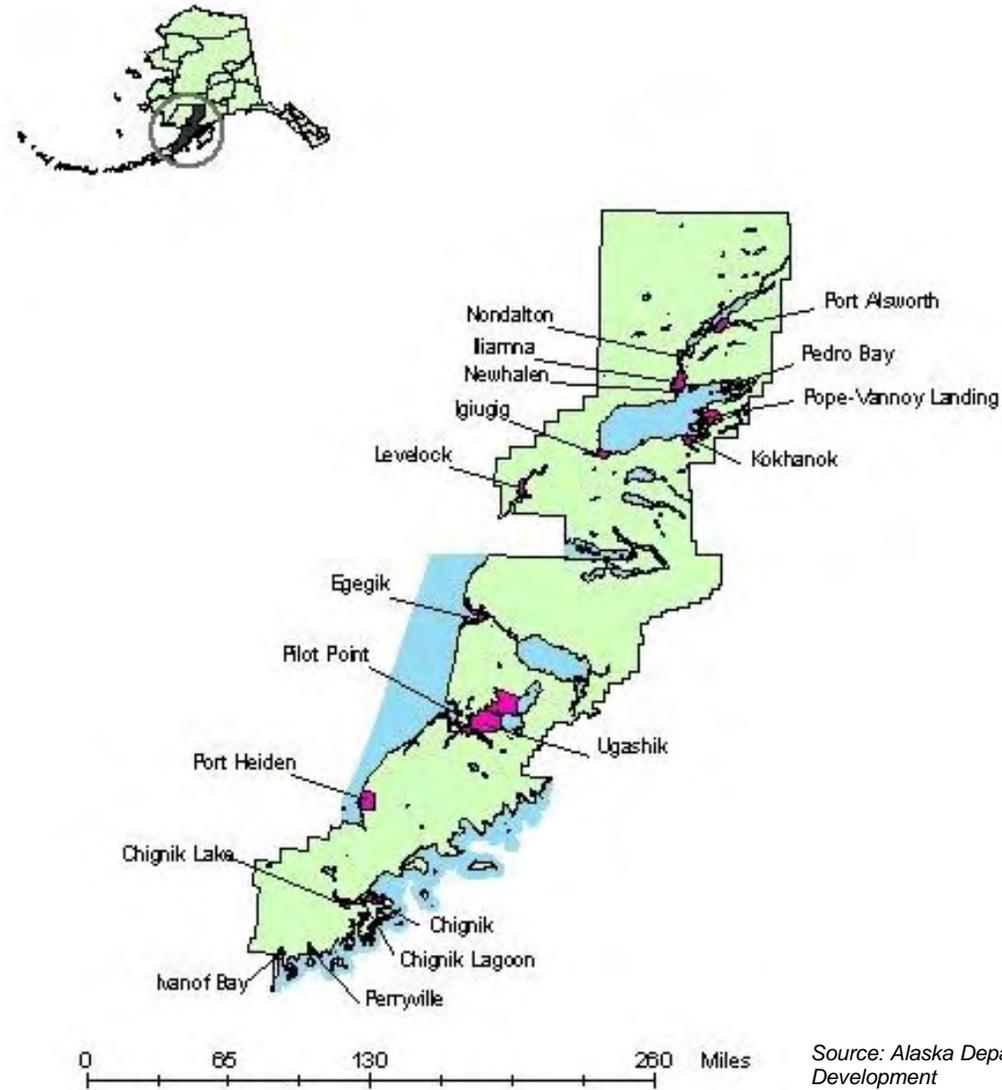
Source: Alaska Department of Labor and Workforce Development

**Table 4.2.F: Local Government, Legislative Districts and ANCSA Corporations in the Lake & Peninsula Borough<sup>6</sup>**

Lake & Peninsula Borough	Form of Government	Est.	District	District	District	Regional	ANCSA Village Corporation(s)	Tribal Government	Regional Non-Profit
Lake & Peninsula Borough	Home Rule Borough	1989	S	37	Lake & Peninsula Schools	Bristol Bay Native Corporation (BBNC)	N/A	N/A	Bristol Bay Native Association (BBNA)
Chignik	Second Class City	1983					Far West, Inc.	Chignik Bay Village Council	
Chignik Lagoon CDP	Unincorporated	N/A					Chignik Lagoon Native	Chignik Lagoon Village	
Chignik Lake CDP	Unincorporated	N/A					Chignik River Ltd.	Chignik Lake Village Council	
Egegik	Second Class City	1995					Becharof Corporation	Egegik Village Council	
Igiugig CDP	Unincorporated	N/A	R	36			Igiugig Native Ltd.	Igiugig Village Council	
Iliamna CDP	Unincorporated	N/A	R	36			Iliamna Native Ltd.	Iliamna Village Council	
Ivanof Bay CDP	Unincorporated	N/A	S	37			Bay View, Inc.	Ivanof Bay Village Council	
Kokhanok CDP	Unincorporated	N/A	R	36			Alaska Peninsula Corporation	Kokhanok Village Council	
Levelock CDP	Unincorporated	N/A					Levelock Natives Ltd.	Levelock Village Council	
Newhalen	Second Class City	1971					Alaska Peninsula Corporation	Newhalen Tribal Council	
Nondalton	Second Class City	1971	S	37			Kijik Corporation	Nondalton Tribal Council	
Pedro Bay CDP	Unincorporated	N/A					Pedro Bay Village	Pedro Bay Village Council	
Perryville CDP	Unincorporated	N/A					Oceanside Corporation	Native Village of Perryville	
Pilot Point	Second Class City	1992	Pilot Point Native Corporation	PilotPoint Village Council					
Pope-Vannoy Landing CDP	Unincorporated	N/A	R	36	N/A	N/A			
Port Heiden	Second Class City	1972	S	37	Alaska Peninsula Corporation	Port Heiden Village Council			
Ugashik CDP	Unincorporated	N/A	S	37	Alaska Peninsula Corporation	Ugashik Traditional Council			
Port Alsworth CDP	Unincorporated	N/A	R	36	Cook Inlet	Tanalian Inc.	Tanalian Village Council	Cook Inlet Tribal	

(Map of Lake & Peninsula Borough on next page)

Map 4.2.F: Lake & Peninsula Borough



**Table 4.3: Area of Cities, ANVSAs and CDPs in Southwest Alaska Boroughs and Census Areas<sup>7</sup>**

Borough or Census Area	Land Area	Water Area	Total Area
Aleutians East Borough	6,988.1	8,023.5	15,011.6
Aleutians West Census Area	4,397.0	9,719.7	14,116.5
Bristol Bay Borough	504.9	382.8	887.7
Dillingham Census Area	18,675.0	2,253.6	20,928.4
Kodiak Island Borough	6,559.8	5,463.8	12,023.7
Lake & Peninsula Borough	23,782.0	7,125.0	30,907.0

## Education

Nine school districts fulfill the public educational needs of the region. The four incorporated boroughs are each served by a single unified school district. In the Aleutians West Census Area, there are three school districts: the Aleutian Region Schools, the Pribilof School District, and the Unalaska City School District. Two school districts serve the Dillingham Census Area. The Dillingham City School District serves the incorporated first class city of Dillingham, while the Southwest Region School District serves the balance of the area. Three of the school districts in the region are organized as Rural Education Attendance Areas (REAAs): Aleutians, Pribilofs, and Southwest.

## ANCSA Corporations

The Alaska Native Claims Settlement Act of 1971 (ANCSA) settled the issue of what lands Alaska Natives owned by right of traditional

use and occupancy. ANCSA provided for the creation of regional and village corporations to receive settlement compensation in the form of cash and various land rights. All Alaska Natives born before December 18, 1971 and having a certified Native blood quantum of 25 percent or more were eligible to enroll in a regional and village corporation and receive 100 shares of stock in each.

The boundaries of four ANCSA regional corporations are wholly or partially contained in Southwest Alaska. Map 4.3 shows the ANCSA designated boundaries of the regional corporations within Southwest Alaska.<sup>8</sup> The regional corporations are state-chartered, for-profit enterprises. These corporations are mandated by law to make a good faith effort to create a financial return for Native shareholders through either the investment in Native and non-Native enterprises or the exploitation of regionally-held natural resources. Regional corporations are eligible to contract for federal funds under P.L. 93-638. The policies of each corporation are set by its board of directors who are elected by the shareholders. The corporations also contribute, in varying degrees, to community socioeconomic

development, whether through scholarships, explicit employment practices, or via direct social investments. Such functions are generally executed by a non-profit affiliate.<sup>9</sup>

Of the 244 village corporations also established by ANCSA, 47 are in Southwest Alaska. Since the passage of ANCSA, some village corporations have elected to partition into their regional corporation or merge with other village corporations. Village corporations, unlike their regional counterparts, had the option of forming as for-profit or nonprofit entities. However, all village corporations elected to organize under the for-profit model with shareholders, boards of directors, and paid staff. Village corporations have the power to buy and sell assets, including land allocated by ANCSA; develop surface (but not subsurface) resources on village corporation land; own and operate businesses; and execute contracts with the federal government to deliver federally funded services.<sup>10</sup> Village corporation land allotments were based on each village's population as enumerated by the 1970 U.S. Census.

## Regional Native Nonprofit Associations

Prior to the passage of ANCSA, some regional Native nonprofit organizations were formed to address various socio-cultural issues. With the passage of ANCSA, the formation of regional Native non-profit associations became more codified and uniform across the state with

**Map 4.3: ANCSA Regional Corporations in Southwest Alaska**

boundaries corresponding to the for-profit counterparts.

In Southwest Alaska, regional Native non-profit associations are the Aleutian/Pribilof Islands Association (APIA), the Bristol Bay Native Association (BBNA), and the Kodiak Area Native Association (KANA). In some sub-regions, separate organizations have formed to address health care and housing issues. These organizations include the Bristol

Bay Area Health Corporation and the Eastern Aleutian Tribes, Inc.. The Aleutian Housing Authority, the Bristol Bay Housing Authority and the Kodiak Island Housing Authority were also formed to address housing issues.

Each non-profit collectively represents the interests of the Native villages in its region. A village is served by one non-profit and is represented on that association's board. The board members then elect the officers of the association's executive committee. In contrast to their for-profit counterparts, however, non-profit associations give Natives born after

December 1971 equal representation. Administratively, the organizations resemble the complex social service bureaucracies found at the state and federal levels. In addition, the non-profits have been determined by the federal government to be "tribal organizations" for administrative purposes and, as such, are eligible to be and often are the contracting parties under P.L. 93-638.<sup>11</sup>

These organizations operate a myriad of state and federal programs which provide government-like services including public health services, education and employment, community and regional planning, family services, natural resource management, and law enforcement training. Given the absence of other governmental agencies in the unorganized borough, regional non-profits have operated as de facto regional governments. Furthermore, the regional non-profits provide rural villages with a mechanism by which to mobilize, articulate, and represent Native regional and village concerns - often as the primary political vehicle for the villages.<sup>12</sup>

## Tribal Governments

Present day tribal governance in Southwest Alaska takes many forms depending upon traditional practices, the existence of an incorporated local government, interfaces with federal and state governments, and the historical adoption and practice of local government powers. There are 55 federally recognized tribal governments in Southwest Alaska (see Table 4.2.A-F). Tribal governments range from informal arrangements whose structure and authority derive from

centuries of cultural practice to formalized structures established in written constitutions and bylaws.<sup>13</sup>

Three tribal governments are recognized by the federal government as IRA Councils (Atka, Nikolski and Karluk) as specified by the Indian Reorganization Act, which was extended to Alaska in 1936. IRA governments essentially have powers of “dependent” sovereigns with federally recognized power to make, enforce, and interpret laws and regulations governing their members. More specifically, IRA governments can tax members; regulate property within tribal jurisdiction; establish courts with jurisdiction over member and non-member Natives and, in certain limited cases, non-Natives (e.g., non-Native adoptions of Native children under the Indian Child Welfare Act [ICWA]); legislate criminal justice policies particularly in the area of domestic disputes, but also in other (non-major) criminal areas; define and enforce membership rules; regulate the domestic relations of members; prevent the sale, disposition, lease, and encumbrance of tribal lands without tribal consent.<sup>14</sup>

Twenty-seven incorporated communities in Southwest Alaska also have some form of local tribal government. Twenty-one unincorporated communities are located within the organized boroughs and also have a local tribal government. Five unincorporated communities are located in the unorganized borough and only have local tribal government.

Municipal governments often share authority with tribal governments, which have formally existed since well before Alaska statehood or the establishment of municipal governments,

and in many villages these governing groups have members in common. The power distribution among these entities varies from community to community.<sup>15</sup>

## Land Ownership

Land ownership patterns in Southwest Alaska mirror that of the rest of the state. The federal government is the largest landowner, followed by the State of Alaska, and then, collectively, the largest private land owners – the ANCSA Native corporations. Map 4.4 illustrates the scale and distribution of ownership of these three large scale land owners.<sup>16</sup>

### Federal Lands

As the largest land owner in the state, the federal government owns approximately 60% of the total area (222 million acres). In Southwest Alaska, federal government lands are managed by the National Park Service, the U.S. Fish & Wildlife Service, the Bureau of Land Management, the U.S. Coast Guard, the U.S. Department of Defense, and several other federal agencies. Table 4.4 lists major federal land units in the region.

The majority of federally owned lands in Southwest Alaska have been set aside for public use. The National Park Service and U.S. Fish and Wildlife Service units are managed primarily for resource protection, fish and wildlife conservation, and recreation. The Bureau of Land Management manages for multiple use purposes including timber production, fish and wildlife, recreation, water, and mining. Management of these lands is

based on priorities and compatibility among various uses. The remaining federal land is designated for special purposes, such as military reservations.<sup>17</sup>

Pending state and Native land selections that have yet to be conveyed will be taken from federal land holdings.

### State Lands

The State of Alaska owns significant land holdings throughout the region. Major state land units in the region fall into several broad categories: tidelands and submerged lands, parks, game refuges and sanctuaries, and critical habitat areas. Table 4.5 lists major state land units in Southwest Alaska. With the exception of tidelands and submerged lands, the greatest concentration of state lands in the region is in the Aleutians East Borough, Dillingham Census Area and Lake & Peninsula Borough.

Given the extensive coastline of the region, the State of Alaska’s most significant land holdings in the region may be tidelands and submerged lands. Tidelands include the land between mean high and mean low tide. Submerged lands are seaward of mean low tide to three miles offshore. The tide and submerged lands include all land between the mean high tide line and three miles offshore of the mean low tide line. The State of Alaska owns most of the tide and submerged lands along its coastline. The Submerged Lands Act of May 22, 1953 states that all lands permanently or periodically covered by tidal waters up to, but not above, the line of mean high tide and seaward to a line

**Table 4.4: Major Federally Owned Land Units in Southwest Alaska**

Source: <http://www.dnr.state.ak.us> and <http://nrm.salrm.uaf.edu/~stodd/AlaskaPlanningDirectory/ADFG.html>

three geographical miles distant from the coast mean low tide line is owned by the state.<sup>18</sup>

State park lands include Wood-Tikchik State Park, the largest state park in the nation. At 1.6 million acres, Wood-Tikchik State Park was created in 1978 for the purpose of protecting the area's fish and wildlife breeding and support systems and preserving continued subsistence and recreational activities. The management philosophy is one of non-development and maintenance of the area's wilderness character.<sup>19</sup> Other state park units are concentrated in the Kodiak Island Borough, including Afognak Island State Park and

Shuyak Island State Park.

Five critical habitat areas on the Alaska Peninsula and Trinity Island were established by the state. These areas were identified as being essential to the protection of fish and wildlife habitat. Each area plays an important role as breeding and staging habitat for migratory birds, ducks, geese, and other waterfowl. Public use is allowed in these areas, but no public services are available.<sup>20</sup>

Unique habitat and wildlife values also define other state land holdings. Izembek State Game Refuge includes Izembek Lagoon, one of the

world's largest eelgrass beds. This area is also an important feeding and staging habitat for millions of migrating birds and waterfowl. Walrus Islands State Game Sanctuary, a group of seven craggy islands, is the only regularly used land-based walrus haul-out in the southern Bering Sea. More than 8,000 male walrus return to the islands each spring.<sup>21</sup>

### **Native Lands**

Collectively, as the largest private land owners in the state and in Southwest Alaska, the Native corporations have the greatest potential for both

resource development and other development opportunities.

Native lands in the region have been developed in a variety of ways including: logging; tourism facilities and activities; residential real estate development; federal and state land acquisition through the EVOS Council habitat restoration activities; mining; and gravel and rock sales. In recent years, many Native corporations have been more focused on development of 8(A) government contracting subsidiaries and investment activities.

Table 4.6 outlines the original cash and land settlements conveyed to the three regional corporations wholly located within Southwest Alaska.

**Trust Lands**

The University of Alaska and the Alaska Mental Health Trust both received federal land grants. Each entity has land holdings within Southwest Alaska. Trust lands are sold from time to time to generate revenue to support the work of each institution. Currently, the University of Alaska has one land sale planned in Southwest Alaska; the Snake Lake Subdivision is located approximately twenty miles northwest of Dillingham in the Bristol Bay area.<sup>22</sup>

Other federal trust lands, such as Native Allotments and Federal Townsite lots, are held in trust by the federal government on behalf of the owner. The Bureau of Indian Affairs and the Bureau of Land Management are the two federal agencies charged with managing federal trust lands.

**Other Private Lands**

Land in private ownership (other than Native land) comprises less than one percent of the total land in Alaska. A regionwide assessment of private land is not currently available. This limited tax base serves as a barrier to community development throughout the region.

**Table 4.4: Major Federally Owned Land Units in Southwest Alaska**

Federal Land	Total Area in Acres
Alaska Maritime National Wildlife Refuge	4,500,000
Alaska Maritime National Wildlife Refuge - <i>Alaska Peninsula Unit</i>	750,000
Alaska Maritime National Wildlife Refuge - <i>Aleutian Islands Unit</i>	3,465,247
Alaska Peninsula National Wildlife Refuge	3,700,000
Aleutian World War II National Historic Site	134
Aniakchak Caldera	536,940
Becharof National Wildlife Refuge	1,200,018
Izembek National Wildlife Refuge	311,076
Katmai National Park & Preserve	4,093,000
Kodiak National Wildlife Refuge	1,900,000
Lake Clark National Park & Preserve	4,030,025
Togiak National Wildlife Refuge	4,098,741

Source: <http://www.fws.gov> and <http://www.nps.gov>

**Table 4.5: Major State of Alaska Owned Land Units in Southwest Alaska**

State Land	Area in Acres
Afognak Island State Park	75,049
Buskin River State Recreation Area	168
Cinder River State Critical Habitat Area	25,856
Egegik State Critical Habitat Area	8,064
Fort Abercrombie State Historical Park	186
Izembek State Game Refuge	181,440
Pasagshak State Recreation Area	20
Pilot Point State Critical Habitat Area	46,016
Port Moller State Critical Habitat Area	127,296
Shuyak Island State Park	47,000
Tugidak Island State Critical Habitat Area	50,240
Walrus Islands State Game Sanctuary	9,728
Wood-Tikchik State Park	1,600,000

Source: <http://www.dnr.state.ak.us> and <http://nrm.salm.uaf.edu/~stodd/AlaskaPlanningDirectory/ADFG.html>

**Table 4.6: ANCSA Regional Native Corporations Cash and Land Settlements**

ANCSA Regional Native Corporations	Shareholders	Original Cash Settlement	Surface & Subsurface Estate (acres)	Subsurface Estate Only (acres)
Aleut Corporation	3,249	\$19.5 million	66,000	1.572 million
Bristol Bay Native Corporation	7,800	\$32.7 million	101,500	2.716 million
Koniag, Inc.	3,600	\$23 million	800	900,000

Source: <http://www.aleutcorp.com>; <http://www.bbnc.net> and <http://www.koniag.com>

## Endnotes

<sup>1</sup> Alaska Statutes, Title 29: Municipal Government

<sup>2</sup> IBID

<sup>3</sup> IBID

<sup>4</sup> <http://www.bia.gov>

<sup>5</sup> <http://www.elections.alaska.gov/maps/districts/dist37.pdf>

<sup>6</sup> <http://www.labor.state.ak.us/research/cgin/cenmaps/cas/ae.htm>  
and  
<http://www.elections.alaska.gov/distdes.php>

U.S. Bureau of Indian Affairs, Alaska Federation of Natives;  
<http://www.koniag.com>;  
<http://www.aleutcorp.com>;  
<http://www.bbnc.net>

<sup>7</sup>

[http://www.commerce.state.ak.us/dca/commdb/CF\\_CIS.htm](http://www.commerce.state.ak.us/dca/commdb/CF_CIS.htm)

<sup>8</sup> Alaska Department of Natural Resources, Public Information Office

<sup>9</sup> Achieving Alaska Native Self-Governance, ISER, et al. May 1999.

<sup>10</sup> IBID

<sup>11</sup> IBID

<sup>12</sup> IBID

<sup>13</sup> IBID

<sup>14</sup> IBID

<sup>15</sup> IBID

<sup>16</sup> Alaska Department of Natural Resources, Pearson, Roger. Alaska in Maps: A Thematic Atlas

<sup>17</sup>

[http://www.dnr.state.ak.us/mlw/factsht/land\\_owen.pdf](http://www.dnr.state.ak.us/mlw/factsht/land_owen.pdf)

<sup>18</sup> Alaska Department of Natural Resources

<sup>19</sup> IBID

<sup>20</sup> Alaska Atlas & Gazetteer

<sup>21</sup> Alaska Department of Fish & Game

<sup>22</sup> <http://www.ualand.com>

# 5.0 Population Trends & Characteristics

## Population Trends

According to the U.S. Census Bureau, the population of Southwest Alaska in 2000 was 30,078. This reflects a nearly 8 percent decrease from 1990 and marks the first time in 40 years that the region has experienced a population decline. Moreover, from 2000 to 2008, the population in Southwest Alaska has steadily decreased. This trend is a distinct change as Southwest Alaska's population grew by nearly 75 percent from 1960 to 1990. Table 5.1 illustrates changes in the population of Southwest Alaska from 1990 to 2008 based on the U.S. Census and the Alaska Department of Labor and Workforce Development.

Estimates for the region's 2007 and 2008 population show a continuation of population decline. For each year since the 2000 census, the population is estimated to have changed by approximately one and a half percent.

In 2000, the Kodiak Island Borough had the largest population in the region at 13,913. While this marks a 7 percent increase over the

1990 population count, the Kodiak Island Borough's population has varied over the past decade and after two small, but steady increases in 2002 and 2003, the Borough's population has decreased by 3.9 percent when compared to the 2000 U.S. Census. Table 5.2.E outlines the population for the Kodiak Island Borough and its communities from 1990 – 2008.

The Bristol Bay Borough has the smallest population in the region at 1,029 in 2008. In comparison to the 2000 U.S. Census, this marks an 18.2 percent decrease. Estimates from 2001 to 2008 show a pattern of minor and sporadic increases and decreases in population, with the majority of change occurring in mid-2000. Change occurs throughout all three towns within the borough. Table 5.2.C shows population trends for the Bristol Bay Borough and its communities from 1990-2008.

The Dillingham Census Area realized the greatest population increase between 1990 and 2002 at a rate of 23 percent. All communities in the area experienced population increases between 1990 and 2000. However, in 2001 and 2002, five communities in the area experienced population declines and over the next six years the Dillingham Census Area's total population declined 2.9 percent. See Table 5.2.D for the Dillingham Census Area's population information from 1990 –2008.

The greatest population decrease in Southwest Alaska from 1990 – 2002 was in the Aleutians West Census Area. Overall, population decline in the area totals 23.1 percent from 2000 to 2008. Most of the decline is attributable to closures or staffing reductions at military

installations or Coast Guard stations in the area. Communities in the area have also experienced population changes since 2000. St. Paul experienced an 18.2 percent decrease while Unalaska's population decreased by nearly 21 percent. Table 5.2.B provides more information on the Aleutians West population.

Population trends in the Aleutians East Borough show moderate variation across the period from 2000 to 2008, with a few secluded areas experiencing substantial changes. The largest change occurred during the 2000 Census that resulted in an unexpected population increase. The communities of Akutan, King Cove, and Sand Point experienced the most significant increases across the period. However, recent State estimates reveal that population in Akutan has increased while numbers in King Cove and Sand Point have decreased. From 2000 to 2008, the communities of False Pass and Nelson Lagoon also experienced population declines. Table 5.2.A outlines community and borough population trends for the Aleutians East Borough.

From 1990 to 2000, the Lake & Peninsula Borough had a population increase of 9 percent. However, based on population estimates through 2008, this trend has been abruptly reversed as the Borough experienced an almost 15 percent decline. Moreover, 16 of the 18 communities saw population declines from 2000 to 2008. Kokhanok and Newhalen were the only communities to see an increase. Population trends for the Lake & Peninsula Borough are presented in Table 5.2.F.

**Table 5.1: 2000 – 2008 Population Trends in Southwest Alaska**

Area Name	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
Aleutians East Borough	2,699	2,789	2,588	2,654	2,654	2,712	2,722	2,547	2,697	2,464	2	n/a
Aleutians West Census Area	4,439	4,493	4,910	5,239	5,238	5,325	5,068	5,252	5,465	9,478	-1,026	-23.1%
Bristol Bay Borough	1,029	1,030	1,056	1,174	1,099	1,102	1,162	1,173	1,258	1,410	-229	-22.2%
Dillingham Census Area	4,771	4,769	4,795	4,784	4,845	4,899	4,914	4,888	4,922	4,012	-151	-3.2%
Kodiak Island Borough	13,373	13,495	13,427	13,667	13,554	13,802	13,633	13,560	13,913	13,309	-540	-4.0%
Lake and Peninsula Borough	1,552	1,531	1,555	1,618	1,608	1,625	1,638	1,732	1,823	1,668	-271	-17.5%
Southwest Region Total	27,863	28,107	28,331	29,136	28,998	29,465	29,137	29,152	30,078	32,341	-2,215	-7.9%

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.2.A: 1990 – 2008 Population Trends in the Aleutians East Borough**

Aleutians East Borough	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
Akutan	796	858	745	773	789	807	749	707	713	589	83	11.6%
Belkofski ANVSA	0	0	0	0	0	0	0	0	0	0	0	0.0%
Cold Bay	90	71	87	89	89	95	116	75	88	148	2	2.2%
False Pass	39	45	54	63	63	69	79	69	64	69	-25	-64.0%
King Cove	750	753	744	722	725	727	786	693	792	677	-42	-5.6%
Nelson Lagoon CDP	65	69	68	66	78	64	70	80	83	83	-18	-27.6%
Sand Point	958	992	889	939	910	949	919	921	952	878	6	0.60%
Reminder of AEB	1	1	1	2	0	1	3	2	5	20	-4	-20.0%
Aleutians East Borough Total	2,699	2,789	2,588	2,654	2,654	2,712	2,722	2,547	2,697	2,464	2	0%

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.2.B: 1990 – 2008 Population Trends in the Aleutians West Census Area**

Aleutians West Census Area	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
Adak CDP	178	136	145	168	70	74	166	152	316	4,633	-138	-77.5%
Atka	73	74	73	90	93	94	102	92	92	98	-19	-26.0%
Attu Station CDP	15	15	20	15	18	27	25	25	20	23	-5	-33.3%
Nikolski CDP	27	33	31	31	36	41	34	32	39	35	-12	-44.4%
St. George	112	114	119	128	138	148	147	146	152	138	-40	-35.7%
St. Paul	450	445	469	491	495	538	532	526	532	763	-80	-18.2%
Unalaska	3,551	3,648	4,025	4,295	4,360	4,368	4,033	4,249	4,283	3,089	-732	-20.6%
Remainder of AWCA	33	28	28	21	28	35	29	30	31	35	2	6.4%
<b>Aleutians West Census Area Total</b>	<b>4,439</b>	<b>4,493</b>	<b>4,910</b>	<b>5,239</b>	<b>5,238</b>	<b>5,325</b>	<b>5,068</b>	<b>5,252</b>	<b>5,465</b>	<b>9,478</b>	<b>-1,026</b>	<b>-23.1%</b>

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.2.C: 1990 – 2008 Population Trends in the Bristol Bay Borough**

Bristol Bay Borough	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
King Salmon	409	423	399	517	395	385	397	388	442	696	-33	-7.5%
Naknek	552	541	582	581	612	611	641	657	678	575	-126	-18.5%
South Naknek	68	66	75	76	89	102	120	124	137	136	-69	-50.3%
Remainder of BBB	0	0	0	0	3	4	4	4	1	6	-1	-100.0%
<b>Bristol Bay Borough Total</b>	<b>1,029</b>	<b>1,030</b>	<b>1,056</b>	<b>1,174</b>	<b>1,099</b>	<b>1,102</b>	<b>1,162</b>	<b>1,173</b>	<b>1,258</b>	<b>1,410</b>	<b>-229</b>	<b>-18.2%</b>

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.2.D: 1990 – 2008 Population Trends in the Dillingham Census Area**

Dillingham Census Area	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
Aleknagik	242	232	241	237	233	239	220	221	221	185	21	8.7%
Clark's Point	54	65	69	65	63	66	65	69	75	60	-21	-28.0%
Dillingham	2,347	2,399	2,400	2,367	2,403	2,382	2,467	2,461	2,466	2,017	-119	-4.8%
Ekuk	0	0	0	0	0	0	5	2	2	0	-2	-100.0%
Ekwok	121	108	115	118	127	128	115	119	130	77	-9	-6.9%
Koliganek	174	191	165	168	188	199	187	177	182	385	-8	-4.4%
Manokotak	430	429	423	437	406	404	407	412	399	181	29	6.7%
New Stuyahok	491	445	467	461	471	491	483	488	471	391	20	4.1%
Portage Creek	7	9	20	37	49	61	48	47	36	0	-29	-80.5%
Togiak	802	785	781	778	802	819	808	787	809	613	-7	-0.86%
Twin Hills	75	81	77	71	68	76	77	64	69	66	6	8.0%
Remainder of DCA	28	25	37	45	35	34	32	41	62	37	-34	-54.8%
Dillingham Census Area Total	4,771	4,769	4,795	4,784	4,845	4,899	4,914	4,888	4,922	4,012	-151	-3.07%

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.2.E: 1990 – 2008 Population Trends in the Kodiak Island Borough**

Kodiak Island Borough	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
Akhiok	48	33	41	41	56	51	49	57	80	77	-32	-40.0%
Aleneva	56	56	46	45	44	59	96	88	68	0	-12	-17.6%
Chiniak	44	41	41	52	50	49	56	53	50	69	-6	-6.0%
Karluk	38	37	33	35	32	28	27	29	27	71	11	28.9%
Kodiak	5,974	5,640	5,657	6,128	6,201	6,102	6,095	6,072	6,334	6,365	-360	-5.6%
Kodiak Station	1,782	1,818	1,884	1,974	1,762	2,187	1,938	1,757	1,840	2,025	-58	-3.1%
Larsen Bay	67	82	83	97	96	95	107	113	115	147	-48	-41.7%
Old Harbor	184	187	178	200	198	210	226	236	237	284	-53	-22.4%
Ouzinkie	167	153	171	189	187	172	188	204	225	209	-58	-25.8%
Port Lions	190	178	196	219	240	233	227	246	256	222	-66	-25.8%
Womens Bay	701	826	757	702	688	680	684	682	690	620	11	1.6%
Remainder of KIB	4,122	4,444	4,340	3,985	4,000	3,936	3,940	4,023	3,991	2,950	131	3.2%
Kodiak Island Borough Total	13,373	13,495	13,427	13,667	13,554	13,802	13,633	13,560	13,913	13,039	-540	-3.9%

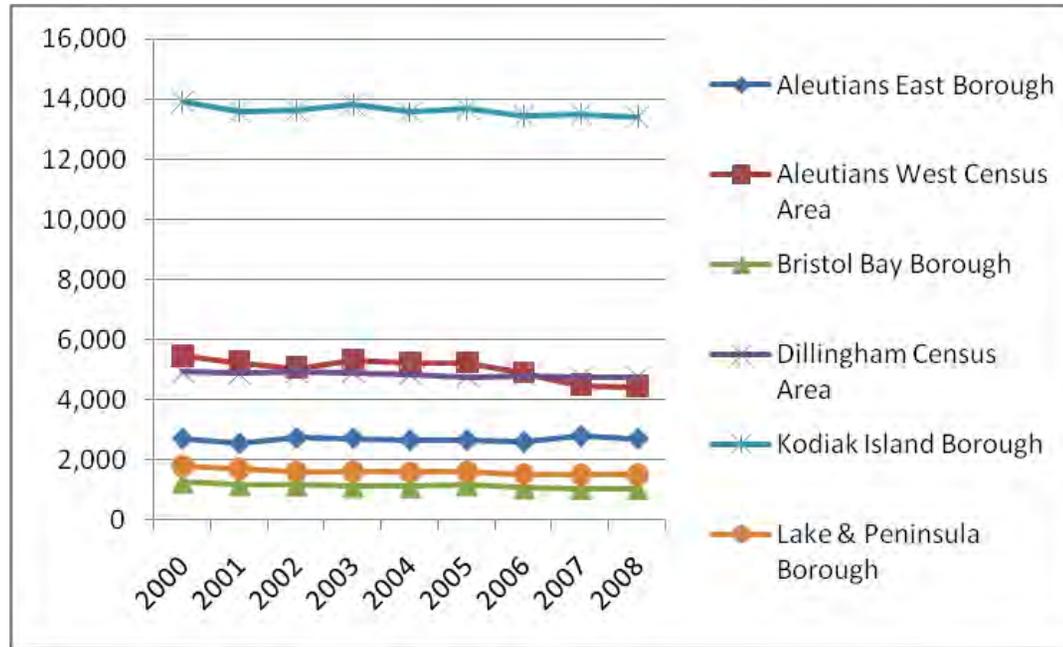
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

Table 5.2.F: 1990 – 2008 Population Trends in the Lake &amp; Peninsula Borough

Lake & Peninsula Borough	2008	2007	2006	2005	2004	2003	2002	2001	2000 U.S. Census	1990 U.S. Census	2000 - 2008 Change	% Change 2000 - 2008
Chignik	59	80	83	95	92	90	77	76	79	188	-20	-25.4%
Chignik Lagoon	71	67	71	86	82	91	88	104	103	53	-32	-31.1%
Chignik Lake	105	125	121	117	113	113	114	140	145	133	-40	-27.6%
Egegik	62	62	76	81	77	83	87	80	116	122	-54	-46.6%
Igiugig	40	32	53	50	54	50	43	55	53	33	-13	-24.6%
Iliamna	95	87	82	86	90	91	98	95	102	94	-7	-6.9%
Ivanof Bay	0	0	0	2	5	3	3	13	22	35	-22	-100.0%
Kokhanok	179	173	168	178	166	181	179	172	174	152	5	2.8%
Levelock	70	70	62	54	57	71	83	107	122	105	-52	-42.6%
Newhalen	162	185	167	180	183	171	166	156	160	160	2	1.2%
Nondalton	202	194	195	203	206	216	206	210	221	178	-19	-8.6%
Pedro Bay	44	38	55	61	47	45	46	50	50	42	-6	-12.0%
Perryville	133	117	119	114	110	106	111	114	107	108	26	19.5%
Pilot Point	72	59	66	73	76	70	75	86	100	53	-28	-28.0%
Pope-Vannoy Landing	5	5	6	6	9	10	5	5	8	0	-3	-37.5%
Port Alsworth	125	115	111	106	114	104	109	105	104	55	21	16.8%
Port Heiden	90	86	79	89	90	85	108	118	119	119	-29	-24.3%
Ugashik	15	13	17	15	12	12	12	12	11	0	4	26.6%
Remainder of LPB	23	23	24	22	25	33	28	34	27	38	-4	-14.8%
Lake & Peninsula Borough Total	1,552	1,531	1,555	1,618	1,608	1,625	1,638	1,732	1,823	1,668	-271	-14.9%

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Chart 5.1: Population Trends for Boroughs and Census Areas in Southwest Alaska**



Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.3: Population Gender Composition in Southwest Alaska**

	Aleutians East Borough	Aleutians West CA	Bristol Bay Borough	Dillingham CA	Kodiak Island Borough	Lake & Peninsula Borough	Southwest Region Total	Alaska Total
Male	1,815	2,868	566	2,454	6,955	814	15,472	346,986
Female	884	1,571	463	2,317	6,418	738	12,391	332,734
Male % of Population	67%	65%	55%	51%	52%	53%	56%	51%
Female % of Population	33%	35%	45%	49%	48%	47%	44%	49%

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

## Gender

The State of Alaska's population is comprised of 51 percent males and 49 percent females. In comparison to the state, Southwest Alaska has a higher proportion of males at 56 percent. Most of this difference is accounted for by the gender composition of the populations in the Aleutians East Borough and the Aleutians West Census Area. In each of these two sub-regions, the population is comprised of nearly two-thirds males and slightly more than one-third females. The remaining four sub-regions have male populations of 51 – 55 percent and female populations of 44 – 48 percent. Table 5.3 shows gender composition for each of the boroughs and census areas in the region.

## Age

Based on the 2008 Alaska Department of Labor and Workforce Development estimates, the average median age in Southwest Alaska is 34.3 years, slightly older than the 33.5 median age for the state. In comparison to 1990, median age in Alaska increased by 4 years from 29.4. It is also important to note that median age varies significantly throughout each borough or census area in Southwest Alaska. Chart 5.2 compares the median ages for each sub-region of Southwest Alaska as well as to the State of Alaska.

In the Aleutians East Borough, the Aleutians West Census Area and the Bristol Bay Borough the median age is older than the state average. The Bristol Bay Borough has the oldest median age in the region at 42.0 years. The youngest

median age in the region is in the Dillingham Census Area at 28 years.

On a statewide basis, three boroughs or census areas have populations with a median age older than the Bristol Bay Borough with the Haines Borough having the oldest median age at 45.7 years. Six areas have a median age younger than the Dillingham Census Area with the Wade-Hampton Census Area having the youngest median age at 19.4 years,

The Dillingham Census Area has the highest percentage of population in the region under 25 years at 47 percent. At 22.2 percent of the population, the Aleutians West Census Area has the lowest percentage of population in the region under 25 years. For the state, about 39 percent of the population is under 25 years. Charts 5.3.A-F illustrates the age distribution for males and females within each borough or census area.

Conversely, the Bristol Bay Borough has the highest percentage of population in the region over 54 years at 21.7 percent. The Aleutians East Borough has the lowest percentage of population in the region over 54 years at 10.5 percent.

For the population aged between 25 and 54 years, the Aleutians East Borough and Aleutians West Census Area have the highest concentration in the region at 64.7 percent and 66.6 percent respectively. Both areas are well above the state proportions for this age range at 43 percent. The lowest percentage of population between 25 and 54 years lies in the Dillingham Census Area at 36.7 percent.

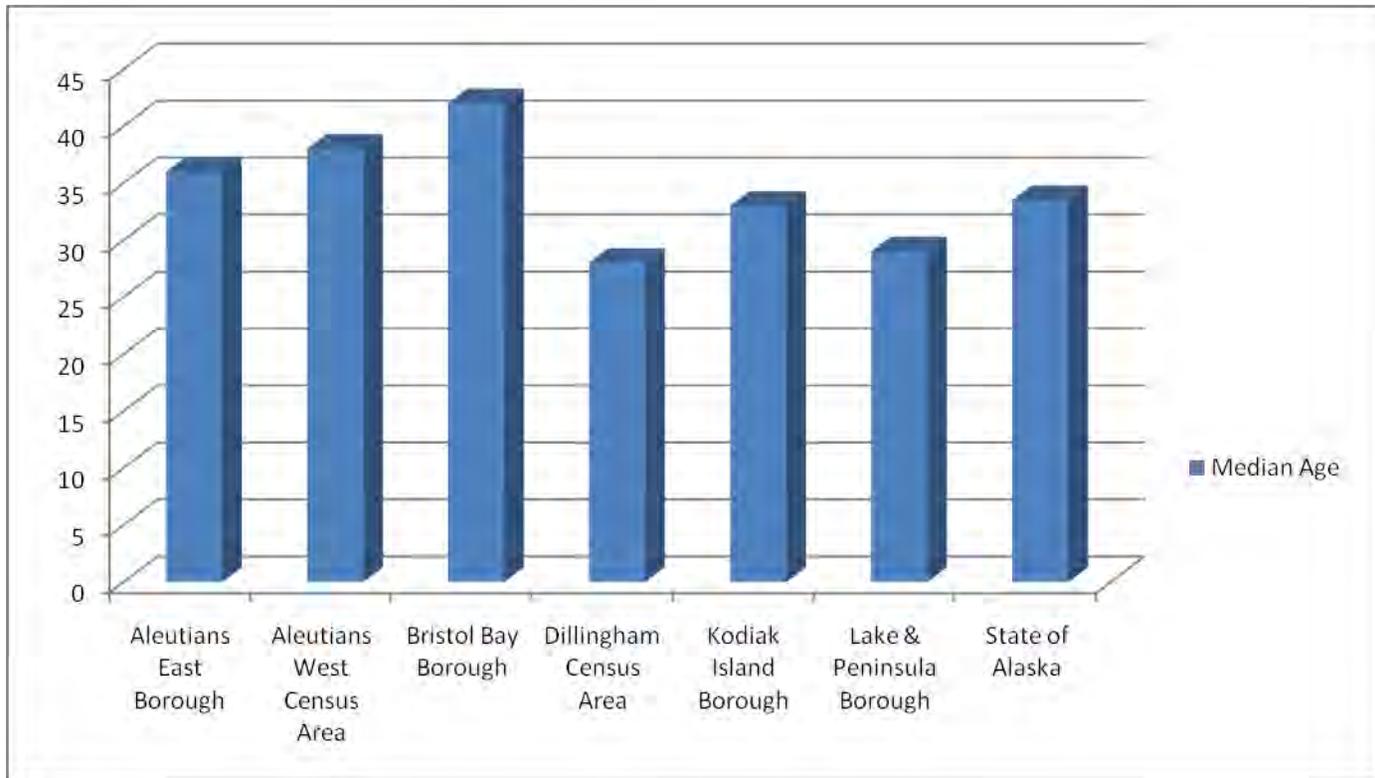
## Ethnicity

According to 2007 U.S. Census data, the ethnic composition of Southwest Alaska's population varies significantly from that of the State of Alaska. While the two largest ethnic groups for both the state and the region are White and Alaska Native, there are marked differences in the state and regional proportions. Whites comprise almost 71 percent of the state population, but only total 46.8 percent of the regional population. Alaska Natives account for 15.2 percent of the state population. However, in Southwest Alaska, Alaska Natives comprise nearly one-third (30.6%) of the population or twice the state rate. Chart 5.4 presents the ethnic composition of the region's population.

Asians are the third largest single ethnic group in the region. Here again, there is significant variation between the region at 16 percent and the state at 4.6 percent. The region and state populations are comparable for those that identify their ethnicity as two or more races, about 4.5%. Blacks or African Americans, Native Hawaiians or Pacific Islanders, and other races account for a small percentage of both state and regional populations, ranging from less than one percent in some areas to 4 percent in others.

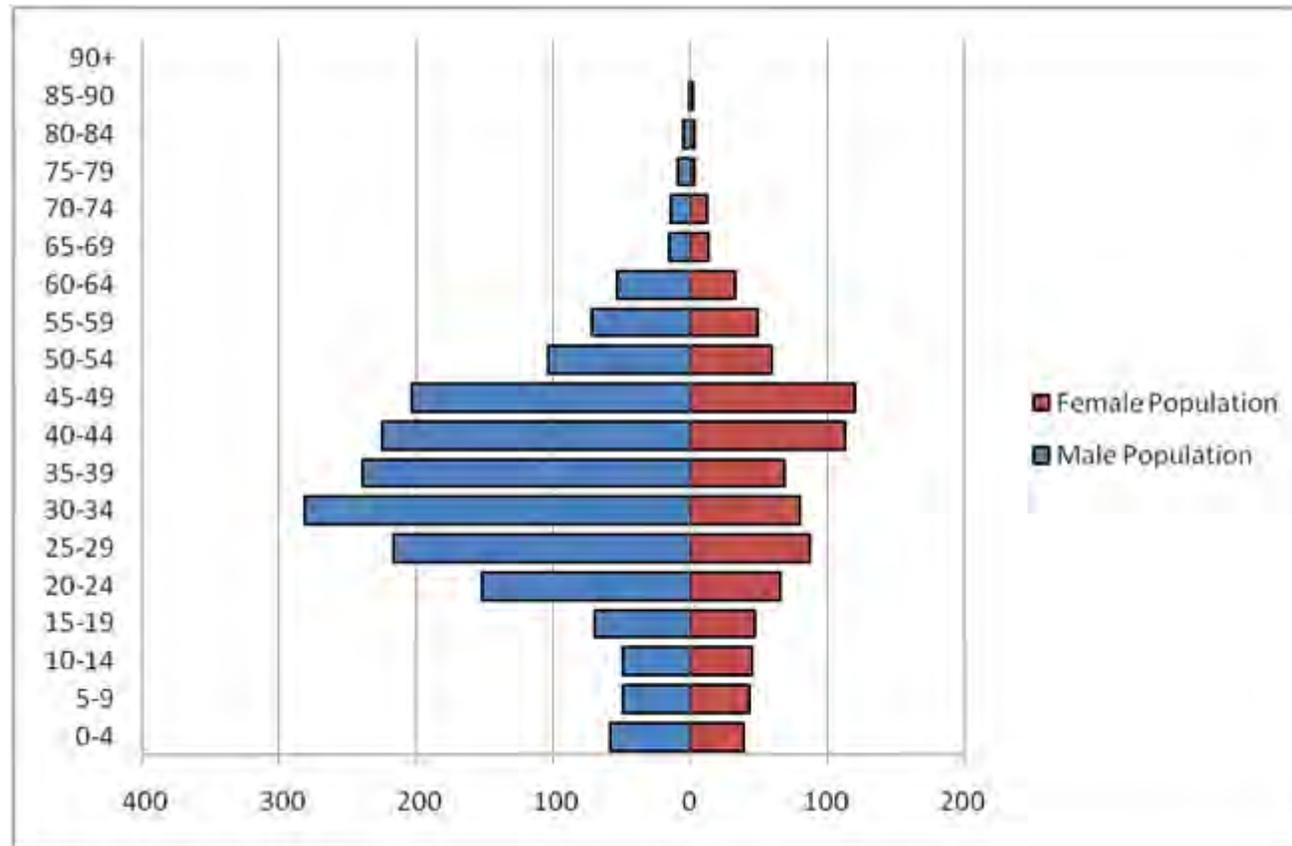
Whites comprise the largest proportion of the Kodiak Island Borough, which at 61.5 percent is the largest concentration in the region. In the Lake & Peninsula Borough, whites total 22 percent of the population, the smallest proportion in the region.

**Chart 5.2: Median Age in Southwest Alaska**



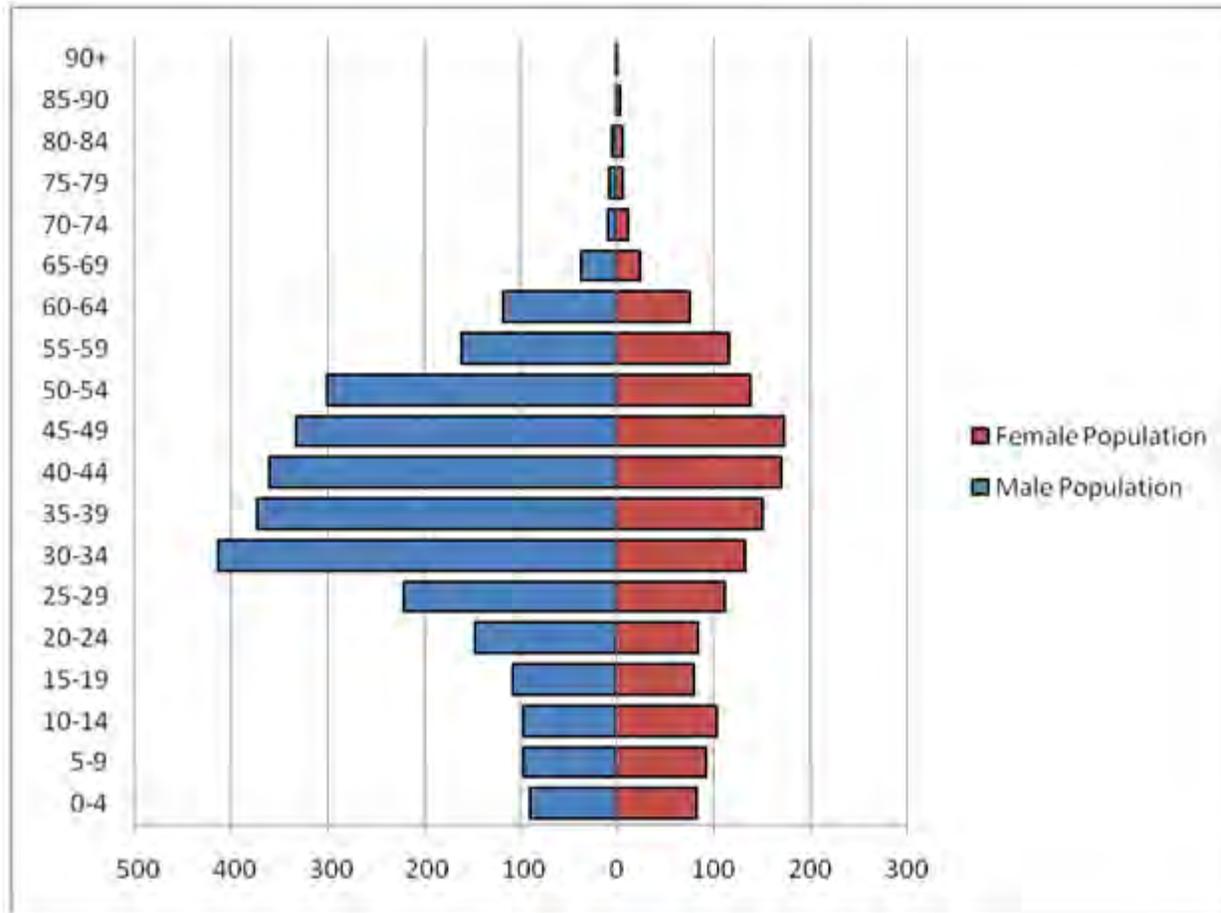
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Chart 5.3.A: Aleutians East Borough Population Age Distribution**



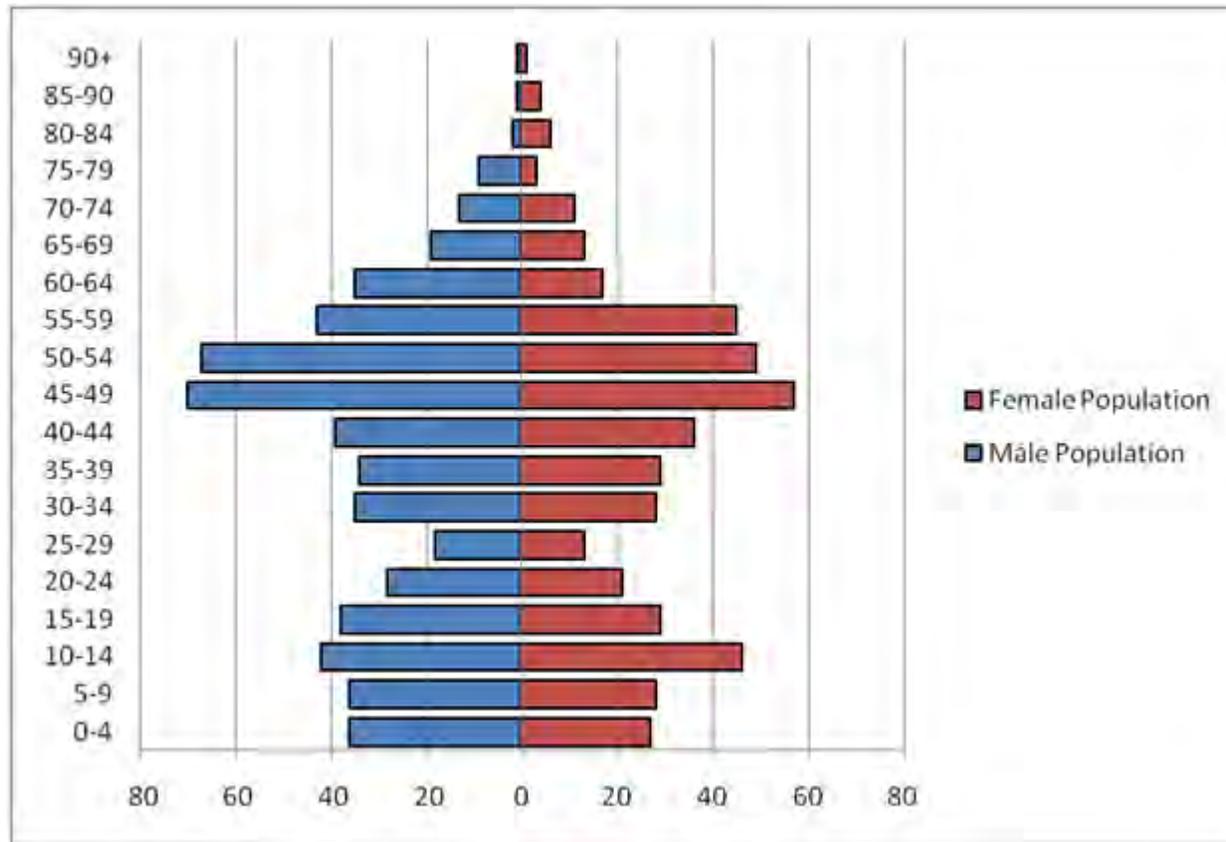
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Chart 5.3.B: Aleutians West Census Area Population Age Distribution**



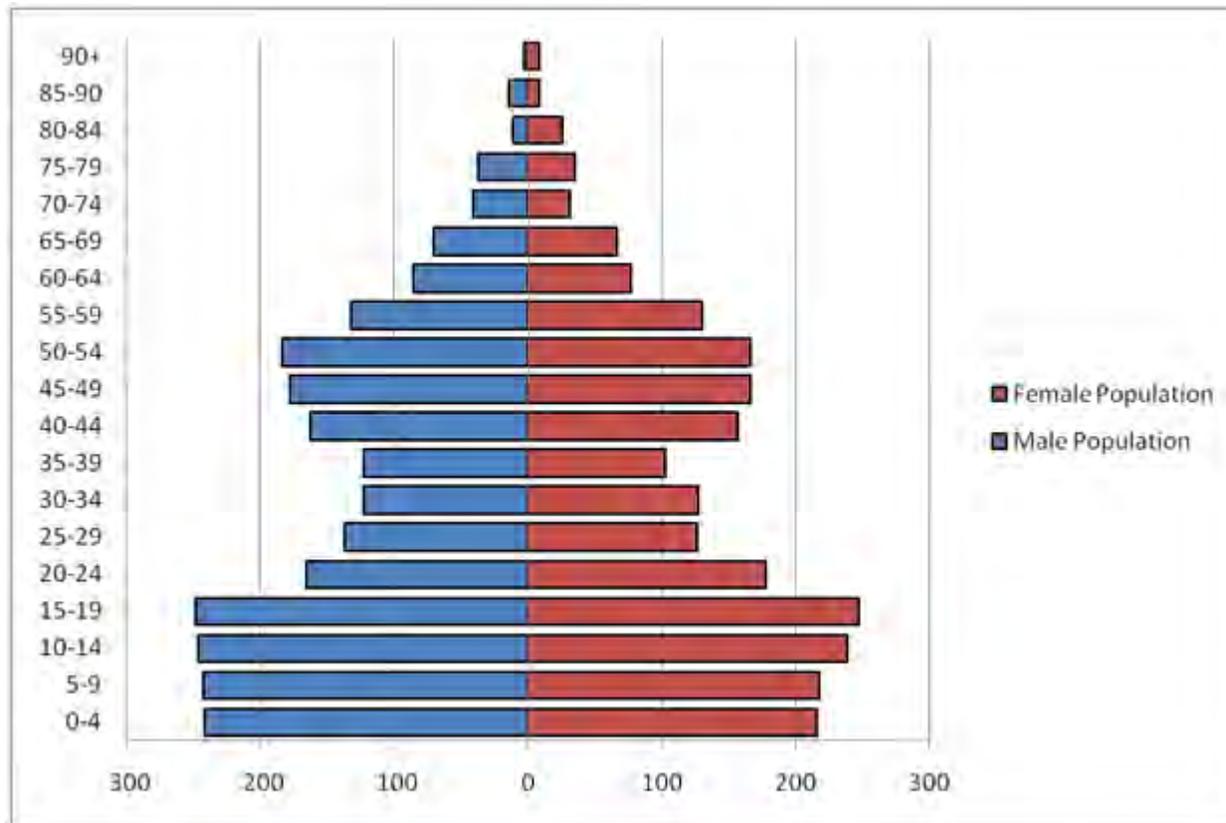
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Chart 5.3.C: Bristol Bay Borough Population Age Distribution**



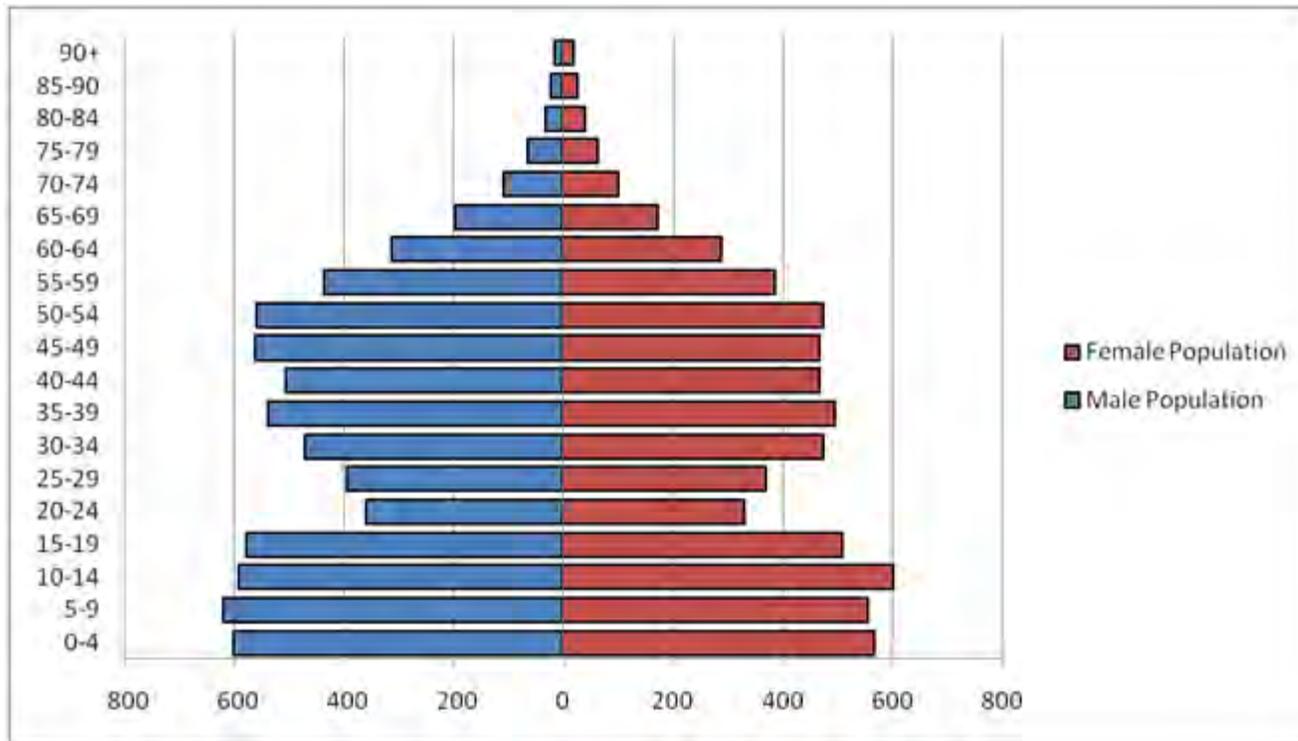
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

Chart 5.3.D: Dillingham Census Area Population Age Distribution



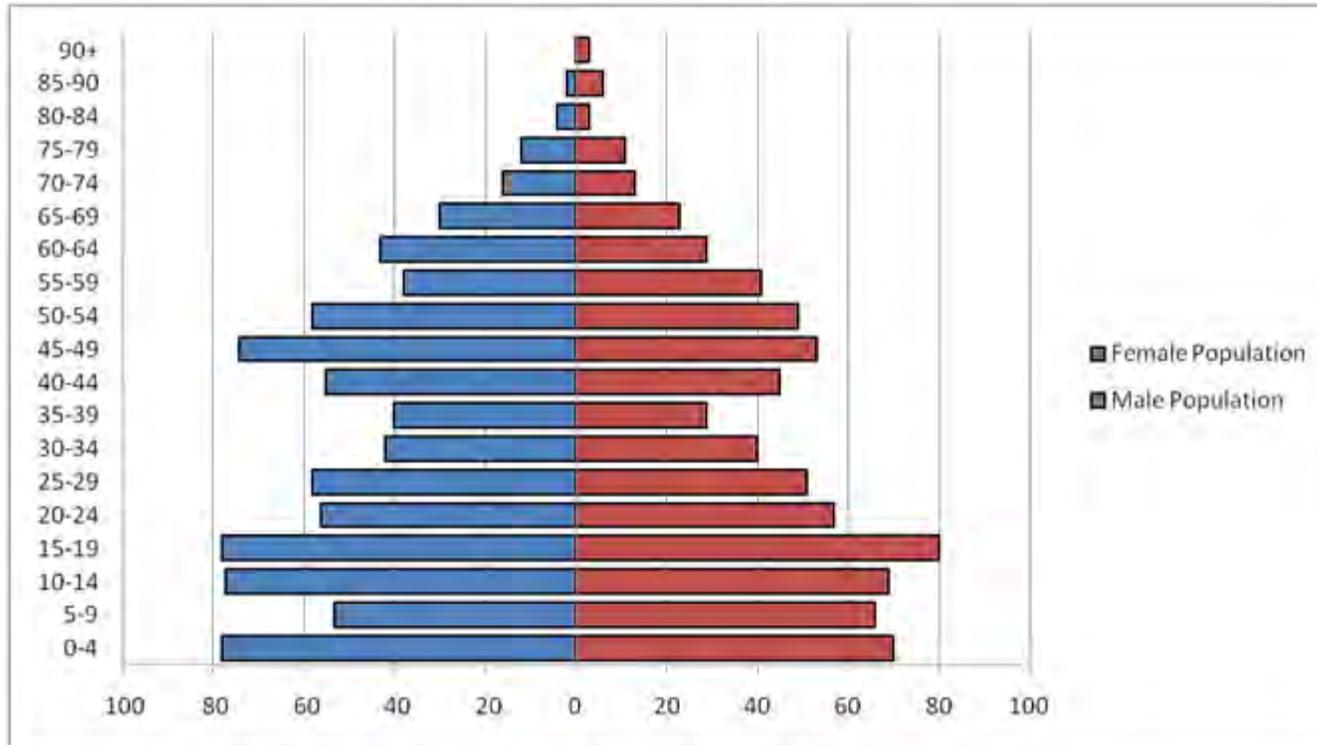
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Chart 5.3.E: Kodiak Island Borough Population Age Distribution**



Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Chart 5.3.F: Lake & Peninsula Borough Population Age Distribution**



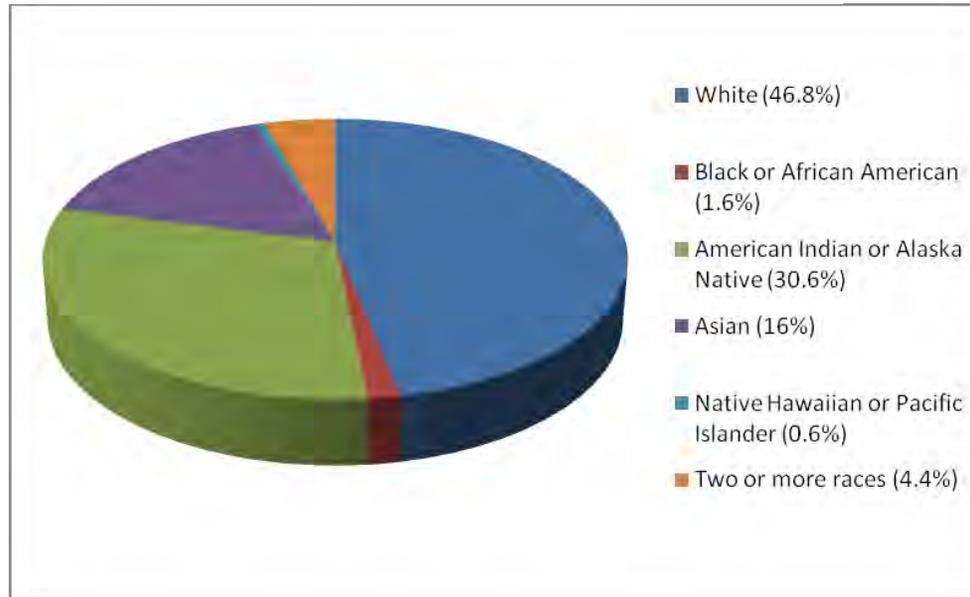
Source: 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.4: Population Ethnicity in Southwest Alaska**

	Aleutians East Borough		Aleutians West Census Area		Bristol Bay Borough		Dillingham Census Area		Kodiak Island Borough		Lake & Peninsula Borough		Southwest Alaska		State of Alaska	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
White	883	32.7%	1,988	44.8%	499	48.5%	1,107	23.2%	8,227	61.5%	341	22.0%	13,045	46.8%	481,242	70.8%
Black or African American	49	1.8%	177	4.0%	5	0.5%	19	0.4%	202	1.5%	2	0.1%	454	1.6%	27,869	4.1%
American Indian or Alaska Native	762	28.2%	887	20.0%	485	47.1%	3,354	70.3%	1,969	14.7%	1,062	68.4%	8,519	30.6%	103,317	15.2%
Asian	924	34.2%	1,220	27.5%	13	1.3%	33	0.7%	2,250	16.8%	12	0.8%	4,452	16.0%	31,267	4.6%
Native Hawaiian or Pacific Islander	8	0.3%	26	0.6%	4	0.4%	5	0.1%	121	0.9%	8	0.5%	172	0.6%	4,078	0.6%
Two or more races	73	2.7%	141	3.2%	23	2.2%	253	5.3%	604	4.5%	127	8.2%	1,221	4.4%	31,947	4.7%

Source: [www.census.gov](http://www.census.gov)

**Chart 5.4: Ethnic Composition of Southwest Alaska Population**



Source: [www.census.gov](http://www.census.gov)

**Table 5.5.A: Aleut Corporation Alaska Native Population**

Aleut Corporation	Total Population*	Alaska Native Population**	% of Total***
Akutan	796	131	16.4%
Atka	73	67	91.3%
Belkofski	0	0	0.0%
False Pass	39	26	65.6%
King Cove	750	359	47.9%
Nelson Lagoon	65	53	81.9%
Nikolski	27	19	69.2%
Sand Point	958	423	44.2%
St. George	112	103	92.1%
St. Paul	450	389	86.5%
Ugashik	15	12	81.8%
Unalaska	3,551	334	9.4%

\* 2008 State Estimate  
 \*\* Estimate based on 2000 U.S. Census  
 \*\*\* 2000 U.S. Census

Source: [www.census.gov](http://www.census.gov) and 2008 Alaska Department of Labor and Workforce Development Estimates

**Table 5.5.B: Koniag, Inc. Population**

Koniag, Inc.	Total Population*	Alaska Native Population**	% of Total***
Akhiok	48	45	93.8%
Karluk	38	36	96.3%
Larsen Bay	67	53	79.1%
Old Harbor	184	158	85.7%
Ouzinkie	167	146	87.6%
Port Lions	190	121	63.7%

\* 2008 State Estimate  
 \*\* Estimate based on 2000 U.S. Census  
 \*\*\* 2000 U.S. Census

Source: [www.census.gov](http://www.census.gov) and 2008 Alaska Department of Labor and Workforce Development Estimates

Bristol Bay Native Corporation	Total Population*	Alaska Native Population**	% of Total***
Aleknagik	242	205	84.6%
Chignik	59	36	60.8%
Chignik Lagoon	71	58	81.6%
Chignik Lake	105	91	86.9%
Clark's Point	54	50	92.0%
Dillingham	2,347	1,429	60.9%
Egegik	62	48	76.7%
Ekuk	0	0	0.0%
Ekwok	121	113	93.8%
Igiugig	40	33	83.0%
Ivanof Bay	0	n/a	95.5%
Kokhanok	179	163	90.8%
Levelock	70	67	95.1%
Manokotak	430	407	94.7%
Naknek	552	260	47.1%
Koliganek	174	152	87.4%
New Stuyahok	491	471	96.0%
Newhalen	162	148	91.3%
Nondalton	202	182	90.0%
Pedro Bay	44	28	64.0%
Perryville	133	130	98.1%
Pilot Point	72	62	86.0%
Port Heiden	90	70	78.2%
Portage Creek	7	6	86.1%
South Naknek	68	57	83.9%
Togiak	800	742	92.7%
Twin Hills	75	71	94.2%
Ugashik	15	12	81.8%

Table 5.5.C: Bristol Bay Native Corporation Population

\* 2008 State Estimate

\*\* Estimate based on 2000 U.S. Census

\*\*\* 2000 U.S. Census

Source: [www.census.gov](http://www.census.gov) and 2008 Alaska Department of Labor and Workforce Development Estimates

The Alaska Native population varies across the region. In the Lake & Peninsula Borough nearly seven out of ten residents (68.4%) are Alaska Natives. In the Kodiak Island Borough, one in seven residents is an Alaska Native (14.7%), slightly below the state proportion. Throughout Southwest Alaska, five out of six sub-regions have Alaska Native populations that exceed the state proportion.

Refer to Table 5.4 for a comparison for ethnicity across the region. Additionally, Tables 5.5.A-C provides a profile of the Alaska Native population for all Alaska Native Village Statistical Areas (ANVSAs) in the region. In this table, the Alaska Native population includes all residents reporting Alaska Native ethnicity alone or in combination with one or more ethnicities.

## Educational Attainment

According to the 2000 U.S. Census, the most recently reported data, 81 percent of the region's population over age 25 has obtained a high school diploma or college education. This is somewhat lower than the state level, which is 88.4 percent. The Bristol Bay Borough and Kodiak Island Borough exceed the state high school and/or college completion rate at 88.8 percent and 92.9 percent, respectively. Educational attainment rates for the remaining boroughs and census areas range from 72.7 percent to 92.9 percent with the Lake & Peninsula Borough having the lowest high school and/or college completion rate in the region.

Conversely, about 11 percent of the state's

population over age 25 has not earned a high school diploma or attended college. For the region as a whole, 19 percent of the population has not received a high school or college diploma.

Slightly more than one-fifth (20.5%) of the population over age 25 in Southwest Alaska has obtained a college degree. This is significantly lower than the state level of college degree completion at 31.9 percent. The Bristol Bay Borough has the highest proportion of population with a college degree at 26.7 percent, followed by the Kodiak Island Borough at 25.5 percent. In the Aleutians East Borough, only 10.9 percent of the population has a college degree, the lowest proportion in the region. The Kodiak Island Borough has the highest degree of residents who have obtained an associate or bachelor's degree. Bristol Bay Borough residents have the greatest proportion of graduate degrees in the region.

Table 5.6 demonstrates the educational attainment levels for each borough or census area in the region.

A closer look at educational attainment levels in ANVSAs reveals a wide variation in high school diploma and college degree completion among the region's Alaska Native population. Based on sample data of 26 communities for persons 25 years and older, three-quarters of the ANVSA population in the region has completed high school or college. However, the range of high school completion varies from a high of 95 percent in St. George to a low of 54.7 percent in Egegik.

Slightly more than the 10 percent of the

ANVSA population have completed a college degree, which is half of the rate for the region as a whole. Iliamna has the highest proportion of degree completion at 28.9 percent, while three ANVSAs have no residents with a college degree.

## Population Density

Based on total land area, population density for the State of Alaska is 1.19 persons per square mile. In comparison, the population density for Southwest Alaska is 0.46 persons per square mile. Given the vast public land holdings in the region, population density based on total land area is somewhat misleading.

A reassessment of population density based on the populated land area better illustrates population patterns in the region. Using the area of incorporated cities and CDPs as the definition for populated land area results in a revised population density of 11.56 persons per square mile for the region. Based on this revised definition, the Kodiak Island Borough has the highest population density at 35.01 persons per square mile. At 2.64 persons per square mile, the Lake & Peninsula Borough has the lowest population density. Population densities for all boroughs and census areas in Southwest Alaska are presented in Table 5.7.

**Table 5.6: Educational Attainment Levels in Southwest Alaska for Population 25 Years and Over**

Area Name	Less than 9th Grade	9th to 12th grade, no diploma	High School Graduate or equivalency	Some College No Degree	Associate Degree	Bachelor's Degree	Graduate or Professional Degree
Aleutians East Borough	10.9%	14.3%	49.0%	14.8%	6.1%	3.1%	1.7%
Aleutians West Census Area	10.0%	0.1%	34.4%	29.7%	3.4%	9.0%	2.0%
Bristol Bay Borough	4.5%	6.6%	34.0%	28.1%	5.6%	12.9%	8.2%
Dillingham Census Area	13.4%	9.9%	33.9%	21.7%	4.6%	10.4%	6.1%
Kodiak Island Borough	7.0%	7.6%	31.3%	28.5%	6.8%	13.2%	5.5%
Lake and Peninsula Borough	16.5%	11.3%	39.2%	16.2%	4.3%	8.9%	3.6%
Southwest Region Total	9.4%	9.7%	34.8%	25.7%	5.5%	10.6%	4.4%
State of Alaska	4.1%	7.5%	27.9%	28.6%	7.2%	16.1%	8.6%

Source: [www.census.gov](http://www.census.gov), 2000 Census of Population

**Table 5.7: Population Density (Persons per square mile) in Southwest Alaska**

Area Name	Total Population*	Land Area	Populated Area**	Density for Total Area	Density for Populated Area
Aleutians East Borough	2,699	6,988	266	0.38	10.15
Aleutians West Census Area	4,439	4,397	592	1.01	7.50
Bristol Bay Borough	1,029	505	349	2.04	2.95
Dillingham Census Area	4,771	18,675	231	0.26	20.65
Kodiak Island Borough	13,373	6,560	382	2.04	35.01
Lake and Peninsula Borough	1,552	23,782	587	0.07	2.64
Southwest Region Total	27,863	60,906	2,407	0.46	11.56
State of Alaska	679,720	571,591	Unknown	1.19	Unknown

\* 2008 State Estimate

\*\* 2000 U.S. Census data

Source: [www.census.gov](http://www.census.gov), 2000 Census of Population

## Population Projections

The Alaska Department of Labor (ADOL) prepares population projections based on trends in fertility, mortality, and in-migration. Table 5.8 portrays population projections the boroughs and census areas in Southwest Alaska. These projections run counter to estimated declines in the region's population since 2000. ADOL projects a decline in the population of the Aleutians East Borough and the Lake & Peninsula Borough while all other boroughs or census areas in the region are projected to experience population increases.

**Table 5.8: Population Projections for Southwest Alaska**

Area Name	2008	2010	2015	2020	2025	Change
Aleutians East Borough	2,699	2,675	2,688	2,676	2,645	-2.1%
Aleutians West Census Area	4,439	5,169	5,068	4,944	4,795	7.4%
Bristol Bay Borough	1,029	1,169	1,153	1,152	1,133	9.2%
Dillingham Census Area	4,771	4,897	5,044	5,181	5,293	9.9%
Kodiak Island Borough	13,373	13,477	13,298	13,058	12,740	-4.7%
Lake and Peninsula Borough	1,552	1,586	1,560	1,510	1,443	-7.0%
Southwest Region Total	27,863	28,973	28,811	28,521	28,049	0.7%
State of Alaska	676,720	698,573	734,999	771,465	806,113	16.1%

Source: 2008 Alaska Department of Labor and Workforce Development Estimates

# 6.0 Labor Force, Employment & Income

The labor force in Southwest Alaska is structured to respond to the direct demands of the commercial seafood industry, as well as support functions ancillary to that industry. Any discussion about labor force and employment in Southwest Alaska must be prefaced with a caveat. Labor force estimates in Alaska do not include one of the most important sectors in the Southwest regional economy – commercial fishing harvesters.

The Alaska Department of Labor & Workforce Development (ADOLWD) collects and reports

**Table 6.1: Labor Force in Southwest Alaska**

Borough or Census Area	2000	2001	2002	2003	2004	2005	2006	2007	2008
Aleutians East Borough	938	1,010	974	1,024	1,124	1,076	1,139	1,097	1,107
Aleutians West Census Area	2,733	2,637	2,750	2,975	3,100	3,140	3,214	3,094	3,050
Bristol Bay Borough	922	947	911	984	1,049	969	1,018	1,066	1,076
Dillingham Census Area	1,958	1,912	1,940	1,950	2,067	2,061	2,101	2,048	2,069
Kodiak Island Borough	6,524	6,439	6,330	6,044	6,228	6,052	6,145	6,158	6,340
Lake & Peninsula Borough	1,034	965	923	955	922	1,039	1,081	1,169	1,103
Southwest Alaska	14,109	13,910	13,828	13,932	14,490	14,337	14,698	14,632	14,745
State of Alaska	319,002	321,484	328,385	336,549	339,859	344,379	349,733	351,701	357,136

Source: Alaska Department of Labor & Workforce Development; Dan Robinson, ADOL Labor Economist, personal communication

employment data for those jobs that are subject to employment regulation. Commercial fish harvesters are exempted from unemployment insurance and other employment reporting requirements. These jobs are generally classified as self-employed. Following a general discussion of labor force characteristics, information regarding commercial fishing permittees will be presented. An analysis of permit volume is offered as an indicator of employment in the commercial fish harvesting sector.

Active duty U.S. Coast Guard (USCG) personnel are also not included in ADOLWD labor statistics. The USCG has active duty personnel in both the Aleutians West Census Area and the Kodiak Island Borough. Information on this important workforce must also be factored into a discussion of the regional labor force.

## Labor Force

Over the past nine years, the labor force in Southwest Alaska has averaged out at 14,298

with a median of 14,337. According to the ADOLWD, the region's labor force was 14,745 in 2008, reflecting a 4.3 percent increase since 2000. Table 6.1 delineates the region's labor force by boroughs and census areas for the period 2000 – 2008.

While the labor force for most sub-regions has varied from year to year, the Kodiak Island Borough had the greatest period of decrease in labor force at more than 7.3 percent (480 workers) from 2000 to 2003. Most of this change is attributable to the closure of the Cutter Firebush Naval Station. During the mid-2000s, an increase in manufacturing jobs resulted in a rebound in the Borough's labor force.

The greatest increase in labor force occurred in the Aleutians West Census Area, which rose by more than 11.5 percent from 2000 to 2008. While many sectors experienced a steady rate of employment, a high demand for manufacturing jobs contributed to this boost in labor force.

In the Aleutians East and Bristol Bay Boroughs, moderate growth in the manufacturing sector also resulted in an overall rise in labor force. However, this increase was relatively small and occurred during a period of moderate fluctuation. From 2003 through 2008, the Aleutians East Borough experienced an 8.1 percent increase in labor force while the

**Table 6.2: Southwest Alaska Labor Force Participation Rates by Boroughs and Census Areas for Selected Years**

	2000	2008	Rate of Change ('00 - '08)
Aleutians East Borough	41.5%	47.3%	5.8%
Aleutians West Census Area	59.8%	81.1%	21.3%
Bristol Bay Borough	104.2%	147.2%	43.0%
Dillingham Census Area	64.9%	68.6%	3.7%
Kodiak Island Borough	69.3%	70.6%	1.3%
Lake & Peninsula Borough	89.4%	108.6%	19.2%
Southwest Alaska	66.2%	74.3%	8.1%
State of Alaska	73.7%	76.4%	2.7%

Source: Alaska Department of Labor & Workforce Development

Bristol Bay Borough saw a 9.4 percent increase.

Since 2003, the labor force in the Dillingham Census Area and the Lake & Peninsula Borough has increased by 6.1 percent and 15.5 percent, respectively. However, the percentages can be deceiving when used in comparison to other areas. For example, although 15.5 percent is nearly twice as much as the Kodiak Island Borough, the Lake & Peninsula borough only experienced an increase of 148 workers (compared to Kodiak’s 480). The Dillingham Census Area saw a rise in their workforce of just 119.

While labor force can provide information about the number of people employed and unemployed in a region, labor force participation rate calculates the percentage of working-age people (15-64) who are employed. The labor force participation rate is calculated by dividing the labor force (employed AND unemployed) by total population age 15 through 64, and then multiplying by 100.

was 7.5 percent lower than the State rate. By 2008, the participation rate was only 2.1 percent lower than the State.

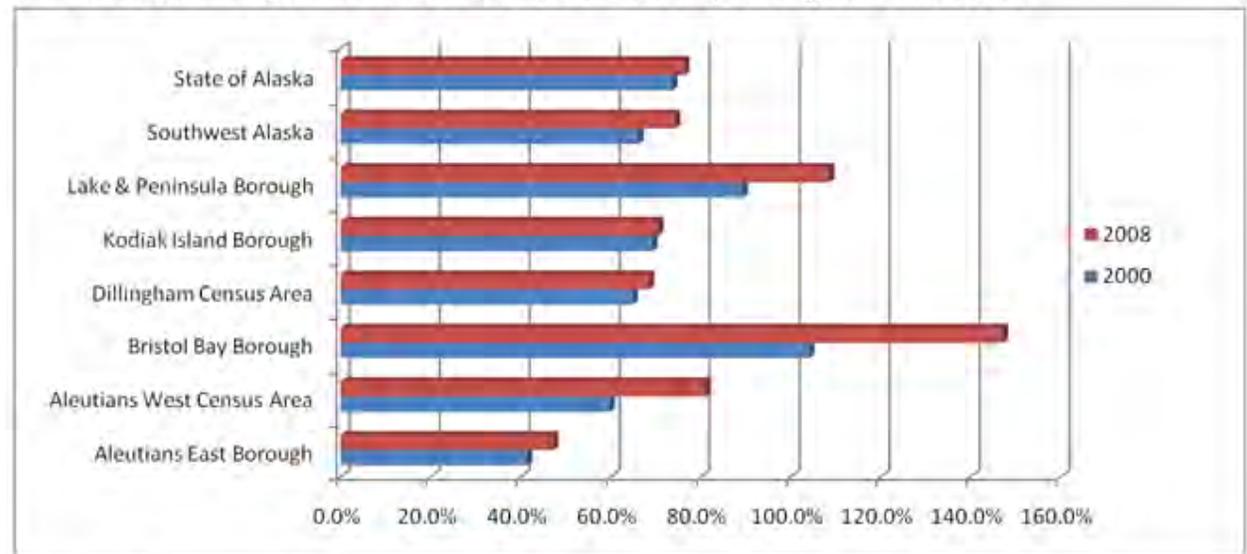
The Bristol Bay Borough and the Lake &

The labor force participation rate in Southwest Alaska averaged 74.3 percent in 2008. This represents a nearly eight percent increase in the region since 2000. In comparison to the State, in 2000 the Southwest Alaska labor force participation rate was 7.5 percent lower than the State rate. By 2008, the participation rate was only 2.1 percent lower than the State.

Peninsula Borough had the highest labor force participation rates in the region for 2008 at 147.2 percent and 108.6 percent, respectively. At 47.3 percent, the labor force participation rate in the Aleutians East Borough is the lowest in the region and 27 percent lower than the regional average.

Between 2000 and 2008, the Aleutians West Census Area had the second largest jump in labor force participation rate when it increased by 21.3 percent. Rates in the Dillingham Census Area as well as the Kodiak Island Borough increased slightly at 3.7 and 1.3 percent respectively. With high rates of seasonal employment, the Bristol Bay Borough experienced the largest increase in labor force

**Chart 6.1: 2000 and 2008 Labor Force Participation Rates by Borough or Census Area**



Source: Alaska Department of Labor & Workforce Development

participation rate, up 43percent, from 2000 to 2008.

Future analysis of labor force participation rates must expand to an examination at the community level. The ADOLWD reports that more urban areas or regional hubs tend to distort labor force participation rates in rural Alaska.<sup>1</sup> Although there are exceptions, typically larger communities or more urban areas have higher labor force participation rates. Given the range of communities' populations and the presence of a regional hub in each of the six census areas, an examination of labor force participation rates at the community level will offer greater insight into the labor force characteristics of the region.

The seasonal nature of the region's key industries, the traditional practice of a subsistence lifestyle and the absence of other employment opportunities offers some explanation for low labor force participation rates in some areas as well as spikes in others. Table 6.2 enumerates labor force participation rates between 2000 and 2008. Chart 6.1 illustrates the differences and variations in sub-regions' labor force participation rates for the same years.

## Commercial Fishing Permittees

In 2008, there were 1,859 individual permit holders and 2,309 crew member licensees residing in Southwest Alaska.<sup>2</sup> These numbers represent a substantial decline when compared to 2000 data. In 2000, the number of permit

**Table 6.3: Resident Commercial Fishing and Crew Member Permit Holders by Borough or Census Area**

	2008 Permit Holder	2008 Crew Member	2007 Permit Holder	2007 Crew Member	2006 Permit Holder	2006 Crew Member	2000 Permit Holder	2000 Crew Member
Aleutians East Borough	197	278	185	276	193	274	220	386
Aleutians West Census Area	72	234	87	218	85	234	103	187
Bristol Bay Borough	173	160	173	159	174	182	191	241
Dillingham Census Area	629	587	634	604	637	580	744	858
Kodiak Island Borough	637	816	656	815	654	814	760	1,178
Lake & Peninsula Borough	151	234	157	222	163	246	224	369
Southwest Alaska	1,859	2,309	1,892	2,294	1,906	2,330	2,242	3,219

Source: Alaska Commercial Fisheries Entry Commission (CFEC)

holders was nearly 21 percent higher (2,242) and the number of crew members was almost 40 percent larger (3,219). In total, resident commercial fishing harvesters equal 13.6 percent of the region's labor force. Table 6.3 summarizes commercial fishing permit holders and crew members for 2008 along with recent years.

It is important to note that there are some reporting deficiencies in this data, as acknowledged by the Commercial Fisheries Entry Commission (CFEC). However, permit data provides the only available indicator of the commercial fish harvesting labor force. Obtaining a permit is an indication of the intent to fish, whether or not a permit is actually fished or a crew member actually fishes.

Based on this information, along with the fact that many non-residents are employed in the commercial fishing industry, the region's 2008 labor force of 14,745 is likely a gross underestimate of the true work force in Southwest Alaska.

Absent from Table 6.3 is an estimate of permittees who report being nonresidents. A review of statewide permittee data reveals that nonresident permittees were 69.4 percent of total permittees in 2007.<sup>3</sup> Non-resident permit and crew member holders were calculated by subtracting the CFEC resident permittees from the Alaska Department of Labor & Workforce Development estimates for total fish harvesting workforce. Based on this volume of nonresident permittees, a more comprehensive estimate of the commercial fish harvesting labor force would be approximately 13,681 or 44.5 percent of the revised estimate of regional labor force.

Of the areas within the Southwest Alaska region, the Dillingham Census Area had the highest concentration of total (resident and non-resident) commercial fisherman within their labor force at 63.2 percent. The Kodiak Island Borough had the smallest concentration of total commercial fisherman, only 29 percent of their workforce. The remaining areas had the following percentage of commercial fisherman

within their individual work force: Lake & Peninsula Borough (61.9%), Aleutians East Borough (56.7%), Bristol Bay Borough (45.8%) and the Aleutians West Census Area (30.1%).

## U.S. Coast Guard Personnel

Active duty U.S. Coast Guard (USCG) personnel are also not reported in ADOLWD labor statistics. The presence of the Coast Guard in the region is vital to the conduct of federal fisheries, marine safety and navigation, search and rescue, enforcement of U.S. maritime and trade laws, and other support missions. Table 6.4 summarizes USCG personnel deployment in the region by location and unit. This information was obtained firsthand from PA3 Charly Hengen, based out of Kodiak.

There are 807 active duty USCG personnel in the region. The vast majority, 95 percent, are stationed in Kodiak, making the Coast Guard the largest single employer in the Kodiak Island Borough.

The remaining USCG personnel are stationed in the Aleutians West Census Area at LORAN (Long-range Aid to Navigation) stations on Attu and St. Paul islands, and a Marine Safety Detachment in Unalaska.

In total, USCG personnel account for 3.5 percent of the regional labor force. For the Kodiak Island Borough, the Coast Guard comprises 11 percent of the local labor force. The 34 active duty personnel in the Aleutians

**Table 6.4: Active Duty U.S. Coast Guard Personnel in Southwest Alaska**

USCG Unit	2003	2009
ADQ - ANT	7	7
ADQ - Cutter Alex Haley	99	99
ADQ - Cutter Storis	78	0
ADQ - Cutter Spar	47	48
ADQ - Cutter Firebush	0	0
ADQ - Air Station	382	350
ADQ - ISC	253	149
ADQ - ComSta	69	60
ADQ - ESU	28	26
ADQ - LORAN	24	6
ADQ - MSD	28	7
ADQ - NPRFTC	14	14
Attu - LORAN	20	20
Unalaska - MSD	5	7
St. Paul - LORAN	17	14
<b>Total USCG Personnel</b>	<b>1,071</b>	<b>807</b>

Source: PA3 Charly Hengen, personal communication

West Census Area equate to 0.8 percent of the local labor force.

## Employment

In Southwest Alaska, fish harvesting accounted for the largest sector of employment with non-resident (30.9 percent) and resident (13.6 percent) leading the way. The manufacturing industry accounted for almost 21 percent of all non-farm wage and salary employment in 2007.<sup>4</sup> A closer look at the manufacturing sector shows that virtually all of these jobs are in the food and kindred products sub-category, which equates to seafood processing. The next largest employment sector is services, which at

9.3 percent is nearly half the size of the manufacturing sector. Retail trade (3.3%); transportation, communications & utilities (TCU 2.7%); finance, insurance and real estate (FIRE 1.6%); construction (0.9%); wholesale trade (0.3%); and agriculture, forestry and fishing (AFF 0.1%) account for the balance of private sector employment in the region. Mining and miscellaneous employment have a negligible presence in the area. Combined, all private sector employment comprises more than 84.4 percent of all jobs in Southwest Alaska. Chart 6.3 depicts the composition of non-farm employment in Southwest Alaska for 2007.

Slightly less than one in six non-farm jobs in Southwest Alaska is in the public sector. Local government employment (8.9%) accounts for more than 73 percent of all government jobs with the remaining portion split almost evenly between state (12.5%) and federal (14.3%) employment.

Employment in Alaska has grown modestly, but continuously between 2003 and 2008 according to the ADOLWD.<sup>5</sup> In comparison to the region's major nonfarm employment sectors, manufacturing accounts for only 3.7 percent of statewide employment. Employment in the retail trade and services sector is significantly greater on the state level, which reflects the more diverse levels of development in the state's concentrated urban areas. Although services, retail trade and local government account for the largest employment

**Table 6.5: 2007 Employment by Industry for Boroughs and Census Areas in Southwest Alaska**

	Aleutians East Borough		Aleutians West Census Area		Bristol Bay Borough		Dillingham Census Area		Kodiak Island Borough		Lake & Peninsula Borough		Southwest Alaska		State of Alaska	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AFF	4	0.1%	11	0.2%	0	0.0%	0	0.0%	29	0.3%	0	0.0%	44	0.1%	775	0.2%
Mining	0	0.0%	0	0.0%	0	0.0%	2	0.0%	0	0.0%	28	1.3%	30	0.1%	15,162	4.3%
Construction	1	0.0%	30	0.6%	40	1.6%	13	0.2%	166	1.8%	8	0.4%	258	0.9%	17,262	4.9%
Manufacturing	1,345	30.5%	2,282	41.5%	772	30.5%	522	7.6%	1,435	15.8%	91	4.2%	6,447	20.9%	12,986	3.7%
Fish Harvesting (Resident)	461	10.4%	305	5.5%	332	13.1%	1,238	18.1%	1,471	16.2%	379	17.7%	4,186	13.6%	18,901	5.3%
Fish Harvesting (Non-Resident)	2,042	46.3%	1,351	24.6%	827	32.7%	3,088	45.1%	1,239	13.6%	948	44.2%	9,495	30.9%	10,135	2.9%
TCU	53	1.2%	309	5.6%	160	6.3%	147	2.1%	308	3.4%	57	2.7%	1,034	3.4%	29,064	8.2%
Wholesale	4	0.1%	56	1.0%	0	0.0%	8	0.1%	35	0.4%	0	0.0%	103	0.3%	6,537	1.9%
Retail	39	0.9%	180	3.3%	50	2.0%	196	2.9%	520	5.7%	29	1.4%	1,014	3.3%	36,228	10.3%
FIRE	31	0.7%	101	1.8%	13	0.5%	129	1.9%	218	2.4%	13	0.6%	505	1.6%	14,839	4.2%
Other Services	123	2.8%	272	5.0%	94	3.7%	753	11.0%	1,444	15.9%	162	7.5%	2,848	9.3%	107,695	30.5%
USCG*	0	0.0%	42	0.8%	0	0.0%	0	0.0%	766	8.4%	0	0.0%	1,071	3.5%	2,407	0.7%
Federal	22	0.5%	18	0.3%	58	2.3%	54	0.8%	342	3.8%	41	1.9%	535	1.7%	16,891	4.8%
State	20	0.5%	39	0.7%	32	1.3%	95	1.4%	273	3.0%	8	0.4%	467	1.5%	24,965	7.1%
Local	263	6.0%	501	9.1%	152	6.0%	604	8.8%	841	9.3%	380	17.7%	2,741	8.9%	39,077	11.0%
Misc.	0	0.0%	1	0.0%	0	0.0%	0	0.0%	3	0.0%	0	0.0%	4	0.0%	244	0.0%
<b>Total</b>	<b>4,408</b>	<b>100.0%</b>	<b>5,498</b>	<b>100.0%</b>	<b>2,530</b>	<b>100.0%</b>	<b>6,849</b>	<b>100.0%</b>	<b>9,090</b>	<b>100.0%</b>	<b>2,144</b>	<b>100.0%</b>	<b>30,782</b>	<b>100.0%</b>	<b>353,168</b>	<b>100.0%</b>

\*2009 Data

Source: Blended data – ADOL, CFEC, USCG

sectors, statewide employment figures also illustrate areas of less populated industries such as agriculture, forestry and fishing, and wholesale trade.

An examination of only nonfarm employment seriously distorts actual employment in Alaska, particularly Southwest Alaska. As mentioned earlier, the fish harvesting industry – resident and non-resident – account for 44.5 percent of total employment in the region. And this number is only a rough estimate as data for the commercial fishing industry is not regularly

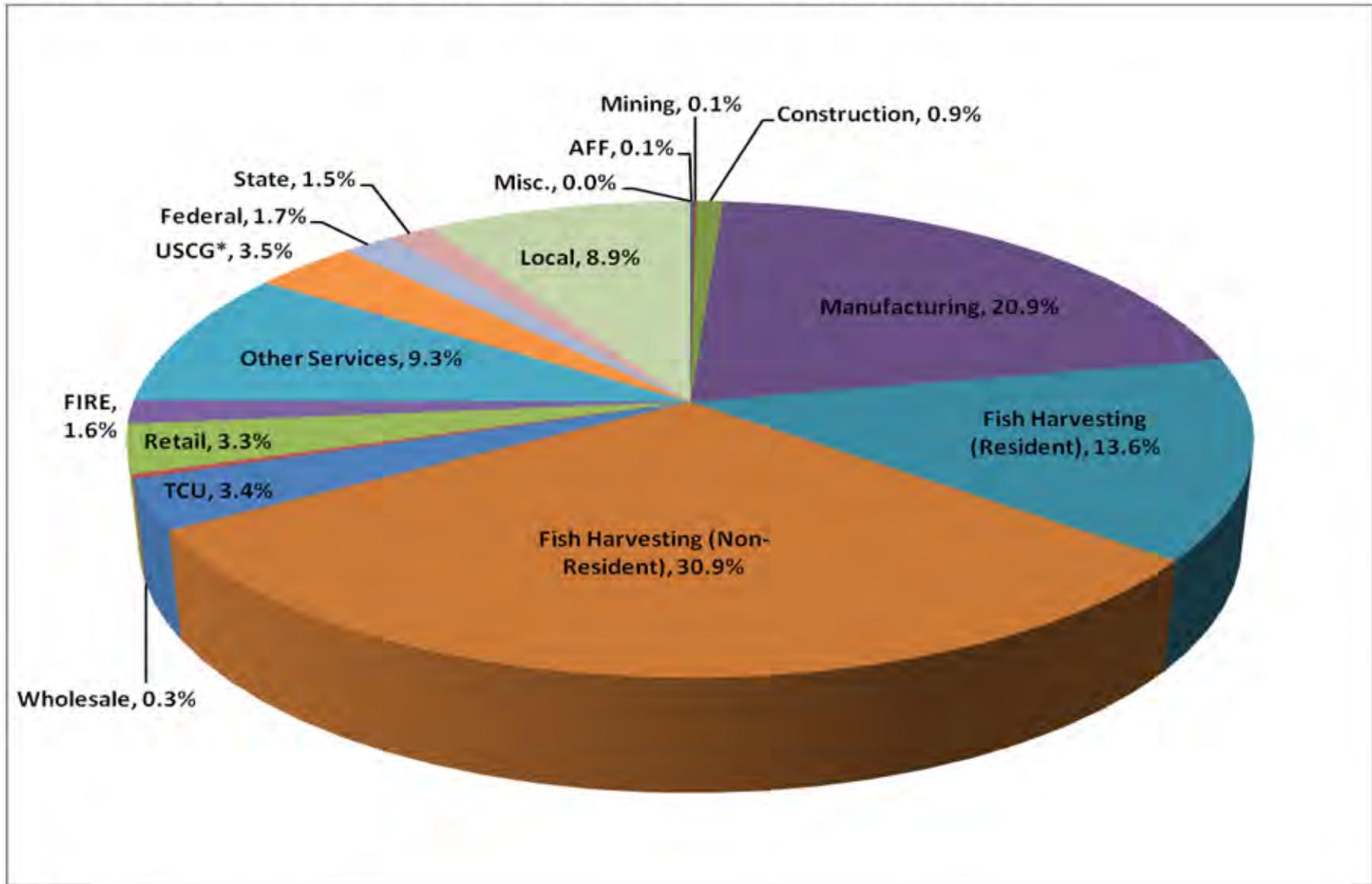
tracked. A clearer understanding of employment in the fish harvesting sector, the distribution of residents and nonresidents in the sector, and the economic impact of resulting economic leakages is needed.

In February 2004, SWAMC undertook an analysis of these characteristics of the regional economy in an economic geography study. The report better illustrated the impact of the fish harvesting sector, the relationship of the regional economy with other areas of the state, and helped define future economic

development activities to increase wealth retention in the region. At the time of this writing, the State of Alaska Department of Fish & Game was in the process of designing a new data collection system for seafood harvesters.

Table 6.5 provides a comparison of total estimated employment across the boroughs and census areas in Southwest Alaska.<sup>6</sup> In four of the six sub-regions, fish harvesting accounts for the largest proportion of jobs. At 63.2 percent, the Dillingham Census Area has the highest concentration of fish harvesting jobs in its

Chart 6.3: 2007 Employment by Industry – with estimated resident and nonresident fish harvesting sector



\*2009 Data

Source: Blended data – ADOL, CFEC, USCG

workforce. The Kodiak Island Borough has the lowest proportion of fish harvesting jobs in the region. Still, nearly one in three jobs is in this sector and both areas have a high degree of dependence on seasonal salmon fisheries. Local seafood processing capacity is dominated by nonresident owners and is affected by energy and transportation costs, which have constrained the development of locally-owned, shoreside processing facilities.

## Non-resident Employment

According to the Alaska Department of Labor & Workforce Development, nonresidents comprised 19.6 percent of all nonfarm workers in Alaska in 2007, a small, 0.3 percent, decrease from 2006.<sup>7</sup> The ADOLWD also reported that the highest percent of nonresident workers in Alaska is found in the Southwest region.<sup>8</sup> The most recent non-resident employment data available is from 2007.

In 2007, nonresidents comprised 78.9 percent of the privately owned workforce in the Aleutians East Borough making it the highest in the region. The Kodiak Island Borough's nonresident workforce was the lowest in the region totaling 27 percent in 2007. On average, the overall regional nonresident nonfarm workforce was 64 percent in 2007.

In 2007, the Southwest Alaska's nonresident workforce was 31.7 percent, down almost 14 percent from 2004 and dropping 10.5 percent from 2000. For four sub-regions, Aleutians East, Aleutians West, Bristol Bay and Kodiak Island, the proportion of nonresidents in the

workforce grew since 2000. In the Dillingham Census Area and Lake & Peninsula Borough, the nonresident workforce declined. Table 6.6 provides 2000, 2004 and 2007 nonresident workforce rates for boroughs and census areas in the region.

In its 2007 annual report on nonresident employment, the ADOLWD reported that the food processing industry, comprised almost entirely of seafood

processing workers, continued to employ the highest percentage of nonresident workers at 74.7 percent and 72.6 percent in 2004. Other sectors, such as tourism also report a high incidence of nonresident employment in the state and the region.

Additionally, Alaska residents from outside the Southwest region are not included in the nonresident workforce figures, but are tallied in a separate column by the ADOLWD. Processing workers, permit holders and crew members who are Alaska residents, but reside outside of Southwest Alaska, have a similar economic impact on the region. The issue of wealth retention within the region is a priority focus of future economic development planning and activities identified by the CEDS Committee.

The impact of the nonresident workforce has brought both beneficial and negative impacts in Southwest Alaska. Given the seasonal nature and perishability of the core economic activities of the region, a transient workforce can rightly be viewed as essential. Commercial

**Table 6.6: Nonresident Employment Rates in Southwest Alaska**

	2000	2004	2007
Aleutians East Borough	64.3%	73.7%	73.4%
Aleutians West Census Area	52.1%	57.5%	57.1%
Bristol Bay Borough	66.7%	69.9%	72.3%
Dillingham Census Area	27.6%	24.1%	23.9%
Kodiak Island Borough	20.1%	22.0%	24.1%
Lake & Peninsula Borough	49.0%	46.9%	41.5%
Southwest Alaska	42.2%	45.5%	31.7%
State of Alaska	17.9%	18.4%	19.6%

Source: ADOL – Nonresident Workers in Alaska 2000, 2004 & 2007

seafood harvesting and processing requires the ability to rapidly expand the workforce.

Without the influx of seasonal employees, it would be impossible to move the region's seafood products to market in a timely manner while maximizing quality and value. However, nonresident workers generally spend the bulk of their earnings where they live. On average, nonresidents take a significant portion of their earnings to their home state or community, depriving Alaska and the region of the full economic benefits of the employment created in Southwest Alaska. This has a direct impact on the total growth rate and income of Alaska and the region.<sup>9</sup>

This leakage of income out-of-state and out-of-region results in smaller indirect income and employment than would occur if workers lived in the region. The ADOLWD estimates that for every \$100 in direct income transferred out of state, the state loses an additional \$40 to \$90 in indirect economic impact.<sup>10</sup> In 2007, an estimated \$183.2 million in wages was earned by nonresidents in Southwest Alaska.<sup>11</sup>

Assuming only half of the direct wages leave the region, the total estimated economic leakage could total between \$73 million to \$164 million.

The ADOLWD and regional employers have worked collaboratively in recent years to increase the number of resident hires in the seafood processing industry. However, the yearly percentages of resident workers have remained relatively stagnant. In 2004, residents accounted for only 27.4 percent of the industry workforce. By 2007, that number had decreased to 25.3 percent.<sup>12</sup>

## Unemployment

Based on average annual rates, unemployment in Southwest Alaska has been decreasing steadily since 2003, but saw a slight rise in 2008. While there are variations across boroughs and census areas, overall, the unemployment rate fell 1.2 percent from 2003 to 2008 in Southwest Alaska. During this same time frame, the regional unemployment rate averaged 0.6 percent higher than the state rate. Moreover, the measurement of regional unemployment exceeded state unemployment beginning in 1998 and continuing through 2008. Table 6.7 presents average annual unemployment rates for the boroughs and census areas, as well as comparisons to state and federal rates. Chart 6.4 reveals the trends in Southwest Alaska unemployment from 2000 to 2008.

In comparison to national unemployment levels, a similar pattern is revealed. Based on the raw average, regional unemployment was

nearly 2.3 percentage points higher than national unemployment from 2000 through 2008. In addition, both regional and national unemployment rates spiked during the early 2000s with Southwest Alaska reaching a high of 8.4 percent and the national level peaking at 6 percent. The average unemployment rate from 2000 to 2008 was 7.4 percent in Southwest Alaska and 5.1 percent in the U.S.

The Bristol Bay Borough has historically had the lowest average unemployment rate in the region, which averaged 5.5 percent from 2003 to 2008. During the 2000s, the Bristol Bay Borough never eclipsed the 7.4 percent rate the Southwest Region has averaged. Additionally, the Borough's highest rate of unemployment in this time frame occurred in 2002 when it had the second lowest rate in the region, at 6.6 percent. In the last two years, the Bristol Bay Borough has had an unemployment rate equal to or less than the national level.

From 2000 through 2008, the Dillingham Census Area had the highest level of unemployment in Southwest Alaska ranging from 7.2 percent to a staggering 11 percent throughout the period. The average unemployment rate over the last nine years in the Dillingham Census Area has been 9.5 percent. The Aleutians East Borough has also experienced high levels of unemployment. In fact, it had the second highest level of unemployed workers during the 2000s. Other areas in Southwest Alaska, including the Aleutians West Census Area, Kodiak Island Borough and Lake & Peninsula Borough, have had average unemployment rates of 5.8, 8.1 and 6.9 respectively from 2000 to 2008.

Regional, borough, and census area annual averages undoubtedly distort community unemployment rates. Although there may be exceptions, rural communities experience a greater level of unemployment than urban areas. Rural areas also tend to have a higher incidence of discouraged workers. Anyone that has not sought a job in the preceding six weeks is classified as a discouraged worker and is not factored into labor force figures.<sup>13</sup>

Average annual unemployment also disguises seasonal variations, which tend to be significant for the region. Fishing, tourism, and construction are highly seasonal sectors. In a 2003 analysis of the seasonality of the Alaska labor market, the most recent data available, the ADOLWD determined that 74 percent of all seafood processing workers are in the occupations classified as highly seasonal. In fact, the ADOLWD determined that no occupations in the seafood processing sector could be defined as non-seasonal.<sup>14</sup>

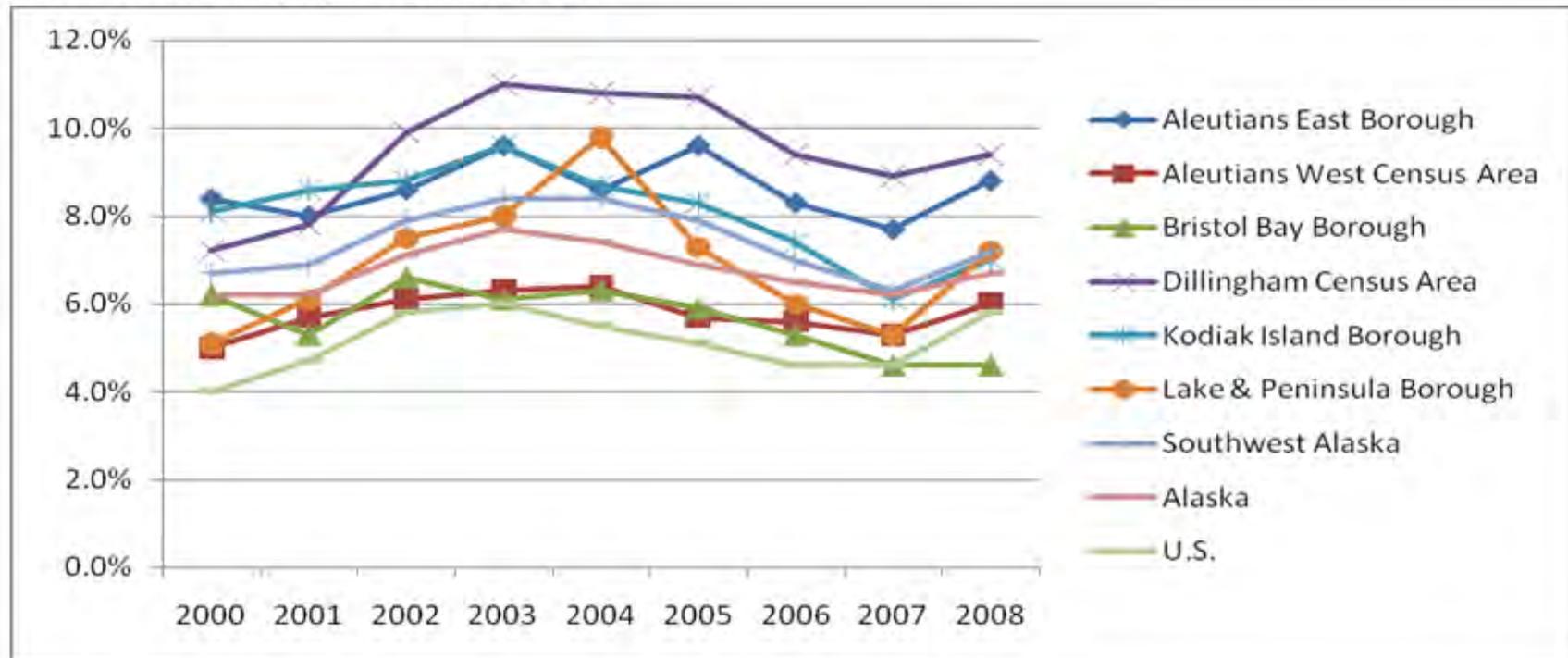
Seasonality varies across sub-regions based on the timing and composition of fisheries for that region. Table 6.8 shows 2008 monthly unemployment rates for each borough and census area, as well as regional averages and comparisons to state and national rates.<sup>15</sup> Chart 6.5 provides a visual representation of monthly unemployment from January 2008 through December 2008. While state and national unemployment rates vary slightly across the year, the boroughs and census areas of Southwest Alaska experience significant variation. Month to month unemployment in the boroughs and census areas generally exceeds both state and national levels, with the noted exception of the Bristol Bay Borough.

**Table 6.7: 2000 – 2008 Annual Unemployment Rates for Southwest Alaska with Comparisons to State and Federal Rates**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Aleutians East Borough	8.4%	8.0%	8.6%	9.6%	8.6%	9.6%	8.3%	7.7%	8.8%
Aleutians West Census Area	5.0%	5.7%	6.1%	6.3%	6.4%	5.7%	5.6%	5.3%	6.0%
Bristol Bay Borough	6.2%	5.3%	6.6%	6.1%	6.3%	5.9%	5.3%	4.6%	4.6%
Dillingham Census Area	7.2%	7.8%	9.9%	11.0%	10.8%	10.7%	9.4%	8.9%	9.4%
Kodiak Island Borough	8.1%	8.6%	8.8%	9.6%	8.7%	8.3%	7.4%	6.1%	7.0%
Lake & Peninsula Borough	5.1%	6.1%	7.5%	8.0%	9.8%	7.3%	6.0%	5.3%	7.2%
Southwest Alaska	6.7%	6.9%	7.9%	8.4%	8.4%	7.9%	7.0%	6.3%	7.2%
Alaska	6.2%	6.2%	7.1%	7.7%	7.4%	6.9%	6.5%	6.2%	6.7%
U.S.	4.0%	4.7%	5.8%	6.0%	5.5%	5.1%	4.6%	4.6%	5.8%

Source: Alaska Department of Labor & Workforce Development; U.S. Bureau of Labor Statistics

**Chart 6.4: Annual Unemployment Rates 2000 – 2008**



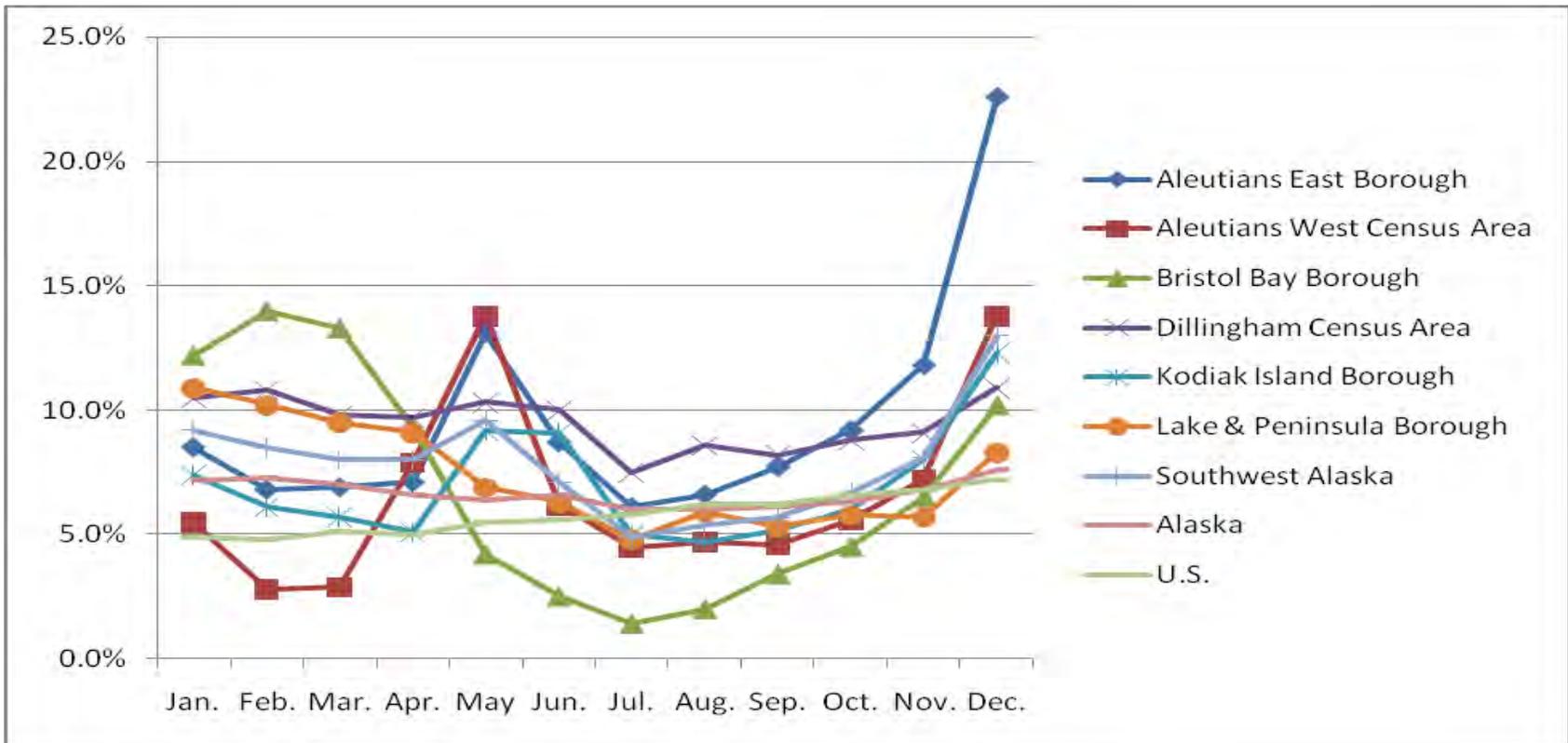
Source: Alaska Department of Labor & Workforce Development; U.S. Bureau of Labor Statistics

**Table 6.8: 2008 Monthly Unemployment Rates for Southwest Alaska with Comparisons to State and Federal Rates**

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Aleutians East Borough	8.5%	6.8%	6.9%	7.1%	13.1%	8.7%	6.1%	6.6%	7.7%	9.2%	11.8%	22.6%
Aleutians West Census Area	5.5%	2.8%	2.9%	7.9%	13.8%	6.2%	4.5%	4.7%	4.6%	5.6%	7.2%	13.8%
Bristol Bay Borough	12.2%	14.0%	13.3%	9.3%	4.2%	2.5%	1.4%	2.0%	3.4%	4.5%	6.5%	10.2%
Dillingham Census Area	10.5%	10.8%	9.8%	9.7%	10.3%	10.0%	7.5%	8.6%	8.2%	8.8%	9.1%	10.9%
Kodiak Island Borough	7.4%	6.1%	5.7%	5.1%	9.2%	9.1%	5.0%	4.7%	5.2%	6.0%	8.0%	12.3%
Lake & Peninsula Borough	10.9%	10.2%	9.5%	9.1%	6.9%	6.3%	4.8%	5.9%	5.3%	5.8%	5.7%	8.3%
Southwest Alaska	9.2%	8.5%	8.0%	8.0%	9.6%	7.1%	4.9%	5.4%	5.7%	6.7%	8.1%	13.0%
Alaska	7.2%	7.3%	7.0%	6.6%	6.4%	6.6%	6.0%	6.0%	6.1%	6.3%	6.8%	7.6%
U.S.	4.9%	4.8%	5.1%	5.0%	5.5%	5.6%	5.8%	6.2%	6.2%	6.6%	6.8%	7.2%

Source: Alaska Department of Labor & Workforce Development; U.S. Bureau of Labor Statistics

**Chart 6.5: 2008 Monthly Unemployment Rates for Southwest Alaska with Comparisons to State and Federal Rates**



Source: Alaska Department of Labor & Workforce Development; U.S. Bureau of Labor Statistics

Most areas experience a spike in unemployment in May before the salmon season begins when the seasonal labor force moves into the region. This spike is followed by a precipitous decline during June and July. Unemployment generally begins increasing in September and continues through January or February. The advent of the herring fisheries in March and April generally bring unemployment rates down before the beginning of the salmon season. A notable exception to this pattern is the Aleutians West Census Area where fisheries are more concentrated on pollock, other groundfish and crab. Declines in unemployment during February and March can be attributed to the timing of these fisheries.

A greater understanding of these seasonal variations may reveal opportunities to shift the resident labor force between sub-regions and increase wealth retention within the region.

## Income

According to the U.S. Bureau of Economic Analysis, per capita income in Southwest Alaska averaged \$35,778 in 2007, the most recent data available. In comparison to state and national levels, Alaska's per capita income was \$40,042 while the country measured up at \$38,615. In relation to the previous year, Southwest Alaska's per capita income increased by 3.6 percent (up \$1,264); the statewide per capita income raised 4.4 percent (up \$1,698); and the nation's per capita income was 4.9 percent higher (up \$1,821). Table 6.9 shows per capita income comparisons for the boroughs and census areas from 1990 and 2000

**Table 6.9: 1990 – 2007 Per Capita Income in Southwest Alaska with Comparisons to State and National Levels**

	1990	2000	2001	2002	2003	2004	2005	2006	2007
Aleutians East Borough	\$18,199	\$22,258	\$30,191	\$24,778	\$25,096	\$26,279	\$28,497	\$31,346	\$28,942
Aleutians West Census Area	\$20,961	\$20,487	\$22,059	\$25,513	\$26,525	\$26,711	\$28,337	\$31,430	\$33,318
Bristol Bay Borough	\$33,408	\$42,238	\$37,511	\$37,351	\$41,352	\$43,720	\$41,624	\$45,822	\$48,747
Dillingham Census Area	\$17,598	\$25,261	\$26,969	\$26,791	\$28,534	\$29,352	\$30,720	\$32,287	\$33,380
Kodiak Island Borough	\$21,668	\$26,818	\$27,794	\$27,730	\$29,441	\$30,874	\$34,199	\$36,190	\$37,951
Lake & Peninsula Borough	\$11,560	\$20,686	\$21,234	\$21,510	\$22,722	\$23,052	\$26,669	\$30,011	\$32,331
Southwest Alaska Average	\$20,566	\$26,291	\$27,626	\$27,279	\$28,945	\$29,998	\$31,674	\$34,514	\$35,778
State of Alaska	\$17,610	\$29,642	\$31,704	\$32,343	\$33,023	\$34,000	\$36,084	\$38,344	\$40,042
U.S.	\$19,572	\$29,469	\$30,575	\$30,810	\$31,484	\$33,050	\$34,690	\$36,794	\$38,615

Source: U.S. Bureau of Economic Analysis; 1990 U.S. Census

to 2007. Regional, state and national per capita income is also presented.

There is significant variation in per capita income across the boroughs and census areas. Notably, the Bristol Bay Borough per capita income is 36.2 percent higher than the region's average; 21.7 percent higher than the State; and 26.2 percent higher than the U.S. At \$48,747, per capita income in the Bristol Bay Borough ranks third in the entire state of Alaska. One possible explanation for this high ranking is the concentration of local and federal government employment in the borough. The relatively small size of the Bristol Bay Borough can also affect per capita income calculations.

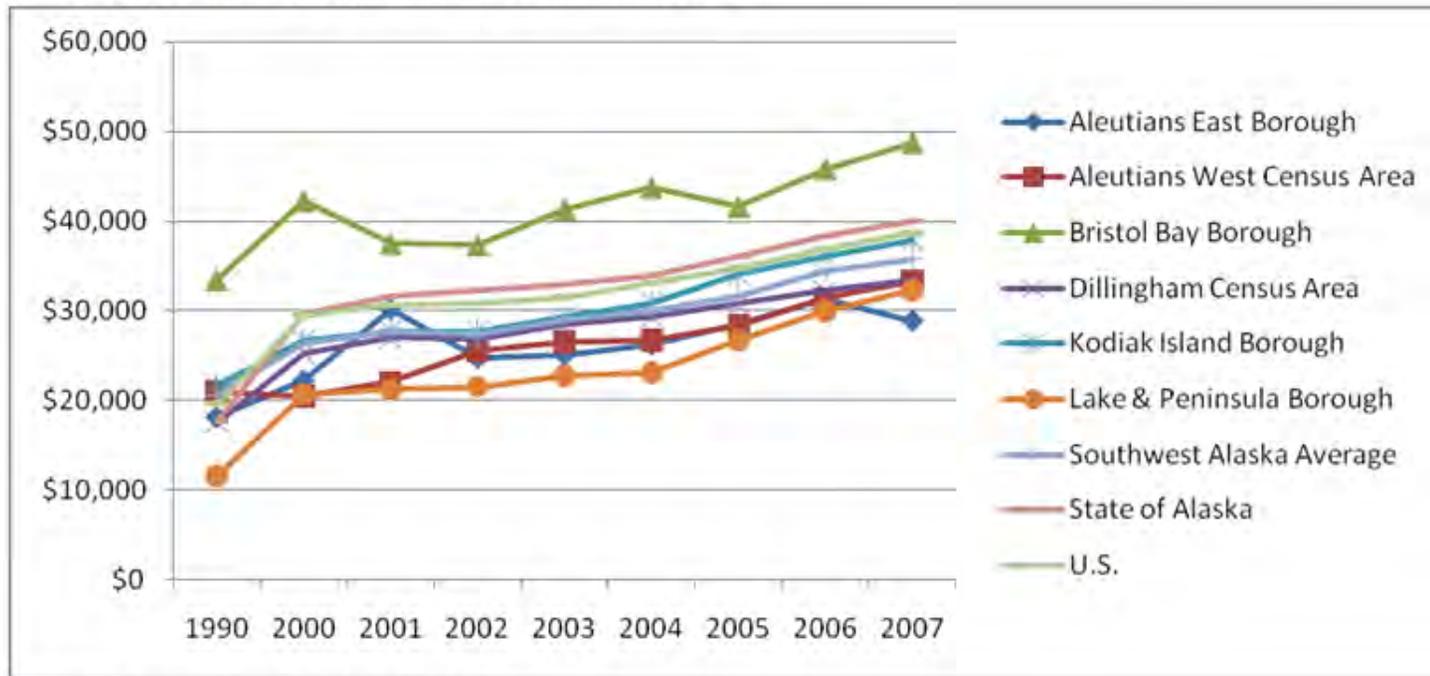
At \$28,942, per capita income in the Aleutians East Borough was the lowest in the region for 2007. Prior to 2007, the Lake & Peninsula Borough held the bottom spot for per capita income in Southwest Alaska for the last six years. In 2007, it ranked second at \$32,331.

For the remaining areas in Southwest, per capita income in 2007 was \$33,318 in the Aleutians West Census Area; \$33,308 in the Dillingham Census Area; and \$37,951 in the Kodiak Island Borough.

In plotting per capita income for the region, there appears to be a modest, but positive growth trend across the board. However, the Bristol Bay Borough and the Lake & Peninsula Borough had the sharpest increase in the region. Chart 6.7 depicts per capita income for Southwest Alaska and its borough and census areas from 1990 to 2007.

Given the volatility in rate of change across the period, an examination of adjusted per capita income seems warranted. Chart 6.8 expresses per capita income adjusted for constant 2009 dollars across the period.<sup>16</sup> Based on this analysis, average real buying power in the region has decreased over the early 2000s and has only recently begun to rise again. In addition, real buying power for the state outpaced the region for the entire period.

Chart 6.7: 1990 – 2007 Per Capita Income in Southwest Alaska



Source: U.S. Bureau of Economic Analysis; 1990 U.S. Census

Meanwhile, adjusted per capita income across the U.S. has increased by 9 percent from 2000 to 2007. During this time period, the region lagged behind the national level every year.

Borough and census area variations are, once again, significant. Real buying power in the Aleutians West Census Area increased by 35 percent. The Bristol Bay Borough was the only area to show decline at 4.3 percent. The Aleutians East Borough (8%), Dillingham Census Area (9.7%), Kodiak Island Borough (17.5%) and the Lake & Peninsula Borough (29.8%) realized increases in real buying power between 2000 and 2007.

The composition of regional per capita income has also varied during the period. In 1990, net earnings accounted for nearly 80 percent of per capita income. In 2000, it dipped down to 68.8 percent. As a component of per capita income, net earnings have declined to nearly 73 percent in 2007.

Transfer payments decreased during the mid-2000s but in recent years have rebounded. In 2007, transfer payments accounted for 17.2 percent of per capita income. In comparison to 1990, this marks a 93 percent increase, but a 4 percent decrease when matched up with 2000 data.

Per capita dividends, interest and rent have decreased in the last few years, but settled at 10.3 percent in 2007. In 2000, dividends accounted for 13.3 percent.

Table 6.11 provides a profile of per capita income across the period for selected years. Chart 6.9 gives a visual depiction of changes in the composition of per capita income across the period.

## Poverty\*

Between 2000 and 2007, the number of people in poverty in Southwest Alaska decreased by 8.2 percent. This was a notable change as the entire state of Alaska experienced an 11.7 percent increase in poverty levels. In the Aleutians East and Bristol Bay boroughs, along with the Aleutians West Census Area, the number of people in poverty dropped by about 25 percent over the period.

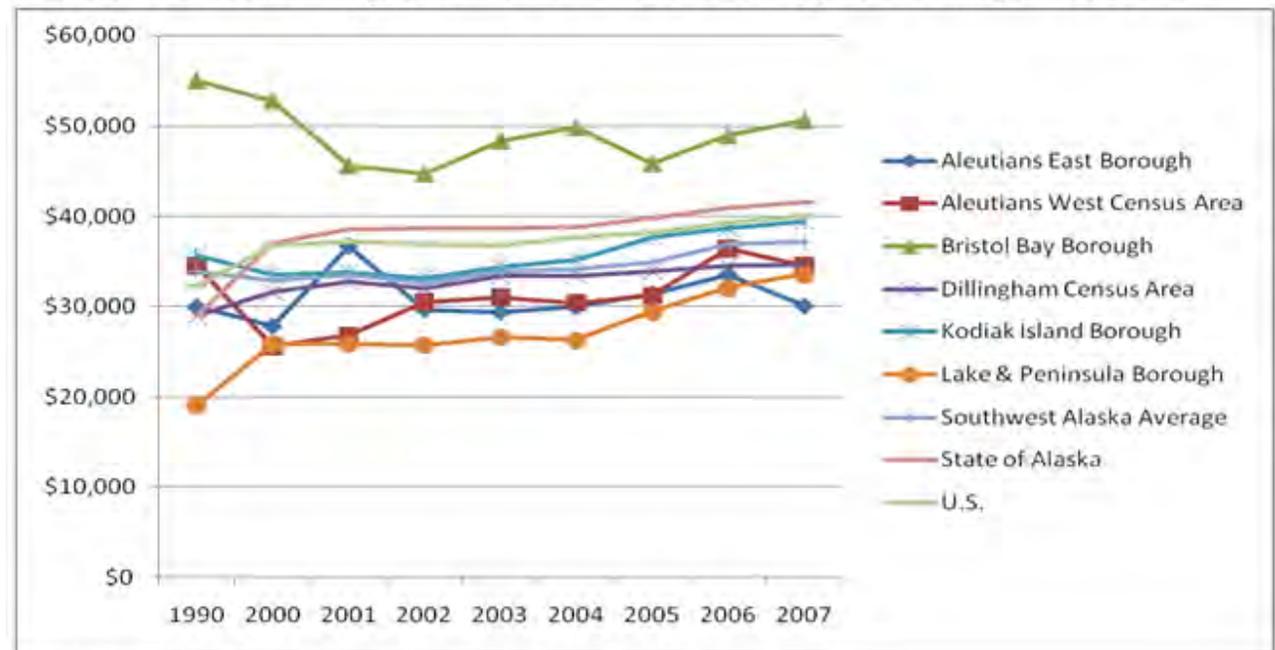
In the Kodiak Island Borough, people experiencing poverty increased by 6.5 percent. The Dillingham Census Area saw a more modest increase in poverty over the period at just 1.8 percent. For the Lake & Peninsula Borough, poverty levels decreased by 15.2 percent.

**Table 6.10: Ranking of Alaska Boroughs and Census Areas by Per Capita Income**

	2007
North Slope Borough	\$58,912
Denali Borough	\$50,465
Bristol Bay Borough	\$48,747
Haines Borough	\$46,772
Anchorage Municipality	\$46,243
Ketchikan Gateway Borough	\$46,182
Juneau Borough	\$44,723
Anchorage/MatSu MSA*	\$41,104
Valdez-Cordova Census Area	\$40,472
State of Alaska	\$40,042
Southeast Fairbanks Census Area	\$40,026
Skagway-Hoonah-Angoon Census Area	\$39,906
United States	\$38,615
Kodiak Island Borough	\$37,951
Wrangell-Petersburg Census Area	\$37,831
Sitka Borough	\$36,696
Southwest Alaska Average	\$35,778
Kenai Peninsula Borough	\$35,415
Fairbanks North Star Borough	\$34,960
Fairbanks MSA*	\$34,722
Matanuska-Susitna Borough	\$34,341
Dillingham Census Area	\$33,380
Aleutians West Census Area	\$33,318
Lake and Peninsula Borough	\$32,331
Nome Census Area	\$29,421
Aleutians East Borough	\$28,942
Northwest Arctic Borough	\$28,799
Yukon-Koyukuk Census Area	\$28,359
Bethel Census Area	\$26,990
Pr. Of Wales-Outer Ketchikan Census Area	\$25,107
Wade Hampton Census Area	\$17,941

Source: Alaska Department of Labor & Workforce Development

**Chart 6.8: 1990 – 2007 Per Capita Income in Southwest Alaska Adjusted to Constant 2009 Dollars**



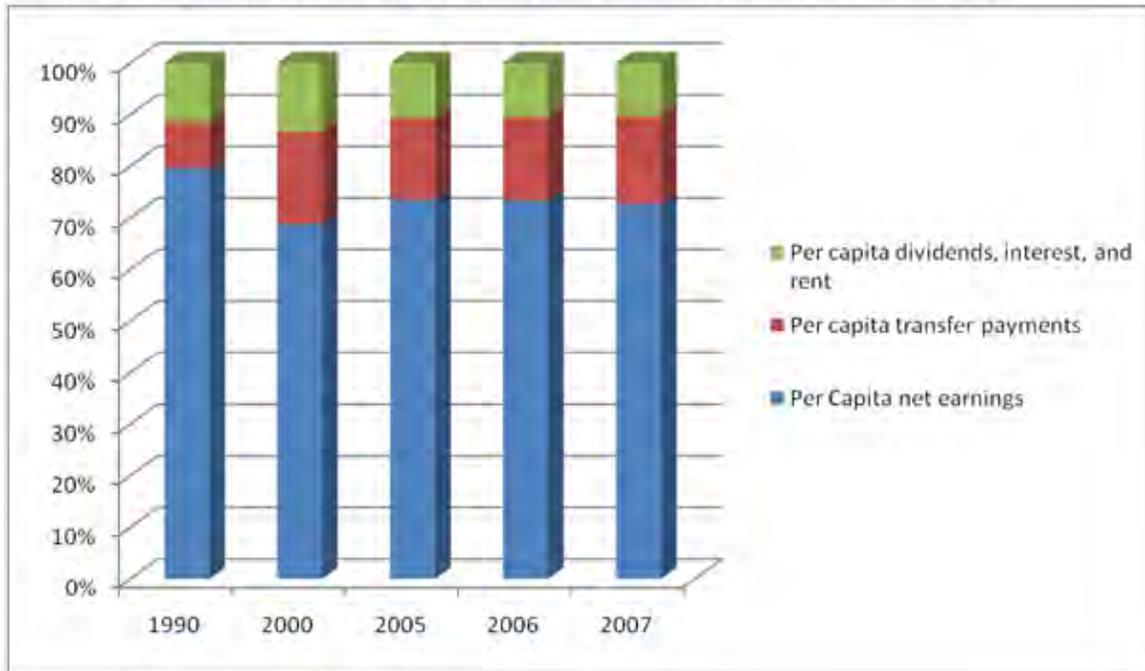
Source: U.S. Bureau of Economic Analysis

**Table 6.11: Composition of Per Capita Income for Southwest Alaska for Select Years**

	1990	2000	2005	2006	2007
Per Capita net earnings	79.6	68.8	73.5	73.4	72.6
Per capita transfer payments	8.9	17.9	15.9	16.2	17.2
Per capita dividends, interest, and rent	11.5	13.3	10.6	10.4	10.3

Source: U.S. Bureau of Economic Analysis

**Chart 6.9: Composition of Per Capita Income for Southwest Alaska for Select Years**



Source: U.S. Bureau of Economic Analysis

When examining the number of teenagers and children living in poverty, from 2000 to 2007 there was a 5.1 percent drop in child poverty in Southwest Alaska. However, comparisons of individual boroughs and census areas reveal a completely different story. For example, the Aleutians East Borough saw a nearly 30 percent rise in “under 18” poverty levels while the Bristol Bay Borough decreased poverty levels in half.

Although the Kodiak Island Borough experienced a rise in child poverty (8.9%), the remaining areas each saw decreases. At 18.3 percent, the Lake & Peninsula Borough experienced the second highest drop in child poverty. The Dillingham Census area poverty dropped 9.3 percent and the Aleutians West Census area fell a mere 1.8 percent.

(\*Poverty statistics quoted in this chapter were obtained from the [United States Department of Agriculture, Economic Research Service](#). The data that is reported are estimates and the most recent information available.)

**Table 6.12: 2000 – 2007 Poverty Rates in Southwest Alaska**

	All People in Poverty			Poverty Estimate Under Age 18		
	2000	2007	Rate of Change	2000	2007	Rate of Change
	#	#	%	#	#	%
Aleutians East Borough	588	450	-23.5%	29	41	29.3%
Aleutians West Census Area	642	487	-24.1%	55	54	-1.8%
Bristol Bay Borough	119	85	-28.6%	42	20	-52.4%
Dillingham Census Area	1,045	1,064	1.8%	493	447	-9.3%
Kodiak Island Borough	901	964	6.5%	298	327	8.9%
Lake and Peninsula Borough	342	290	-15.2%	142	116	-18.3%
Southwest Alaska	3,637	3,340	-8.2%	1,059	1,005	-5.1%
State of Alaska	57,602	65,266	11.7%	20,792	23,356	11.0%

Source: U.S. Census Bureau – 2000 Census; Alaska Department of Labor & Workforce Development

As a proportion of the population in poverty, Alaska Natives account for more than 50 percent in Southwest Alaska.<sup>17</sup> In the Lake & Peninsula Borough and the Dillingham Census Area, these numbers peak at 83.6 and 91.7 percent respectively. The Aleutians East Borough has the lowest percentage of Alaska Natives in poverty at exactly 15 percent. Roughly one third of residents in poverty in the Kodiak Island Borough are Alaska Natives and 26 percent in the Aleutians West Census Area. In the Bristol Bay

**Table 6.13: 2008 Total and Alaska Native Poverty Rates in Southwest Alaska**

	Population*	Population in Poverty (#)	Population in Poverty (%)**	Alaska Native Population***	Alaska Native Population in Poverty (#)	Alaska Native Population in Poverty (%)****
Aleutians East Borough	2,699	456	16.9%	713	107	15.0%
Aleutians West Census Area	4,439	453	10.2%	959	249	26.0%
Bristol Bay Borough	1,029	87	8.5%	488	357	73.1%
Dillingham Census Area	4,771	1,026	21.5%	3,349	3,071	91.7%
Kodiak Island Borough	13,373	1,003	7.5%	1,952	630	32.3%
Lake and Peninsula Borough	1,552	293	18.9%	1,080	903	83.6%
Southwest Alaska	27,863	3,873	13.9%	8,541	4,578	53.6%
State of Alaska	679,720	66,613	9.8%	103,997	26,727	25.7%

\*2008 Alaska Department of Labor & Workforce Development

\*\*2007 U.S. Census Estimate

\*\*\*2008 U.S. Census Estimate

\*\*\*\*2000 U.S. Census Data

Borough, 73.1 percent of people in poverty are Alaska Natives.

A more in-depth analysis of poverty across the region at the community level and the characteristics of those experiencing poverty will better illustrate poverty conditions in the region. Table 6.13 compares poverty rates for the population as a whole with poverty among Alaska Natives.

#Because poverty data, particularly information concerning Alaska Natives, is collected on an infrequent basis in Alaska, the information presented are estimates SWAMC calculated by using 2000 U.S. Census data and combining it with recent Census estimates along with ADOLWD data. Asterisks have been placed below Table 6.13 and cite where the information was collected. For Alaska Natives in poverty, SWAMC multiplied 2007 U.S. Census estimates of Alaska Native populations

by the 2000 U.S. Census percentage of Alaska Natives in poverty. For population in poverty,

SWAMC multiplied ADOLWD population data by 2007 U.S. Census percentage of Alaskans in poverty.

## Endnotes

<sup>1</sup> Fried, Neal, “Economy Grows Another Year,” Alaska Economic Trends, February 2003, p 18 – 22

<sup>2</sup>

[http://www.cfec.state.ak.us/fishery\\_statistics/permits.htm](http://www.cfec.state.ak.us/fishery_statistics/permits.htm)

<sup>3</sup>

<http://laborstats.alaska.gov/?PAGEID=67&SUBID=297>

<sup>4</sup>

<http://laborstats.alaska.gov/?PAGEID=67&SUBID=228>

<sup>5</sup>

[http://www.labor.state.ak.us/research/emp\\_ue/aklfsa.htm](http://www.labor.state.ak.us/research/emp_ue/aklfsa.htm)

<sup>6</sup> Blended data – ADOLWD, CFEC, USCG

<sup>7</sup> Alaska Department of Labor, “Non-resident Workers in Alaska 2007”

<sup>8</sup> The Alaska Department of Labor defines Southwest Alaska differently than SWAMC. Throughout this report, adjustments have been made to standardize references to Southwest Alaska to the SWAMC boundaries

<sup>9</sup> Alaska Department of Labor, “Non-resident Workers in Alaska 2007”

<sup>10</sup> IBID

<sup>11</sup> IBID

<sup>12</sup> IBID

<sup>13</sup> Fried, Neal, “Economy Grows Another Year,” Alaska Economic Trends, February 2003, p 18 – 22

<sup>14</sup> Tomlinson and Cordova, “Seasonality”, Alaska Economic Trends, February 2003, p 18 – 22

<sup>15</sup> Alaska Department of Labor & Workforce Development and U.S. Bureau of Labor Statistics

<sup>16</sup> Inflation Calculator, <http://data.bls.gov/cgi-bin/cpicalc.pl>

<sup>17</sup> U.S. Census Bureau, 2000 Census of Population

# 7.0 Natural Resource Profile

## Fisheries Resources

The fertile ocean environments and freshwater rivers, streams, and lakes of Southwest Alaska produce a variety of abundant fisheries resources. Many species of groundfish, finfish, shellfish, and marine invertebrates are available in commercially exploitable quantities.

Groundfish are those fish species that live on the sea bottom especially commercially important gadoid fishes like cod and haddock or flatfish like flounder.<sup>1</sup> In Southwest Alaska, the most important groundfish species are pollock, Pacific cod, yellowfin sole, Greenland turbot, arrowtooth flounder, rex sole, rock sole, flathead sole, Alaska plaice, other flatfish, sablefish, Pacific Ocean perch, northern rockfish, shorttraker/rougheye, pelagic shelf rockfish, demersal shelf rockfish, thornyhead rockfish, Atka mackerel, ling cod, and other species.

Halibut are also available in the fishing grounds of the Gulf of Alaska and the Bering Sea. Classified as a flounder, the State of Alaska

does not rank halibut as a groundfish. Halibut are subject to U.S.-Canada agreement and are therefore managed and regulated under a model that differs from other fisheries re-sources in the region.

Other harvestable pelagic and anadromous finfish species include herring and all five species of Pacific Salmon. Herring are harvested in a number of forms including spawn-on-kelp, sac roe, and food/bait fisheries. Salmon are harvested for subsistence, commercial and sport fisheries. Sockeye salmon are the most abundant commercial salmon fishery. Chinook, Coho, pink, and chum salmon are harvested commercially and for subsistence uses. Salmon runs vary from year to year depending upon the area and the life cycle of each particular species. In addition to Pacific salmon and halibut, rainbow trout, Arctic grayling, Arctic char, Dolly Varden, northern pike, lake trout, burbot, and several species of whitefish are targeted by sport anglers.

Three varieties of king crab (red, blue and golden (or brown)) are commercially harvested in various locations in Bristol Bay and the Bering Sea. Tanner, snow, Dungeness, and Korean hair crab also occur in the waters of the Bering Sea and/or the Gulf of Alaska. Various varieties of shrimp, clams, and weathervane scallops also occur in commercially harvestable quantities.

Marine invertebrates such as red sea cucumber, green sea urchin, squid, octopi, and miscellaneous other species are commercially harvested on a relatively small scale, primarily for export markets. These and other marine and

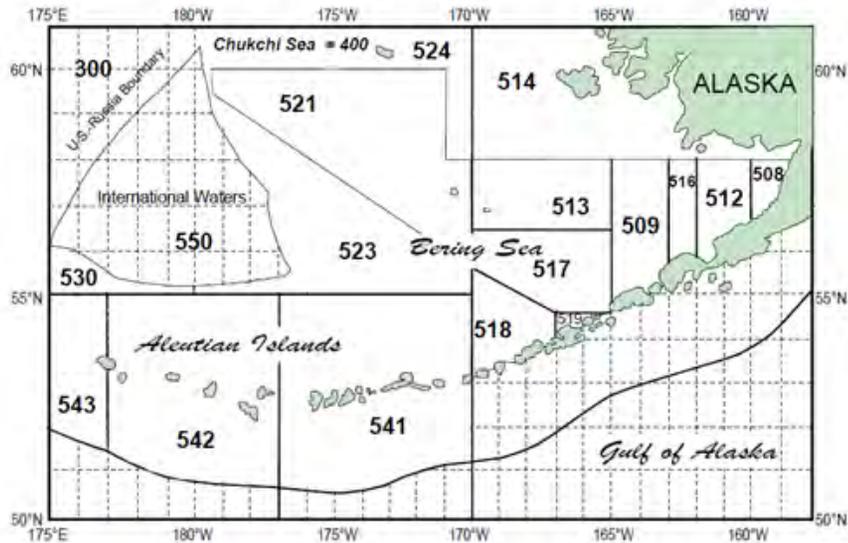
intertidal invertebrates are also harvested for subsistence foods.

A variety of international, national, and state laws and agencies govern the management, regulation, and harvesting of fisheries resources within Southwest Alaska. Federal fisheries are managed by the National Marine Fisheries Service, a unit of the National Oceanic and Atmospheric Administration in the U.S. Department of Commerce, with the oversight of the North Pacific Fishery Management Council (NPFMC). State fisheries are managed by the Alaska Department of Fish & Game under the oversight of the Alaska Board of Fish. The halibut fishery is managed by the International Pacific Halibut Commission with allocation and limited entry decisions made by the NPFMC.

Federal fisheries are those fisheries resources within the Exclusive Economic Zone (EEZ), which is that area from three to 200 nautical miles offshore. Authorization for federal control of resources in the EEZ comes from the Fishery Conservation and Management Act (FCMA), now known as the Magnuson-Stevens Act (MSA 1996), originally passed by the U.S. Congress in 1976.<sup>2</sup>

The NPFMC is one of eight regional councils established by the FCMA/MSA to oversee management of the nation's fisheries. With jurisdiction over the 900,000 square mile EEZ off Alaska, the Council has primary responsibility for groundfish management in the Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI), including cod, pollock, flatfish, mackerel, sablefish, and rockfish species harvested mainly by trawlers,

**Map 7.1: Bering Sea/Aleutian Islands (BSAI) Groundfish Management & Reporting Areas**



Source: <http://www.alaskafisheries.noaa.gov/r/figures.htm>

**Map 7.2: Gulf of Alaska (GOA) Groundfish Management & Reporting Areas**

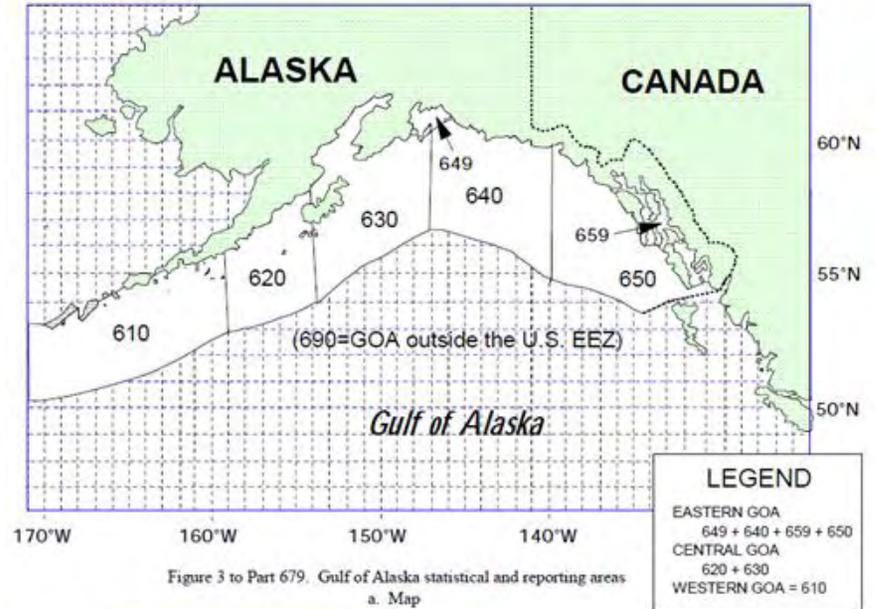
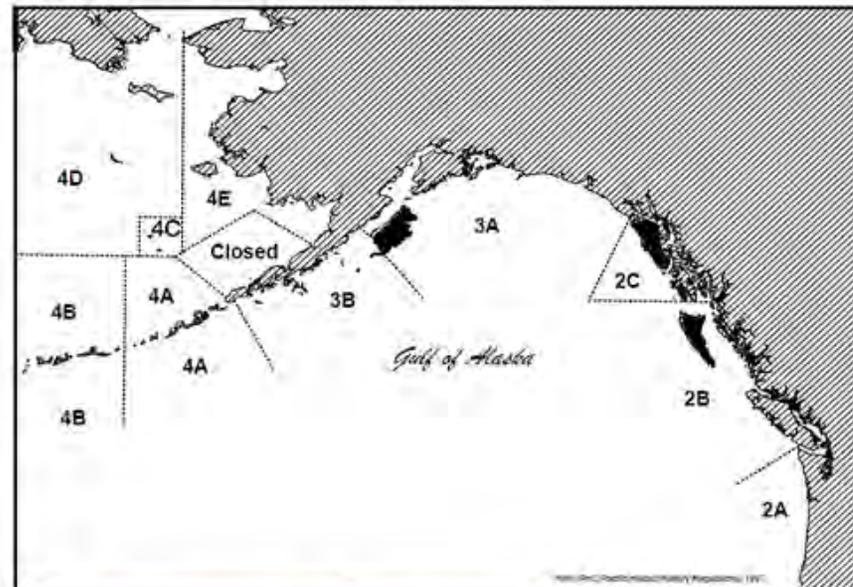


Figure 3 to Part 679. Gulf of Alaska statistical and reporting areas  
a. Map

Source: <http://www.alaskafisheries.noaa.gov/r/figures.htm>

**Map 7.3: Alaska IPHC Halibut & Reporting Areas**



Source: <http://www.alaskafisheries.noaa.gov/r/figures.htm>

hook and line longliners and pot fishermen.<sup>3</sup> Maps 7.1 and 7.2 show the management statistical and reporting areas for the BSAI and GOA, respectively.

The Council has eleven voting members, six from Alaska, three from Washington, one from Oregon, and a federal representative, the Alaska Regional Director of NMFS. The non-federal voting members represent state fisheries agencies, industry, fishing communities, and academia. The Council also has four non-voting members representing the U.S. Coast Guard, U.S. Fish and Wildlife Service, the Pacific States Marine Fisheries Commission, and the U.S. Department of State.<sup>4</sup>

The NPFMC and NMFS have developed five fishery management plans (FMPs) that outline the conservation, management, and harvesting of federal fisheries resources in Alaska. Each FMP encompasses regional fisheries for certain species, as listed below:

- The Bering Sea/Aleutian Islands Groundfish FMP covers all species of groundfish (pollock, cod, flatfish, sablefish, rockfish, etc.) fished commercially by vessels using trawl, longline, pot, and jig gear. In-season management of these fisheries is done by NMFS in Juneau.
- The Groundfish of the Gulf of Alaska FMP essentially mirrors the BSAI groundfish FMP. Some commercial species (black rockfish, blue rockfish, and lingcod) are not included in this FMP, but are instead managed by the State of Alaska.

- The Bering Sea/Aleutian Islands King and Tanner Crab FMP includes all species and fisheries for king and Tanner crab (red, blue, and brown king crab, Tanner crab, and snow crab).
- The Alaska Scallop FMP was drafted to control fishing effort in the weathervane scallop fishery. Only nine vessels are permitted under a license limitation program. In-season management of the fishery is provided by ADF&G in Kodiak.
- Salmon Fisheries in the EEZ off the Coast of Alaska FMP was developed to prohibit fishing for salmon in the EEZ except by a limited number of vessels using troll gear in Southeast Alaska. All management of the salmon fisheries is deferred to the State of Alaska.<sup>5</sup>

The Council also makes allocative and limited entry decisions for halibut. However, the U.S. - Canada IPHC is responsible for the conservation of halibut stocks.<sup>6</sup> Map 7.3 shows the IPHC's management areas for halibut conservation.

The International Pacific Halibut Commission (IPHC) was established in 1923 by a Convention between the governments of Canada and the U.S. Its mandate is research on and management of the stocks of Pacific halibut within the waters of both nations. The IPHC consists of three government-appointed commissioners for each country. At its annual meeting budgets, research plans, biomass

estimates, catch recommendations, as well as regulatory proposals are discussed and approved then forwarded to the respective governments for implementation. The IPHC conducts numerous projects annually to support both mandates – stock assessment and basic halibut biology.<sup>7</sup> The halibut fishery harvest is managed through an Individual Fishery Quota (IFQ) process as established by the NPFMC, which essentially allocates the harvestable resource among privately owned quota shares.

The BSAI groundfish fishery is widely regarded as one of the best-managed fisheries in the world. According to the National Marine Fisheries Service (NMFS), not a single species in the Bering Sea fishery is overfished or approaching overfished condition. Federal fishery scientists and managers have been successful in maintaining sustainable fisheries in the North Pacific by using the most sophisticated stock assessment technology available to determine abundance levels and then setting sustainable catch limits (quotas) for each species.<sup>8</sup>

The American Fisheries Act (AFA) allocated BSAI groundfish fisheries among various harvester and processor groups including Motherships, Catcher/Processors, Catcher Vessels, Community Development Quota organizations (CDQs), and inshore processors. Allocations vary by fishery, gear type, and other factors. Each at-sea processing vessel carries two federal fishery observers onboard at all times to monitor catch amounts and collect scientific information. Fishing ceases when the quota is met.

The AFA was signed into law in October of 1998. The purpose of the AFA was to tighten U.S. ownership standards that had been exploited under the Anti-reflagging Act, and to provide the BSAI pollock fleet the opportunity to conduct their fishery in a more rational manner while protecting non-AFA participants in the other fisheries.<sup>9</sup>

The State of Alaska has management authority for fisheries resources within the “waters of Alaska”, meaning the internal waters of the state including rivers, streams, lakes and ponds, the tidal zone of the state from mean higher high water to mean lower low water, and those waters extending three miles seaward, except for subsistence uses on federal lands.<sup>10</sup> Authority for management of state fisheries resources comes from the Alaska Statehood Compact of 1958, the state Constitution, and Alaska Statutes. The Alaska Department of Fish and Game is mandated to manage, protect, maintain, and improve the fish, game and

aquatic plant resources of the state. The agency’s primary goals are to ensure that Alaska’s renewable fish and wildlife resources and their habitats are conserved and managed on the sustained yield principle, and the use and development of these resources are in the best interest of the economy and well-being of the people of the state.<sup>11</sup>

Alaska state fisheries are managed for commercial, sport, and subsistence uses. For Southwest Alaska, commercial fisheries management is divided across two management regions. The Central Region includes Bristol Bay finfish fisheries, while the Westward Region includes Kodiak, Chignik, Alaska Peninsula, and Bristol Bay crab fisheries. Within each region, fisheries management plans are developed for fisheries districts, usually based on a specific river drainage. For sports fishing, all of Southwest Alaska is managed as a part of the Southcentral Region. Subsistence fisheries for the area are managed

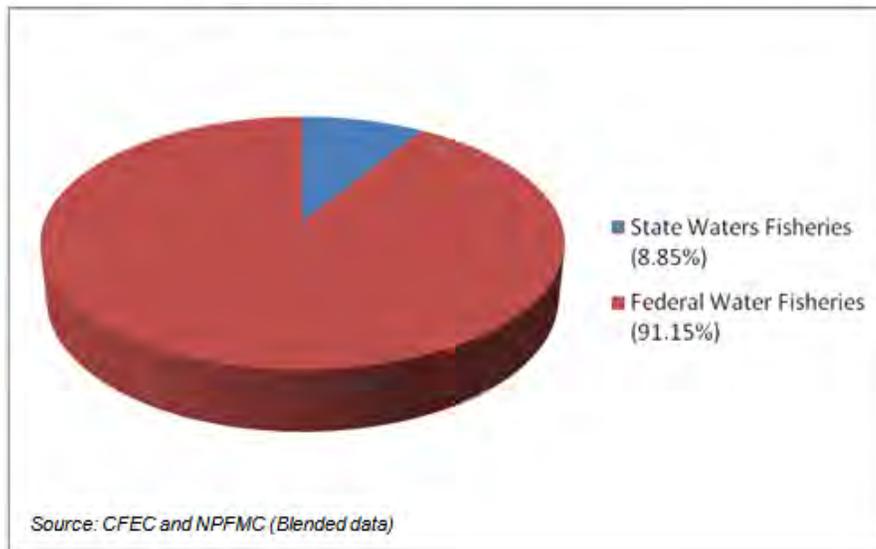
as the Southwest Region. Map 7.4 shows the boundaries for the ADF&G commercial fish regions.

The Board of Fisheries (BOF) provides oversight to the ADF&G’s management of the state’s fisheries resources. This involves setting seasons, bag limits, methods and means for the state’s subsistence, commercial, sport, guided sport, and personal use fisheries, and it also involves setting policy and direction for the management of the state’s fishery resources. The board is charged with making allocative decisions, and the department is responsible for management based on those decisions.<sup>12</sup>

The Alaska Board of Fisheries consists of seven members serving three-year terms. Members are appointed by the governor and confirmed by the legislature. Members are appointed on the basis of interest in public affairs, good judgment, knowledge, and ability in the field of action of the board, with a view



**Chart 7.1: Fisheries Resources by Federal and State Waters  
(2007 Metric Tons Harvested)**



to providing diversity of interest and points of view in the membership.<sup>13</sup>

The BOF has a local advisory committee process to provide communities, harvesters, and citizens with a means to give local input into the fisheries resources regulation and management process, and make recommendations to the Board. There are 81 local advisory committees throughout the state. The purpose of local advisory committees, as established by the legislature established includes: developing regulatory proposals; evaluating regulatory proposals and making recommendations to the BOF; providing a local forum for fish and wildlife conservation and use, including matters relating to habitat; advising the appropriate regional council on resources; consulting with individuals,

organizations, and agencies.<sup>14</sup> There are local advisory committees in thirteen Southwest communities and/or fisheries: Chignik, False Pass, King Cove, Kodiak, Lake Iliamna, Lower Bristol Bay, Naknek/Kvichak, Nelson Lagoon, Nushagak, Sand Point, Togiak, Unalaska/Dutch Harbor, Central Bering Sea.

Chart 7.1 illustrates the 2007 fisheries resource harvests based on state and federal waters. However, because the collection of commercial fishing data is not absolute, data from this chart should be taken with caution. For example, the federal fisheries data includes areas of water that are not in Southwest Alaska, specifically the Gulf of Alaska region, which includes Kodiak and Prince William Sound data.

## Forest Resources

All four of the forest types that occur in Alaska can be found in Southwest Alaska.<sup>15</sup> Map 7.5 illustrates the types and distribution of forest resources in the region.

Coastal Western Hemlock-Sitka Spruce forested areas are confined primarily to the Kodiak Archipelago, with small isolated stands on the Alaska Peninsula. These forests are the westernmost progression of the Hudsonian Coniferous Band that begins at Hudson Bay in Canada and extends across the North American continent. Rather than the mixed forest that the name implies, in Southwest Alaska this forest type is a monostand of Sitka Spruce. This coastal species is seldom found far from tidewater, where moist maritime air and summer fogs help to maintain humid conditions necessary for growth. This forest type is also referred to as a temperate rain forest.

In the Kodiak Archipelago, the spruce forest is advancing at the rate of ten feet every decade. Dendrochronological studies of fossilized trees on Afognak Island indicate that the advance of spruce trees into the region began approximately 5,000 years ago. It is theorized that seed stock was carried to the region by currents in the Gulf of Alaska. Compared to older, multigenerational stands in Southeast Alaska, the stands in Southwest Alaska are considerably shorter, exhibit less natural pruning, and therefore, have more knots.<sup>16</sup>

The other three forest types: Bottomland Spruce-Poplar, Upland Spruce-Hardwood, and Lowland Spruce Hardwood are found in the

Map 7.5: Forest Resources and Distribution in Southwest Alaska



Bristol Bay Borough, Dillingham Census Area, and Lake & Peninsula Borough. These boreal forests are also referred to as “taiga”, a Russian word meaning “little sticks.”<sup>17</sup> Bottomland Spruce-Poplar forests typically occur on broad floodplains and river terraces. In Southwest Alaska they can be found along the Nushagak and Kvichak Rivers. These forests are generally composed of dense stands of white spruce mixed with cottonwood and balsam poplar.<sup>18</sup>

Upland Spruce-Hardwood forests are generally dense areas of white spruce, birch, aspen and poplar with stands of black spruce on north facing slopes and poorly drained flats.<sup>19</sup> This forest type can be found in the Kilbuck Mountains along the westernmost boundary and scattered patches along the northern portion of the Dillingham Census Area toward the Taylor Mountains, as well as stands along

Lake Iliamna, Naknek Lake, and throughout Lake Clark National Park.

Lowland Spruce-Hardwood forests are made up of mixed evergreen and deciduous trees, but in Southwest Alaska are most often large monostands of black spruce and areas of slow-growing, stunted tamarack (eastern larch) in wet low lying places. This forest type can be found on the southwest end of Lake Iliamna and an expanse that extends from the Nushagak River to the Kilbuck Mountains.

## Mineral Fuels

Mineral fuel resources in Southwest Alaska may be significant; however, efforts to assess and explore these resources have been limited or preempted by energy developments

elsewhere in the state, nation and world. According to the U.S. Geological Survey (USGS), the U.S. Minerals Management Service (MMS) and the Alaska Department of Natural Resources (DNR), there are both onshore and offshore oil and gas basins and coal fields in the region.

## Oil and Gas

Potential mineral fuel resources occur in federal and state waters adjacent to the region, and on state and private lands onshore. Map 7.6 illustrates the locations of oil and gas basins in and around Southwest Alaska. The MMS defines basins as large downwarped regions serving as a center of sedimentary deposits, which may contain numerous geological plays.<sup>20</sup> The Outer Continental Lands Act requires the Department of the Interior (DOI) to



Further seismic studies are needed to determine the structure and resource potential of this play. However, test wells encountered gas and, in one case, oil.<sup>25</sup>

The region’s offshore resources may be considerably more substantial. The Cook Inlet Basin is the only area in the Southern Alaska Province that is currently producing both oil and gas. However, these wells are confined to areas of Cook Inlet in the vicinity of the Kenai Peninsula Borough. Three geological plays are identified in the basin, only two of which occur in the region. The Mesozoic Structural Play extends from Cook Inlet to the northeast to Shelikof Strait which is bounded by the Alaska Peninsula on the northwest and the Kodiak Archipelago to the southeast. The Mesozoic Stratigraphic Play runs the entire length of Shelikof Strait encompassing areas of both the Alaska Peninsula and the Kodiak Archipelago.<sup>26</sup> During assessments for Federal Lease Sale Number 149, economically recoverable oil resources throughout the planning area were estimated at 1.2 million barrels. Only two leases from Lease Sale 149 remain active and these are offshore from the community of Anchor Point on the Kenai Peninsula.

According to an MMS assessment, the potential resources of the Shumagin-Kodiak shelf province are consolidated into a single play.<sup>27</sup> The Neogene Structural Play encompasses the entire shelf and slope of the province and is characterized as gas-prone. Assessment estimates for risked, undiscovered, conventionally recoverable resources were 600,000 to 2.5 million barrels of oil and 2.33 to 9.66 trillion cubic feet of gas in this play,<sup>28</sup> but the economically recoverable quantities may be negligible. Further assessment and exploration of the Kodiak-Shumagin Basin are required to determine future resource potential. Six offshore test wells were drilled in the Kodiak-Shumagin Basin, but resulted in no ongoing exploratory activity. The USGS reports that onshore assessments for the Kodiak Archipelago indicate little if any prospects for recoverable resources.

The Navarin and St. George Basins have more complex geological formations, seven and four plays, respectively. Lease sales in the early 1980s generated some industry interest in both basins, but resulted in no ongoing activity. MMS estimates suggest considerable resources in both basins. In the Navarin Basin, it has a mean of 1.22 trillion cubic feet of natural gas and 1.3 million barrels of oil. The St. George

Basin is estimated to have 2.8 trillion cubic feet of gas and 2.1 million barrels of recoverable oil. However, the remoteness, lack of infrastructure, and outdated assessments have impeded further interest in these provinces.<sup>29</sup>

The federal moratorium on OCS exploration and leasing expired in the fall of 2008. The USGS and MMS have both identified the need for additional information about the Aleutian Basin, as well as other planning areas. Repeal of the moratorium is tantamount to developing the region’s offshore oil and gas reserves.

In its 2006 assessment of national oil and gas resources, the MMS developed new estimates of economically recoverable resources in some OCS basins in the Alaska region. The MMS divides the OCS into fifteen planning areas, which are depicted in Map 7.7. Kodiak, Shumagin, Aleutian Arc, Navarin Basin, North Aleutian Basin, St. George Basin and Bowers Basin planning areas surround Southwest Alaska, although some planning areas are not adjacent to onshore areas. Currently, the North Aleutians Basin is the only area in Southwest Alaska included in the MMS’ 2007 – 2012 five-year lease program schedule of sales.<sup>30</sup>

Based on the 2006 MMS assessment update, the North Aleutian Basin continues to offer the greatest potential for oil and gas development in Southwest Alaska. Table 7.1 outlines the base case for economically recoverable oil and gas in the region. Estimates are based on \$80/bbl oil and \$4.54/mcfg of natural gas. Based on this analysis, the North Aleutian Basin has a mean estimate of 8.62 trillion cubic feet of undiscovered gas and 75 million barrels

**Table 7.1: Risked, Undiscovered, Economically Recoverable Oil and Gas in OCS Basins in Southwest Alaska (Base Case Scenario)**

Area	Oil (BBO) - \$80/bbl			Gas (TCFG) - \$4.54/mcfg		
	F95	Mean	F05	F95	Mean	F05
Navarin Basin	0.00	0.06	0.31	0.00	0.00	0.00
North Aleutian Basin	0.02	0.74	2.47	0.00	0.91	2.78
St. George Basin	0.00	0.13	0.52	0.00	0.00	0.01
Shumagin Basin	0.00	0.01	0.03	0.00	0.00	0.00
Kodiak Basin	0.00	0.04	0.18	0.00	0.39	1.93

Source: U.S. Minerals Management Service, 2006 National Assessment Update

**Map 7.7: U.S. Minerals Management Service Outer Continental Shelf Planning Areas Region One – Alaska**



Source: <http://www.mms.gov/alaska/lease/hlease/PLANMAP.HTM>

**Table 7.2: Historical OCS Lease Sales in basins in Southwest Alaska**

Plan Area	Sale	Date	Leases Issued	Tracts Offered	Acres Offered	Acres Leased	Sum of All Bids Received
St. George Basin	70	1983	96	479	2,688,787	540,917	\$427,343,830
Navarin Basin	83	1983	163	5,036	28,048,995	927,989	\$631,228,331
North Aleutian Basin	92	1988	23	990	5,603,586	121,757	\$95,439,500

Source: [http://www.mms.gov/alaska/lease/hlease/LeasingTables/lease\\_sales.pdf](http://www.mms.gov/alaska/lease/hlease/LeasingTables/lease_sales.pdf)

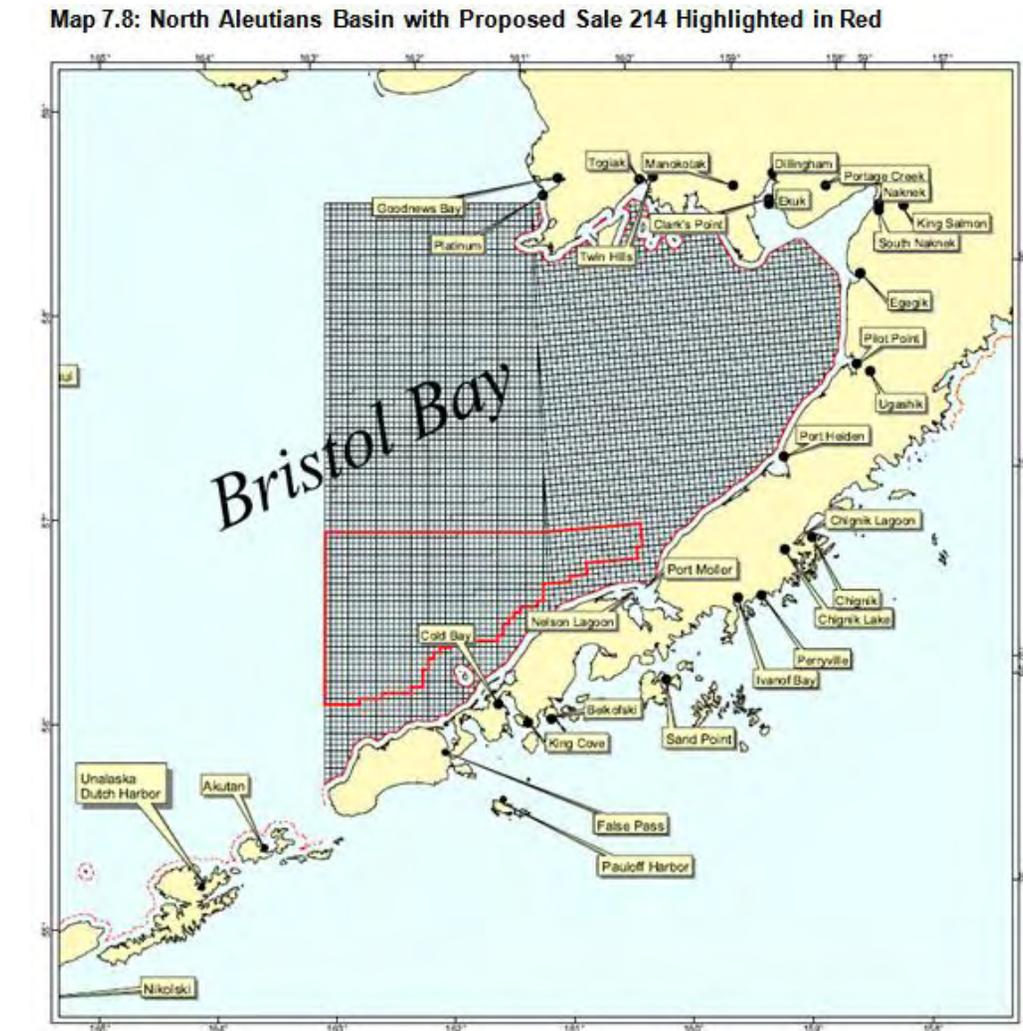
of undiscovered oil. Table 7.2 summarizes federal OCS oil and gas lease sales in the region.<sup>31</sup>

In the fall of 2008, the 30-year old federal moratorium on OCS exploration and leasing expired. Shortly after, a five-year leasing plan was issued by the Bush Administration, but was put on hold by the Obama Administration. Additionally, a court ruling effectively delayed some Alaskan plans for oil and natural gas until the government has reassessed environmental effects.<sup>32</sup> Information and recent updates on the North Aleutians Basin are presented below.

## North Aleutians Basin

### Introduction

The North Aleutians Basin is an Outer Continental Shelf (OCS) planning area designated by the U.S. Minerals Management Service and is located south of Bristol Bay and just off the northern shore of the Alaska Peninsula. The Basin is estimated to have 12.8 trillion cubic feet equivalent of recoverable natural gas along with 753 million barrels of recoverable oil. Although the area is particularly attractive for exploration, it is also prone to opposition from environmentalists and commercial fisherman. The Basin contains some of the nation's richest and most revered crab, pollock, cod, halibut, and salmon fisheries, marine mammal and seabird habitats, and stunning natural beauty. The region also is considered essential habitat for endangered species including the northern right whale and Steller sea lion. The abundant natural fisheries resources are the foundation of the region's



Source - [http://www.doi.gov/news/07\\_News\\_Releases/MMS%20Map%20North%20Aleutian%20Basin%20Area.pdf](http://www.doi.gov/news/07_News_Releases/MMS%20Map%20North%20Aleutian%20Basin%20Area.pdf)

commercial and subsistence economies and are integral to the fabric and lifestyle of its people and communities. However, the region's potential for nearly nine trillion cubic feet of

natural gas makes the basin particularly attractive for exploration.<sup>33</sup>

## History

In 1988, 990 blocks in the North Aleutian Basin were offered in Federal Lease Sale Number 92. Twenty-three leases were sold. However, in the wake of the 1989 Exxon Valdez Oil Spill, opposition to the sale and exploration of the leases was intense. A Congressional moratorium prohibited further lease sales in the basin and subsequent presidential moratoria extended the prohibition to 2012.<sup>34</sup> However, as mentioned above, the offshore moratorium expired in 2008. According to the MMS, the only significant play in the North Aleutian Basin is the Tertiary Play, which is also characterized as gas-prone. Assessment estimates for risked, undiscovered, conventionally recoverable resources in 1995 were 233 to 575 million barrels of oil and 6.8 to 17.3 trillion cubic feet of gas in this play. However, the 2000 National Resource Assessment estimated economically recoverable quantities using the base case scenario may be only 20 to 200 million barrels of oil and 0.88 to 7.71 trillion cubic feet of gas.<sup>35</sup>

On January 9, 2007, President George W. Bush modified the leasing status of two areas in the Outer Continental Shelf in response to Congressional action and the requests of state leaders. One of those areas was the North Aleutians Basin. In July 2007, U.S. Secretary of the Interior Dick Kempthorne approved a 2007-2012 OCS Oil and Gas Leasing Program, also known as a five-year plan, that scheduled a lease sale (Area 214) of the North Aleutians Basin in 2011.<sup>36</sup>

Lease Sale Area 214, previously known as Area 92, is a wedge-shaped 8,700-square mile area adjacent to Nelson Lagoon in the southwestern portion of the North Aleutian Basin, approximately 200 miles away from the Bristol Bay fisheries. Map 7.8 highlights the proposed lease sale.

Geologists from the Minerals Management Service estimate the North Aleutian Basin could hold up to 23.278 trillion cubic feet of natural gas and 2.5 billion barrels of oil. That could translate into nearly 11,500 jobs, \$12 billion dollars in federal income tax, \$850 million in state and local taxes and \$7 billion in royalties over a 25-year period.<sup>37</sup>

## Recent Activity<sup>38A</sup>

In 2008, the Minerals Management Service (MMS) began the process of preparing a required environmental impact statement (EIS) to assess the potential impacts of proposed OCS oil and gas leasing, and potential subsequent exploration and development activities in the North Aleutian Basin Planning Area in the Bering Sea, off southwestern Alaska.

Through the EIS scoping process, MMS receives information used to identify potential impacts, define alternatives, and determine mitigation measures to be analyzed in depth in the EIS. Scoping also identifies those issues, alternatives, and mitigation measures that may not necessitate analyses in the EIS. The MMS conducted a scoping process from April 8 to October 17, 2008, to obtain input on the scope for this EIS. During that period, MMS encouraged the public and interested

groups to provide information, raise issues, and express concerns and opinions on all aspects of proposed Sale 214. Approximately 245 persons participated in this process. The MMS conducted a total of 10 public scoping meetings between May and September 2008. In addition, MMS met with several stakeholder groups to gather information as part of the scoping process.

Three local governments expressed favor of proposed Sale 214 and see oil and gas development as an opportunity with conditional support: (1) Lake and Peninsula Borough; (2) Bristol Bay Borough; and (3) Aleutians East Borough. City governments in the area of the NAB are mixed in their favor of, or opposition to, the sale. Bristol Bay communities and some Native Tribal entities largely are opposed to the sale. The city governments of the AEB favor the sale with specific conditions, or mitigation measures. Most individual commenters oppose the sale, because they believe the risks outweigh the benefits.<sup>38B</sup> Those that largely favor a proposed oil and gas lease sale do so with conditions.

Most commenters emphasized the critical importance of resource protection in the NAB, namely commercial fisheries, human subsistence resources, and internationally important marine mammal and seabird populations and habitats.

The AEB, as a cooperating agency with MMS in preparation of the EIS, gave presentations at each of the 10 scoping meetings in addition to the MMS presentation. The MMS and AEB continue to work toward agreement on a final list of the following mitigation measures for

inclusion in the EIS process. The AEB supports Sale 214 and presented this list of recommended mitigation measures at each meeting:

**Fisheries protection** – Lease-related use will be restricted to prevent conflicts with local commercial-, subsistence-, and sport-harvest activities.

**Transportation, Utility Corridors and Infrastructure Siting** – Transportation routes, utility corridors, and infrastructure must be carefully sited and constructed to allow for the free passage and movement of fish and wildlife, to avoid construction during critical migration periods for fish and wildlife.

**Coastal Habitat Protection** – Offshore operations must use the best available oil-spill prevention and -response technologies to prevent oil spills from adversely impacting coastal habitat and to rapidly respond to oil spills.

**Local Hire and Training** – The OCS operators will be required to submit a local hire and training program describing the operator's plans for partnering with local communities to recruit and hire local residents, local contractors, and local businesses, and a training program to prepare local residents to be qualified for oil and gas jobs within their region.

**Air Pollution** – Best available emission control technology will be required for all industrial sources of air pollution, including criteria air pollutants and hazardous air pollutants.

**Water Pollution** – A zero water pollution discharge will be required for all industrial operations.

**Marine Mammals and Essential Habitat** – All onshore and offshore facilities and OCS-support vessel and air craft routes must be carefully sited to avoid marine mammal and essential habitat impacts.

**Social Systems** – All onshore and offshore facilities must be carefully sited, designed and operated to avoid adverse social system disruptions and impacts.

**Good Neighbor Policy** –All OCS operators, operating off the AEB coastline, should be required to adopt a Good Neighbor Policy and work with the AEB to provide cost-effective fuel, power, transportation, medical services, emergency and other services to the local communities.

**Cultural and Historic Site Protection** –The OCS operators must protect all existing cultural and historic sites and notify the local government as soon as possible about the discovery of prehistoric, historic, and archaeological sites.

**Seismic Design** –All onshore and offshore facilities must be designed to the Seismic Zone IV, Uniform Building Code design standard for the Aleutian Chain.

## Future

Although the formal public scoping process concluded on October 17, 2008, MMS continues to gather and consider new

information throughout the preparation of the EIS. Additional opportunities for public involvement will be provided during the preparation of the EIS. The next public comment period will commence with publication of the draft EIS, tentatively scheduled for winter 2010. The MMS appreciates public and interested stakeholder participation and comments during the scoping process and welcomes continued involvement in the next stage of the EIS process.

## Coal

Coal resources in the region are known to exist in the Aleutians East, Kodiak Island and Lake & Peninsula Boroughs. According to the Alaska Department of Natural Resources, bituminous coal is widely distributed on the Alaska Peninsula. Sub-bituminous and lignite deposits are also found throughout the Alaska Peninsula and on Unga, Kodiak and Sitkinak Islands.

The Herendeen Bay field in the Aleutians East Borough reportedly has nine recognizable seams of bituminous coal ranging from 1.5 to 6.4 feet thick of which 4.6 feet is clean coal.<sup>39</sup> In the Lake & Peninsula Borough, another large bituminous coal field extends from Kujulik Bay to Chignik Bay underlying the Chignik communities. Estimates indicate the Chignik field has a 7.8-foot seam of coal, including 4.7 feet of clean coal and 3.1 ft of bone and shaly coal.<sup>40</sup> The reported quality for both of these fields is high volatile bituminous with about 20 percent ash. Through washing, the heating value of this coal type could be raised to approximately 12,000 BTUs per

pound and ash content could be reduced to about ten percent.<sup>41</sup> The coal-bed methane potential of the Chignik field is currently being evaluated for local power production.<sup>42</sup>

Another bituminous coal deposit exists south of Ugashik. According to DNR, not much is known about this deposit. Sub-bituminous deposits are also little known, but line the northern side of the peninsula. Coal-bearing rocks of Tertiary age are probably also widely distributed at depth (1,200 ft or more) in the North Aleutian basin adjacent to Bristol Bay.<sup>43</sup>

Lignite occurs in the region in seams less than eight feet thick and range in heat content from 5,800 to 7,000 BTUs per pound. These lignites are extensive on the Alaska Peninsula mainland particularly near Ugashik as well as on the northwest part of Unga Island. There are also several locations on Kodiak and Sitkinak islands where Tertiary lignite coals crop out. In the Kodiak Archipelago, these lignites are typically less than 1.5-feet thick and of very limited extent.<sup>44</sup>

Additional research on the coal resources of the region are needed to determine economic viability for local use or export. Limited transportation infrastructure, particularly deep water ports, constrains potential development scenarios. Studies of the Alaska Peninsula coal fields are sufficient to give an identified resource of 430 million short tons and a hypothetical resource of 3 billion tons.<sup>45</sup>

## Minerals

Mineral resources in Southwest Alaska include nonmetallic industrial minerals; and precious,

base, and other polymetallic minerals in porphyry, lode, placer and skarn deposits. Map 7.8 shows mineral deposit terranes and approximate locations for some metalliferous lode deposits in the region. Historical mining activity in the area dates back to the late 19th Century.

Geographic distances, limited transportation infrastructure, high energy costs and generally poor market conditions have served as significant barriers to development of the region's mineral resources. Development of some known mineral deposits in the region has been precluded by federal land withdrawals. These and other factors specific to each deposit have prevented further determinations of economic viability for many deposits. Recent changes in market conditions and mineral developments north of the region have increased interest and exploration in some areas.

All areas of the region have at least some sources of industrial minerals. Given its small size, the Bristol Bay Borough has no known mineral resources other than some local sources of rock, sand and gravel.<sup>46</sup> All other boroughs and census areas in the region have known sources of rock, sand and gravel, although there is little inventory information available in some areas.

Sulfur deposits, some with commercial possibilities, are associated with volcanoes and fumaroles on the Alaska Peninsula and the Aleutian Islands. DNR has investigated sulfur occurrences at four areas: near Stepovak Bay on the peninsula, on Akun Island, at Makushin

Volcano on Unalaska Island, and on Little Sitkin Island.<sup>47</sup>

In the Lake & Peninsula Borough in the southeast vicinity of Lake Iliamna, "open" systems of freshwater lakes and groundwater systems have transformed vitric volcanic material into zeolites. Classified as an industrial mineral, zeolites are any one of a family of hydrous aluminum silicate minerals whose molecules enclose cations of sodium, potassium, calcium, strontium, or barium.<sup>48</sup> A cation is an ion or group of ions having a positive charge and characteristically moving toward the negative electrode in electrolysis.<sup>49</sup> Clinoptilolite, mordenite, heulandite and laumontite have been identified in possible economic concentrations with additional nearby deposits at Chinitna Bay in the Kenai Peninsula Borough.

Zeolites are used as filter-and storage-media, as an ion-exchange medium, a paper filler, an animal feed additive, and for catalytic cracking of petroleum products.<sup>50</sup> Development of the Williamsport-Pile Bay Road is essential for the future development of these resources. Another development scenario for zeolites would be to serve as a storage or transport medium for hydrogen obtained through electrolysis from seawater near geothermal sources in the Aleutians West Census Area.<sup>51</sup>

Gold, copper, silver, lead, molybdenum, zinc, chrome, iron, tungsten, mercury, antimony, titanium, platinum, palladium, tin, arsenic and bismuth are metallic minerals that exist in known deposits in the region.<sup>52</sup> The Kodiak Island Borough has the only known gold placer deposits in the region. These deposits occur

**Map 7.9: Mineral Deposit Terranes and Known Metalliferous Lode Deposits (x) in Southwest Alaska (some locations approximated)**

along the beaches at the outlet of Uganik Bay from Miners Point to Broken Point; from Rocky Point to Bear Point near the village of Karluk; along Bumble Bay north of Ayakulik on the west side of the island, near Cape Alitak; and on Sitkinak and Tugidak islands. These gold concentrations are believed to be the result of wave and current action on auriferous and quaternary gravels that form the sea cliffs along the coast.<sup>53</sup>

Hardrock prospects in the region are generally found in quartz veins, but some porphyry and skarn prospects area also found. In the Aleutians East Borough, the Apollo-Sitka and Shumagin prospects offer known deposits of 150,000 ounces of gold and 700,000 ounces of silver. The Centennial deposit has probable gold reserves of 4.8 million tons with a possible additional two million tons.<sup>54</sup> Other locations of

hard rock prospects in the Aleutians East Borough are Canoe Bay, Aquila, and San Diego Bay with gold and other minerals present.

One hardrock prospect is known in the Aleutians West Census Area. The Sendanka or Biorka prospect contains copper, lead, zinc, gold and silver.<sup>55</sup> It is located on Sendanka Island east of Unalaska. The only other known development opportunity in the census area relates to the use of geothermal energy sources at Geyser Bight on Umnak Island and Makushin Volcano on Unalaska Island. Geothermal energy can be used for electrolytic smelting and hydrogen production from seawater, with the latter potentially made possible through the use of zeolites from the Lake & Peninsula Borough for storage and transport mediums.<sup>56</sup>

Additional mapping and exploration are needed to better assess hard rock mineral prospects in the Dillingham Census Area. However, five known prospects contain gold, copper, lead, zinc, arsenic, molybdenum, tin, tungsten, silver, bismuth, iron, titanium, platinum, palladium, mercury, and antimony. In addition to Shotgun Hills, Sleitat, and Kemuk Mountain, which are depicted in Map 7.8, deposits are known at Cinnabar Creek and Kagati Lake.<sup>57</sup>

Development of the Kemuk Mountain iron deposit is dependent upon increased findings of platinum and/or palladium to make it economically viable. The Shotgun Hills gold deposit is speculated to be similar to Donlin Creek, which is currently being developed by NovaGold Resources. Additional geological assessment of the region and further development of Donlin Creek may increase

interest in development of these deposits in the Dillingham Census Area.<sup>58</sup>

Three hardrock prospects in the Kodiak Island Borough exhibit or have known deposits of chrome, gold, silver, or tungsten. Some 200,000 tons of chrome are estimated in the Halibut Bay deposit on the south end of Kodiak Island. At Anton Larsen Bay, eleven miles by road from the City of Kodiak, deposits at Chalet Mountain evidenced gold, silver and tungsten. However, early assessments deemed this deposit as not economically viable.<sup>59</sup>

The only commercially viable mineral development in the Borough was by the Amok Gold Mining Company which worked gold-bearing quartz veins cutting through black slate at Uyak Bay. Principal veins averaged three feet thick, with a maximum of five feet and are composed of quartz with minor pyrite. Additional assessments are needed to determine future potential of this deposit.

DNR and the USGS have noted other lodes and prospects in the region, but it is estimated that less than 20 percent of the borough has been assessed for mineral deposits. Other noted mineralized areas include: the Barling Bay, Whale Island, Dry Spruce Island, Brenneman, Moyle and Uyak Bay prospects; and lode deposits at Kizhuyak Bay and Women's Bay.<sup>60</sup> Hardrock prospects in the Lake & Peninsula Borough include six prospects at Fog Lake, Manhattan, Warner Bay, Cathedral Creek, Kilokak Creek, and Kuy. Copper, gold, silver, lead, zinc, iron, and arsenic are known in these deposits. Additional assessments are needed to determine the scale of these resources. Skarn deposits of iron, copper, silver, gold, and zinc

are also known in three locations: Crevice Creek, Kasna Creek, and Glacier Fork.<sup>61</sup>

The Aleutian Range batholith, which is also referred to as the Naknek Lake batholith, is the one of the largest igneous complexes in the state. It extends about 200 miles in a northeasterly direction on the north side of Cook Inlet and is between 40 and 80 miles wide. It forms the backbone of the Chigmit Mountains in the Cook Inlet region. Much of the pluton is unmapped or covered only by reconnaissance surveys. Work in the Iliamna area has shown the batholith to be a composite body consisting of hornblende quartz diorite, hornblende-biotite quartz diorite, biotite-hornblende quartz diorite, and biotite quartz diorite. Phases of granodiorite, quartz monzonite, and granite are also present locally.<sup>62</sup>

Porphyry deposits of copper, molybdenum, gold, lead, and zinc are known in the Aleutians East and Lake & Peninsula Boroughs. The Pyramid and Mt. Dana prospects occur in the Aleutians East Borough. Eight porphyry deposits are known in the Lake & Peninsula Borough. These deposits are: Pebble Copper, Kawisgag, Bee Creek, Rex, Mallard Duck Bay, Mike, Kijik River, and Bonanza Hills.<sup>63</sup>

## Pebble Mine

Pebble Mine is a massive mineral deposit, with billions of dollars worth of copper and gold, located in the Bristol Bay region of southwest Alaska, about 200 miles southwest of Anchorage and 70 miles from tidewater at Cook Inlet. The location of Pebble, along

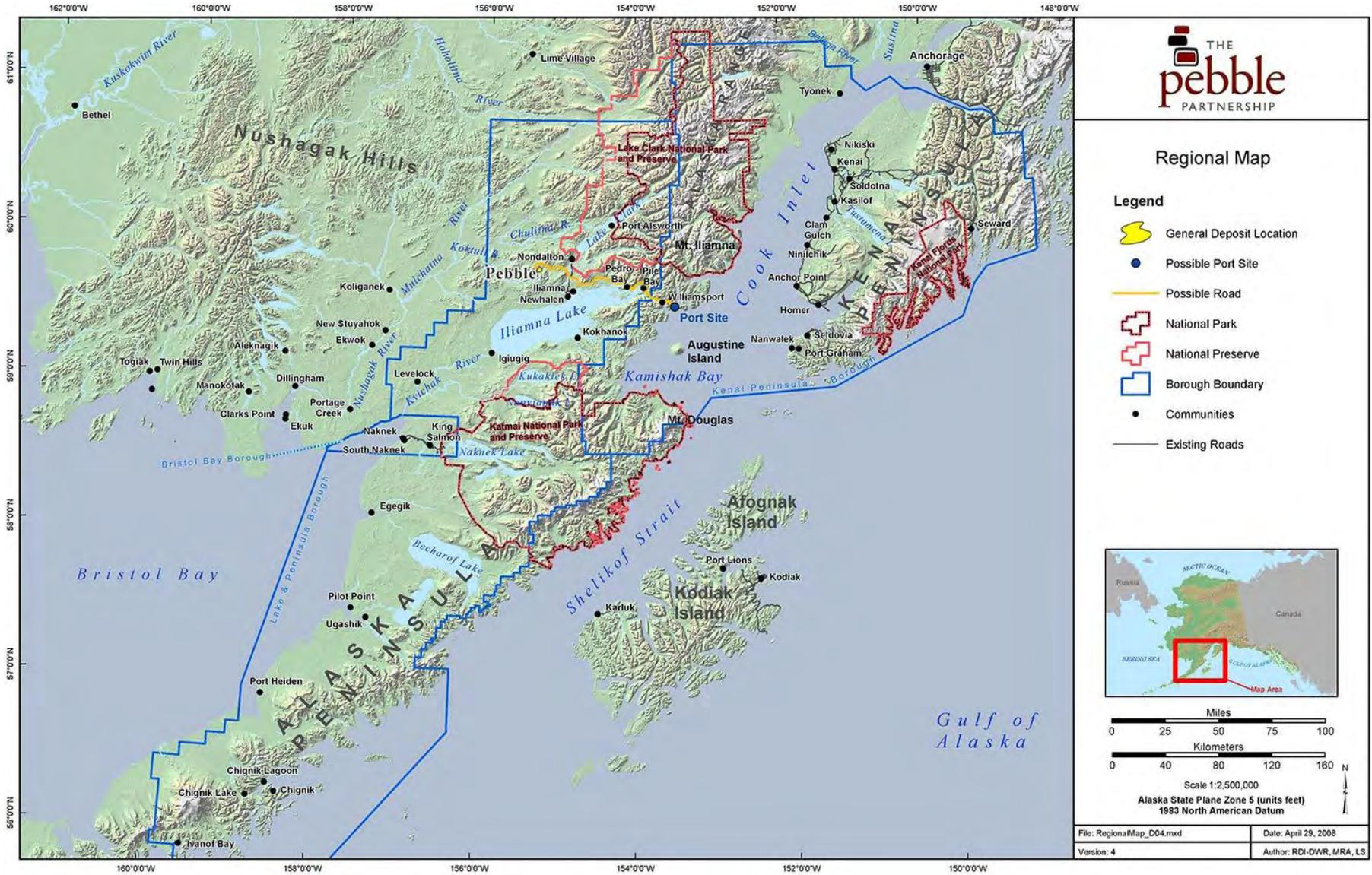
streams that flow into two of the five rivers that support the Bristol Bay salmon fishery, has brought opposition from commercial fisherman and environmentalists alike who are concerned about the impact of mining. According to the State, in 2008 commercial fishermen caught roughly 31 million red salmon in the Bristol Bay watershed worth \$128 million. They also caught about \$2 million worth of other kinds of salmon. Bristol Bay is the state's most valuable commercial salmon fishery.<sup>64</sup>

## History

In 1988, mining company Cominco (now Teck Cominco), discovered the Pebble property. The discovery attracted widespread attention, and by 1997 exploration and drilling programs had defined a near-surface mineral deposit of 1 billion tones. Northern Dynasty Minerals (NDM) acquired rights to the Pebble Project in 2001 and began deposit exploration in 2002. By early 2004, NDM had invested almost \$5 million on drilling programs and almost tripled the resource estimate.<sup>65</sup>

In September of 2005, it was announced that a deeper but richer deposit had been discovered in the eastern portion of Pebble. Drill data to year-end 2005 confirmed a 3.4 billion-ton inferred resource, and the new deposit expanded the scope and potential of the project because of its higher grades and mineral content, sending the company back to project definition drawing board to develop an integrated development plan for the expanded deposit. Development and permitting timelines were deferred so more studies could be conducted in support of the project.<sup>66</sup>

Map 7.10: Location of Pebble Mine Project



Source: <http://www.pebblepartnership.com/images/RegionalMap.jpg>

In July, 2007 the Pebble Limited Partnership, an Alaska limited partnership, was formed between a wholly owned US subsidiary of Anglo American PLC and a wholly owned entity of Northern Dynasty Minerals Ltd. to advance the Pebble Project, toward permitting, construction and operations. The deal saw Anglo American, one of the world's leading mine operators become a 50% partner in Pebble with equal rights, in exchange for a staged cash investment of US \$1.425 billion.<sup>67</sup>

By December 2008, extensive drilling had confirmed a measured and indicated resource of 5.1 billion tons, and 4.0 billion tons inferred. The deposit contains an estimated 94 million ounces of gold, 72 billion pounds of copper, and 4.8 billion pounds of molybdenum as well as commercially significant amounts of silver, rhenium and palladium.<sup>68</sup>

## Future

The Pebble Partnership continued its engineering, environmental and socio-economic studies throughout 2009 in order to support the preparation of a proposed development plan that will be submitted for government and public review in the next few years. However, the plan faces many challenges and will have to overcome opposition from not only commercial fisherman and environmentalists, but also businesses. Recently, many jewelers have boycotted any gold produced from the mine. Tiffany & Co., with more than \$1.5 billion in sales, is leading the jewelers' campaign against Pebble. Despite this, plans for the development of Pebble Mine continue.<sup>69</sup>

## Renewable Energy

It's no secret that energy costs in rural Alaska are significantly higher than the more urban areas of Anchorage, Fairbanks, Juneau and to a lesser extent, the Matanuska-Susitna Borough. And in Southwest Alaska, many communities and villages are beginning to look into the potential long-term economic benefits of investing in renewable energy.

Renewable energy comes in many different forms. From utilizing the energy produced by flowing rivers and streams on the Alaska Peninsula to harnessing the massive gusts of wind along the Aleutians, Southwest Alaska truly has the potential to diversify its resources and reduce the high energy costs that handicap the region.

### Hydroelectric<sup>70</sup>

Hydroelectric power is the generation of electric power from the movement of water flowing from a higher to a lower elevation. A hydroelectric facility requires a dependable flow of water and a reasonable height of fall of water. When the flowing water falls onto turbine blades (installed in a hydroelectric facility) it causes a shaft to rotate. The rotating shaft is connected to an electrical generator, which converts the shaft motion into electrical energy. After exiting the turbine, water is discharged into the river.

Currently, hydroelectric power is the most widely used renewable energy in the state of Alaska, and in the Southwest region, the City of King Cove has been a pioneer in this field.

Its Delta Creek facility, a \$5.7 million utility, came online in August 2008 as an alternative to diesel and has served as a great energy source for the community. Recently, the city installed a new boiler that has already generated enough waste heat to save the area's school district thousands of dollars in pricy diesel fuel. Because the electric boiler was installed in the fall of 2009, at the time of this printing it is still too early to predict the potential energy savings for the city. However, the waste heat component has saved the borough 19,439 gallons of diesel fuel in one year, a cost savings of \$63,452 in operation of the school.<sup>71</sup>

Hydroelectric facilities are also a large energy source for several communities on Kodiak Island. Hydro is also used in Iliamna, Newhalen, and Nondalton. Many other communities in the Southwest region are also researching the possibilities of installing hydroelectric facilities in their community.<sup>72</sup>

### Wind<sup>73</sup>

Wind is caused by temperature and pressure fluctuations in the atmosphere as the sun warms the earth. Wind devices are powered by air. Air moving relative to an object such as the blades of a wind turbine (or the winds of a plane) imparts a force on that object.

Wind turbines use this aerodynamic force to convert the kinetic energy of the wind into mechanical energy that can be harnessed for use. However, wind energy is directly related to the unpredictability of wind speed. This fact is important when considering the integration of wind into existing power systems. In most instances Alaska needs its power to be

constant, and wind energy is as variable as the blowing wind.

Wind turbines are installed in just a few Southwest communities, most notably, the City of Kodiak. In August 2009, Kodiak Electric Association (KEA) installed three 1.5 megawatt wind turbines, each producing enough electricity to power 330 homes. According to KEA's chief executive, the turbines are expected to save 800,000 gallons of diesel each year.<sup>74</sup>

According to the Alaska Energy Authority (AEA) and Renewable Energy Alaska Project (REAP), wind systems are also currently installed in Pilot Point, Perryville and St. Paul.

### **Biomass<sup>75</sup>**

Bioenergy is a collective term for renewable energy made from the organic material of recently deceased plants or animals. Sources of bioenergy are called "biomass" and include agricultural and forestry residues, municipal solid wastes, industrial wastes, and terrestrial and aquatic crops grown solely for energy purposes. Bioenergy includes the generation of energy from biological sources such as landfill gas and the combustion of organic fuels to produce electricity or heat.

Biomass is an attractive petroleum alternative because, developed responsibly, it is a renewable resource that is more evenly distributed over the Earth's surface than finite energy sources, and may be exploited using more environmentally friendly technologies. It is also considered "carbon neutral," meaning the carbon absorbed during the lifespan of the

organisms from which it was created counters the carbon released by the combustion of the biofuel.

While biomass systems are in the early stages of development and demonstration (mainly in the Interior and Southeast region), at this point in time they are not widely used in Southwest Alaska, although some communities are exploring it.

### **Geothermal<sup>76</sup>**

Geothermal energy uses the heat of the earth to provide for direct heat or electricity production. Direct heat geothermal uses low to moderate temperature water to heat structures, grow plants in greenhouses, and in industrial processes such as drying food or fish farming. These systems pump hot water directly into the structures they are warming. Producing electricity from geothermal uses high temperature resources to convert heat into power, though new technologies are emerging that allow lower temperature resources to be utilized in electricity generation.

Southwest Alaska's location on the Ring of Fire, a volcanic arc circling the Pacific Ocean, means there are many opportunities for geothermal development in the region.

Drilling and exploration done at Mt. Makushin near Unalaska in the 1980s indicates that tens of megawatts could be generated using geothermal resources. The adoption of binary-cycle power generators has made this project economically feasible and in early 2008 the Alaska Energy Authority gave a matching grant of \$1.5 million to the City of Unalaska for

further drilling in the area to start in the summer of 2009.

The City of Akutan is planning geophysical and geochemical exploration and possible drilling in the summer of 2009 at the nearby Hot Springs Valley to investigate providing power and heat to the city and a local fish processor. Naknek Electric Association is actively pursuing geothermal potential and development of a regional electrical transmission system. This local electric utility has a \$12 million drilling program that began in the summer of 2009 and will affect the City of King Salmon.

### **Solar<sup>77</sup>**

Energy technologies that use the sun's radiation directly are referred to as solar energy technologies. These technologies may be employed to heat or light living space directly, to supply energy to a heat storage system for later use, or to generate electricity.

Direct use of solar energy for heating or lighting is often referred to as passive solar use. The term passive is used because a building employs solar energy by virtue of its design without requiring additional equipment to actively move or store energy. In other words, passive solar systems use the energy of the sun where it falls.

Major challenges to using solar energy in Alaska are its seasonal variability and its dependence on weather conditions. In general, the solar resource is most abundant in the summer, when it is least needed. However, active systems hold the most promise for Alaskan applications. These are systems that

can store energy for longer periods of time or be incorporated as auxiliary energy sources into existing energy systems. Passive solar lighting systems use sunlight only during the daylight hours.

In conclusion, solar energy holds little promise to economically reduce Southwest Alaska's dependence on fossil energy. Prices for solar electric and hot water systems make them more expensive than conventional fuel technologies. It is conceivable that innovative design for specific applications could reduce the capital cost of a system, but technology has not caught up yet.

### **Hydrokinetic/Tidal**<sup>78</sup>

Hydrokinetic devices are powered by moving water and are different from traditional hydropower turbines in that they are placed directly in a river, ocean or tidal current. They generate power only from the kinetic energy of moving water (current). The available hydrokinetic power depends on the speed of the river, ocean or tidal current. In contrast, traditional hydropower uses a dam or diversion structure to supply a combination of hydraulic head and water volume to a turbine to generate power. In order to operate, hydrokinetic devices require a minimum current and water depth. Hydrokinetic devices are ideally installed in locations with relatively steady flow throughout the year, locations not prone to serious flood events, turbulence, or extended periods of low water level.

Alaska has significant potential for hydrokinetic development in both rivers and tidal basins. However, most of the promise lies

in inland communities as they are situated along navigable waterways. As a whole, the entire state of Alaska is home to some of the best tidal energy resources in the world.

In a 2009 report, the Alaska Energy Authority (AEA) identified 13 communities in Southwest Alaska that show some potential for tidal energy. These cities and villages include: Atka, Cold Bay, Dillingham, False Pass, Igiugig, Karluk, King Cove, Larsen Bay, Naknek, Nikolski, Old Harbor, Sand Point and Unalaska.

## **Alternative Energy**<sup>79</sup>

While many use the two terms interchangeably, there is actually a subtle difference between renewable energy and alternative energy. Technically, renewable energy is clean energy – energy provided by natural resources that are always around us. Alternative energy on the other hand really just refers to an alternative from fossil fuels.

Although there are many types of alternative energy uses currently under discussion – propane, ethanol and biodiesel, waste oil and alternative fuels – the most promising alternative energy source in Southwest Alaska is fish oil.

### **Fish Oil**

Fish oil is a natural fuel that can be a co-product of the fish processing industry. The oil is rendered from fish waste using a multi-step process of heating, pressing, centrifugal separation and filtering. Fish oil can be used

either directly as a boiler fuel or converted into a biodiesel and used for diesel engine fuel and/or heating fuel. Raw fish oil is also being used by a number of fish processors around the state for onsite heating and power generation.

Despite these advantages, a high level of caution should be exercised when using biodiesel made from fish oil. When compared to petroleum based diesel, fish oil diesel oxidizes more quickly and can damage machinery.

A lot of promise for fish oil exists in Southwest Alaska considering the large presence of the commercial seafood industry.

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# 8.0 Infrastructure Profile

Every community in Southwest Alaska is challenged with developing and maintaining municipal infrastructure sufficient to provide for ongoing economic activity and growth, sustain the basic needs of the community, and provide for a reasonable quality of life. Given the increased cost of construction in rural areas, lack of trained personnel to operate municipal services, and limited existing infrastructure that is often insufficient to adequately serve community needs, the communities of Southwest Alaska have urgent and growing needs for infrastructure expansion and enhancements.

According to the Alaska Department of Commerce, Community & Economic

Development (DCCED), communities in Southwest Alaska had funded and planned infrastructure development projects totaling more than \$300 million in 2009 and 2010. Table 8.1 profiles the capital improvement projects for each borough and census area as categorized by DCCED from the State of Alaska Capital Projects Database.

As part of the CEDS development process, all municipal and tribal governments were asked to submit candidate projects for a regional infrastructure needs assessment. Appendix B presents a comprehensive listing of capital improvement projects for the region. Based on these submissions, additional infrastructure and capital needs projects funded for 2002 totaled \$132.4 million for the region. Ongoing capital improvement needs and potential projects amount to \$49.8 million for 2003 and \$69 million for 2004.

In the early 2000s, many of the infrastructure projects in the region were directly attributable to increased federal funding as a result of the efforts by the Alaska Congressional Delegation, particularly Senator Ted Stevens.

In recent years, available funding has been significantly downsized due to the 2007-2009 financial crisis, among other factors. At the time of this printing, state and federal funding were decreasing.

Creation of the Denali Commission in 1998 increased the availability of federal and state funding to provide critical utilities, infrastructure and economic support throughout Alaska. The Commission focuses on ten major categories of improvement:

- Community Planning
- Conference Sponsorships
- Economic Development
- Energy
- Government Coordination
- Health Facilities
- Solid Waste
- Teacher Housing
- Training
- Transportation

## Transportation

SWAMC was instrumental in the development of the Southwest Alaska Transportation Plan that was published by the Alaska Department of Transportation & Public Facilities in 2002, and later revised in 2004. The findings presented in the plan provide the foundation for this discussion of transportation infrastructure in the Southwest Region. Given recent changes in the regional economy, particularly with respect to the downturn in salmon fisheries, the priorities for development, as presented in the

**Table 8.1: Southwest Alaska Capital Improvements Summary – 2007 & 2008**

	Economic Development	Basic Infrastructure	Health and Safety	Improved Services	Total
Aleutians East Borough	\$0	\$14,830,263	\$0	\$56,025,298	\$70,855,561
Aleutians West Census Area	\$26,870,000	\$5,135,388	\$200,000	\$15,049,875	\$47,255,263
Bristol Bay Borough	\$7,448,552	\$232,321	\$0	\$26,140,570	\$33,821,443
Dillingham Census Area	\$189,000	\$9,606,457	\$2,681,100	\$29,585,574	\$42,062,131
Kodiak Island Borough	\$0	\$13,024,339	\$8,545	\$82,085,336	\$95,118,220
Lake & Peninsula Borough	\$0	\$2,856,480	\$2,610,299	\$7,020,605	\$12,487,384
Southwest Alaska	\$34,507,552	\$45,685,248	\$5,499,944	\$215,907,258	\$301,600,002

Source: DGED, Rural Alaska Project Identification and Delivery System

Southwest Plan, need to be re-thought with a specific focus on seafood transport. The state of the economy suggests that the first priority should be on transporting goods to market. In addition to expediting the movement of people and goods in and out of the region, thereby increasing economic opportunities in the region, improved transportation will enhance other elements of the region’s infrastructure: communications, energy, water and sewer.

Public involvement and outreach were an integral part of the development of the Southwest Alaska Transportation Plan and the subsequent 2004 update.<sup>1</sup> One of the first tasks for the project was to assemble an Advisory Committee to help establish the goals and objectives of the plan, and to provide input throughout the planning process. The study team and the advisory committee established means to ensure early and continuous public involvement. In the 2004 update, DOT&PF held public meetings with five communities and five Native councils that were going to be

affected by the Transportation Plan (located mainly in the Lake & Peninsula Borough). The Plan, as it exists now, is not fully supported by communities in the Southwest Region. Several communities have expressed dissatisfaction with the results of the study, particularly the prioritization process. DOT&PF is proposing a full rewrite of the Southwest Alaska Transportation Plan in 2010.

**The Existing Transportation System**

Geography has limited inter-and intra-regional transportation in Southwest Alaska to primarily two modes: air and water. Because of the great distances between communities within and outside of the region, time-sensitive movement of lighter goods is typically done by air, while other travel – particularly movement of bulky or heavy cargo – is typically conducted by water.<sup>2</sup> Table 8.2 summarizes the current transportation infrastructure for Southwest Alaska. Air taxis and freight companies can be found by inquiring with the regional hubs.

**Corridor Delineation<sup>3</sup>**

The Southwest Alaska Transportation Plan envisions transportation improvements in the region based on the development of four key transportation corridors. The purpose of corridor delineation is to recognize the patterns of existing travel and desired travel in the region and to establish and protect the surface transportation “highways” that would best serve the region’s long-term social and economic infrastructure needs. The four primary corridors for the region are:

**Pacific Coast Marine Corridor**

Connects the communities of Kodiak Island, the fishing communities on the eastern side of the Alaska Peninsula, and the port of Dutch Harbor. This corridor ties into the Alaska road/rail network through the port of Homer. As the name implies, this corridor serves marine transportation needs, including tug and barge service, the Alaska Marine Highway

**Table 8.2: Southwest Alaska Transportation Infrastructure, Features and Usage**

Transportation	Aleutians East Borough	Aleutians West Census Area	Bristol Bay Borough	Dillingham Census Area	Kodiak Island Borough	Lake & Peninsula Borough
Regional Air Hub 2004	Cold Bay	Unalaska	King Salmon	Dillingham	Kodiak	Iliamna
Major Passenger Air Carriers	2	2	2	2	2	0*
Annual Air Passengers (pax trips) 2008	9,105	28,234	42,310	32,215	11,218	9,545
Runways 3,300' or Longer*	6	6	4	5	5	11
Runways Less Than 3,300'*	3	0	4	11	8	11
Miles of Intra-Community Roads	0	0	15.5	25	64	30
Major Ports and Harbors	Akutan, Cold Bay, False Pass, King Cove, Sand Point	Adak, St. George, St. Paul, Dutch Harbor/Unalaska	Naknek	Dillingham	Kodiak, Port Lions	Chignik, Port Moller

\*Runways include seaplane data  
 Source: 2004 Southwest Alaska Transportation Plan; [www.aimav.com](http://www.aimav.com)

System, and commercial fishing interests.

### **Cook Inlet to Bristol Bay Corridor**

Connects the rich seafood resources and communities in Bristol Bay, as well as the Iliamna Lake communities, with resupply, support and market centers in the Alaskan railbelt. It consists of a marine segment (Cook Inlet), intermodal transfer location at Williamsport, and then primarily overland and riverine routes along Iliamna Lake and the Kvichak River valley to the port town of Naknek on Bristol Bay. Its function is primarily logistical. Transportation improvements along this corridor would lower the cost of transport, thus yielding benefits to the quality of life of residents and helping to stimulate economic growth of the sub-region.

### **Alaska Peninsula Corridor**

An overland corridor linking communities of the Alaska Peninsula from Ivanof Bay to Naknek. The key facility in this corridor is the port at Chignik, from which fuel and supplies can be disbursed to other communities via road connection. From Chignik the corridor extends west along the Gulf of Alaska coast to Perryville and Ivanof Bay. It also extends from Chignik to Chignik Lake and Chignik Lagoon, then crosses the Alaska Peninsula to Port Heiden. From Port Heiden the corridor extends north, connecting Pilot Point, Ugashik, Egegik and South Naknek, and tying into the Cook Inlet to Bristol Bay Corridor at Naknek.

### **Dillingham/Bristol Bay Area Corridor**

An overland corridor connecting the port city of Dillingham to the Cook Inlet to Bristol Bay Corridor. It includes a crossing of the Wood River at Aleknagik and a major crossing of the Nushagak River. There are several possible tie-in locations to the Bristol Bay to Cook Inlet corridor. The plan models a corridor from Aleknagik to Igiugig via Levelock.

### **Alaska Marine Highway System Improvements<sup>4</sup>**

The Alaska Marine Highway System (AMHS) provides a critical modal alternative to air travel for residents of Southwest Alaska – for both freight and passenger movement. State-sponsored marine transportation services were originally established in Southwest Alaska, Southeast Alaska and Prince William Sound (PWS) to provide passenger, freight and vehicle transport for Alaskan communities where highway facilities on land were not feasible. The importance of the AMHS to basic transport is recognized in that many AMHS projects are eligible for federal surface transportation funds that in most other states can only be used on highway facilities. In 2002 AMHS received designation as a National Scenic Byway (SB). Congress created the SB program in 1991 to preserve and protect the nation’s most scenic routes.

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All of the coastal communities in Southwest Alaska desire improved marine transportation service, and have historically supported ocean-going ferry service, including the building of Kennicott and its potential service in the region. The introduction of passenger ferry service in Bristol Bay or the Pribilofs was investigated for the plan but tabled because it was clearly cost-prohibitive. The communities on the southern side of the peninsula receive on average seven trips per year by the Tustumena. The Tustumena and the Kennicott are currently the only AMHS owned and operated vessels with the requisite U.S. Coast Guard certifications (for open-ocean operations) necessary to serve these communities.

On the other hand, the Tustumena currently spends 25.6% of its annual vessel miles and approximately 37% of its annual operating time in service to PWS. It is the only vessel serving PWS in the winter months. The Prince William Sound Transportation Plan identified that future PWS transportation needs can be better met year-round by new high-speed vessels. Assuming that these new vessel types are deployed in PWS, the Tustumena should become available for increased service in

Southwest Alaska. Specification of possible schedules and cost issues related to this redeployment are discussed later in this report.

Shore facilities serving AMHS operations in this part of the state are, generally speaking, in a diminishing state of readiness. Some are municipally owned, and some are privately owned, but none receive the level of attention that are afforded to facilities elsewhere in the system that AMHS owns (and operates) outright. The plan's recommendations for facility improvements are warranted for the sustaining of current operational levels, but are given additional impetus due to the prospect of increased AMHS activity in Southwest Alaska by the Tustumena.

The Murkowski Administration established the Marine Transportation Advisory Board to oversee development of improvements in the management and operations of the AMHS. Southwest Alaska is represented by Mayor Shirley Marquardt (City of Unalaska) on this board.

In addition to improved service, the region seeks dependable, multi-year scheduling and increased or improved docking and terminal facilities to facilitate higher yield utilization of the AMHS in the region. Table 8.3 outlines passenger embarkation patterns for Southwest Alaska ports of call for the AMHS from 1995 to 2008. While the system in general has had declining usage over the period, embarkation for the Southwest route has generally increased. Still, given the limited service in the region, embarkation on the Southwest route only accounts for less than three percent of system usage.

**Table 8.3: Alaska Marine Highway Embarking Passengers Southwest Alaska Ports of Call 1995 - 2008**

Embarking Passenger Traffic	1995	2000	2005	2006	2007	2008
Akutan	25	106	210	325	349	217
Chignik	215	339	126	303	265	186
Cold Bay	66	66	90	150	150	83
Dutch Harbor	236	440	720	642	645	339
False Pass	7	39	3	44	76	23
King Cove	252	204	270	537	341	291
Kodiak	5,104	7,197	6,528	8,754	9,124	9,368
Port Lions	215	417	418	1,020	1,471	1,405
Sand Point	231	345	186	405	374	230
Southwest Total	6,351	9,153	8,551	12,180	12,795	12,142
Total AMHS	396,543	351,460	282,236	307,220	321,609	340,412

Source: [http://www.dot.state.ak.us/amhs/reports\\_shtml](http://www.dot.state.ak.us/amhs/reports_shtml)

### Port and harbor improvements<sup>5</sup>

Marine transportation is central to Southwest Alaska's economy, character and accessibility. Utilitarian in nature, marine facilities have evolved to support the operations, marketing, and distribution of the region's fisheries resources. These facilities also serve the Alaska Marine Highway System, which currently serves nine ports of call in the Southwest region, each requiring docking, loading and offloading capacity.

Because primary economic benefits flow into the region through ports, port facilities are a logical starting point for the development of regional transportation infrastructure that aims to distribute goods and services to external markets and regional communities more

efficiently. Thus, the Southwest Alaska Transportation Plan highlights several specific ports as key intermodal transfer points, notably Kodiak, Williamsport, Pile Bay, Chignik, Dillingham, Naknek, King Cove and Unalaska. In particular the plan concentrates on new public dock development at Chignik, Williamsport and Pile Bay to support regional transportation and economic development goals.

The lack of a regular federal funding program for capital improvement of ports and harbors (such as exists for roads and airports) hampers the systematic improvement and maintaining of the region's ports and harbors, and places a heavy burden on the state and local governments. As a result, many facilities are capacity-limited and overused, contributing to a diminished service life. Poor salmon returns

earlier in the decade further eroded the level of tax revenues available for many of the Southwest Alaska communities, and limited their ability to fund upkeep and maintenance of these critical facilities. The State currently has a matching grant program to help municipalities make capital improvements to their harbors, but the program is underfunded and in jeopardy.

A few highlighted port and harbor projects from the Southwest region include:

- In King Cove, the Babe Newman Harbor was dedicated in the fall of 2002. A joint project of the Army Corps of Engineers and the Aleutians East Borough, the harbor is operated by the City and provides additional moorage for 60' to 150' fishing vessels.
- A small boat harbor is currently under construction through 2011 in St. Paul. The project is being operated by the

Army Corps of Engineers and should provide protected moorage for the City's small boat fleet and allow them to fully participate in the region's commercial fisheries.

- In Unalaska, a city whose economy is heavily dependent on the commercial fishing industry, there are ten major docks including the International Port of Dutch Harbor, with 5,200 feet of moorage and 1,232 feet of floating dock.
- On Kodiak Island, the City of Kodiak's main port includes two boat harbors with 600 boat slips and three commercial piers – the ferry dock, city dock and container terminal. A \$20 million breakwater on Near Island provides another 60 acres of mooring space at St. Herman Harbor. The City also acquired a 600-ton, 54-foot-high travel lift to service the regional fishing fleet.

- In Naknek, the seat of the Bristol Bay Borough, the Denali Commission was the lead agency in helping to fund the nearly \$7.5 million expansion and repair of the Port of Bristol Bay in FY2009.
- Within the Lake & Peninsula Borough, the City of Chignik is currently developing a breakwater, a 110-slip small boat harbor and a public dock.

Several other port and harbor improvement projects are currently programmed, or in some phase of construction. A complete list of these improvements can be found in Appendix B, Capital Improvement Projects.

### Aviation System Improvements<sup>7</sup>

Aviation is the principle means of transporting people to communities throughout the Southwest Region. A lack of interconnected roads means lighter goods such as mail and perishable food typically move by air. Airfreight comprises approximately two percent of all Southwest volume. Airfreight plays an important role in the movement of high-value items. The U.S. Postal Service Bypass Mail program provides much of this freight and passenger service.

Demand for better air connections, increased service and safer and travel between communities in the Southwest Region reflects a trend throughout rural Alaska. There are several air carriers that transport passengers within and between communities. Perishable goods are shipped by air through regional or sub-regional hubs. Many local airport runways

**Table 8.4: Southwest Alaska Airports**

Airport	FAA Category	DOT&PF AASP Category	Passenger Hub	USPS Hub	Part 139 Certified	Non-Stop Service to Anchorage
Cold Bay	Commercial Service	Regional	Yes	Yes	Full	No
Dillingham	Primary	Regional	Yes	Yes	Full	Yes
Iliamna	Primary	Regional	Yes	Yes	Full	Yes
King Salmon	Primary	Regional	Yes	Yes	Full	Yes
Kodiak	Primary	Regional	Yes	Yes	Full	Yes
Port Heiden	Primary	Community	Yes	Yes	Full	No
Sand Point	Commercial Service	Community	Yes	No	Full	Yes
St. George	General Aviation	Community	Yes	No	No	Yes
St. Paul	Commercial Service	Community	Yes	No	Full	Yes
Unalaska	Primary	Regional	Yes	Yes	Full	Yes

Source: 2004 Southwest Alaska Transportation Plan

are insufficient in length or width to handle large aircraft, resulting in expensive shipping and scheduling operations. In some areas, like the Bristol Bay Borough, goods arrive by air, are loaded into trucks, and then transported over a paved road (King Salmon to Naknek).<sup>6</sup>

The region has 66 airports, including 13 seaplane facilities. DOT&PF owns, operates and maintains 42 of these. Several of the region's airports serve as hubs for the distribution of mail and air cargo to surrounding communities. Key airports in the Southwest Region are provided in Table 8.4.

The demand for air travel can be met through increasing the frequency of service and/or increasing the capacity (i.e., size) of aircraft. Airlines generally find it more cost-effective to fly a larger airplane than to increase the number of flights. Runway length is the primary driver of increasing aircraft capacity as larger aircraft can require longer runways. The 2004 Revised Southwest Alaska Transportation Plan recognizes the Alaska Aviation Coordination Council's recommendations for a minimum runway length of 3,300 feet and all-weather approach and landing capability for public airport rural access within the state.

Additionally, several broad policy issues and suggestions are included within the transportation plan, including: USPS bypass mail carrier selection; rising insurance costs and effect on passenger air service; minimum design standards for medevac; and consideration of "non-essential" needs (i.e. air carrier concerns, community desires) in airport improvement design and statewide project scoring.

Specific aviation improvement projects are found in Appendix B.

## Land Transportation Improvements<sup>8</sup>

### Roads

Southwest Alaska has very few roadways that connect communities:

- A 15.5-mile road connects King Salmon and Naknek.
- An extensive road network remains from the World War II military buildup in Kodiak, linking the City of Kodiak to the Coast Guard community at Womens Bay, several outlying neighborhoods, Cape Chiniak, Buskin Beach, and Narrow Cape.
- A 23-mile road connects Dillingham and the south shore of Lake Aleknagik. Construction of a bridge over the Wood River, which will provide a link to Aleknagik on the north shore of the lake, is programmed as part of the Statewide Transportation Improvement Program (STIP) and was part of a construction bond package passed by Alaska voters in 2008.
- The Newhalen Village Road connects to the Iliamna Village Road to link these two communities.
- A road extends 13 miles from Iliamna towards Nondalton. Completion of this roadway, including a new bridge over the Newhalen River, is also programmed as part of the STIP.
- A 15.5-mile earthen road with one lane, and no shoulder now connects Williamsport (which is located on

lower, western Cook Inlet) with Pile Bay (located on the east shore of Iliamna Lake). This road, although primitive, is used seasonally to transport gillnetting vessels between Cook Inlet and Bristol Bay. It is also used to transport some freight to Iliamna Lake communities from June through November. In addition, a primitive road extends from Pedro Bay east for part of the distance to Pile Bay.

The small population in the region and the high cost of building and maintaining roads argues against adding a large volume of highway miles in Southwest Alaska. The most effective use of roadways in this part of the state has been in linking communities together that are relatively close to each other geographically, and in improving efficiencies and reliability in the movement of people and goods through the region.

### Selected Community Linkages<sup>9</sup>

Considering the previously mentioned major transportation corridors, the portions of each corridor that provide the greatest near-term benefit and projects contained within these portions are recommended. Transportation projects like these will not only improve the movement of people and good throughout the region, they will support other infrastructure development, such as the development of a fiber optic back bone in the Southwest Region. The development of information infrastructure will provide Southwest Alaska communities with access to broadband connectivity and provide for improved telecommunications,

health care, education, homeland security and economic development opportunities.

Transportation projects are selected and prioritized by the Alaska Department of Transportation and Public Facilities (DOT&PF) using the STIP (Statewide Transportation Improvement Program). Appropriations for these projects are contingent upon available funding. Note, the actual funding and acknowledgment of STIP projects are subject to change as the political atmosphere of the state changes and legislative decisions regulate how monies are channeled to different agencies and communities throughout the state.

#### Williamsport to Pile Bay Roadway Improvements

The existing road between Williamsport and Pile Bay is already in use for the transport of fishing vessels from winter refitting in Homer to the summer fishing grounds in Bristol Bay and back. Much of the time it is the only route that provides access for heavy equipment to reach the Iliamna area. The road itself has not been adequately maintained over the years, is exceedingly narrow in places, and several bridges need upgrading. But the reason the plan endorses this project is because of its value. Coupled with navigation improvements at Williamsport and a public-use dock and ramp at Pile Bay, this route becomes the essential conduit for the movement of freight and commodities via barge from the Railbelt to the communities around Iliamna. The potential volume of fishing vessels being transported to and from Bristol Bay increases as well. Improving this facility immediately lowers costs to users and residents and opens the Cook

Inlet to Bristol Bay corridor to new transportation possibilities in the private and public sector.

According to the 2004 revised STIP, projected capital costs for this project totals \$22.285 million while annual operation and maintenance costs equal \$209,250.

#### Chignik Intervillage Road

A road connecting the three nearby communities of Chignik, Chignik Lake and Chignik Lagoon is expected to improve overall transportation reliability and safety, as well as encourage economic efficiency and consolidation of community services. This project complements the construction of a municipal dock at Chignik, and makes delivery of heating fuel to Chignik Lake and Chignik Lagoon less costly and more certain. Additionally, this project makes possible the consolidation/expansion of aviation services at one or more airports to make air travel more dependable and safe for the residents of all three communities. The STIP indicated that this project would cost an estimated \$28.146 million.

#### King Cove – Cold Bay Connection<sup>10</sup>

For almost two decades, the residents of King Cove have attempted to create a safe, dependable travel route in and out of their isolated fishing village. While King Cove does have an existing airport, weather conditions greatly affect flight schedules which can be delayed up to several days. The City of Cold Bay, located 7 land miles from King Cove, has

an all-weather airport. Both cities are located on the end of the Alaska Peninsula.

In 1998, a road plan between King Cove and Cold Bay was rejected. This potential connection runs through sensitive wetlands in Izembek National Wildlife Refuge. That same year, Congress appropriated \$37.5 million under the King Cove Health and Safety Act to construct a combination road-marine link between the two communities.

In 2009, President Obama signed the Public Omnibus Public Land Management Act into law. Part of the Act would establish a process to increase the size of the Izembek and Alaska Peninsula Wildlife Refuges by more than 61,000 acres (donated from the State of Alaska and the King Cove Corporation) in exchange for a small single-lane gravel road corridor (206 acres) leading from King Cove to an all-weather airport in Cold Bay. In addition, 1,600 acres of refuge lands on Sitkinak Island would be transferred to the State of Alaska. As a condition of the exchange, the Secretary of the Interior must determine that the land exchange and the road corridor are in the public interest. Residents in King Cove say the road access would provide safe, reliable surface transportation to the Cold Bay Airport and a critical link to the outside world. The City of King Cove estimates the total cost for the road to be around \$12 million to \$14 million.

#### Approved and Ongoing Projects<sup>9</sup>

##### Dillingham-Aleknagik and Wood River Bridge

Completion of the Wood River Bridge will provide Aleknagik residents better access to the regional airport at Dillingham and lessen dependency upon the Aleknagik airport. A bridge is needed to provide safe passage between the North and South Shores of the community. Many deaths have occurred due to unsafe traveling conditions during fall freeze-up and spring break-up. The bridge is needed to transport children safely to and from school. Completion of the bridge would also help Aleknagik consolidate services as it duplicates each service for the North Shore and South Shore.

According to the DOT&PF, the bridge will cost an estimated \$22 million.

### Iliamna-Nondalton Road

Completion of this project, which includes the Newhalen River Bridge and upgrade improvements to the existing roadway between the communities of Iliamna and Nondalton, improves Nondalton residents' access to Iliamna's regional airport and lowers costs to Nondalton residents for goods and services. It lessens dependence upon Nondalton's small community airport, provides a safer transportation conveyance in marginal conditions, and improves the economic climate in both communities. The improved economic and business climate created by connecting these communities highlights the need for improving the freight corridor between Williamsport and Pile Bay.

Land transportation projects, proposed, planned, and under development, are listed in Appendix B.

## **Intermodal Connections**

Additional transportation facilities are needed to provide connections between communities in all major corridors and their airports and marine ports and harbors. For most of the corridors these consist of relatively short airport and harbor access roads. More extensive roadway systems serve intermodal needs in Unalaska and Kodiak.

Intermodal transportation projects that are currently programmed for all communities in the Southwest Region are represented in Appendix B.

## **Water<sup>11</sup>**

The Department of Environmental Conservation (DEC) Water Quality Programs is developing a water quality monitoring strategy to guide its efforts to assess, track, prioritize for action, and report on the condition of Alaska's waters. The water monitoring strategy will help implement the water quality monitoring and reporting elements of the Alaska Clean Water Actions (ACWA) policy. The strategy will also assist the State in establishing that Alaska is developing and implementing a water-monitoring program, which meets the objectives of the federal Clean Water Act.

Water monitoring requires resources and as well as focus to ensure that information is developed which is useful for water resource decisions. There is a long history of monitoring by citizens and tribes, as well as local, state, and federal agencies. No one entity has the resources to monitor water quality in a state

with an estimated 365,000 river and stream miles, 44,226 miles of coastal shoreline waters, and more than a million lakes greater than five acres. Assessing Alaska's water will require partnerships among those individuals and institutions concerned about keeping Alaska's water fishable, swimmable, drinkable, and workable.<sup>12</sup>

## **Water Treatment Systems**

Since the health of everyone in the community depends on safe water and sanitation, it is important that utility operators are well trained for their jobs. As of January 2001, all Class A drinking water facilities regardless of size are required to employ a certified water system operator. Class B drinking water systems using surface water or groundwater under direct influences of surface water must also employ a certified operator.

The State of Alaska has a certification process for utility operators. The certification requirements are different for different sized systems and different water treatments. For example, Class A systems are classified from Level I to Level IV and are required to have an operator certified at the level of the system. Class B systems are classified as either small-untreated water systems or small-treated systems, depending on whether the chemicals are added to the water.<sup>13</sup>

- **Class A** systems are those systems that serve 25 or more of the same people for at least six months of the year. They may also be systems with more than 15 service connections.

- **Class B** systems are those systems that serve more than 25 or more people for more than 60 days of the year, and are not considered Class A systems.
- **Class C** systems are those systems that serve less than 25 people and are not considered either Class A or Class B system.<sup>14</sup>

**Wastewater Systems**

All wastewater must be treated before it can be discharged into a river, lake, or ocean. There are very strict rules about water quality in a river, lake, or ocean. Alaska Water Quality Standards are designed to protect the many types of water users and the different types of water. Water users include humans who may drink the water, fish and other organisms that live in the water, and ecologically sensitive land areas, such as wetlands. Water quality standards are also designed to protect recreational users such as fisherman, swimmers, and boaters whose skin may come in contact with water.

All communities in the Southwest Region, with the major exceptions of Dillingham, Kodiak and Unalaska, have less than 1,500 residents. Wastewater systems for Alaska communities of 25 to 1,500 people include: community septic tanks attached to drainfields; community septic tanks attached to ocean outfalls; percolating sewage lagoons (tundra pools); discharging sewage lagoons (tundra ponds) with discharges to rivers or lakes.<sup>15</sup>

**Table 8.5: Plumbing Facilities for Total and Alaska Native Housing Units**

	All Housing Units			Alaska Native Housing		
	Total Units	Complete Plumbing Facilities	Lacking Complete Plumbing Facilities	Total Units	With Complete Plumbing Facilities	Lacking Complete Plumbing Facilities
Aleutians East Borough	724	694	30	324	320	4
Aleutians West Census Area	2,234	2,180	54	396	386	10
Bristol Bay Borough	979	755	224	177	172	5
Dillingham Census Area	2,332	1,722	610	930	688	242
Kodiak Island Borough	5,159	4,892	267	607	598	9
Lake & Peninsula Borough	1,557	929	628	390	325	65
Southwest Alaska	12,985	11,172	1,813	2,824	2,489	335
Alaska	260,978	229,117	31,861	26,556	20,453	6,103

Source: 2000 Census

The following facilities have current wastewater permits with the Alaska Department of Environmental Conservation:

- Alaska Pacific Seafoods Kodiak Plant
- Alyeska Seafoods Plant Unalaska Plant
- International Seafoods of Alaska Kodiak Facility
- Island Seafoods Inc Kodiak
- Kodiak Launch Complex
- Trident Akutan Harbor Seafood Plant
- Unisea Unalaska Seafood Plant (Dutch Harbor)
- Westward Seafoods Captains Bay Facility (Dutch Harbor)

Both water and wastewater systems are classified by Alaska Department of Environmental Conservation (DEC) as Intake, Distribution, Storage, Treatment Plant, or Sample Station facilities. Additionally, DEC identifies the source type as surface water,

ground water, or ground water under the direct influence of surface water. Groundwater is the most common source type in the Southwest region.

**Remote Maintenance Workers and DEC Officers**

The Remote Maintenance Worker Program (RMW) is a grant program administered by the Alaska Department of Environmental Conservation which was begun in 1981 to keep small community water and wastewater systems in operation for both public safety and convenience and to reduce the overall long-term costs to the State. RMWP is intended to serve small communities by providing skilled technical assistance in water and sewer system maintenance including on-the-job training to local operators. Currently a total of ten native health corporations are the grant recipients; they employ eight remote maintenance workers

who serve 187 communities throughout the State<sup>16</sup> including:

- Aleutian Pribilof Island Association
- Bristol Bay Area Health Corporation
- Kodiak/Kenai

Certified Testing Labs in Southwest Alaska:

- Adak Drinking Water Laboratory, Adak
- Bristol Bay Area Health Corporation Kakanak Hospital, Dillingham
- Surefish Laboratory, Dutch Harbor
- City of Kodiak Wastewater Treatment Plant, Kodiak
- King Salmon Wastewater Facility, Naknek

## Sewer

Rural drinking water and sewer systems remain the focus of a major effort by state and federal government to implement much-needed upgrades. Statewide, 70% of rural Southwest Alaska households use piped or closed haul systems-twice the number of households that were on these systems during the 1980s. Most of this progress occurred over the past decade as communities continue to convert from honey bucket systems to flush/haul, home septic or community septic systems. These improvements are specifically noteworthy considering the major environmental and technical challenges of designing and constructing sanitation facilities in rural Alaska.

As indicated in Table 8.5, most household units in the Southwest Region, have complete

plumbing facilities, with housing piped or closed haul systems. Some households are without piped water or closed haul systems for a combination of reasons ranging from poor building sites to a lack of operating funds. However, efforts still continue to properly outfit all housing units in the region.

Houses that do not have piped or closed haul systems operate on a flush haul or honey bucket haul system. Housing units with flush haul systems have separate holding tanks for sewage. When the tanks are full, wastes are

**Table 8.6: 2007 Sewage Disposal Methods in Southwest Alaska Communities**

Communities (50)	Yes #	Yes %	No #	No %
Piped Sewer System	35	70%	15	30%
Honeybucket Haul	5	10%	45	90%
Honeybucket Pits	9	18%	41	82%
Individual Septic Tank	31	62%	19	38%
Community Septic Tank	22	44%	28	56%
Sewage Pumper	23	46%	27	54%
Sewage Lagoon	24	48%	26	52%
Sewage Lift Station	16	32%	34	68%
Outhouses	18	36%	32	64%

Source: Alaska Division of Community and Regional Affairs

pumped to portable tanks and hauled to a disposal site, such as a sewage lagoon. As previously mentioned, most housing units in the Southwest Region have piped or closed haul systems that do not require this type of maintenance. Those individuals that have honey buckets or privies (outhouses) are responsible for carrying their own wastes to a

disposal site. Table 8.6 illustrates sewage disposal methods in Southwest Alaska.

According to past surveys, roughly two thirds of all small villages in Alaska charging for water and sewer services operate at a loss. To supplement customer fees, communities use other locally generated revenues (taxes, bingo receipts, gravel sales, etc.), state revenue sharing, and Tribal funds to help cover operations and maintenance expenses. Other cost effective measures would be to develop appropriate fee schedules and effective

collection policies. More important is the need for careful planning of projects, including substantial community involvement, to produce system designs appropriate for the community. And finally, an investigation into alternative technologies that might be more effective in small rural communities could assist.<sup>17</sup>

## Communications

### Local Telephone Services<sup>18</sup>

In 2000, the Regulatory Commission of Alaska (RCA) approved the transfer of all GTE properties in Alaska to other Local Exchange

Carriers (LEC). Alaska Communications Systems also received approval for name changes for all of its companies. Seventeen parent companies provide local telephone service in Alaska, many of which do business under a familiar local name.

The following companies service the Southwest Region:

- Alaska Communications Systems Group, Inc. (ACS)
- Bristol Bay Telephone Cooperative, Inc.
- General Communications, Inc. (GCI)
- TelAlaska, Inc.
- Nushagak Cooperative, Inc.
- United Utilities, Inc./United Companies, Inc.
- US Navy (Adak Island)

#### Alaska Communications Systems Group, Inc. (ACS)

Headquartered in Anchorage, ACS is Alaska's leading provider of broadband and other wireline and wireless solutions to Enterprise and mass market customers. The company serves over 74 communities throughout Alaska. ACS has been active in Alaskan communities since the early 1990's.<sup>19</sup>

#### Bristol Bay Telephone Cooperative, Inc.

In April 1974, the APUC granted Bristol Bay Telephone Cooperative, Inc. (BBTC) a certificate to operate local service. For two years the company struggled with one telephone installer/repairperson and one office

assistant. Being under financed, under equipped and understaffed, there were literally hundreds of volunteer labor and technical service rendered by local residents to keep the operation alive.

In February of 1984, certification was granted to extend service to the villages of Levelock, Igiugig, Ekwok, New Stuyahok, and Koliganek.

In February of 1985, BBTC organized a wholly owned subsidiary called Bay Cablevision, Inc. to provide cable television for Naknek and King Salmon consumers.

In 1990, BBTC, through its other wholly owned subsidiary Aleutian Telecom, Inc., formed a partnership with GTE Mobilnet out of Houston, Texas to provide cellular telephone service in Bristol Bay.<sup>20</sup>

#### General Communications, Inc. (GCI)

GCI is an Alaska-based company providing voice, video and data communication services to residential, commercial and government customers.

Founded in 1979, GCI introduced long-distance competition to Alaska and has since grown to be one of the nation's premier integrated telecommunication providers. The company employs 1,250 Alaskans and has a current run rate of \$440 million.

GCI has a 45 percent share of the state's long-distance market, and is the state's largest provider of Internet services with dial-up, cable modem, wireless, digital subscriber line (DSL)

and dedicated access. Its cable television services pass 90 percent of the state's households with 65 percent penetration. Digital cable and cable modem service is available to 90 percent of its subscribers. The company offers facilities-based local telephone services in Anchorage, Fairbanks and Juneau, and has obtained a 20 percent statewide market share.

GCI provides various services throughout the Southwest Region, including Internet, Long Distance, and special services such as School Access and TeleHealth. The one GCI office location in the Southwest Region is situated in Kodiak.<sup>21</sup>

#### TelAlaska, Inc.

TelAlaska, Inc. is a family of companies that provides telecommunications products and services throughout Alaska. These companies include: Interior Telephone, Mukluk Telephone, TelAlaska Long Distance, Eyecom Cable, and TelAlaska NetWorks. TelAlaska provides local exchange telephone service to seven Southwest Alaskan rural communities including: Cold Bay, Dutch Harbor/Unalaska, Iliamna, Newhalen, King Cove, Port Lions and Sand Point.<sup>22</sup>

#### Nushagak Cooperative, Inc.

The early years of telephone service in Dillingham - where as many as 10 people shared a single party line - brought many complaints from residents. Nushagak Electric Cooperative stepped in and offered to start up its own telephone cooperative.

In 1974, Nushagak Telephone Cooperative purchased the formal local company and within six years had telephone service to Dillingham, Aleknagik, Clarks Point, Manokotak and Ekuk. Today, the Nushagak Cooperative has extended telephone service to Portage Creek. Subsidiary businesses include Nushagak Cable Television and NushTel Internet.<sup>23</sup>

### Unicom/United Utilities, Inc.

Unicom began in 1977 as United Utilities, Inc., a regulated telephone utility operating under a Certificate of Public Convenience and Necessity from the Regulatory Commission of Alaska. On January 1, 1984, the company was reorganized with United Companies as a parent corporation. Four affiliates; United Utilities, Manley Utility Company, United-KUC, and Unicom, Inc. are structured to meet specialized needs.

United Utilities has constructed and operates telecommunications systems in 58 communities. These systems bring United's customers in contact with others throughout the globe through a 100% digital switching network, satellite earth stations, radio, and microwave equipment. Manley Electric Company provides electrical power to the central Alaskan community of Manley. United-KUC provides telecommunications services to three Southwest communities: Togiak, Twin Hills and Unalakleet. Unicom, Inc. offers services not regulated by the Regulatory Commission of Alaska, such as cellular telephone services and Internet access.

On June 3, 2008, GCI bought UUI, KUC, and Unicom, subsidiaries of United Companies

Inc., a holding company owned by Sea Lion Corporation and Togiak Natives Limited, the Alaskan Native Village Corporations for Hooper Bay and Togiak. United Utilities and its subsidiaries are now owned by GCI Company<sup>24</sup>.

### Lifeline/Link-Up Service Programs<sup>25</sup>

Nearly every telephone customer in the United States pays into the Universal Service Fund (USF) through a federal surcharge on telephone lines. The Universal Service Fund is used to offset operating costs of telephone service providers in high-cost areas, such as Alaska. Low-income rural communities and tribal lands across America qualify for a reduction in basic telephone service charges under the federal Lifeline and Link-Up programs, funded by the USF. To qualify for Link-Up and Lifeline, a person must participate in any one of the federal assistance programs.

A person qualifying for Link-Up America will receive up to \$30 of a home phone startup fee (even if it's a cell phone), not including the cost of the phone. Link-Up also lets consumers borrow up to \$200 for set-up fees, interest-free, for up to one year. The Lifeline Assistance Program provides discounts on monthly telephone charges to qualified low-income subscribers. Federal Lifeline support is available for basic residential service and subscriber-line customers.

To qualify for Enhanced Lifeline and/or Link Up services, one must be receiving assistance from one or more of the following programs<sup>26</sup>:

- Supplemental Security Income (SSI)

- Food Stamps
- Federal Public Housing Assistance
- Low Income Home Energy Assistance
- Bureau of Indian Affairs general Assistance
- Tribally-Administered Temporary Assistance for Needy Families
- Head Start Programs (Only those meeting its income qualifying standards)
- National School Lunch Program (Free meals program only)

### Long Distance

The Regulatory Commission of Alaska certifies Interexchange Carriers (IXC) to provide long distance services in Alaska. Alaska's largest statewide carriers are AT&T Alascom and GCI. In most cases LECs providing long distance services are reselling whole-sale long distance minutes from the major carriers. Although other U.S. telecommunications companies offer Alaskans greater choice in long distance than ever before and pre-paid telephone calling cards are a popular alternative, most Alaskans still purchase long distance service from AT&T Alascom or GCI.<sup>27</sup>

It is difficult to compare long distance calling plans as features differ across carriers. As more bundled services are offered, Alaskan households and businesses can choose from packages offering Internet, cellular service, special features and long distance plans that help bring down prices. The database shows long distance prices for basic service and calling plans by community and provider. It is

important to remember that most Alaskans choose a calling plan over basic rates.<sup>28</sup>

### Cellular/Wireless Services

The major cellular providers in Alaska include: AT&T, ACS and DigiTel. Unfortunately, the availability of service within the state is concentrated within major hubs of Alaska and lie outside of the Southwest region. Currently, the Cities of Kodiak, King Cove and Cold Bay and some of the surrounding villages receive cell phone service through the abovementioned providers.<sup>29</sup>

A special note should be made regarding GCI, who is also a major provider of cell phone service in Alaska. GCI holds the distinction of providing Alaskans the most widely available wireless coverage in the state. Currently, GCI has cell phone availability in 15 communities in Southwest Alaska and plans on expanding service in the region.<sup>30</sup>

### Internet

Affordable bandwidth remains the greatest impediment to Internet service in rural areas. In a 2001 telecommunications study prepared for the Denali Commission, the most recent data available, it was reported that local telephone providers cited high costs and limited availability of satellite space to provide Southwest Alaska Internet access. Since the report was published, more rural communities in the region have been able to gain access to the Internet, but through an outdated and very slow dial-up connection. Increasing the availability and bringing high-speed Internet to the region remains a priority of SWAMC.<sup>31</sup>

In 2005, the Regulatory Commission of Alaska (RCA) conducted an inventory of Internet availability for the entire state of Alaska. Their findings revealed that 43 communities in Southwest Alaska have dial-up and/or broadband access. Nine communities in the region do not have Internet providers at all. While Internet availability, particularly broadband, was high, the cost of many high speed plans runs almost twice as much as dial-up. Moreover, many of the communities that do have broadband access can only receive the signal through a wireless connection. Wireless is a much less reliable system of Internet as opposed to a hardwire connection and the speeds are only marginally better than dial-up. GCI, Nushagak Cooperative and TelAlaska were the most notable companies for providing Internet access in the region.<sup>32</sup>

The future of bringing reliable, high-speed Internet access to Southwest Alaska is bright. At the end of 2009, \$25.3 million in federal stimulus grants were awarded to a partnership between Hooper Bay's village corporation (Sea Lion Corporation) and a telecommunications firm based in Colorado. Although Hooper Bay falls outside of the SWAMC region, the grant will affect Southwest Alaska as the partnership plans on delivering high-speed wireless Internet to more rural communities.<sup>33A</sup>

In January of 2010 the US Department of Agriculture awarded GCI subsidiary United Utilities Inc. \$88 million to bring new or expanded broadband access to their service area by 2012. This area includes portions of Bristol Bay. The award was part of the American Recovery and Reinvestment Act (ARRA).

Additionally, the Kodiak Kenai Cable Company also submitted a broadband application to ARRA in order to lay a fiber optic cable linking Kodiak Island with the western coast of Alaska, all the way up to Barrow. If funded, the project could potentially bring increased broadband access to the majority of SWAMC communities. There was still no funding announcement as of the beginning of March 2010.<sup>33B</sup>

Another exciting opportunity of extending broadband Internet to the region lies in a \$1.9 million grant the Denali Commission received in late November 2009. The National Telecommunications and Information Administration (NTIA), an entity of the U.S. Department of Commerce, awarded the grant to support a comprehensive broadband mapping initiative. The goal of the project is to increase broadband access and adoption through better broadband planning.<sup>34</sup>

### Internet and Schools

Alaska schools are in the 12th year of the "E-Rate" program. The E-Rate gives U.S. elementary and secondary schools a discount on telecommunications carrier services, including Internet access. E-Rate grants come from the federal Universal Service Fund. The reduction for telecommunications services is based on the number of students eligible for the National Free Lunch Program. Libraries and rural health care clinics also qualify for USF funding.<sup>35</sup>

These discounted rates are restricted to school, libraries, and health care facilities and cannot be used to connect homes and businesses to the

Internet, even in low-income, high-cost areas. To date, there are no federal subsidies specifically for low-income Internet connections.

### Television, Radio and Newspaper Services

At one time the only television station available in rural Alaska was the former Rural Alaska Television Network, now known as Alaska Rural Communications Service, or ARCS. In 1977, the state introduced satellite television in a few communities and by the mid-1980s operated a channel carrying a combination of commercial public television programs to 224 rural communities. By 1991, approximately 90 of those communities had their own cable television system and by 2001 the number increased to 118.<sup>36</sup>

According to a recent survey by the Alaska Public Broadcasting Joint Venture, ARCS satellite receivers are working in 164 of the communities in the database. The research indicates that ARCS is a very important source of television programming in rural Alaska. In many communities it is still the major source of news, weather and other information about Alaska. Alaska One, the statewide public broadcasting service, is on a few cable television systems and available over the air in Juneau, Fairbanks, Bethel, Kodiak, and Unalaska, as well as by translator to a few other communities. Alaska has one commercial satellite television station (known as the SuperStation).

Only a handful of rural communities do not receive a primary or translated AM or FM

signal from an Alaska radio station. Four public radio stations are on satellite.<sup>37</sup>

More and more homes now have Direct Broadcast Satellite dishes. According to 2001 estimates, the most recently available data, more than 16,000 Alaskans subscribe to DBS and about 6,000 use C-Band. The cost of DBS is decreasing as home satellite dishes get smaller.<sup>38</sup>

The following media companies and organizations offer television service to the Southwest Region<sup>39</sup>:

- Adak: Adak Cablevision
- Akutan: City of Akutan
- Aleknagik: Nushagak Cooperative
- Atka: Atxam Village Corporation
- Chignik: City of Chignik
- Clark's Point: Nushagak Cooperative
- Dillingham: Nushagak Cooperative
- Ekuk: Nushagak Cooperative
- King Cove: King Cove Corporation
- King Salmon: Bristol Bay Telephone Cooperative
- Kodiak: GCI
- Manokotak: Nushagak Cooperative
- Naknek: Bristol Bay Telephone Cooperative
- Nikolski: Nikolski IRA Council
- Old Harbor: City of Old Harbor
- Ouzinkie: Island Cable TV
- Port Lions: Eyecom Cable
- Portage Creek: Nushagak Cooperative
- St. George: St. George Traditional Council
- St. Paul: TDX Corporation
- Togiak: Frontier Cable, Inc.

- Unalaska/Dutch Harbor: Eyecom Cable

There are three major newspapers in the Southwest Region. The Kodiak Daily Mirror (Kodiak) is published Monday through Friday. The Bristol Bay Times (Dillingham) and the Dutch Harbor Fisherman (Unalaska) are both published weekly, every Thursday.

There are nine local radio stations in the Southwest Region. They are as follows:

- Dillingham: KDLG-AM, KRUP-FM
- Kodiak: KMXT-FM, KRXX-FM, KVOK-AM
- Naknek: KAKN-FM
- Sand Point: KSDP-AM
- St. Paul: KUHB-FM
- Unalaska: KIAL-AM

## Energy<sup>40</sup>

Table 8.7 clearly illustrates the different forms of house heating fuel that are utilized throughout the Southwest Region. Although there are numerous alternative energies being sought out, diesel fuel continues to be the primary source of energy in the region. Table 8.8 provides a comprehensive overview of power generation and consumption by community and utility company.

Recent state and federal rural projects replacing or upgrading tank farm facilities around Alaska are meeting with considerable success. According to a recent study conducted by the Alaska Industrial Development and Export Authority (AIDEA), upgrades and

consolidation of several farms into a single facility have reduced operating costs and helped minimize potential environmental impacts in communities.

Safe storage and timely distribution of bulk fuel is as critical as the fuel itself. All rural communities depend on well-functioning tank farms for their survival. Communities must be able to store enough fuel to meet their needs for an entire winter or face very high fuel charges for air-shipped supplies.

As a rule, state and federal dollars fund a majority of fuel storage facilities in rural Alaska. Local contributions generally comprise only a small part of the total cost of tank farm upgrades. Tank farm financing issues continue to be a major focus of statewide energy policy issues. A number of tank farm owners in rural Alaska have expressed concerns with plans to consolidate bulk fuel facilities. Along with addressing some of the technical issues, the Alaska Energy Authority is presently working

on developing an insurance pool for tank farm owners to help overcome the risk of increased liability.

There are numerous sources of power generation and different rates of consumption in the Southwest Region. Refer to Tables 8.8.A-B for a detailed summary of the diesel generating capacity, hydro generating capacity (if applicable), as well PCE rates.

The Power Cost Equalization Program (PCE), sponsored and managed by the Alaska Energy Authority, provides economic assistance to customers in rural areas of Alaska where, in many instances, the kilowatt hour charge for electricity can be three to five times higher than the charge in more urban areas of the state. The program seeks to equalize the power cost per kilowatt-hour statewide. However, even with PCE rural electric costs are 2-3 times higher than urban energy costs.

PCE is a core element to insure the financial

viability of centralized power generation in rural communities, and therefore increase the standards of living through the availability of communications, lighting, and the operation of a variety of infrastructures, including water and sewer systems, incinerators, etc.

There are numerous opportunities for the use of alternative energy sources in the Southwest Region. Studies are currently being conducted in the region to assess the potential for projects.

**Table 8.7: Home Heating Sources in Southwest Alaska**

House Heating Fuel	Aleutians East Borough	Aleutians West Census Area	Bristol Bay Borough	Dillingham Census Area	Kodiak Island Borough	Lake & Peninsula Borough	Southwest Alaska	Alaska
Bottled, Tank or LP Gas	3	61	0	4	97	5	170	4,873
Coal or Coke	0	2	0	2	0	0	4	1,090
Electricity	34	153	4	39	257	12	499	22,697
Fuel Oil, Kerosene, etc.	483	971	463	1,395	3,818	527	7,657	79,429
No Fuel Used	0	15	17	7	35	0	74	1,146
Other Fuel	6	49	2	10	115	4	186	2,416
Solar Energy	0	0	0	0	0	2	2	44
Utility Gas	0	11	0	3	44	1	59	101,703
Wood	0	6	4	43	58	37	148	8,202
<b>Total</b>	<b>526</b>	<b>1,268</b>	<b>490</b>	<b>1,503</b>	<b>4,424</b>	<b>588</b>	<b>8,799</b>	<b>221,600</b>

Source: 2000 Census

Table 8.8.A: Comparative Power Generation and Consumption by Borough or Census Area

Utility/Community	Number of Customers		Total kWh Sold (kWh)	Total Fuel Used (diesel)		Average Price of Fuel (\$/gal)	Total kWh Generated Diesel (kWh)	Total kWh Generated Non-diesel (kWh)
	Residential	Community Facilities		Gallons	Cost (\$)			
<b>Akutan Electric Utility</b>	146	10	1,732,487	181,453	\$596,325	\$3.29	1,800,172	Not Available
<b>Alaska Village Electric Cooperative</b>								Not Available
New Stuyahok	123	10	1,139,029	87,967	\$266,826	\$3.03	1,206,029	Not Available
Old Harbor	102	11	667,214	54,132	\$138,471	\$2.56	729,441	Not Available
Togiak	279	16	2,421,765	178,398	\$507,715	\$2.85	2,559,306	Not Available
<b>Alutiiq Power Company</b>								Not Available
Karluk	14	2	201,052	16,245	\$35,414	\$2.18	189,894	Not Available
<b>Andreanof Electric Corporation</b>								Not Available
Atka	28	2	314,426	57,483	\$279,062	\$4.85	404,665	Not Available
<b>Chignik Electric</b>	49	11	529,938	66,378	\$177,861	\$2.68	584,718	Not Available
<b>Chignik Lagoon Power Utility</b>	65	11	491,104	47,370	\$137,453	\$2.90	540,361	Not Available
<b>Chignik Lake Electric Utility, Inc.</b>	39	6	257,044	*	*	*	*	Not Available
<b>Egegik Light and Power</b>	71	21	606,942	65,775	\$210,580	\$3.20	714,595	Not Available
<b>Ekwook Electric</b>	52	8	431,228	35,473	\$105,048	\$2.96	136,740	Not Available
<b>False Pass Electric Association**</b>	28	9	173,061	21,317	\$52,900	\$2.48	247,784	Not Available
<b>G &amp; K</b>								
Cold Bay	34	4	2,547,653	212,996	\$797,343	\$3.74	2,697,600	Not Available
<b>Igiugig Electric Company</b>	18	11	190,153	20,524	\$84,243	\$4.10	220,728	Not Available
<b>I-N-N Electric Cooperative (Iliamna, Newhalen, Nondalton)</b>	202	16	2,534,491	42,686	\$100,297	\$2.35	528,966	2,873,124***
<b>City of King Cove</b>	184	28	3,389,031	157,496	\$374,139	\$2.38	2,167,955	2,207,180***
<b>Kokhanok Village Council</b>	50	10	429,494	41,129	\$173,552	\$4.22	505,141	Not Available
<b>Koliganek Village Council</b>	68	9	529,779	47,239	\$190,326	\$4.03	50,520****	Not Available

\*Calculations cannot be made due to lack of data or other circumstances.

\*\*Utility reported 7 months of data.

\*\*\*All kWhs generated non-diesel were generated by hydro.

\*\*\*\*3 months of data reported.

Source: AEA

Table 8.8.B: Comparative Power Generation and Consumption by Borough or Census Area

Utility/Community	Average PCE Payment per Eligible kWh (Cents)	Total kWh Sold vs. Total kWh Generated Purchased (%)	kWh Generated with Diesel per Gallon of Fuel Used (kWh/gal)	PCE Rate (cents/kWh)	Effective Residential Rate (Cents/kWh)
<b>Akutan Electric Utility</b>	20.3	90.1%	11.27	18.07	14.23
<b>Alaska Village Electric Cooperative</b>					
New Stuyahok	34.9	94.4%	13.71	31.48	23.82
Old Harbor	35.2	91.5%	13.48	32.57	24.03
Togiak	30.2	94.6%	14.35	30.73	23.69
<b>Alutiiq Power Company</b>					
Karluk	37.7	*	11.69	34.25	25.75
<b>Andreanof Electric Corporation</b>					
Atka	27.1	77.7%	7.04	23.94	31.26
<b>Chignik Electric</b>	30.7	90.6%	8.81	29.42	17.38
<b>Chignik Lagoon Power Utility</b>	22.4	90.9%	11.41	19.58	14.42
<b>Chignik Lake Electric Utility, Inc.</b>	38.6	*	*	34.24	23.92
<b>Egegik Light and Power</b>	37.8	84.9%	10.86	33.51	31.2
<b>Ekwok Electric</b>	35.6	*	*	33.66	21.34
<b>False Pass Electric Association**</b>	22.8	69.8%	11.62	24.17	26.83
<b>G &amp; K</b>					
Cold Bay	38.1	94.4%	12.67	33.51	22.15
<b>Igiugig Electric Company</b>	35.6	86.1%	10.75	34.25	26.05
<b>I-N-N Electric Cooperative (Iliamna, Newhalen, Nondalton)</b>	29.9	74.5%	12.39	28.84	16.16
<b>City of King Cove</b>	7.9	77.5%	13.77	7.12	16.88
<b>Kokhanok Village Council</b>	39.3	85.0%	12.28	34.25	25.75
<b>Koliganek Village Council</b>	37	*	*	33.82	16.18

\*Calculations cannot be made due to lack of data or other circumstances.

\*\*Utility reported 7 months of data

Source: AEA

Table 8.8.C: Comparative Power Generation and Consumption by Borough or Census Area

Utility/Community	Number of Customers		Total kWh Sold (kWh)	Total Fuel Used (diesel)		Average Price of Fuel (\$/gal)	Total kWh Generated Diesel (kWh)	Total kWh Generated Non-diesel (kWh)
	Residential	Community Facilities		Gallons	Cost (\$)			
<b>Larsen Bay Utility Company</b>	55	10	614,331	30,407	\$82,181	\$2.70	300,692	445,584***
<b>Levelock Electric Cooperative</b>	32	7	340,002	37,351	\$129,180	\$3.46	380,215	Not Available
<b>Manokotak Power Company</b>	126	6	1,150,053	66,295	\$51,657	*	1,067,400	Not Available
<b>Naknek Electric Assodation</b>								
Naknek/South Naknek/King Salmon	624	37	19,713,007	1,537,298	\$3,668,509	\$2.39	22,203,563	Not Available
<b>Nelson Lagoon Electric Cooperative</b>	47	10	390,465	34,087	\$105,741	\$3.10	754,313	Not Available
<b>Nushagak Electric Cooperative</b>								
Dillingham/Aleknagik	950	46	17,488,350	1,221,084	\$2,936,636	\$2.40	19,081,200	Not Available
<b>City of Ouzinkie</b>	76	4	672,241	41,608	\$115,484	\$2.78	486,927	270,850***
<b>Pedro Bay Village Council</b>	24	4	232,120	19,238	\$77,833	\$4.05	265,379	Not Available
<b>Pilot Point Electrical</b>	44	10	326,014	36,337	\$151,903	\$4.18	368,880	11,036**
<b>City of Port Heiden****</b>	36	4	299,908	25,669	\$107,810	\$4.20	318,628	7,396***
<b>Sand Point Electric Company</b>	290	26	3,966,836	304,671	\$986,672	\$3.24	4,212,600	Not Available
<b>St. Paul Municipal Electrical Utility</b>	154	31	5,312,195	446,870	\$1,293,065	\$2.89	6,099,979	Not Available
<b>Tanalian Electric Cooperative</b>								
Port Alsworth	51	0	564,428	56,082	\$226,863	\$4.05	623,387	Not Available
<b>Twin Hills Village Council</b>	26	5	161,049	32,640	\$128,532	\$3.94	224,600	Not Available
<b>Umnak Power Company</b>								
Nikolski	16	6	210,956	23,693	\$78,800	\$3.33	252,641	Not Available
<b>Unalaska Electric Utility</b>	685	55	35,324,687	2,441,910	\$5,787,536	\$2.37	34,819,459	Not Available

\*Calculations cannot be made due to lack of data or other circumstances.

\*\*All kWhs generated non-diesel were generated by wind.

\*\*\*All kWhs generated non-diesel were generated by hydro.

\*\*\*\*Utility reported 6 months of data.

Source: AEA

Table 8.8.D: Comparative Power Generation and Consumption by Borough or Census Area

Utility/Community	Average PCE Payment per Eligible kWh (Cents)	Total kWh Sold vs. Total kWh Generated Purchased (%)	kWh Generated with Diesel per Gallon of Fuel Used (kWh/gal)	PCE Rate (cents/kWh)	Effective Residential Rate (Cents/kWh)
Larsen Bay Utility Company	20.8	82.3%	9.89	14.15	25.85
Levelock Electric Cooperative	32.4	89.4%	10.18	31.14	18.86
Manokotak Power Company	21.5	*	*	19.58	14.42
Naknek Electric Association					
Naknek/South Naknek/King Salmon	19.3	88.8%	14.44	19.19	14.37
Nelson Lagoon Electric Cooperative	30.7	51.8%	22.13	26.70	25.30
Nushagak Electric Cooperative					
Dillingham/Aleknagik	19.1	91.7%	15.63	17.69	14.19
City of Ouzinkie	17.4	88.7%	11.70	15.03	17.52
Pedro Bay Village Council	38.8	87.5%	13.79	34.25	25.75
Pilot Point Electrical	24.9	85.8%	10.15	28.08	21.92
City of Port Heiden**	19.7	92.0%	12.41	19.72	20.28
Sand Point Electric Company	29.7	94.2%	13.83	26.94	20.84
St. Paul Municipal Electrical Utility	24.4	87.1%	13.65	22.08	18.92
Tanalian Electric Cooperative					
Port Alsworth	37.5	90.5%	11.12	33.29	27.08
Twin Hills Village Council	35.9	71.7%	6.88	34.24	20.76
Umnak Power Company					
Nikolski	34.2	*	*	33.82	16.18
Unalaska Electric Utility	11.2	90.4%	14.26	10.07	23.79

\*Calculations cannot be made due to lack of data or other circumstances.

\*\*Utility reported 6 months of data.

Source: AEA

## Endnotes

<sup>1</sup> Southwest Alaska Transportation Plan, Final Edition, Alaska Department of Transportation & Public Facilities, November 2002.

and

Southwest Alaska Transportation Plan, Revised, Alaska Department of Transportation & Public Facilities, September 2004.

<sup>2</sup> IBID

<sup>3</sup> IBID

<sup>4</sup> IBID

<sup>5</sup> IBID and Alaska Community Database, Community Information Summaries (CIS), and State of Alaska, Capital Projects Database

<sup>6</sup> Alaska Economic Information System, Alaska Department of Community and Economic Development,

[http://www.dced.state.ak.us/cbd/AEIS/AEIS\\_Home.htm](http://www.dced.state.ak.us/cbd/AEIS/AEIS_Home.htm)

<sup>7</sup> Southwest Alaska Transportation Plan, Final Edition, Alaska Department of Transportation & Public Facilities, November 2002.

and

Southwest Alaska Transportation Plan, Revised, Alaska Department of Transportation & Public Facilities, September 2004.

<sup>8</sup> IBID

<sup>9</sup> IBID

<sup>10</sup> Kizzia, Tom. "Izembek road plan back before Congress." Anchorage Daily News, September 21, 2008.

and

[http://www.alutianseast.org/index.asp?Type=B\\_BASIC&SEC={69D7E7A2-4744-47E5-9588-FDE043E4BF26}](http://www.alutianseast.org/index.asp?Type=B_BASIC&SEC={69D7E7A2-4744-47E5-9588-FDE043E4BF26})

<sup>11</sup> Alaska Administrative Code (AAC), 18 AAC 80, 70,72, and Regulation Code of Federal Regulations (CFR) 40 CFR 141, 143, 122

<sup>12</sup>

<http://www.state.ak.us/local/akpages/ENV.CO NSERV/ home.htm>

<sup>13</sup> The Updated Plain English Guide to Alaska Drinking Water and Wastewater Regulations, State of Alaska Department of Community and Economic Development, Department of Environmental Conservation, June 2002.

<http://www.commerce.state.ak.us/dca/ruba/pub/RevisedPEGuide.pdf>

<sup>14</sup> Personal correspondence with Trevor Fairbanks of the Alaska Department of Environmental Conservation

<sup>15</sup> The Updated Plain English Guide to Alaska Drinking Water and Wastewater Regulations, State of Alaska Department of Community and Economic Development, Department of Environmental Conservation, June 2002.

<sup>16</sup> State of Alaska, Division of Water, Remote Maintenance Worker Program. "2009 RMW Directory."

<http://dec.alaska.gov/water/rmw/index.htm>

<sup>17</sup> The Updated Plain English Guide to Alaska Drinking Water and Wastewater Regulations, State of Alaska Department of Community and Economic Development, Department of Environmental Conservation, June 2002.

<sup>18</sup> Telecommunications Services Inventory of Rural Alaska, Final Database and Report, Prepared for The Denali Commission, January 2001.

<sup>19</sup> <http://www.acsalaska.com>

<sup>20</sup> <http://www.bristolbay.com>

<sup>21</sup> <http://www.gci.com>

<sup>22</sup> <http://www.telalaska.com/about/history.aspx>

<sup>23</sup> <http://www.nushtel.com/>

<sup>24</sup> [http://www.unicom-alaska.com/index.php?option=com\\_content&task=view&id=127&Itemid=181](http://www.unicom-alaska.com/index.php?option=com_content&task=view&id=127&Itemid=181)

<sup>25</sup>

[http://www.lifeline.gov/lifeline\\_Consumers.html](http://www.lifeline.gov/lifeline_Consumers.html)

<sup>26</sup> <http://www.bristolbay.com/lifeline.html>

<sup>27</sup> Telecommunications Services Inventory of Rural Alaska, Final Database and Report, Prepared for The Denali Commission, January 2001.

<sup>28</sup> IBID

<sup>29</sup> [www.acsalaska.com](http://www.acsalaska.com)  
[www.wireless.att.com](http://www.wireless.att.com)

[www.akdigital.com](http://www.akdigital.com)

30

<http://www.gci.com/forhome/cellular/Rural+Alaska+Wireless+Coverage.htm>

<sup>31</sup> Telecommunications Services Inventory of Rural Alaska, Final Database and Report, Prepared for The Denali Commission, January 2001.

32

[http://rca.alaska.gov/RCAWeb/Documents/Broadband/Internet\\_connectivity-070112.pdf](http://rca.alaska.gov/RCAWeb/Documents/Broadband/Internet_connectivity-070112.pdf)

<sup>33A</sup> Bluemink, Elizabeth. “Alaska villages to get high-speed Internet.” Anchorage Daily News. December 19, 2009.

<sup>33B</sup> <http://www.northernfiberlink.info/>

<sup>34</sup> Lind, Sharon. “Alaska receives \$1.9M to Map State’s Broadband Availability.” Denali Commission. November 30, 2009.

<sup>35</sup> Telecommunications Services Inventory of Rural Alaska, Final Database and Report, Prepared for The Denali Commission, January 2001.

<sup>36</sup> IBID

<sup>37</sup> IBID

<sup>38</sup> IBID

<sup>39</sup> Alaska Department of Commerce, Community and Economic Development. Community Database Online.

[http://www.commerce.state.ak.us/dca/commdb/CF\\_BLOCK.cfm](http://www.commerce.state.ak.us/dca/commdb/CF_BLOCK.cfm)

<sup>40</sup> <http://www.akenergyauthority.org>

## Subsistence

Subsistence, defined as the customary and traditional uses of wild foods and resources, is an important aspect of the economy of Southwest Alaska. Subsistence harvests provide important nutritional, economic, social, and cultural benefits to many residents of the region.<sup>1</sup> Subsistence practices require a significant commitment of time for gathering, processing, and storing goods. Subsistence harvests add significant value to the per capita wealth of the region.<sup>2</sup>

Often equated to fishing and hunting for food, subsistence actually encompasses a wide variety of uses of wild foods and resources including the use of furs and hides for clothing, the use of wood and other fuels for heating and cooking, the use of wood and other natural materials for construction, making household goods, communal sharing, exchange for trade goods and cash, ceremonial uses, and creating arts and crafts.<sup>3</sup>

Local economies in the region are generally defined in terms of reliance on subsistence resources. Mixed cash and subsistence economies are most common, but reliance on subsistence resources accounts for a substantial portion of all economic activity and value in most communities in the region. In these communities, opportunities for year-round employment in the cash economy are limited. Subsistence practices supplement any earnings from the cash economy serve as an alternative to public assistance, and mitigate the impact of the extreme seasonality of commercial fishing, tourism and other sectors.

Subsistence is also an integral part of Alaska Native cultures. It is a strong motivator, luring the region's expatriated Native residents back to their family homes to participate in traditional activities, reconnect with family and nature, and fulfill their cultural roles as providers for their community.

Court during Exxon Valdez oil spill litigation. Assignment of economic or cash economy values to subsistence goods is controversial and often rejected by Alaska Natives. This valuation is offered as a means to integrate this important economic sector into an analysis of the regional economy and not as an assignment of true value.<sup>4</sup>

**Table 9.3: Seafood Volume and Shore-based Value by Species**

Species	Ex-vessel Value Paid	Percentage of Total Value	Lbs Purchased	Percentage	Yield (Value/Pounds Purchased)
Cod	\$75,557,559.29	11%	137,427,354	10%	\$0.55
Confidential & Other Fisheries	\$27,712,555.94	4%	36,949,201	3%	\$0.75
Crab	\$169,502,912.20	24%	61,358,903	4%	\$2.76
Halibut	\$81,960,229.06	12%	19,647,249	1%	\$4.17
Pollock	\$162,798,145.04	24%	800,859,262	58%	\$0.20
Other Groundfish	\$10,650,581.00	2%	70,738,558	5%	\$0.15
Salmon	\$161,260,391.11	23%	264,444,607	19%	\$0.61
<b>Southwest Alaska</b>	<b>\$689,442,373.64</b>	<b>100%</b>	<b>1,391,425,133</b>	<b>100%</b>	<b>\$0.50</b>

*Stephen Wright, ADF&G, Custom Data Request, Personal Communication*

Data collected in 2000 shows that on average, residents of Southwest Alaska harvested 249 pounds of wild foods, more than two and a half times the state level of only 95 pounds per person. Table 9.1 provides a comparison of subsistence harvests by boroughs and census areas for data averaged from 1983 to 2006. The more current data suggest that subsistence rates in the region have fallen by nearly 56% in only six years.

\$13 per pound was the economic value assigned to subsistence goods by the 9th Circuit

Residents of the Lake & Peninsula Borough have retained the highest level of per capita subsistence harvest of 394 pounds per person, down from 602 pounds in 2000. This also equates to the greatest estimated addition to per capita income at \$5,129 of value recovered from subsistence activities. Aleutians East Borough residents, consistent with the reduction of subsistence activities in the region, continue to have the lowest per capita subsistence harvest in the region at 75 pounds per person with an estimated economic value of \$975.

In terms of wild foods, residents of the region use salmon and other fish, land and marine mammals, birds and eggs, shellfish, and plants. Salmon, by far accounts for the largest percentage of subsistence harvests. Most of the subsistence salmon harvest is composed of sockeye salmon, but all five species of Pacific salmon are harvested. As a result of the high content of fish and meat in the traditional subsistence diet, residents consume on average nearly four times the protein found in the typical American diet.<sup>5</sup> The composition of subsistence harvests across the region is based on the presence and natural abundance of resources in each sub-region.

The regional hub communities mask the intense use of subsistence goods at the smaller community level, where per capita consumption of subsistence resources is greatest in the region's villages. Data extracted from the 2000 census shows that, in the Dillingham Census Area the City of Dillingham harvest level is 242 pounds per person, the lowest of all communities in that area. Removing the City of Dillingham from the sub-region brings the average up to 575 pounds per person, an increase of more than 55 percent. More than half (52%) of all wild food harvested in the Kodiak Island Borough is salmon. The Aleutians West Census Area has the lowest level of subsistence salmon harvest at 18 percent, however, other fish accounts for nearly one-third of the area's subsistence harvest and the highest level in the region. A wide variety of fish, shellfish, and intertidal animals are used as subsistence foods including halibut, herring, Dolly Varden, rainbow trout, crab, shrimp, chitons, sea urchins, and sea cucumbers. Land mammals such as moose,

caribou, elk and black-tailed deer are also harvested for wild food and other uses. The Bristol Bay and Lake & Peninsula Borough, and the Dillingham Census Area harvest the highest proportion of land mammals, accounting for a third or more of each area's subsistence harvests. Marine mammals are harvested in all sub-regions, but the Aleutians West harvest level is by far the highest at 27%, more than three times the harvest level of the next highest sub-region – the Aleutians East Borough. Species harvested include seals, sea lions, and whales. The Aleutians East Borough reports the highest harvest level of birds, eggs and plants. Along with the Kodiak Island Borough, Aleutians East has the highest harvest level of shellfish in the region.<sup>6</sup>

## Commercial Seafood Harvesting & Processing

Changes in regulatory practices and market-based dynamics continue to impact the Commercial Seafood Harvesting & Processing sector during the reporting period. Rationalization of the region's crab fisheries had mixed impact across the region as the number of boats and jobs decreased while prices soared and safety improved. Based on growing consumer preferences for large, unblemished carapaces, high-grading, or selecting the best of the bunch and discarding the rest, was reportedly widespread. While these impacts are still being debated, it is clear that the process of rationalization took place much quicker than regulators or fisheries stakeholders had anticipated.

While the crab industry in general appears to have improved, along with crewmen's paychecks, the full effects on local economies are still being analyzed. Some communities may have actually seen an increase in economic activity due to a longer fishing season and crew with more disposable income. Additionally, processors have the ability to better manage their labor force due to the more structured supply of crab being delivered. Undoubtedly, other local economies have been hurt by rationalization. Many crews and boats were forced into early retirement, which meant less employment for communities and active consumers to support local businesses. Another negative impact is the ability for owners to siphon large percentages of the profits off the top without actually having to be on the boat. The impacts of this are yet to be determined, as there could be positive benefits of safer, more efficient and comfortable vessels due to higher rates of reinvestment; however, there could also be a greater percentage of money being extracted from the economy as many boat owners live outside of the State. More data will be required in the future to weigh the true impacts of rationalization on local economies.

Increased marketing efforts and consumer preferences have shifted strongly in favor of wild seafood products and fresh or fresh frozen product forms. These trends bode well for the region's core economic sector, which seem to be paying off in higher prices for a number of species including salmon, halibut, black cod, and crab. The Fresh/Slow Food movement, tightly aligned with a trend toward greater sustainability, has spread from a niche market into a global understanding, putting upward pressure on prices of well managed, healthy

and sustainable species of Alaska seafood. A challenge that could present itself in the marketing realm is that the large amount of publicly held debt will create pressure for Alaska's congressional leaders in continuing efforts to secure federal dollars to subsidize Alaska's seafood marketing campaign. The trends over the past decade point to continued strength for funding of Alaska's seafood industry, even if the effort receives greater support from a wealthier, smaller group of fishermen.

Over the last decade the decreased value of Chilean farmed salmon has led to a positive pressure on prices for Pacific salmon, even during the dual recessions which rocked the US economy and countered to bring salmon prices down. The primary cause for the reduction of output of Chilean farmed salmon is due to a disease that decimated farms.

The Magnuson-Stevens Act (MSA) was reauthorized by Congress in December of 2006. Among the several amendments made in the reauthorization, the Limited Access Privilege Program (LAPP) includes provisions stating that individuals, corporations, communities, and regional fishery associations "may hold privileges"; initial allocations must be "fair and equitable"; and the acquisition of excessive shares must be prevented. LAPP has recently been used in place of Individual Fishing Quota and Individual Transferable Quota, since this new term encompasses both individuals and communities who may be eligible to receive an allocation of a portion of the Total Allowable Catch.

Key issues for the seafood sector that the Comprehensive Economic Development Strategy (CEDS) Committee identified include: maintaining resident participation levels in all fisheries; improving processing capacity to provide higher value product forms; searching for new market and product development opportunities; increased education and awareness campaigns surrounding the benefits of Alaska seafood; improving regional infrastructure to accommodate movement of product to market; maintaining an equitable regulatory and management regime; and addressing continuing environmental issues that may impact regional fisheries.

Isolating the economic activity for commercial seafood harvesting and processing in Southwest Alaska is complicated by the myriad management and reporting structures for the sector. Additionally, for some boroughs and census areas and for some fisheries throughout the region, the ADF&G and the Commercial Fisheries Entry Commission (CFEC) can't report landings or estimated earnings due to confidentiality requirements. These complications lead to incomplete data that must either be ignored or imputed to develop a more complete estimate. Notwithstanding these limitations, there are numerous sources of information and various indicators that approximate the historical and recent activity in the sector.

Commercial seafood harvesting and processing is divided among shore-based and at-sea processors. Shore-based processors report processing activity to the ADF&G. A substantial portion of the Bering Sea/Aleutian Islands EEZ fisheries is allocated to at-sea

processors employ some residents of the region and work in partnership with Community Development Quota organizations (CDQs) to harvest and process CDQ allocations. As the name implies, the at-sea allocation is processed on large at-sea processors that don't deliver to processors in the region. These harvests are transported direct to market distribution points and generally bypass the region's ports and communities.

### Shore-based Processing

Shore-based processors report the number of pounds purchased and ex-vessel value by species to the ADF&G via the Commercial Operators Annual Report (COAR). Table 9.2 shows that in 2008, for all species, shore based processors in the region reported purchases of 1.39 billion pounds, at an ex-vessel value of \$683 million (2010 dollars). A comparison of value over the past eight years reveals the increased value fishermen received for their catch since the low prices of the early 2000's. Both prices paid in the round to fishermen at the docks, the ex-vessel price, as well as Direct Marketing point to a substantial stronger market for the region's seafood. Table 9.2 depicts that there has been a steady and substantial increase in the ex-vessel value of the regional catch from 2000 until 2008, with 2007 the only year that saw a reduction on year to year value.

Sub-regions with a high degree of participation in groundfish fisheries or diversified fisheries reported the highest level of activity in the sector. The Dutch Harbor District typically accounts for the greatest proportion of poundage landed and ex-vessel value of the

seafood harvest in the region. In terms of value, harvests in the Kodiak Island Borough yielded a greater return per pound than any other sub-region due to their halibut, crab, and salmon fisheries and the closer proximity of the fishing grounds to export markets.

Table 9.3 illustrates the composition of shore-based processing in the region by species in terms of pounds purchased. Twenty different fisheries are combined into the *Confidential & Other Fisheries* category, which add to 3% of the total and value and 4% of the total catch, with an above average value of 75 cents per

pound. These fisheries include scarlet king crab, eels or eel-like fish, general flounder, Atka mackerel, grenadier, general groundfish, lingcod, lumpsucker, prowfish, redbanded rockfish, sardine, sculpin, sea cucumber, general shark, Pacific sleeper shark, salmon shark, longnose skate, English sole, yellowfin sole, and squid.

**Table 9.2: Seafood Purchases and Value in 2010 Dollars**

Year	Lbs Purchased	Real Ex-vessel Value (2010 \$)	Real Yield/#	% Change from Last Year
2000	1,240,946,934	\$375,712,262	0.30	-
2005	1,754,167,361	\$507,434,841	0.29	25%
2006	2,059,028,564	\$600,811,679	0.29	15%
2007	1,640,415,116	\$592,399,192	0.36	-14%
2008	1,391,425,133	\$693,874,212	0.50	15%

*Stephen Wright, ADF&G, Custom Data Request, Personal Communication*

Pollock accounts for 58% of all shore-based processing by pounds purchased. While this is by far the largest volume of any species fished, this percentage down from 75% in 2002. The years between 2002 and 2008 have seen a dramatic reducing of harvestable fish during these years, as is supported by the data. The Pollock fishery accounts for only 24% of the value of all species, at an average yield of only 20 cents per pound.

**Table 9.3: Seafood Volume and Shore-based Value by Species**

Species	Ex-vessel Value Paid	Percentage of Total Value	Lbs Purchased	Percentage	Yield (Value/Pounds Purchased)
Cod	\$75,557,559.29	11%	137,427,354	10%	\$0.55
Confidential & Other Fisheries	\$27,712,555.94	4%	36,949,201	3%	\$0.75
Crab	\$169,502,912.20	24%	61,358,903	4%	\$2.76
Halibut	\$81,960,229.06	12%	19,647,249	1%	\$4.17
Pollock	\$162,798,145.04	24%	800,859,262	58%	\$0.20
Other Groundfish	\$10,650,581.00	2%	70,738,558	5%	\$0.15
Salmon	\$161,260,391.11	23%	264,444,607	19%	\$0.61
Southwest Alaska	\$689,442,373.64	100%	1,391,425,133	100%	\$0.50

*Stephen Wright, ADF&G, Custom Data Request, Personal Communication*

**Table 9.6: Salmon Harvest in Bristol Bay**

Bristol Bay					
Salmon Species	2000	2005	2006	2007	2008
Chinook	360	1,263	1,796	847	383
Sockeye	125,450	155,010	164,500	173,334	159,887
Coho	960	523	511	335	754
Pink	210	9	542	5	1,013
Chum	2,620	9,108	13,807	11,751	7,831
<b>Total (All Salmon)</b>	<b>129,600</b>	<b>165,913</b>	<b>181,156</b>	<b>186,272</b>	<b>169,868</b>

<http://www.cf.adfg.state.ak.us/geninfo/finfish/salmon/catchval/blusheet/08exves1.php>

By far the most valuable species fished is halibut, which comprise only 1% of the total catch, but account for 12% of the total value of all species caught. The 2008 ex-vessel value of a pound of halibut yielded a value of \$4.17. Another notable species is the crab, which are only 4% of the total catch, but 24% of the total value. An interesting comparison of the salmon data shows it is the second highest species by poundage, accounting for 19 percent of onshore processing. This is a substantial increase from 9% of total catch in 2002.

Besides the reduction in the pollock fishery, the substantial increase in the volume of salmon is accounted for in the larger catch of sockeye salmon in Bristol Bay, as shown in Table 9.6, breaking out of nearly a decade of depleted runs that plagued the district during the late 90's and early 2000's.

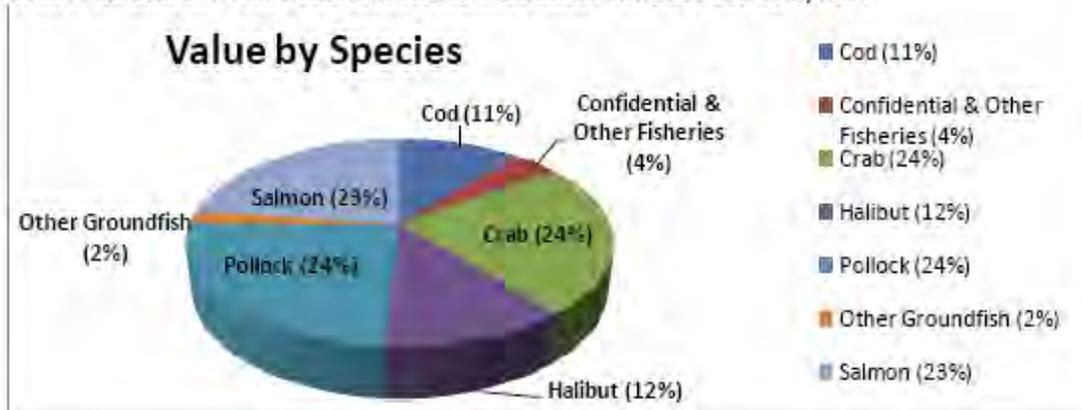
Shore based processing capacity contracted sharply in the years preceding 2003; 15 processors ceased operations representing nearly a one-third reduction in the number of processors in the region. This coincides with a

**Table 9.7: Southwest Alaska Commercial Seafood Industry Processors, 2003-2008**

Borough/Census Area	2003 Processors	2004 Processors	2005 Processors	2006 Processors	2007 Processors	2008 Processors
Aleutians East Borough	2	2	2	2	2	3
Aleutians West Census Area	17	14	13	14	11	12
Bristol Bay Borough	11	11	13	10	12	12
Dillingham Census Area	5	8	9	6	7	7
Kodiak Island Borough	15	16	16	16	16	14
Lake & Peninsula Borough	5	6	7	5	6	6
<b>Southwest Alaska Total</b>	<b>55</b>	<b>57</b>	<b>60</b>	<b>53</b>	<b>54</b>	<b>54</b>

ADF&G COAR Database 2009; Mike Plotnick, ADF&G, Custom Data Request, Personal Communication

**Chart 9.1: Market Value of Southwest Alaska Shore-based Processors, 2008**



continued contraction of Alaska's seafood market for the period; however, between the years of 2003 to 2008, processing capacity appears to have stabilized. Chart 9.1 shows that at 24% each crab and pollock represent the most value by species of shore-based processors in the region, followed closely by salmon (23%). The largest consolidation of the seafood market in this timeframe was the rationalization of the crab industry, which saw the fleet size dramatically reduced; however, due to verbiage in the enacted rationalization, processors were able to retain processing quota based on the years leading up to the new regulations. More data is needed to justify this

claim, but regardless, processing capacity for the region appeared to have stabilized.

One district within the region that appears to have lost capacity is the Aleutians West Census Area; falling from 17 to 12 processors between 2003 and 2008, a reduction of 29%, as can be seen in Table 9.7. While each district shows some variation over the time horizon, Aleutians West Census Area appears have a sustained loss of capacity. Floating processors, which are not recorded on this graph, may have an impact in the area due to their flexibility to follow the fishing open seasons. Table 9.8 displays fishing effort in the region by explaining the number of permits fished, and some values earned for those permits. Some caution is advised when reading the table to understand that the table includes many regions, fisheries and gear types. The average earnings per permits in 2008 in the Kodiak Island Borough was \$183,143, while the earnings per permit in

the Dillingham Census Area was only \$30,494. Permits fished in each district held steady between 2005 and 2008, and the percentage of permits is similar, but the earned value is more than \$152,000 different between regions. The likely reason for this is that the Dillingham Census Area most likely includes fisheries such as salmon and halibut, where fishermen spend less consecutive days on the water and operate a much smaller operation, while the permits in the Kodiak Island Borough are most likely larger operations. In general, however, Table 9.8 provides a good overview of the effort in the region. Between 2005 and 2008 the relative number of permits fished and total pounds landed remained fairly consistent while the earnings per permit showed a trend towards greater earnings, rising from \$60,750 in 2005 to \$107,147 in 2008.<sup>7</sup>

In the preceding years leading up to 2008 the consolidation of the Bering Sea Crab fisheries removed a great deal of over capacity, which

led to a leaner, more efficient fleet. This dramatic fleet reduction has somewhat stabilized the fleet size in the region, but should not be assumed to be a long term stabilization of the fleet. The net effect of fleet reduction, fleet improvements, and temporal changes in fisheries may not equate to a reduction in overall effort on the fishing grounds of the region. Many fisheries, including most crab and salmon fisheries are considered over capitalized. Efforts are underway on the federal and state levels to develop strategies to further reduce the fleet and effort in these over capitalized fisheries. In fisheries such as salmon and cod, permits could be issued and stacked on boats as to distort the actual number of jobs available, even though remaining operations would be more profitable. Further consolidation of the industry can be expected, even if the effects are not immediately apparent.

### Salmon Fisheries

The salmon resources of Southwest Alaska were the economic mainstay of the region for many centuries. Salmon was (and remains) the core of subsistence diets since the first human occupation of the region more than 9,000 years ago. It was the basis for the beginning of a lasting cash economy in the region when the first psalteries and canneries were established in the 1880s.<sup>9</sup> A period of federal management began with the purchase of Alaska from Russia in 1867 and continued until statehood in 1959. This period is a testament to the fecundity and resilience of the region's salmon resources. Over fishing, lax management, and little to no

**Table 9.8: Fishing Permits, Landings and Earnings**

Year	# Permits Fished	% Permits Fished	Total Pounds Landed	Estimated Gross Earnings	Earnings per Permit
1990	3,962	68.8%	407,080,036	\$250,276,660	\$63,169
2000	2,600	60.8%	346,843,067	\$150,722,708	\$57,970
2005	1,866	52.2%	440,432,710	\$113,359,754	\$60,750
2006	1,832	55.9%	427,822,464	\$109,805,169	\$59,937
2007	1,839	58.3%	406,386,629	\$175,174,932	\$95,256
2008	1,901	59.9%	375,942,483	\$203,686,756	\$107,147

<http://www.cfec.state.ak.us/gpbycen/2008/mnu.htm>

*Does not include Confidential Information*

enforcement of what few laws existed nearly “Fish politics” fueled much of the drive for statehood. Fish traps, assertions of Native rights, and the desire for self-determination and local control spurred on the statehood effort. The power of fishing interests is reflected in the state constitution which contains provisions for the conservation and sustainable management of fisheries resources.<sup>10</sup> Alaska is the only state in the Union with such a constitutional mandate. Under state management, salmon runs were restored or rehabilitated and generally came to be considered one of the best managed fisheries in the world. Even so, salmon fisheries occasionally experienced poor returns or unfavorable market conditions.

Southwest Alaska is home to some of the most prolific salmon fisheries in the world. Sockeye runs in Bristol Bay, the Alaska Peninsula, and the Kodiak Archipelago are world-renowned. For many years, market returns for Alaska salmon resulted in ever-increasing demand and price premiums. The development of foreign-farmed salmon began changing the dynamics of the world market for salmon in the late-1980s and early 1990s. By the mid- to late-1990s, a glut of farmed salmon from Chile, Canada, and Scandinavia began to dominate the marketplace, supplanting Alaska salmon through product standardization, increased availability, and low prices. The impact of these market changes was initially devastating in Southwest Alaska, particularly in those sub-regions with a high degree of dependency on salmon fisheries.

From 1994 to 2002, in terms of poundage, harvests for all species of salmon except pinks

resulted in the decimation of some runs. had dramatic declines. Harvested poundage declined more than 45 percent over the period, however, peak harvests were realized in 1995 and 1999 when pink and sockeye production greatly exceeded expectations.<sup>11</sup> Variations in salmon runs account for some of the harvest variances, however, unfavorable market conditions and reduced effort account for the majority of declines.

is Chignik Sockeye, which were in steady decline between 2000 and 2008, falling 64% in that timeframe, and declining in each of the recorded years.<sup>13</sup>

While the market for wild Alaskan salmon was severely driven down from the highs of the late 1980’s until the early 2000’s by the glut of farmed salmon, overall awareness and demand

**Table 9.9: Southwest Salmon Harvest (In Thousands of Pounds)**

Salmon Species	2000	2005	2006	2007	2008
Chinook	730	1,682	2,228	1,207	640
Sockeye	178,370	212,449	202,829	223,539	198,242
Coho	6,920	5,034	6,883	4,990	6,958
Pink	44,780	133,707	137,395	128,466	88,011
Chum	22,190	18,114	33,232	24,213	24,343
<b>Total (All Salmon)</b>	<b>252,990</b>	<b>370,986</b>	<b>382,567</b>	<b>382,415</b>	<b>318,194</b>

<http://www.cf.adfg.state.ak.us/geninfo/finfish/salmon/catchval/blusheet/08exvesl.php>

No clear trends can be seen region wide in harvests of all species of salmon in the recording period from 2000 to 2008. Table 9.9 shows, in very general terms, the 2000 season seems to have had a low harvest of 252,990 fish, before harvest levels jumped up until 2008, before falling to 318,194. A closer look points to dramatic increases in the harvest of Bristol Bay sockeye (see Table 9.6), following nearly a decade of depressed runs. Large increases in Kodiak Pink Salmon between 2005 and 2007 accounted for the large gains in harvest levels until 2008 when harvest fell by nearly 64%. Another category to take note of

for wild Alaskan salmon has been driven up by increased awareness and quality. As Table 9.10 illustrates, the time period from 2000 to 2008 saw a slow and steady increase in market value of Southwest Alaska salmon, amounting to about 29% over the eight years. As the market for wild salmon improves against farmed salmon through the decade, prices have increased throughout the region, from the lows of the early 2000’s when some districts were ready to proclaim economic disaster. 2008 saw prices not seen for salmon in more than 10 years and some niche markets for direct

marketing and specialties, such as smoked fish are yielding higher prices than ever before.

In general, permit values in the region appear to have stabilized, while some region's gear types have increased in value from lows, and others

have declined slightly in the years leading to 2009, as shown in Table 9.11. Chignik Purse Seine saw the most dramatic fall in value from \$416,667 to \$70,800, a decrease of 83% and the only district and gear type to sustain losses each of the recorded years. Each of the other categories fell in value through the 1990's and up to 2005 before the market hit bottom and resurrected. Since 2005 all permits except Chignik Purse Seine and Kodiak Beach Seine have increased or stabilized in value up to 2009. Chart 9.2 demonstrates the values of Southwest Alaska's salmon fishing permits.

**Table: 9.10: Southwest Salmon Value (In Thousands of Dollars)**

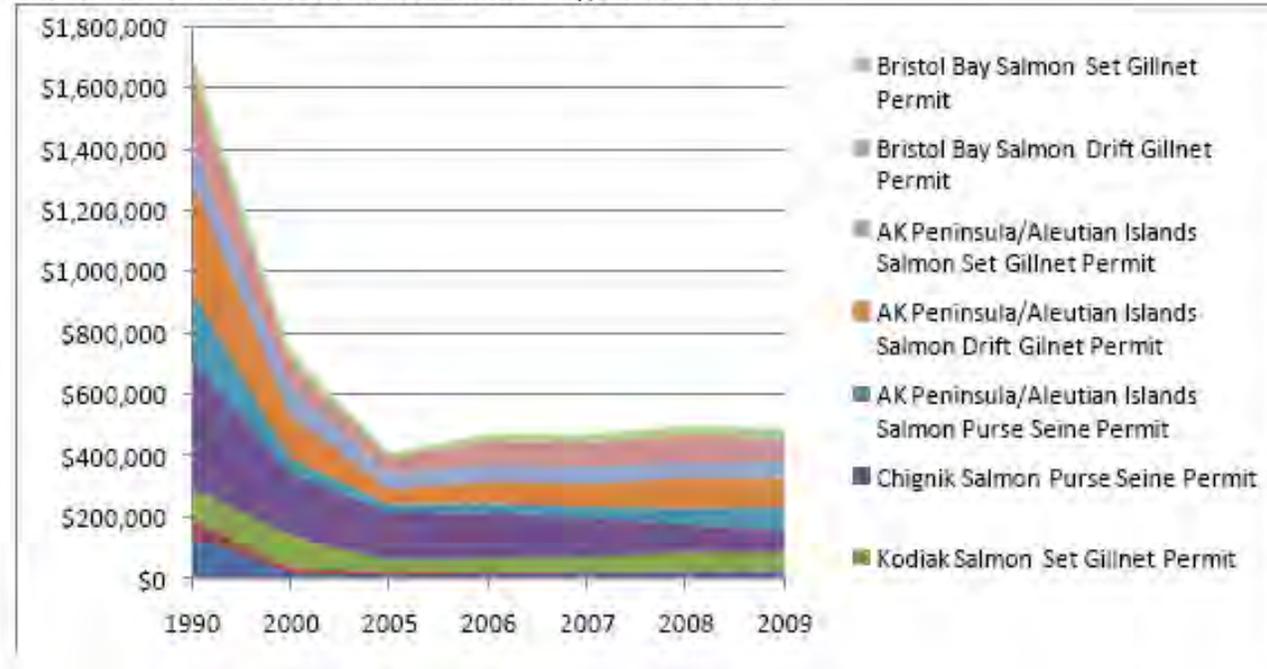
Salmon Species	2000	2005	2006	2007	2008
Chinook	\$390	\$1,003	\$1,631	\$789	\$560
Sockeye	\$125,660	\$134,426	\$135,675	\$155,664	\$152,651
Coho	\$2,530	\$2,029	\$3,755	\$2,351	\$5,262
Pink	\$5,110	\$15,736	\$21,371	\$23,652	\$27,567
Chum	\$3,400	\$2,592	\$6,348	\$4,758	\$7,759
Total (All Salmon)	\$137,090	\$155,786	\$168,780	\$187,214	\$193,799

<http://www.cf.adfg.state.ak.us/geninfo/finfish/salmon/catchval/blusheet/08exvesl.php>

**Table 9.11: Southwest Alaska Salmon Fishing Permit Values**

Year	Kodiak Purse Seine Permit	Kodiak Beach Seine Permit	Kodiak Set Gillnet Permit	Chignik Purse Seine Permit	AK Peninsula & Aleutian Islands Purse Seine Permit	AK Peninsula & Aleutian Islands Drift Gillnet Permit	AK Peninsula & Aleutian Islands Set Gillnet Permit	Bristol Bay Drift Gillnet Permit	Bristol Bay Set Gillnet Permit
1990	\$148,563	\$46,000	\$107,500	\$416,667	\$226,667	\$355,962	\$121,667	\$216,033	\$65,179
2000	\$20,400	\$16,400	\$107,800	\$200,000	\$48,800	\$146,400	\$88,900	\$80,500	\$32,400
2005	\$14,300	\$10,000	\$37,800	\$159,600	\$24,000	\$47,400	\$50,500	\$51,200	\$15,100
2006	\$18,000	\$5,600	\$45,400	\$146,500	\$31,000	\$73,100	\$56,800	\$75,000	\$22,400
2007	\$21,300	\$3,100	\$46,900	\$131,500	\$33,200	\$74,700	\$57,400	\$79,400	\$24,000
2008	\$24,200	\$3,500	\$59,600	\$91,300	\$53,900	\$97,900	\$51,300	\$89,800	\$27,400
2009	\$26,000	\$3,500	\$60,400	\$70,800	\$73,800	\$98,000	\$51,300	\$78,300	\$28,200

[http://www.cfec.state.ak.us/mnu\\_Permit\\_Values.htm](http://www.cfec.state.ak.us/mnu_Permit_Values.htm)

**Chart- 9.2: Southwest Alaska Salmon Fishing Permit Values**

Beginning at the peak of the salmon market in 1988, prices for salmon plummeted until the early 2000's, ushering a restructuring of the industry. In general this has meant that fishermen that were only doing marginal in this timeframe have been forced out of the business, leaving a more efficient fleet of better, more productive fishermen. Market forces have assisted in removing marginal fishermen who did not diversify into other industries and failed to reinvest in their operation and gear. Nearly every district in the Southwest Alaska region has a fleet of derelict vessels and permits that

are not being fished. The effort for consolidation has had regulatory assistance in the form of permit stacking, government buyback of permits and allocating the fishery through quotas; policies that will most surely be applied in the future to remove excess slack from fisheries.

### EEZ Groundfish Fisheries

The development of the groundfish fisheries in the Bering Sea and elsewhere in Alaska was spurred by encroachment of international

fishing interests from Japan, Russia, Korea, and other nations. Communities in Southwest Alaska were initially concerned that these foreign fleets were harvesting anadromous species at-sea. The passage of the Magnuson Act in 1976 established the Exclusive Economic Zone (EEZ) and set the groundwork for groundfish fisheries in Alaska. However, it would be nearly a dozen years before the fisheries would be "Americanized". Between 1976 and 1988 American "the factory trawlers" was developed. These factory trawlers were identical to the kinds of ships used by foreign interests in the harvest and processing of Alaska pollock, the most lucrative fishery.<sup>14</sup>

Once the eastern Bering Sea pollock fishery was totally Americanized, the fight was on between the factory trawlers and the Alaska onshore processors over who got the fish.

From 1988 to 1991, the fishery was wide-open with factory trawlers harvesting 80 percent of the pollock allocation. However, SWAMC communities and shore-based processors lobbied the NPFMC for a greater share of the resource. A four year debate ensued over divvying up the Pollock quota among factory trawlers, factory ships that did not trawl (motherships) but used accompanying catcher boats, and onshore processing plants, and all manner of arrangements in between. By 1992, the debate over the allocation of pollock was largely resolved. The NPFMC awarded 65 percent of the pollock to offshore trawlers, 35

percent to onshore processors, and half of a “reserve quota” to 56 Alaska villages adjoining the Bering Sea, which laid the groundwork for the development of the Western Alaska Community Development Quota Program (CDQ).<sup>15</sup>

The groundfish fisheries have been critical to the economic development and survival of the region. By diversifying into groundfish, the overcapacity of the consolidating salmon, crab and halibut industries has assisted the region to become more able to adapt to change. Groundfish fisheries assisted in this reallocation of resources, but due to geography,

politics, and capabilities, not all sub-regions in Southwest Alaska have participated in the groundfish fisheries.

As seen in Table 9.12 an examination of the geographic distribution of groundfish landings reveals that on average in 2008, 80% are harvested in the Bering Sea/Aleutian Islands (BSAI) area, while 20% of groundfish are harvested in the Gulf of Alaska (GOA). In their attempt to manage the catch of Alaska’s groundfish, the North Pacific Fisheries Management Council (NPFMC) has limited groundfish harvests to a two million metric ton cap per year.

Table 9.12 reveals an interesting fact that the value of the groundfish harvest has been trending towards increasing percentage for the GOA fishery. However, while GOA has gained proportionately to BSAI, both have dramatically increased in value over the recorded years, gaining 33% and 27% respectively.

**CDQs**

Three of the six CDQ groups established by the pollock allocation process are in Southwest Alaska: the Aleutian/Pribilof Islands Community Development Association (APICDA), the Bristol Bay Economic Development Corporation (BBEDC), and the Central Bering Sea Fisherman’s Association (CBSFA). These three organizations represent 24 of the 65 communities under the CDQ umbrella (within a fifty mile radius of the Bering Sea coast). The CDQ program allocates a portion of the Bering Sea and Aleutian Island harvest amounts to CDQ groups, including pollock, halibut, sablefish, Atka mackerel, Pacific cod, and crab. There are no significant amounts of salmon allocated.<sup>16</sup>

The purpose of the CDQ program is to promote fisheries related economic development in western Alaska. This is accomplished by providing the CDQ communities with a means to participate in EEZ fisheries and develop fisheries-related opportunities and investments. The program is loosely modeled after ANCSA. CDQ organizations operate on a business model, acquiring assets, developing businesses, and making investments in fisheries and fisheries-related activities.<sup>17</sup>

**Table 9.12: GOA & BSAI Ex-Vessel Values**

	Gulf of Alaska (GOA)			Total	% of Total GOA & BSAI	GOA and BSAI Total
	Catcher Vessels	Catcher Processors	Shoreside			
2004	\$106.6	\$17.5	\$29.5	\$153.6	18.6%	\$823.9
2005	\$120.2	\$18.6	\$34.1	\$172.9	17.8%	\$969.8
2006	\$133.1	\$22.8	\$46.5	\$202.4	19.0%	\$1,064.7
2007	\$134.5	\$24.3	\$52.4	\$211.2	20.5%	\$1,029.7
2008	\$156.0	\$23.9	\$50.7	\$230.6	20.1%	\$1,149.1
	Bering Sea/Aleutian Islands (BSAI)			Total	Total	GOA and BSAI Total
	Catcher Vessels	Catcher Processors	Shoreside			
2004	\$214.4	\$289.8	\$166.1	\$670.3	81.4%	\$823.9
2005	\$245.8	\$360.0	\$191.1	\$796.9	82.2%	\$969.8
2006	\$269.1	\$393.4	\$199.8	\$862.3	81.0%	\$1,064.7
2007	\$250.7	\$389.5	\$178.3	\$818.5	79.5%	\$1,029.7
2008	\$282.9	\$411.4	\$224.2	\$918.5	79.9%	\$1,149.1

*NPFMC, Economic SAFE, December 2009, \$ Millions*

CDQs are required to submit community development plans to the State of Alaska. Based on those plans, the State develops recommendations and NMFS periodically allocates percentages of each species to CDQ groups. Table 9.13 outlines CDQ allocations for pollock and Table 9.14 illustrates the scope of the CDQ allocation process for all groundfish and shellfish species. The CDQ program was granted perpetuity status in 1996 as part of the MSA reauthorization.

**Table 9.13: CDQ Allocations for Pollock**

CDQ Pollock Allocations (MT)	APICDA	BBEDC	CBSFA
2010	11,648	17,113	4,075
2009	11,676	17,514	4,170
2008	14,266	21,399	5,095
2007	19,782	29,673	7,065
2006	21,056	31,584	7,520
2005	20,965	31,447	7,487

[http://fakr.noaa.gov/cdq/current\\_historical.htm](http://fakr.noaa.gov/cdq/current_historical.htm)  
Metric Tons

According to Alaska State Department of Commerce Community and Economic Development (DCCED), approximately 9,000 jobs have been created for western Alaska residents with wages totaling more than \$60 million since 1992.<sup>18</sup> The CDQ program has contributed to fisheries infrastructure development in western Alaska, as well as providing vessel loan programs; education, training and other CDQ related benefits.

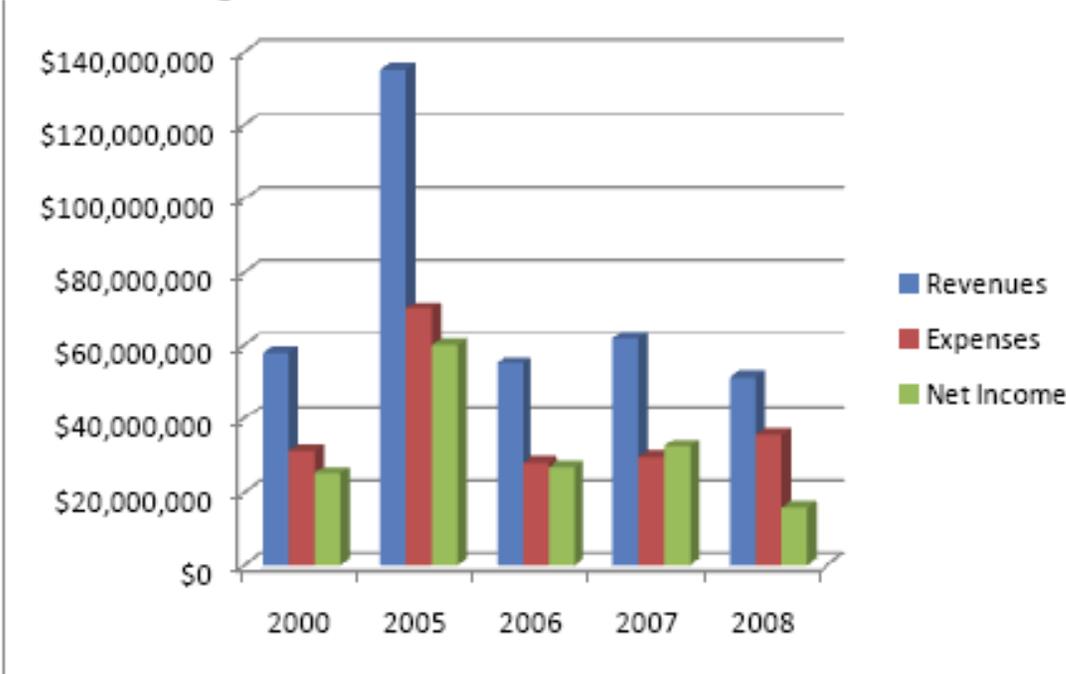
Due to confidentiality requirements, the state does not report individual CDQ earnings. Chart 9.3 shows aggregated CDQ revenues, expenses and net incomes from 2000-2008.<sup>19</sup>

**Table 9.14: Allocation of All CDQ Groundfish and Shellfish**

Species or Species Group	APICDA	BBEDC	CBSFA	Species or Species Group	APICDA	BBEDC	CBSFA
<b>Groundfish CDQ Species</b>				<b>Groundfish CDQ Species</b>			
Bering Sea (BS) Pollock	14%	21%	5%	Flathead Sole	20%	21%	9%
Aleutian Islands (AI) Pollock	14%	21%	5%	WAI Pacific Ocean Perch	30%	15%	8%
BS FG Sablefish	15%	20%	16%	CAI Pacific Ocean Perch	30%	15%	8%
AI FG Sablefish	14%	19%	3%	EAI Pacific Ocean Perch	30%	15%	8%
BS Sablefish	21%	22%	9%	<b>Prohibited Species</b>			
AI Sablefish	26%	20%	8%	Zone 1 Red King Crab	24%	21%	8%
Pacific Cod	15%	21%	8%	Zone 1 Bairdi Tanner Crab	26%	24%	8%
WAI Atka Mackerel	30%	15%	8%	Zone 2 Bairdi Tanner Crab	24%	23%	8%
CAI Atka Mackerel	30%	15%	8%	Opilio Tanner Crab	25%	24%	8%
EAI/BS Atka Mackerel	30%	15%	8%	Pacific Halibut	22%	22%	9%
Yellowfin Sole	28%	24%	8%	BS Chinook Salmon	14%	21%	5%
Rock Sole	24%	23%	8%	AI Chinook Salmon	14%	21%	5%
BS Greenland Turbot	16%	20%	8%	Non-Chinook Salmon	14%	21%	5%
Arrowtooth Flounder	22%	22%	9%				

2008 CDQ Allocations for EEZ Groundfish and Other Species

**Chart 9.3: CDQ Financial Performance**



At the outset of the program, CDQ groups were not equipped to directly participate in the EEZ groundfish fisheries. In order to generate revenue from the CDQ allocations, the groups developed partnerships with AFA at-sea processors. The at-sea processors catch and process the CDQ allocations and pay royalties to the CDQ groups. Table 9.15 shows the sources of CDQ revenues from 2004 to 2008. Royalty income has accounted for the majority of revenues throughout the ten year course of the program; however, CDQs are developing other revenue sources through business investments, joint ventures, and other partnerships.

The high rate of return among CDQs has provided sufficient capital to invest in numerous assets and businesses. APICDA, BBEDC, and CBSFA have all invested in Catcher/Processors and Catcher Vessels through outright ownership or partnerships with at-sea processors. BBEDC purchased a 50% equity stake in Ocean Beauty Seafood, Inc. in April, 2007. This investment allows vertical integration of the BBEDC resources such as crab, salmon, halibut and groundfish with the largest salmon processor in the State of Alaska and affords the maximum utilization of these resources. APICDA has invested in shore-based processing facilities and similar investments are being pursued by other CDQs.

CDQs will undoubtedly continue to play an important role in the economic development of the region. However, the program does have some limitations. Although it was modeled after ANCSA, the program is more restrictive in the sense that there is greater government oversight of all business activities; not all

**Table 9.15: CDQ Sources of Revenue**

Species	Total Pounds (Millions)	Percentage
Shellfish (25%)	20.27	25.50%
Salmon (1%)	0.36	0.45%
Herring (42%)	33.46	42.10%
Groundfish (32%)	25.22	31.80%
<b>Total</b>	<b>79.31</b>	<b>100%</b>

<http://www.cf.adfg.state.ak.us/region4/rgn4home.php>

communities in a given area participate in the program (particularly for BBEDC); and earnings must be reinvested in fisheries or fisheries-related activities. SWAMC supports the efforts of CDQs to pursue changes in the structure of the program that will give greater local options and expanded opportunities for diversified economic development. CDQs also have statutory mandates to provide local employment, training, and other forms of community involvement to ensure that the benefits of the program accrue to the communities of Western Alaska.

### Top U.S. Fishing Ports

NMFS reports the top U.S. fishing ports for pounds landed and ex-vessel value each year. Unalaska and Kodiak are consistently ranked in the top ten for both measures.<sup>20</sup> In 2008, Unalaska ranked second for ex-vessel value and first for pounds landed. Kodiak ranked third for ex-vessel value and third for pounds landed. Naknek-King Salmon is also a top ranked port, ranking 7th for ex-vessel value and 5th for pounds landed. Since 1990, other ports

in Southwest Alaska have also appeared on the list from time to time. Dillingham, Egegik, and Pilot Point-Ugashik, have been included on the list. However, only Unalaska, Kodiak, and Naknek-King Salmon have been top ranked throughout the period. Table 9.16 enumerates the top 10 U.S. ports and selected Alaska ports reported by NMFS.

Throughout the next planning cycle, SWAMC will focus on advocating for fisheries management and policies that recognize the communities of the region and serve to retain the wealth generated from the region's fisheries within the region. Additionally, effort will be made to engage the environmental community in such a manner as to prevent lawsuits and other legal actions that may adversely impact the region. Other fisheries development activities will include supporting efforts to increase seafood marketing, develop increased direct marketing of value-added seafood from the region, and the development of new fisheries and seafood markets.

**Table 9.16: Top US Fishing Ports by Landings Value (\$)**

2008 Rank	Port	2008		2007		2006	
		Value (\$ Million)	Lbs (Million)	Value (\$ Million)	Lbs (Million)	Value (\$ Million)	Lbs (Million)
1	New Bedford, MA	\$241.3	150.0	\$268.9	146.4	\$281.2	169.9
2	Dutch Harbor-Unalaska, AK	\$195.0	612.7	\$174.1	777.1	\$165.2	911.3
3	Kodiak, AK	\$98.7	250.9	\$126.0	320.0	\$101.4	332.8
4	Cape May-Wildwood, NJ	\$73.7	82.9	\$57.7	68.4	\$37.6	47.2
5	Honolulu, HI	\$73.3	26.0	\$64.3	24.2	\$54.6	17.8
6	Hampton-Roads Area, VA	\$72.3	19.3	\$71.2	21.1	\$51.0	14.3
7	Naknek-King Salmon, AK	\$65.3	105.2	\$61.8	115.6	\$51.4	89.4
8	Empire-Venice, LA	\$62.9	353.2	\$73.5	323.1	\$41.1	285.7
9	Gloucester, MA	\$54.2	120.2	\$46.9	94.5	\$70.5	148.4
10	Cordova, AK	\$50.4	95.7	\$49.9	108.8	\$46.5	94.9

Source - NMFS

## Native Corporations

Alaska Native corporations play an important role in the economy of Southwest Alaska. Regional, urban and village corporations provide dividends to shareholders; hold assets in the form of cash, securities, land and other property; provide employment opportunities to shareholders and non-shareholders; make charitable contributions; and support other social and cultural activities.

Implementation of ANCSA moved through a number of phases marking the specific

challenges presented by adopting a corporate model that was unfamiliar to many in the Alaska Native community. Initial challenges faced by the founders of the corporations focused on organizational issues and developing the capacity to receive the cash and land settlements. Selecting lands with the potential for generating revenue proved to be a challenge that continues for some corporations focused on organizational issues and developing the capacity to receive the cash and land settlements. Selecting lands with the potential for generating revenue proved to be a challenge that continues for some corporations even to this day. Some initial investments and business developments tended to be risky or ill-advised, resulting in losses that threatened the viability of many corporations. A number of corporations turned to the sale of Net Operating Losses (NOL) to stave off bankruptcy and return to solvency during the 1980s and 1990s. As business operations and corporate management stabilized, the corporations entered a period of increased earnings, expanded business developments, increased market investments, and growing managerial and organizational capacity. For many Native corporations, the 1990s also marked increased focus on development of 8(a) subsidiaries that provide contract services to the federal government. Contract services have proven to offer ongoing growth opportunities and predictable earnings at levels sufficient to return consistent dividends to shareholders. Through 8(a) contracting, Native corporations

are developing strategic partnerships and investing in a wide variety of businesses. It also reverses the trend of outside businesses taking money out of Alaska; now Alaskan businesses are making money outside and bringing it back to Alaska.<sup>21</sup>

Today, Alaska Native corporations are recognized as some of the most successful businesses in Alaska. The Aleut Corporation, Bristol Bay Native Corporation, and Koniag, Incorporated are all consistently listed in the Alaska 49ers, a listing of the 49 most successful Alaskan companies.<sup>22</sup> Each regional corporation in Southwest Alaska has diverse business holdings and investments.

Measuring the impact of Native corporations on the regional economy is made difficult by a number of factors. Many corporations are headquartered in Anchorage, have subsidiaries with offices all over the U.S. and in some foreign countries; many shareholders live outside of the region; and Native corporations are not publicly traded. Financial information for village corporations is not widely available to the general public.

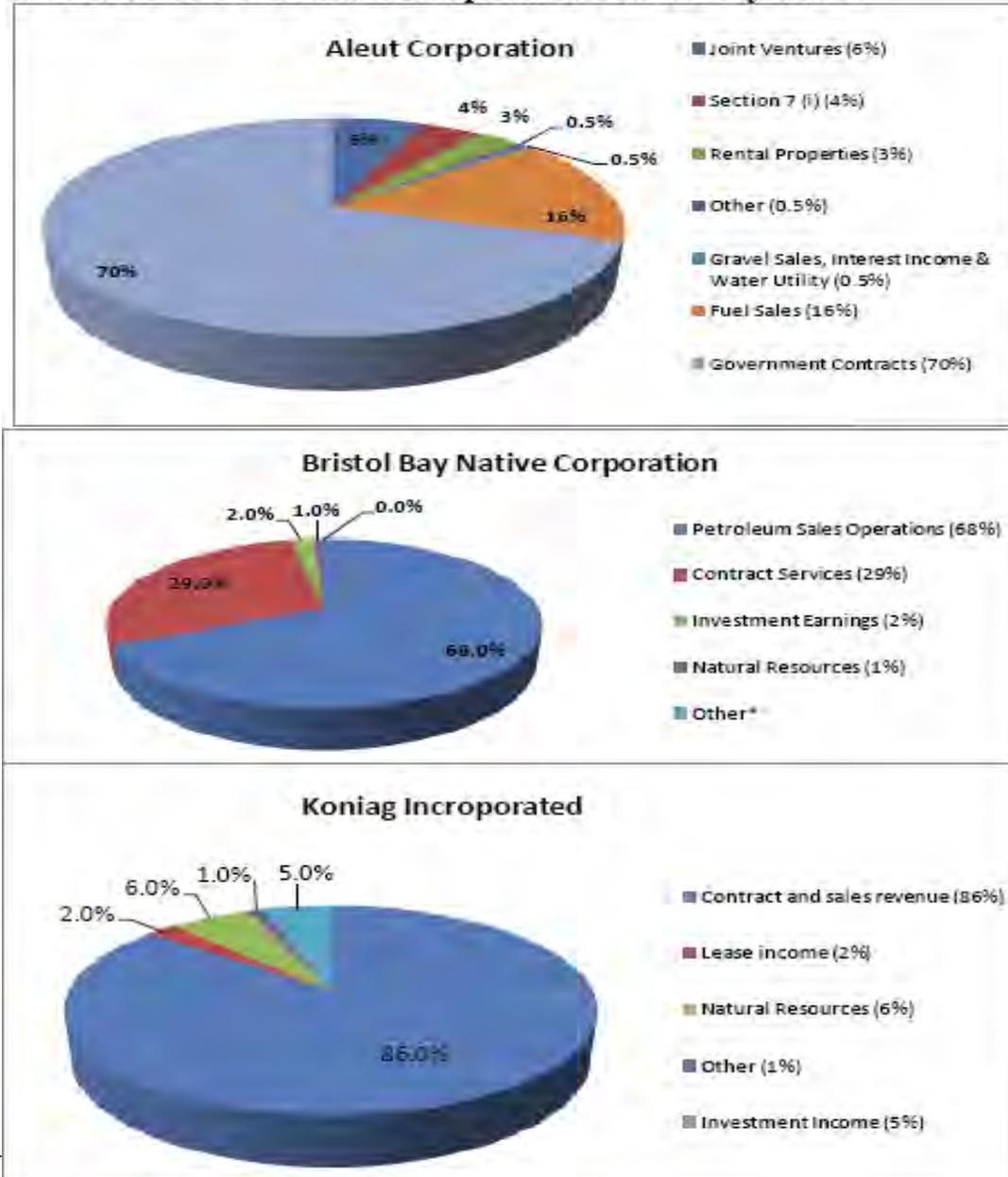
The business and investment portfolios of the Aleut Corporation, Bristol Bay Native Corporation, and Koniag Incorporated generally include some or all of the following: natural resource sales, contract services, investment earnings, and real estate. Both the Aleut Corporation and BBNC are also involved

in petroleum sales. Chart 9.4 depicts revenue by source for each of the Regional Native Organizations for FY 2009. Notice that each of the Organizations has a core business venture which generates a majority of revenues. Both the Aleut Corporation and Bristol Bay Native Organization have diversified their portfolio by 30% and 32% respectively.

Given the number of village corporations in the region, they undoubtedly have a similar collective impact in terms of assets, dividends, jobs, charitable contributions, and community and social support. While some village corporations are located outside of the region, the vast majorities are headquartered in Southwest Alaska; however, as with the regional corporations, it is difficult to quantify economic impact because many shareholders live outside of the region and some investments are outside of the region.

Even though Native corporations are not publicly traded, that fact does not immunize them from the vagaries of the marketplace or the demands of shareholders. In fact, they may be more vulnerable to shareholder dissent, as evidenced by the experience of Akhiok-Kaguyak Corporation (AKC). In 2002 - 2003, AKC shareholders called for and received a partial liquidation of settlement monies received from the Exxon Valdez oil spill. Each shareholder with 100 shares received \$200,000.<sup>23</sup>

**Chart 9.4: Southwest Native Corporations Revenue by Source**



The operating profiles of the regional corporations have veered away from resource development in recent years; however, their significant land holdings and the natural resource potential that exists on those lands may offer the greatest opportunities for economic development in the region. Unfortunately, for groups hoping to develop oil and gas resources in the North Aleutian Basin, the Obama Administration removed any new Outer Continental Shelf lease sales in that region for commercial development of fossil fuels until further review in 2012.<sup>24</sup> While the stakeholders with interest in this decision were disappointed at a lost development opportunity, proponents of keeping the Bering Sea and Bristol Bay a pristine environment cited the economic and subsistence values of harvesting the primary renewable resource of the region, seafood.

In addition to the for-profit corporations, the regional Native non-profit corporations, health corporations and housing authorities bring millions of dollars in federal, state, and private funding to the region. In 2008, the Bristol Bay Area Health Corporation ranked 74th in the state's 100 largest private employers.<sup>25</sup>

## Tourism

A discussion of the Southwest Alaska tourism industry is complicated by a number of factors. First, the industry itself is not recognized in any of the industrial classification systems making it difficult, if not impossible, to isolate levels of visitor spending, employment and other indicators of visitor impacts. Second, the Alaska Department of Commerce, Community & Economic Development (DCCED) has historically included

the Yukon-Kuskokwim (Y-K) Delta as part of its definition of Southwest Alaska. The impact of combining the two areas has unknown consequences in terms of research, marketing, and other development activities. In the past, SWAMC and its counterparts in the Y-K area have partnered on various marketing activities, but these efforts have been sporadic and short-lived. Finally, across the SWAMC region, the interest for and capacity of communities to pursue tourism development vary dramatically. All of these factors must be considered when analyzing existing indicators of the impact of the tourism industry, as well as when considering future development strategies.

According to the Alaska Office of Tourism (AOT), visitation to Southwest Alaska is the lowest of all regions in the State, although the numbers can be debatable. Whatever the level of visitation, the development of the visitor industry in the region is still relatively low in comparison to the state as a whole as well as other rural areas in the state. Higher costs, complicated travel logistics, and limited transportation infrastructure have limited visitation and tourism development in the region. Further analysis of interregional visitation patterns may reveal in-state or leveraged marketing opportunities to increase visitation to Southwest Alaska.

Only the Kodiak Island Borough and the City of Unalaska have ongoing tourism development organizations in the Kodiak Island Convention & Visitors Bureau and the Unalaska/Port of Dutch Harbor Convention & Visitors Bureau. Other tourism development efforts are underway in the region. The Bristol Bay Visitors Council through

BBNA is developing strategically located cultural centers and producing destination marketing materials for the area, as well as a website (<http://www.visitbristolbay.org>). Some borough and communities are also developing community tourism plans.

In terms of reasons to take a return visit to Alaska, Public lands, scenic byways, and wilderness areas were among the top ten reasons visitors cited for a return visit to Alaska. Southwest Alaska has these

bears; other visitors fly from Kodiak to the Katmai Coast, a remote part of the park upland from Shelikof Strait, for the same reason. Numerous private lodges and some public land locations on Kodiak also offer bear viewing opportunities. Map 9.1 illustrates the density of the brown bear population in the region.

The U.S. Forest Service tracks the recreational habits of Americans in a large-scale, longitudinal survey. Based on the USFS findings, birding is

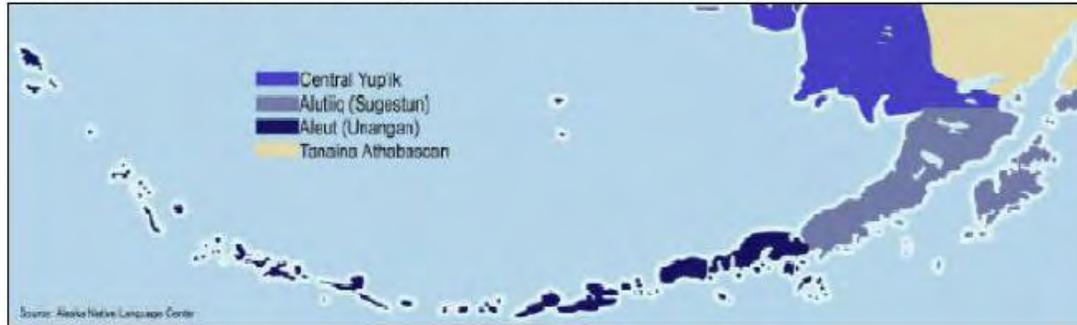
**Map 9.1: Brown Bear Population Densities (per square mile) in Southwest Alaska**



characteristics in abundance. When visiting Southwest Alaska, visitors partake of many activities, with sportfishing, wildlife viewing, and sightseeing as the top categories.

Numerous charter boat operators and lodges operate in the region. Katmai National Park and the Kodiak National Wildlife Refuge are well-known bear-viewing destinations. Many visitors visit Brooks Camp in Katmai specifically to view

the fastest growing outdoor recreational activity. The Pribilofs, Aleutians, and Kodiak Archipelago are noted birding destinations. Many parts of the region count more than 200 species of birds during a typical summer. This level of interest represents a huge potential visitor market for Southwest Alaska.

**Map 9.2: Alaska Native Cultures Indigenous to Southwest Alaska**

Southwest Alaska has many cultural and historical assets. The diversity of the region's indigenous cultures is depicted in Map 9.2. The area's dynamic natural history, World War II history, and unique maritime lifestyles are aspects of the region's character that may be appealing to visitors interested in cultural and historical travel (See also Cultural Resources in Section 10). Sports-fishing, hunting, wildlife viewing and outdoor recreation have been the primary focus of tourism development. By focusing on niche markets such as cultural tourism, the region may have the opportunity to increase wealth retention within the tourism sector and produce other positive benefits for communities, businesses, and individuals.

The CEDS Committee identified growth in tourism as a targeted economic development strategy for the 2009 – 2014 planning cycle. This is a continuation of ongoing regional efforts to expand and diversify this sector. Previous Tourism Committee work identified continuation of regional tourism marketing efforts, development of niche markets, and partnerships with public lands agencies as key strategies for expansion of the sector. In 2009 SWAMC

completed a first draft of its tourism website ([www.southwestalaska.com](http://www.southwestalaska.com)), aimed at increasing visitation and activity seekers to the Southwest region of Alaska. This was part of a larger tourism marketing strategy, which also included new logo development and the creation of a tagline: "Alaska's Southwest: The Alaska You're Looking For." Part of the new strategy will involve working with local operators and tourism agents to develop itineraries throughout the region in hopes of attracting increased independent travelers. In addition, a group of economic development professionals in Alaska, including SWAMC, spent the better parts of 2009-2010 working on a statewide economic development strategy. One of the first industry group "clusters" to be formed was tourism, identified as a Star cluster in Alaska. SWAMC plans to work with this group in the next planning cycle to improve visitation rates and economic activity.

**Table 9.17: Tourism Inventory for Southwest Alaska**

Company	Alaska Peninsula	Aleutian & Pribilof Islands	Bristol Bay	Kodiak Island	Southwest Alaska
Airlines & Air Taxis	24	10	16	11	61
Alaska Marine Highway	1	1	-	1	1
Alaska Native Corporations	18	15	10	13	56
Backcountry Adventures	11	4	8	27	50
Bed & Breakfasts	14	8	13	43	78
Boat Charters	3	12	2	60	77
Cabins, Camps, Campgrounds	8	2	23	12	45
Car Rentals	7	7	1	2	17
Cultural, Historical & Museums	-	5	2	7	14
Eating & Drinking Establishments	19	28	8	16	71
Fishing & Hunting Guides	37	5	11	23	76
Gift Shops	20	16	6	15	57
Government - Local & Tribal	33	16	12	9	70
Grocery & Convenience Stores	12	6	15	10	43
Hotels & Motels	12	13	6	8	39
Kayaking	3	-	-	2	5
Local Information	3	2	2	3	10
Outfitters & Gear Rental	11	2	4	4	21
Public Land Agencies	8	-	3	5	16
Sightseeing & Tour Companies	7	4	3	2	16
Sporting Goods - Rental	5	1	-	8	14
Taxi Cabs	3	1	4	2	10
Wilderness Lodges	70	2	21	34	127
<b>Total</b>	<b>328</b>	<b>159</b>	<b>170</b>	<b>317</b>	<b>974</b>

SWAMC Tourism Inventory 2003

Table 9.17 lists the tourism businesses and tourism-related businesses or organizations listed in the Southwest Alaska tourism inventory categorized by business or organization type, based on a 2003 survey. The CEDS action plan identifies continuation of implementing these tools and developing long-range plans for funding regional tourism marketing. Niche markets such as cultural tourism, small ship cruising, and the AMHS designation as National Scenic Byways' present market opportunities for the region. Both national and international trends indicate ongoing growth in cultural tourism and small ship cruising. With increased product development, focused promotional efforts, and region-wide planning, niche markets can produce widespread benefits for the region. The CEDS action plan calls for exploring the potential of these opportunities and working with communities and businesses in the region to implement any emerging strategies.

Historically, visitors to Southwest Alaska have stayed longer, spent more, and had higher satisfaction levels than the average visitor to Alaska. Table 9.18 presents a comparison of rural visitor satisfaction levels to that of all visitors, from a 2001 survey. In general, rural visitors were marginally less satisfied with their experiences. This reverses previous visitor survey findings where rural visitors were generally more satisfied than visitors as a whole. Table 9.19 provides rural visitors' assessments of various aspects of their trip in terms of value for money and having met their expectations. Food and Restaurants, Accommodations, and Travel within Alaska were the lowest ranked categories for rural visits.

**Table 9.18: Visitor Satisfaction**

Scale = 1 to 7 with 7 highest	Rural Visitors	All Visitors
Overall Level of Satisfaction	6.1	6.3
Value for Money - Overall	5.2	5.4
Expectation - Overall	5.9	6.0

Source: 2001; AOT, AVSP

**Table 9.19: Rural Visitor Opinion**

Rural Visitors' Opinions	Value for Money	Expectations
Overall	5.2	5.9
Accommodations	5.0	5.3
Transportation to Alaska	5.2	5.2
Transportation from Alaska	5.1	5.2
Transportation within Alaska	5.0	5.2
Sightseeing/Attractions	5.8	5.9
Tourist Activities	5.5	5.6
Food and Restaurants	4.9	5.2
Friendliness/Helpfulness	6.1	6.1

Source: 2001; AOT, AVSP

## Timber

The primary market for Alaska's timber exports has historically been Japan. Economic downturns and banking failures that began in the late 1990s continue to plague the Japanese economy and suppress demand for Alaskan wood products. At the same time, growing cultural changes are altering the demand for open timber frame construction in Japanese homes. In recent years, Alaska timber exporters and the State of Alaska have been working to develop new markets in Asia, particularly China.<sup>46</sup>

Few companies in the Kodiak Island Borough harvest and export raw Sitka Spruce logs; several village corporations or village corporation joint ventures have logged on Afognak or Kodiak islands for more than a decade. In recent years,

exports have averaged approximately 40 million board feet. However, the continued economic slump in Japan and other Asian markets has led to reduced harvests and camp closures.

Given poor market conditions for the region's premium wood products and the lack of proven commercial viability for lower grade white spruce or paper birch elsewhere in the region, this sector seems unlikely to rebound in the next three to five years. Development of local use, small scale consumer goods, and other value-added wood products has not proven to be economically viable in most small markets.

**Table 9.20: Visitors Expenditures**

Expenditure Category	All Visitors Average Expenditures (2006)	Rural Visitors Average Expenditures (2002)
Lodging	\$117	\$823
Food & Beverage	\$97	\$159
Transportation	\$68	\$161
Tours/Recreation	\$188	\$153
Gifts/Souvenirs/Clothing	\$177	\$84
Package (not incl. cruise)	\$150	-
Other	\$109	\$140
<b>Total</b>	<b>\$906</b>	<b>\$1,520</b>

Mixed data. AOT, AVSP

<http://www.dced.state.ak.us/oed/toubus/pub/AVSPSummer2006Final.pdf>

## Mining

According to the Department of Natural Resources, mining activity in the region has been sporadic and on a small scale. The most significant activity anticipated in this sector is further exploration of the Pebble Copper deposit in the Lake & Peninsula Borough, near the communities of Illiamna/Newhalen and Nondalton. The Pebble prospect, located in the headwaters of the Bristol Bay watershed, is one of the largest concentrations of mineral deposits in the world. It is estimated to hold 80.6 billion lbs. of copper, 5.6 billion lbs. of molybdenum (a steel alloy), 107.4 million oz. of gold, and commercially significant amounts of silver,

rhodium and palladium. In 2010, the Pebble project was in a pre-feasibility and pre-permitting research stage, conducting some of the most extensive environmental studies ever undertaken in the state of Alaska. The data will generate a proposed mine development plan to be submitted for government and public review, and has thus far accounted for: over \$400 million investment in work programs, research and comparative studies; over \$100 million investment in environmental and socio-economic studies; more than 67 types of required state and federal permits ; state and federally mandated environmental requirements, including the Clean Water Act; and, agency oversight by more than a dozen state and federal entities. The Pebble Mine is being developed by the Pebble Partnership, a 50-50 partnership formed in 2007 between global mining company Anglo-American plc and Northern Dynasty Minerals Limited of Canada. The company does not expect to finalize a preliminary development plan and apply for permits until 2011.<sup>26</sup>

## Oil & Gas

An Obama administration decision in 2010 canceled all Outer Continental Shelf (OCS) leasing activity in the Bering Sea and Bristol Bay area through the current 5 year oil and gas leasing period, due to be revisited in 2012. At the time of this writing, the oil spill in the Gulf of Mexico was adding significant tension to the off-shore development debate at Congressional levels. That accident has the ability to shut down all new OCS leasing activity for several years, and the ensuing new regulations could hamper attempts to develop the North Aleutian Basin.

## Aerospace

In January 1998, the Alaska Aerospace Development Corporation began building a commercial spaceport at Narrow Cape on Kodiak Island, about 250-miles south of Anchorage and 25 miles southwest of the City of Kodiak. Kodiak Island is one of the best locations in the world for polar launch operations, providing a wide launch azimuth and unobstructed downrange flight path. KLC's superb location combined with innovative low-cost operations will make it ideal for launching telecommunications, remote sensing,

and space science payloads of up to 8,000 pounds into low earth polar (LEO) and Molniya orbits.<sup>27</sup> The first launch was completed in November 1998.

The KLC is an all-weather launch complex located on a 3,100 acre site, the actual "footprint" of the facility is approximately 27 acres, divided among four sites: 1) the Launch Control and Management Center (LCC), 2) the Payload Processing Facility (PPF), 3) the Integration and Processing Facility (IPF)/Spacecraft Assemblies Transfer Facility (SCAT), and 4) the Launch Pad and Service Structure (LP1).<sup>28</sup> To date, the KLC has had six launches. Depending on the launch schedule, it is anticipated that the facility can accommodate between six and nine launches a year at full utilization.

Based on a September 2001 launch by Lockheed Martin for NASA, the UAA Institute of Social and Economic Research (ISER) determined an estimated direct economic impact of \$4.4 million and a total economic impact of \$6.8 million. Payroll impacts were \$1.35 million in Kodiak and \$1.28 million in Anchorage.<sup>29</sup> Expansion of this sector appears to be promising, but perhaps sporadic given the "job-shop" nature of gearing up for launches.

## Endnotes

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- 1 <http://www.state.ak.us/adfg/subsist/geninfo/about/subfaq.htm>
- 2 <http://www.state.ak.us/adfg/subsist/download/asf1999.pdf>
- 3 IBID
- 4 <http://www.dced.state.ak.us/cbd/AEIS/>
- 5 <http://www.state.ak.us/adfg/subsist/download/asf1999.pdf>
- 6 <http://www.subsistence.adfg.state.ak.us/CSIS/>; Collected 1983 – 2006
- 7 <http://www.cf.adfg.state.ak.us/geninfo/finfish/salmon/catchval/blusheet/08exvesl.php>
- 9 <http://www.cfec.state.ak.us/vbycen/2003/mnu.htm>
- 10 <http://www.fish.washington.edu/research/alaska/reshistory.html>
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# 10.0 Direct & Indirect Economic Performance Factors

## Taxation

### State Taxes

With no state personal income tax or sales tax, the State of Alaska is generally considered to have a favorable tax climate from both personal and business perspectives. Alaska, like many other states, continues to experience revenue shortfalls due to lagging state and national economies. Production declines in the state's primary revenue generating industry – oil and gas – will likely continue and prolong the state's revenue woes. While annual draws from the Constitutional Budget Reserve (CBR) have been necessary to balance the budget in the past, efforts have been made in the 2009-2010 Legislative sessions to fully replenish the reserve.

Efforts to pass a statewide sales tax during past legislative sessions have not proven successful. As it has been proposed, the statewide sales tax would have severely impacted communities in Southwest Alaska through capping municipal taxing authority below some existing levels and altering municipal tax codes that have existed for decades.

The State of Alaska levies taxes that impact the conduct of business in the region. Taxable items or activities include alcoholic beverages, charitable gaming, corporate income (1.0 – 9.4%), motor fuel, mining licenses, and other products or activities. Several taxes relate directly to the harvesting and processing of fish, and thus, have a significant impact on the region.<sup>1</sup>

The fisheries business tax is assessed on fisheries businesses and persons who process or export fisheries resources from Alaska. The state bases the tax on the fisheries value paid to commercial fishers or fair market value when there is no arms length transaction. The Division collects fisheries business taxes primarily from licensed processors and persons who export unprocessed fish from Alaska. Fisheries business tax rates are based on processing activity, whether in or outside of the state, and whether a fishery resource is classified as established or developing by the Alaska Department of Fish and Game. Rates are between three and five percent for established fisheries, and one and three percent for developing fisheries with the actual rate determined by the processor type (floating, shore-based, or salmon cannery). For taxes sourced from landings within a municipality, the state shares half of the revenue with the

respective municipalities in which landings occurred. If a municipality is within a borough, the Division divides the shared amount between the municipality and borough. For taxes sourced from landings outside a municipality (unorganized borough), half of the taxes are shared through an allocation program administered by the DCCED.<sup>2</sup> Table 10.1 summarizes fisheries business taxes shared with municipalities in the region. Fisheries business tax revenues distributed in the region increased 13.4 percent from 2007 to 2008 and 17.8 percent from 2008 to 2009. Remittance of shared taxes occurs the year after the taxes were collected.

The state levies the fishery resource landing tax on processed fishery resources first landed in Alaska. The tax is based on the unprocessed value of the resource, which is determined by multiplying a statewide average price per pound (based on Alaska Department of Fish and Game data) by the unprocessed weight. The rate assessed is three percent for established fisheries and one percent for developing fisheries.<sup>3</sup> The state/municipal revenue sharing scheme mirrors that of the fisheries business tax.<sup>4</sup> Table 10.2 shows municipal shares of fishery resource landing taxes for Southwest Alaska.<sup>5</sup> Unalaska collects the vast majority of fishery resource landing tax in the region, with 92.8 percent of the total from 2006 to 2009.

**Table 10.1: Fisheries Business Tax Shared Municipal Revenues with Southwest Alaska Municipalities 2000 – 2009**

	2000	2006	2007	2008	2009
Aleutians East Borough	1,409,784	1,563,918	1,581,639	1,756,571	2,119,328
Akutan	501,904	740,716	751,346	768,247	937,152
False Pass	85,764	0	0	0	2,163
King Cove	432,412	463,050	438,722	495,293	586,975
Sand Point	149,285	201,769	208,844	217,356	294,674
<b>Aleutians West Census Area</b>					
Adak	0	117,297	116,422	254,359	311,439
Atka	11,466	19,155	20,235	18,349	80,923
Saint George	446,984	0	0	1,628	0
Saint Paul	1,781,341	305,888	437,169	578,948	969,315
Unalaska	2,957,811	3,321,455	3,178,334	3,469,175	4,207,955
<b>Bristol Bay Borough Dillingham Census Area</b>	<b>1,439,586</b>	<b>1,178,357</b>	<b>1,295,546</b>	<b>1,563,687</b>	<b>1,542,615</b>
Clark's Point	60,896	29,231	134,862	113,191	100,787
Dillingham	202,898	147,986	183,743	176,261	187,259
Togiak	333,574	30,195	37,620	40,784	42,595
<b>Kodiak Island Borough</b>	<b>923,772</b>	<b>942,310</b>	<b>1,031,496</b>	<b>1,236,280</b>	<b>1,339,575</b>
Kodiak	616,528	760,099	823,097	946,635	1,046,010
Larsen Bay	102,160	49,715	59,043	82,078	66,540
Port Lions	1,411	0	0	0	0
<b>Lake &amp; Peninsula Borough</b>	<b>357,468</b>	<b>98,911</b>	<b>133,792</b>	<b>138,186</b>	<b>151,743</b>
Chignik	235,538	44,623	55,867	58,779	65,802
Egegik	29,544	29,194	74,285	63,363	62,822
Pilot Point	89	101	0	0	0
Port Heiden	4	0	0	0	0
<b>Southwest Alaska</b>	<b>12,080,219</b>	<b>10,043,970</b>	<b>10,562,062</b>	<b>11,979,170</b>	<b>14,115,672</b>

Source: Alaska Department of Revenue, Tax Division

Kodiak and Chignik harvesters pay an elective 2 percent Salmon Enhancement Tax for harvested hatchery salmon. The state also levies a 0.5 percent Seafood Marketing Assessment on seafood products made in-state or unprocessed product exported from the state. A Regional Seafood Development Tax is levied on salmon harvested in Bristol Bay by drift gill net. The 1% tax is collected by licensed buyers and is based on the price paid for the salmon.<sup>6</sup>

### Municipal Taxes

Authority for municipal taxation comes from the Alaska Constitution and Alaska Statutes, Title 29, Chapters 35 and 45.<sup>7</sup> Municipalities may assess and collect property taxes, and sales and use taxes. Many Southwest Alaska municipalities levy some form of local tax including real property, personal property, general sales, raw fish, natural resources severance, transient occupancy (bed), fuel, liquor, and gaming taxes and special fees.

The Bristol Bay and Kodiak Island boroughs, and the cities of Dillingham, Kodiak, and Unalaska levy a property tax. Borough property taxes are areawide and therefore apply to all communities in the borough. In the case of the City of Kodiak, the total property tax rate is a combination of both the borough and city mill rates. Table 10.3 lists 2009 property tax rates and revenues for these municipalities.<sup>8</sup>

Ten communities in the region levy a general sales tax, ranging from two to six percent. The Aleutians East (2%), Bristol Bay (3%) and Lake & Peninsula (2%) boroughs levy areawide raw fish taxes. The Kodiak Island Borough is one of only two boroughs in the

**Table 10.2: Fishery Resource Landing Tax Shared Municipal Revenues, 2000 – 2009**

	2000	2006	2007	2008	2009
Aleutians East Borough	17,448	31,524	83,873	53,077	82,801
Akutan	17,448	20,303	20,369	26,496	26,725
Sand Point	72,529	11,222	22,518	26,582	22,721
Aleutians West Census Area					
Adak	0	19,840	64,284	128,199	97,736
Atka	9,846	5,877	0	16,413	14,134
Saint Paul	72,529	16,364	30,678	172,020	270,208
Unalaska	2,713,203	4,357,759	4,362,451	4,771,328	4,040,106
Dillingham Census Area					
Togiak	0	4,003	1,971	15,782	2,235
Kodiak Island Borough	24,592	16,654	9,252	36,560	2,762
Kodiak	17,102	0	399	412	1,057
Southwest Alaska	2,944,697	4,483,546	4,595,795	5,246,869	4,560,485

Source: DOR, Tax Division

state to assess a natural resource severance tax. Six communities also levy a raw fish tax or some other form of fisheries taxation. For communities in the Aleutians East and Lake & Peninsula boroughs, these local raw fish taxes are incremental to the areawide raw fish tax. Table 10.4 summarizes the forms and rates of local taxes levied by Southwest communities.<sup>9</sup>

The Kodiak Island (5%), Bristol Bay (8%) and Lake & Peninsula (6%) boroughs levy transient accommodation (or bed) taxes. In the Kodiak Island Borough the tax is areawide except where a local municipality levies a similar bed tax. The bed tax in the Bristol Bay and Lake & Peninsula boroughs is areawide. However, the bed tax is only levied seasonally (May to October) in the Bristol Bay Borough. Six communities levy local bed taxes ranging from five to ten percent.<sup>10</sup>

In SFY 2009, communities in the Aleutians West, Aleutians East, Kodiak, Bristol Bay, Lake and Peninsula and Dillingham Census Areas received Payment in Lieu of Taxes (PILT). The PILT program was established in 1976 to offset costs incurred by communities for services provided to the federal government and to the users of public lands.<sup>11</sup>

**Table 10.3: Property Tax Mill Rates and 2009 Total Assessed Value and Revenues**

	2007 Mill Rate	2008 Mill Rate	2009 Mill Rate	2009 Total Assessed Value	2009 Property Tax Revenues
Bristol Bay Borough	13.00	13.00	13.00	\$196,700,260	\$1,394,557
Kodiak Island Borough	12.50	12.50	12.50	\$907,513,350	\$10,559,405
City of Dillingham	13.00	13.00	13.00	\$147,971,113	\$1,941,751
City of Kodiak	2.00*	2.00*	2.00*	\$398,290,171	\$655,943
City of Unalaska	11.78	10.50	10.50	\$408,794,747	\$4,276,777

Source: DOR, Tax Division

**Table 10.4. Local Taxes for Southwest Alaska Municipalities**

	Sales Tax	Raw Fish Tax	Bed Tax	Other Taxes	Special Fees
Aleutians East Borough	-	2%	-	-	-
Akutan	-	-	-	-	-
Cold Bay	-	-	10%	\$.04/gal. Fuel	-
False Pass	-	-	-	-	-
King Cove	4%	-	-	-	Fisheries Impact Tax
Sand Point	-	-	-	-	-
Aleutians West Census Area	-	-	-	-	-
Adak	3%	-	-	-	-
Atka	-	2%	10%	-	-
St. George	-	-	-	-	-
Saint Paul	3%	3%	-	-	-
Unalaska	2%	2%	5%	-	-
Bristol Bay Borough	-	3%	8%	-	-
Dillingham Census Area	-	-	-	-	-
Aleknagik	-	-	-	-	-
Clarks Point	-	-	-	-	-
Dillingham	6%	-	10%	6% Gaming/ 10% Liquor	-
Manokotak	-	-	-	-	-
Togiak	2%	2%	-	-	-
Kodiak Island Borough	-	-	5%	1.05% Severance	-
Kodiak	6%	-	5%	-	-
Larsen Bay	3%	-	\$5 per person/per day	-	-
Old Harbor	3%	-	-	-	-
Ouzinkie	3%	-	-	-	-
Port Lions	-	-	-	-	-
Lake & Peninsula Borough	-	2%	6%	-	-
Chignik	-	-	-	-	-
Egegik	-	3%	-	-	-
Newhalen	-	-	-	-	-
Nondalton	-	-	-	-	-
Pilot Point	-	3%	-	-	-

Given the uncertainty regarding taxation at the state level and declining revenues due to poor market conditions for salmon, municipalities in Southwest Alaska are unlikely to change local tax rates or introduce new taxes or fees. SWAMC will continue to partner with the Southwest Legislative Delegation, member communities and other communities and organizations to advocate for a rational and responsive statewide tax policy that recognizes the needs and limitations of the region.

## Bonding Capacity

Bond rating firms evaluate state and municipal bond ratings annually. In 2002, several firms issued cautionary warnings in regard to Alaska's rating. While the state's rating was not downgraded, the credit outlook was changed from stable to negative by at least one firm.<sup>12</sup> The state's failure to deal with the budget gap was cited as the primary cause for concern. Notwithstanding this expressed market concern, the State of Alaska successfully sold its first general obligation bonds in 20 years in April 2003, and again in 2008.<sup>13</sup> The State of Alaska received a bond rating of 'AA' from several agencies in 2010.

According to the State Assessor, only the Aleutians East, Kodiak Island, and Lake & Peninsula boroughs and the cities of Dillingham, Kodiak and Unalaska have outstanding general obligation bonds as of 2009<sup>14</sup> Table 10.5 outlines the outstanding municipal bonded indebtedness in the

Source: DCED, Office of the State Assessor

region. Given the small sizes and limited tax bases, most municipalities in the region are averse to assuming any long-term debt. Most communities transact bond sales through the Alaska Municipal Bond Bank (AMBB), however, some communities have pursued open market bond sales.

The AMMB was established to assist Alaska municipalities that have difficulty financing capital improvement projects such as schools, water and sewer systems, public buildings, harbors and docks. It is a public corporation, created through the passage of the Alaska Municipal Bond Bank Act. It facilitates market access for small communities or infrequent borrowers at the AMBB 'A' rating.<sup>15</sup>

## Legal Framework

Throughout this document there are many references to governance authority granted to municipalities, government agencies, and regulatory bodies by both the state and federal governments. It is anticipated that ongoing changes in state governance and financial matters will continue to impact the region throughout this planning cycle. Decisions regarding fisheries policies on the state and federal level will impact the conduct of the region's principal industry. SWAMC will continue to monitor management and regulation of state and federal fisheries resources to ensure optimal outcomes for the communities, businesses and residents of the region. Refer to specific references in each section of the document for further details on the impact of the legal framework on economic development in the region.

## Financial Resources

Banking and other financial services in the region are generally concentrated in regional hubs such as Dillingham, King Salmon, Kodiak and Unalaska. Banks with branches in the region include First National Bank of Alaska (Kodiak), Key Bank (Kodiak and Unalaska), and Wells Fargo (Dillingham, King Salmon, Kodiak).<sup>16</sup> Credit unions with branches in Kodiak include Credit Union One and Alaska USA Federal Credit Union. Some businesses, such as seafood processors, serve as a de facto bank for their employees by cashing checks and similar transactions. For some banking transactions, residents of the region must travel to regional hubs.

Banks offer additional services through ATMs, community agents, and online banking. First National Bank of Alaska (FNBA) has ATMs in Dillingham, King Cove, St. Paul and Togiak. ATMs are also located at banks' branch locations in the region. Wells Fargo currently has a community agent in Sand Point. Community agents work in the immediate and surrounding communities to meet basic banking needs by opening checking and savings accounts and helping to complete loan application forms.<sup>17</sup> The advent of online banking has made a variety of banking functions more accessible to the region; however, internet access, reliable connections and bandwidth still limit access in some communities.

The Alaska Division of Investments manages a Commercial Fishing Revolving Loan Fund to provide long-term, low interest loans to

promote the development of predominantly resident fisheries, and continued maintenance of commercial fishing vessels and gear for the purpose of improving the quality of Alaska seafood products.<sup>18</sup> Two of the 12 foreclosed limited entry permits currently listed for sale on the division's Web site are from Southwest fisheries.

The Federal Department of Commerce undertook a rural banking initiative in Bristol Bay in 2008, in partnership with the Bristol Bay Native Association. Reports from the effort are due in the next planning cycle.

**Table 10.5: General Obligation Debt for Southwest Alaska Municipalities 2009**

Municipality	2009 Municipal General Obligation Debt	2009 Per Capita Debt
Aleutians East Borough	\$4,840,855	\$1,794
Kodiak Island Borough	\$32,245,000	\$2,411
Lake & Peninsula City of Dillingham	\$5,993,950	\$3,862
City of Dillingham	\$15,105,000	\$6,436
City of Kodiak	\$8,000,000	\$1,339
City of Unalaska	\$11,154,999	\$3,141

Source: DCED, Office of the State Assessor, Alaska Taxable 2009

# Schools and Educational Resources

## Public Schools

There are nine school districts in Southwest Alaska including four districts that correspond to the four incorporated boroughs, three Rural Education Attendance Areas as specified by the State of Alaska, and the cities of Dillingham and Unalaska have city school districts. The 58 public schools in the region served 5,284 students in 2008 at an average cost of \$26,924 per student. Table 10.6 profiles the nine school districts in Southwest Alaska.<sup>19</sup>

Within the region, the average student to teacher ratio was 12.4 : 1, which is lower than the state ratio of 16.5 :1.<sup>20</sup> Given the many small communities in Southwest Alaska, the average number of students per school is less than 100. Excluding the Dillingham, Kodiak, and Unalaska schools from the regional average brings the average number of students per school down to 43.

Only three schools in the region are accredited by the Northwest Association of Colleges and Schools: Kodiak High School, Unalaska Elementary, and Unalaska Jr/Sr. High School.<sup>21</sup>

Dropout rates across the region are generally quite low, averaging 3.4 percent. Two districts,

Aleutians Schools and Pribilof Schools, reported no drop outs in 2008. Elsewhere in the region the dropout rate ranged from 8.6 percent to 1.1 percent, all lower than the national average.

Alaska Native student enrollment accounts for nearly half of all public school enrollments in the region. Most districts have Alaska Native student enrollments of more than 65 percent. The Pribilof Schools have the highest proportion of Alaska Native student enrollment at more than 95 percent. The Kodiak and Unalaska schools have the lowest proportion of Alaska Native student enrollment at 20.8 and 19 percent, respectively.

**Table 10.6: Southwest Alaska School District Profiles**

School District:	Aleutians East School District	Aleutians School District	Bristol Bay Borough Schools	Dillingham City School District	Kodiak Island Borough Schools	Lake & Peninsula Schools	Pribilof Schools	Southwest Region Schools	Unalaska City Schools	Southwest Alaska
Operated By:	Borough	REAA	Borough	City	Borough	Borough	REAA	REAA	City	N/A
Total Number of Schools:	7	3	2	2	16	15	2	9	2	58
Total Number of Teachers:	33.4	5.4	15.5	40	182.8	43.9	11.6	61.8	30.6	425
Total Number of Students:	283	38	183	512	2689	410	112	667	390	5284
Avg. # of students/school:	40	13	92	256	168	27	56	74	195	91
Student/Teacher Ratio:	8.5	7	11.8	12.8	14.7	9.3	9.7	10.8	12.7	12.4
Dropout Rate (9-12 Grade):	1.80%	0%	2.70%	7.60%	3.30%	8.60%	0%	5%	1.10%	3.40%
% Alaska Native Students:	85.20%	77.00%	65.10%	79.60%	20.80%	93.90%	95.60%	88.70%	19%	49.30%
\$ Per Student:	\$28,007	\$38,452	\$19,788	\$18,426	\$14,621	\$38,444	\$26,488	\$38,689	\$19,398	\$26,924
Revenue Sources:										
Federal	26%	10%	16%	26%	13%	20%	39%	25%	4%	20%
State	52%	82%	59%	56%	62%	48%	48%	70%	43%	58%
Local	23%	9%	24%	18%	25%	32%	12%	5%	53%	22%

Source: National Center for Education Statistics

Funding for public education in Southwest Alaska comes largely from the State of Alaska, averaging more than half of revenues for all districts in the region. The Aleutians Region reported the highest level of state funding at 58 percent. Unalaska Schools had the lowest level of state funding at 43 percent. On average, most districts receive nearly one-fifth of total funding from federal revenues. Pribilof Schools had the highest level of federal funding at 39 percent, while Unalaska Schools received only 4 percent. Local funding support for public education was lowest in the Southwest Region Schools at 5 percent. Unalaska Schools had the highest level of local funding support at 53 percent of total revenues.

Many schools in the region have experienced declining enrollment. The impact of out-migration, declining municipal revenues, and reduced economic opportunity threatens the viability of the public education system in the region.

In addition to public schools, there are three private schools in the region as identified by the National Center for Education Statistics (NCES).<sup>22</sup> Other P – 12 educational solutions are offered by other church-based programs, home schooling, correspondence schooling, and other arrangements.

Passed in 2010, Senate Bill 237 would require future legislatures to put \$40 million annually into a fund to pay for new school construction.<sup>23</sup>

### **Post-secondary and Continuing Education**

Although most communities in the region do not have local continuing education opportunities, distance delivery methods have extended the reach of educational institutions in the region. From branch campuses in Dillingham, King Salmon, Kodiak and Togiak, a variety of post-secondary and continuing education options are available to the residents of Southwest Alaska.

The University of Alaska Fairbanks Bristol Bay Campus is administered from Dillingham, Alaska, with sub-regional centers in Togiak and King Salmon.

Using a combination of distance delivery methods and local instruction, the Bristol Bay Campus offers certification in Applied Business, Accounting Technician, Community Health, Early Childhood, Office Management & Technology, Renewable Resources and Rural Human Services. Both Associate and Bachelor degree programs are also offered at the Bristol Bay Campus. Associate Degrees are available in eleven areas of study: Applied Science Degree Programs, Applied Business, Applied Accounting, Community Health, Early Childhood, Human Services, Information Technology, General Program Interdisciplinary Studies, Office Management & Technology, Environmental Technology and Renewable Resources. Study options for earning a Bachelor of Arts degree include General Studies, Elementary Education, Arts and Sciences; Interdisciplinary Studies; Rural Development and Social Work.<sup>24</sup> Lastly, the Bristol Bay Campus offers many local

vocational and general interest courses upon request from the thirty-two Bristol Bay communities.

The Southwest Alaska Vocational Center was established in June of 2002 and provides ongoing skill development and retraining services in several areas of potential reemployment for local residents, including skills in the construction trades, energy development, heavy equipment operation, computer hardware, commercial hardware, commercial operators' licenses, refrigeration, and welding, just to name a few. The Center works closely with the Bristol Bay Campus of the University of Alaska Fairbanks. Therefore, almost all of the courses offered through the Center are accepted as university credits.<sup>25</sup>

Kodiak College is an extended campus of the University of Alaska Anchorage located in the City of Kodiak; Kodiak College offers certificates in Office Foundations, Office Support, Office Digital Media, Medical Office Support, Technical Support, Bookkeeping Support, Microsoft Certified Systems Engineer Certification, CompTIA A+ and Network Associate, Microsoft Office User Specialist Certification and Nursing Assistant Certification.

Associate Degrees are offered in eight areas of study: Arts, Early Education, Applied Science in General Business, Applied Science in Technology, Applied Science in Nursing, Applied Science in Computer Information and Office Systems, Applied Science in Computer Systems Technology.<sup>26</sup>

The University of Alaska Southeast (UAS), in cooperation with the Bristol Bay Campus and Kodiak College, offers a Bachelor degree program in Business Administration-Management Emphasis and a Master degree program in Public Administration over cable through UATV to locations in Kodiak and Dillingham.

A division of the University of Alaska Fairbanks School of Fisheries and Ocean Sciences, the Fishery Industrial Technology Center (FITC) conducts research, provides a graduate degree program in food sciences and nutrition, and offers technical assistance and outreach to the seafood industry. Areas of focus

include harvesting technology, processing technology, seafood quality, and ecosystems and contaminants training. The facility is located on Near Island in the City of Kodiak. It is adjacent to the Kodiak Fisheries Research Center, which facilitates research collaboration across agencies and disciplines.<sup>27</sup>

Scientists and technicians at the FITC work to discover better methods to harvest, preserve, process, and package seafood protein. A state-of-the-art seafood research and development facility, FITC is a key component in the School of Fisheries and Ocean Sciences' effort to ensure the long-term productivity of Alaska's ocean resources.

The CEDS Committee identified strengthening partnerships with all regional educational institutions as requisite to accomplishing a variety of economic development activities. As the region addresses the restructuring of its key economic sectors, it is critical to align educational offerings to ensure the workforce is prepared to meet the challenges presented in the economy.

## Housing

According to the U.S. Census Bureau, there were 12,985 housing units in Southwest Alaska in 2000, the last available date for information.

**Table 10.7: Southwest Alaska Housing Stock Inventory, Occupancy and Density**

	Total Housing Units	Occupied Housing Units	Houses per sq. mi. Based on Total Land Area	Houses per sq. mi. Based on Total Populated Area	% Vacant Housing Units	% Owner Occupied	% Renter Occupied	% Seasonal, Recreational or Occasional Use
Aleutians East Borough	724	526	0.1	2.7	27.3	58.2	41.8	11
Aleutians West Census Area	2,234	1,270	0.5	3.8	43.2	27.8	72.2	3.7
Bristol Bay Borough	979	490	1.9	2.8	49.9	50	50	38.9
Dillingham Census Area	2,332	1,529	0.1	10.1	34.4	60.4	39.6	27.1
Kodiak Island Borough	5,159	4,424	0.8	13.5	14.2	54.8	45.2	6
Lake & Peninsula Borough	1,557	588	0.1	2.7	62.2	68.2	31.8	58.3
Southwest Alaska	12,985	8,827	0.2	5.4	27.8	52.7	47.3	36.8
Alaska	260,978	221,600			15.1	62.5	37.5	8.2
U.S.	115,904,641	105,480,101			9.9	66.2	33.8	3.1

Source: U.S. Census Bureau, 2000 Census of the Population

At the time of the census, vacancy rates in the region averaged 27.8 percent, significantly higher than the state vacancy level of 15.1 percent. The proportion of housing units used for seasonal, recreational, or occasional purposes in the region averages 17.1 percent.<sup>28</sup> Table 10.7 provides a review of housing stock inventory, occupancy and density for the region.

Five of the six sub-regions in Southwest Alaska had vacancy rates that exceeded the state rate. Borough and census area vacancy rates ranged from a low of 14.2 percent in the Kodiak Island Borough to a high of 62.2 percent in the Lake & Peninsula Borough. Housing units used for seasonal, recreational or occasional purposes ranged from a low of 3.7 percent in the Aleutians West Census Area to a high of 58.3 percent in the Lake & Peninsula Borough. Only

the Aleutians West and Kodiak Island areas reported SRO housing rates lower than the state level of 8.2 percent, and all exceeded the national rate of 3.1 percent.<sup>29</sup>

Housing density for the region, as reported by the U.S. Census Bureau, was 0.2 housing units per square mile. As with population measures, housing density based on total land area is misleading. Recalculating housing density based on total populated land area results in a measure of 5.4 housing units per square mile.<sup>30</sup>

Home ownership is significantly lower in Southwest Alaska in comparison to state and national ownership levels. Owner-occupied units in the region averaged 52.7 percent, more than 15 percent lower than the state level of owner-occupied units at 62.5 percent and 20 percent the national level of 66.2 percent. The

lowest level of home ownership was reported in the Aleutians West Census Area, while the Lake & Peninsula Borough had the highest rate of home ownership in the region.<sup>31</sup>

Median housing values across the region vary from a low of \$87,400 in the Lake & Peninsula Borough to a high of \$155,100 in the Kodiak Island Borough. Based on a weighted average of housing values versus total housing units, the average housing value in the region in 2000 was \$128,880.<sup>32</sup>

The average age of the Southwest Alaska housing stock is 23 years, based on the median year built for structures in each sub-area and a weighted average calculation based on the proportion of total housing units in each region.

According to the Alaska Housing Finance Corporation, the cost of housing construction in rural areas is two to three times more expensive than in urban areas such as Anchorage or Juneau. The primary reason for this disparity is higher transportation costs in rural areas. No economies of scale or large housing developments, housing tends to be owner-built, pre-fab, or small scale development of a few houses at a time.<sup>33</sup>

Housing characteristics in the region vary significantly from the typical housing characteristics for the state and nation. The average Southwest Alaska housing unit has 4.4 rooms. Houses in the Lake & Peninsula Borough are generally small at 3.2 median rooms, while Aleutians West homes have a median of five rooms.

**Table 10.8: Selected Characteristics of Southwest Alaska Housing Stock**

	Median Value Owner Occupied Units	Median Year Built	Median # of Rooms	% Using Heating Oil, Fuel, or Kerosene	% Lacking Complete Plumbing	% Lacking Complete Kitchen Facilities	% Without Telephone Service
Aleutians East Borough	\$99,500	1984	5	91.8	0.8	0.4	3.8
Aleutians West CSA	\$93,400	1984	4.4	76.5	1.3	2.9	3.6
Bristol Bay Borough	\$139,000	1982	4.1	94.5	1.6	5.9	1.4
Dillingham CSA	\$105,300	1982	4.2	93	18.6	14	5.8
Kodiak Island Borough	\$155,100	1978	4.9	86.6	1.8	1.6	2
Lake & Peninsula Borough	\$87,400	1985	3.2	89.6	13.9	9.9	9.9
Southwest Alaska	\$128,880	1980	4.4	87.3	6.1	5.3	4
Alaska	\$144,200	1979	4.7	35.8	6.3	5.6	3
U.S.	\$119,600	1971	5.3	9	0.6	0.7	2.4

<sup>144</sup> Source: U.S. Census Bureau, 2000 Census of the Population

One significant difference between the state and national housing and the Southwest Alaska housing stock is the use of fuel, oil or kerosene for heating. In the region, more than 87 percent of homes are heated with fuel, oil or kerosene. The use of heating fuels totals less than 36 percent of all housing on the state level. Heating fuel use is even lower on the national level at nine percent. The Bristol Bay Borough has the highest reported use of heating fuels at nearly 95 percent. More than three-quarters of the homes in the Aleutians West area use heating fuels, the lowest level in the region.

Other housing characteristics, such as complete plumbing and kitchen facilities and the availability of telephone service are presented in Table 10.8. On average, six percent of homes in the region do not have complete plumbing facilities. The Dillingham Census Area and the Lake & Peninsula Borough have the highest proportion of housing units without complete plumbing.

Housing units without complete kitchen facilities average 5.3 percent in the region. Three sub-regions, the Bristol Bay Borough, the Dillingham Census Area, and the Lake and Peninsula Borough, have housing stocks with rates of incomplete kitchen facilities that exceed the regional average and state rate.

On average, four percent of homes in the region have no telephone service, which is higher than the state (3%) and national (2.4%) levels for this characteristic. Nearly ten percent of homes in the Lake & Peninsula Borough do not have telephone service. Only 1.4 percent of homes in the Bristol Bay Borough lack telephone service.

Three housing authorities in the region are charged with providing homes and housing services to Alaska Native tribal members with incomes at or below 80 percent of the median income within a local jurisdiction. The Aleutian Housing Authority, the Bristol Bay Housing Authority, and the Kodiak Island Housing Authority develop and implement programs to eliminate substandard housing and increase local capacity to provide safe and affordable housing. These regional housing authorities work with the U.S. Department of Housing and Urban Development's Office of Native American Programs and the Alaska Housing Finance Corporation to fund housing development and programs.<sup>34</sup>

Even with a relatively small senior citizen population, as the trend of population aging continues the region's need for independent and assisted senior living facilities will increase. There are seven facilities in the region offering either independent or assisted living for senior citizens.

## Health Services

The health care system in Southwest Alaska has been shaped by the region's daunting geography and climate, multi-jurisdictional funding and governance, and the unique needs of the population. The remoteness of some villages and extreme weather conditions play important roles in determining access and availability of care. Special population segments such as Alaska Natives and military personnel often have separate health care systems, resulting in two or three health care

systems providing similar services in one community.

Although public health issues are almost entirely a state responsibility in Alaska, Native regional nonprofits and health corporations serve as de facto local/regional health departments for much of South-west Alaska. There are no local or borough public health departments in the region and only two in the state.

Only two communities in the region have acute care hospitals. Kanakanak Hospital in Dillingham is run by the Bristol Bay Area Health Corporation., which took over management of the hospital from the Indian Health Service in 1980.

In Kodiak, the Providence Kodiak Island Medical Center is owned by the Kodiak Island Borough with operational management provided by Providence Health System, the largest health care provider in Alaska. The Outpatient Specialty Clinic provides additional support services that include pediatrics, obstetrics, cardiology, urology, chronic pain and ear, nose and throat physician specialists.

EMS capabilities in the region are improving, in large measure due to Code Blue. The Alaska Department of Health and Social Services initiated the Code Blue project in 1999 to quantify the unmet needs of rural emergency medical services agencies. Through funding from the Denali Commission, the U.S. Department of Agriculture, and the Rasmuson Foundation, Code Blue is providing patient care, training, and communications equipment to rural communities. Ambulances and other

emergency vehicles are also included in the program. Many communities in Southwest Alaska are enhancing emergency medical services through Code Blue funding.<sup>35</sup>

Because of the limited availability of emergent and specialty health care in the region, air medical services are critical. Referrals to Anchorage and Seattle hospitals are common, often requiring medivac services. The need to travel for health care increases the overall cost of the health care system in the region.<sup>36</sup>

Throughout the region, efforts are underway to increase access and use of telemedicine resources to provide timely and accurate primary care. Many clinic and hospital sites in the region participate in the Alaska Federal Health Care Network (AFHCAN) telehealth initiative which seeks to improve access to health care for Federal beneficiaries in Alaska through sustainable telehealth systems.<sup>37</sup>

## Public Safety

The public safety needs of the region are addressed by several state and local agencies that employ both paid staff and community volunteers.

The Alaska State Troopers, a division of the Alaska Department of Public Safety, is charged with enforcement of all criminal and traffic laws of the State of Alaska. Identification and apprehension of violators and the prevention of crimes and traffic violations are their main tasks with an emphasis in areas not covered by a local police unit. Other responsibilities include the management of the Village Public

Safety Officer Program, serving of warrants, transportation of prisoners, and search-and-rescue missions.<sup>38</sup>

There are six Alaska State Trooper posts in Southwest Alaska: Dillingham, Iliamna, King Salmon, Cold Bay, Unalaska and Kodiak. Additionally, the State Troopers include fish and wildlife enforcement officers who have historically enforced state fishing and hunting laws and regulations.

For most communities in Southwest Alaska, the only form of local law enforcement or public safety is the Village Public Safety Officer (VPSO). The VPSO Program began in the late 1970's as a means of providing rural Alaskan communities with needed public safety services at the local level. The program was created to reduce the loss of life due to fires, drowning, lost persons, and the lack of immediate emergency medical assistance in rural communities. A cornerstone of the program is to train and employ individuals residing in the village as first responders to public safety emergencies such as search and rescue, fire protection, emergency medical assistance, crime prevention and basic law enforcement.<sup>39</sup>

The presence of these officers has had a significant impact on improving the quality of life in the participating villages. Working in tandem with the Alaska State Troopers, they can stabilize most volatile situations and protect crime scenes until the Troopers can arrive. VPSOs frequently conduct and complete misdemeanor and minor felony investigations with assistance provided by the State Troopers.<sup>40</sup> As with the CHA program, Native regional nonprofits serve a vital role in

coordinating, training, and otherwise assisting villages in the development and ongoing operation of the VPSO program.

Seven municipal police departments provide local public safety and law enforcement in the cities of Dillingham, Kodiak, Sand Point, St. Paul, King Cove and Unalaska, and the Bristol Bay Borough.

Fire protection in the region is also provided by multiple jurisdictions. Wild land fires on most public and Native corporation lands are the responsibility of the Bureau of Land Management, which maintains a fire service unit and deploys smoke jumpers and other fire fighting resources. As previously mentioned, VPSOs also provide basic fire protection services in many rural communities. The Alaska State Fire Marshal reports 40 community fire departments in Southwest Alaska.<sup>41</sup> As with other public services, the larger communities have municipally operated fire departments. Other mid-sized communities have a combination of paid staff and volunteers, however, most communities rely solely on volunteer fire fighters to provide fire protection.

## Cultural and Recreational Facilities

The cultures and history of Southwest Alaska enrich daily life in this remote region. The four indigenous cultures of the region Aleut, Alutiiq, Athabascan and Yup'ik make it one of the most diverse areas of the state. Russian colonization, the American territorial period, the World War II era, and

more recent history have all left indelible imprints on the area. The influence of the region’s maritime location and seafood industry add to the mystique of an already unique place.

Museums Alaska identifies seven active museums or cultural centers in Southwest Alaska.<sup>42</sup> The Sam Fox Museum in the City of Dillingham includes displays of Central Yup’ik Eskimo baskets, carvings and skin sewing, and the history of Bristol Bay fisheries. There are four museums in the City of Kodiak: the Alutiiq Museum & Archaeological Repository, the Baranov Museum, the Kodiak Maritime Museum, and the Kodiak Military History Museum. The Museum of the Aleutians in Unalaska presents the culture and history of the Aleutians and Pribilof Island region from Pre-history through the Russian-American period and WWII to the present day. Unalaska is also home to the World War II National Historic Park and Visitors Center, which provides visitors with pictures, artifacts, and movies detailing Dutch Harbor’s role in WWII. Other communities and tribal councils are seeking ways to develop museum or cultural centers to preserve and interpret local culture and history.

According to the Alaska State Council on the Arts, there are three active local arts councils in the region: the Aleutians Arts Council in Unalaska, the Dillingham Arts Council, and the Kodiak Council on the Arts. These organizations developed local performing arts programs and work in conjunction with the ASCA to bring other performances to the local community. Many communities have ad hoc or special interest groups that develop and present performing arts programs. Some area schools have drama, dance, and choir programs.

School facilities generally serve as venues for performing arts and other community gatherings. In some larger communities, community halls or tribal halls serve this purpose. Many communities are working to expand existing or develop new multipurpose community centers, based on funding availability from the Denali Commission.

There are numerous traditional Native dance groups in the region. These groups perform locally, at festivals, and travel to other communities and countries to share the traditional dance of the Aleut, Alutiiq, and Yup’ik cultures. Other communities are developing traditional dance groups through school-based programs, spirit camps, or efforts by the local tribal council or regional nonprofit. Larger communities also have private or school-based dance programs for ballet and modern dance.

Community celebrations and special events are also an important part of the region’s cultural landscape. Special events and community celebrations help mark the passing of the seasons, commemorate historical events, and recognize what makes the communities and people of Alaska’s Southwest so special. Many of these events are listed at [www.southwestalaska.com](http://www.southwestalaska.com).

There are 12 public libraries in the region that provided 2005 operating statistics to the Alaska State Library.<sup>44</sup> A handful of libraries are operated by city, borough, or tribal governments. In many communities, school libraries serve as the public library. Combined, the twelve reporting libraries averaged more

than 19.04 circulations per capita. Clearly, libraries are important to communities in Southwest Alaska. Table 10.10 profiles public library usage in the region.

**Table 10.9: Museums in Southwest Alaska**

Community	Museum or Cultural Center
Dillingham	Sam Fox Museum
Kodiak	Alutiiq Museum & Archaeological
Kodiak	Baranov Museum
Kodiak	Kodiak Military History Museum
Kodiak	Kodia Maritime Museum
Unalaska	Museum of the Aleutians
Unalaska	World War II National Historic Park and Visitors Center

Source: Museums Alaska

The visual arts are also important in Southwest Alaska. Native artists continue traditional art forms such as basketry, beaded jewelry and headdresses, masks, carvings, and more. These traditional art forms are also being reinterpreted into contemporary variations using nontraditional media, combining cultural styles, and incorporating other artistic influences. Museums, galleries and gift shops offer locally made arts and crafts ranging from original paintings and prints, to carvings, jewelry, and other Alaskans.

During the current planning cycle, efforts will be made to continue the regional tourism marketing effort. The SWAMC Board of Directors and past CEDS Committees have identified development of cultural tourism opportunities as a way to increase overall tourism activity and increase wealth retention in the region.

Residents of Southwest Alaska enjoy an active outdoor lifestyle. Hunting, fishing, and trapping are primarily subsistence activities, but also offer recreational value. However, residents of the region also pursue other outdoor recreation pursuits including kayaking, hiking, mountain biking, running, rock climbing, beachcombing, surfing, golfing, and much more. The relatively mild winter in the region makes many outdoor activities possible year-round. Snowmobiling, cross-country skiing, telemarking, and snowboarding are possible in some communities.

The cities of Kodiak and Unalaska have municipal parks and recreation departments and offer a variety of recreational options from fitness trails to swimming pools. In many communities, school facilities serve as the de facto recreation program. Limited athletics

programs are offered by most schools, but small school enrollments make it difficult to offer competitive sports in most communities.

Basketball is the most popular organized sport in rural Alaska and many schools in the region field competitive teams. Port Lions, Newhalen, and Kodiak all sent teams to the 2010 state basketball championships.<sup>45</sup> The annual Joe Floyd Basketball Tournament in Kodiak draws teams from around the state and residents of the region are ardent supporters of college basketball tournaments held in Anchorage.

Community service and nonprofit organizations arrange organized sports programs such as football, baseball and soccer in some communities. However, the concentration of economic activity in the summer makes

**Table 10.10: Circulation and Interlibrary Loan by Population FY2005**

Library	Population	Adult Book Circulation	Juvenile Book Circulation	Total Book Circulation	All Other Circulation	Total Circulation	Circs Per Capita	ILLs Provided	ILLs Received
Kodiak	13,175	41,326	29,682	71,008	24,089	95,097	7.22	772	377
Unalaska	4,297	68,270	3,784	72,054	24,578	96,632	22.49	27	2,380
Dillingham	2,370	17,073		17,073	0	17,073	7.20	0	150
Sand Point	939	3,600	20,000	23,600	1,443	25,043	26.67	9	40
Naknek	653	2,362	1,877	4,239	5,161	9,400	14.40	0	203
Port Lions	220	135	118	253	588	841	3.82	0	0
Ouzinkie	191	276		276	690	966	5.06	0	4
Cold Bay	89	300	311	611	1,599	2,210	24.83	0	0
Pilot Point	73	1,000	120	1,120	104	1,224	16.77	0	0
False Pass	63	470		470	615	1,085	17.22	0	1
Chiniak	52	600	600	1,200	350	1,550	29.81	0	0
Igiugig	50	350	1,450	1,800	850	2,650	53.00	9	0
<b>Total</b>	<b>663,661</b>	<b>1,769,323</b>	<b>905,395</b>	<b>2,674,718</b>	<b>1,361,035</b>	<b>4,035,753</b>	<b>6.08</b>	<b>22,964</b>	<b>30,854</b>

organized sports and recreation difficult if not impossible. Some communities have local running, hiking, and biking clubs.

## Environmental Issues

### Air Quality

Due to limited funds, the Alaska Department of Environmental Conservation (DEC) does not conduct air quality monitoring in rural Alaska. The low density of development, small industrial base and general climatic conditions lends to maintaining good air quality in Southwest Alaska.

Despite the lack of monitoring, many businesses in the region are subject to state air quality regulations. Seafood processing plants are required to obtain Air Quality Control Permits from DEC. These plants have the potential to emit regulated air contaminants including nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide and volatile organic compounds. Most plants have a high level of diesel fuel combustion, which results in nitrogen oxide emissions.<sup>46</sup>

DEC reports that the rural air quality complaints generally focus on summer season fugitive dust. Virtually all village and some city roads are unpaved. Once break-up occurs, large dust clouds are generated by off-road vehicles and other vehicular traffic. Local governments are concerned about the high cost to effect compliance with the PM10 standard, and the long-term effect of any control measures.<sup>47</sup> Vehicles in the region are not subject to

emissions testing, which is confined to the state's urban areas.

Other air quality issues include the monitoring for releases of radionuclides from contamination on Amchitka Island from a test blast in the 1970s.

### Water Quality

DEC monitors water quality issues in the state including identification and assessments of impaired waters and contaminated sites, monitoring of above and underground storage tanks, and other programs to maintain or restore water quality. In 2010, DEC drafted the Integrated Water Quality Monitoring and Assessment Report. The report describes the nature, status and health of Alaska's waters and identifies impaired waters in need of action to recover water quality. Ten sites in Southwest Alaska require some level of remedial action to fully recover water quality.<sup>48</sup>

### Hazardous Waste

There is one EPA superfund site in the region: the Adak Naval Air Station. Work is ongoing where hazardous substances were disposed of in landfills, storage areas, drum disposal areas, spill sites, and pits for waste oil and fire-fighting training over a period of 40 years.

The state of Alaska has approximately 200 to 250 small open dumps that pose a reasonable threat to public health and the environment. Waste is managed poorly in many rural areas of Alaska because small communities often lack sufficient economic resources to properly manage waste. In addition, rural and small

communities often lack specialists with the knowledge and skills necessary to properly manage the wide variety of wastes received. An open dump is defined as a solid waste disposal facility that fails to comply with federal environmental and public health performance standards. Properly functioning solid waste systems should safely dispose of such hazardous wastes as batteries, used motor oil or refrigerator coolants.<sup>49</sup>

### Endangered and Threatened Species

The Fish and Wildlife Service, in the Department of the Interior, and the National Oceanic and Atmospheric Administration (NOAA) Fisheries, in the Department of Commerce, share responsibility for administration of the Endangered Species Act (ESA). Congress passed the Endangered Species Act in 1973, stating that many of the nation's native plants and animals were in danger of becoming extinct. The purposes of the Act are to protect these endangered and threatened species and to provide a means to conserve their ecosystems.

A number of endangered, threatened, and depleted species have been designated by the federal government. The State of Alaska also identifies endangered and threatened species, including plants, marine mammals, birds, and land mammals.

In 2000, Greenpeace, et. al filed a lawsuit against the National Marine Fisheries Service (NMFS) regarding the enforcement of the ESA specific to the western Steller sea lion population. This action resulted in federal fisheries closures in a broad expanse of the

Steller's traditional range. Individuals, businesses and communities in Southwest Alaska experienced economic losses in excess of \$130 million in Southwest Alaska. Throughout the next planning cycle, SWAMC seeks to redefine interaction with the environmental community on issues that may impact the region. This effort is designed to take a proactive position on ESA issues and to stave off potentially devastating economic hardships.

Currently designated endangered and threatened species are:<sup>50</sup>

**Northern Sea Otter** - Endangered

Aleutian Islands, Alaska Peninsula, Kodiak Archipelago

**Steller sea-lion** – Endangered

On April 10, 1990, the Steller sea-lion was designated as Endangered in the Population segment west of 140 W. Longitude. The Alaska Maritime, Izembek, Kodiak, and Togiak National Wildlife Refuges take in part of the range of these critters. The U.S. Fish & Wildlife Service National Marine Fisheries Service is the lead region for this entity, and NMFS was due to release a new status report on the health of the western Steller sea-lion stock at the time of this document in 2010.

**Short-tailed Albatross** – Endangered

On June 02, 1970, the short-tailed albatross was designated as endangered in the entire range. In Southwest Alaska, this range includes the Aleutian Islands, the Bering Sea, and the Gulf

of Alaska. The U.S. Fish & Wildlife Service Alaska Region is the lead region for this entity.

**Steller's Eider** – Threatened

On June 11, 1997, the Steller's eider was designated as threatened in the U.S.A. (AK breeding population only). In Southwest Alaska, the range of the Steller's eider includes the Alaska Maritime, Alaska Peninsula, Becharof, Izembek, Kodiak and Togiak National Wildlife Refuges, as well as other critical habitat areas in the region. The U.S. Fish & Wildlife Service Alaska Region is the lead region for this entity.

**Spectacled Eider** – Threatened

On May 10, 1993, the spectacled eider was designated as Threatened in the Entire Range. Within Southwest Alaska the Spectacled eider frequents the Alaska Maritime and Togiak National Wildlife Refuges. The U.S. Fish & Wildlife Service Alaska Region is the lead region for this entity.

**Humpback Whale** – Endangered

On June 02, 1970, the humpback whale was designated as endangered in the entire range. Hump-back whales are found in the waters around the Alaska Maritime and Kodiak National Wildlife Refuges and the range includes Western Aleutians, Western Bering Sea, and the Gulf of Alaska. The U.S. Fish & Wildlife Service National Marine Fisheries Service is the lead region for this entity.

**Northern Right Whale** – Endangered

Pribilof Islands, Aleutians, Gulf of Alaska (not near shore)

**Blue Whale** – Endangered

During the summer they may be found across the Gulf of Alaska, but they seldom enter the eastern Bering Sea. Historical areas of concentration include the eastern Gulf of Alaska, the eastern Aleutians, and the far western Aleutians. Blue whales spend most of their time along the edges of continental shelves and are seldom seen in coastal Alaska waters.

**Finback Whale** – Endangered

On June 02, 1970, the finback whale was designated as Endangered in the Entire Range. Within Southwest Alaska, the finback whale Alaska Maritime and Kodiak National Wildlife Refuges. The U.S. Fish & Wildlife Service National Marine Fisheries Service is the lead region for this entity.

**Bowhead Whale** – Endangered

On June 02, 1970, the bowhead whale was designated as Endangered in the Entire Range. Within the area covered by this listing, this species is known to occur in: Alaska; Oceanic (north latitudes only). The U.S. Fish & Wildlife Service National Marine Fisheries Service (NMFS) is the lead region for this entity. The range of the bowhead whale includes the waters of the Alaska Maritime Wildlife Refuge.

**Aleutian shield fern** – Endangered

On February 17, 1988, the Aleutian shield fern was designated as Endangered in the Entire Range. Within the area covered by this listing, this species is known to occur in: Alaska. The U.S. Fish & Wildlife Service Alaska Region is the lead region for this entity.

In addition to the endangered Aleutian shield fern, the State of Alaska has identified rare vascular plants as endangered, sensitive, or rare. Development in some remote areas may require increasing information about the locations, densities and distribution of these plant species. Knowing about the presence of rare species ahead of time allows development projects to be planned so as to minimize disturbance to those populations and also reduces delays during the regulatory and environmental review process. Federal agencies also recognize the state's rare plant designation.

Rare plants have been identified in the Aleutians West Census Area and the Kodiak Island Borough. The Aleutian wormwood, Aleutian whitlow-grass, Aleutian saxifrage, and Aleutian shield fern are listed on the state's rare plant inventory. In the Kodiak Island Borough, Sessile-leaved scurvy grass and Calder's lovage have been catalogued.

### **Cultural Resources**

The Alaska Heritage Resources Survey (AHRS) is an inventory of all reported historic and prehistoric sites within the State of Alaska and is maintained by the Alaska Department of Natural Resources, Division of Parks & Recreation, Office of History and Archaeology. This inventory of cultural resources includes objects, structures, buildings, sites, districts,

and travel ways, with a general provision that they are over 50 years old. To date over 27,000 sites have been reported within Alaska (however, this is probably only a small percentage of the sites that may actually exist but are as yet unreported). Access to site location information contained in the AHRS is closed to the general public.<sup>51</sup>

Cultural and heritage resources in the AHRS and the NHR generally fall into three broad categories: Alaska Native cultural sites, Russian Orthodox churches, and World War II sites. Marine archaeological sites and shipwrecks are also scattered throughout the region.

Development of additional infrastructure and economic activity may encroach on archaeological and cultural resources. The National Historic Preservation Act dictates a process for assessing, protecting, and mitigating the impacts of development on cultural and archaeological resources on federal lands. For projects that involve public funds or permitting, these requirements extend to development on private lands. Public and private developments should seek advance consultation with regional tribal governments and cultural institutions to determine the proper course of action if cultural or archaeological resources are encountered.

**Table 10.11.A: Listings in the National Register of Historic Places located in the Aleutians East Borough**

	<b>Aleutians East Borough</b>	<b>Address</b>	<b>City</b>	<b>Listed</b>
Source: NRIS	St. Alexander Nevsky Chapel	In Akutan	Akutan	6/6/1980
	St. Nicholas Chapel	In Sand Point	Sand Point	6/6/1980
	Holy Resurrection Church	In Belkofski	Belkofski	6/6/1980
	Port Moller Hot Springs Village Site	Address Restricted	Port Moller	4/20/1979

**Table 10.11.B: Listings in the National Register of Historic Places located in the Aleutians West Census Area**

	<b>Aleutians West Census Area</b>	<b>Address</b>	<b>City</b>	<b>Listed</b>
Source: NRIS	Temnac P-38G Lightning	Address Restricted	Aleutian Islands	6/26/1979
	Adak Army Base and Adak Naval Operating Station	Roughly bounded by Cape Adagdak,	Adak Station	2/27/1987
	Ananiuliak Island Archeological District	Address Restricted	Ananiuliak Island	3/24/1972
	Atka B-24D Liberator	Address Restricted	Atka	7/26/1979
	Attu Battlefield and U.S. Army and Navy Airfields on Attu	Attu Island	Aleutian Islands	2/4/1985
	Japanese Occupation Site, Kiska Island	Kiska Island	Aleutian Islands	2/4/1985
	Cape Field at Fort Glenn (Umnak Island)	NE section of Umnak Island	Fort Glenn	5/28/1987
	Anangula Archeological District	Address Restricted	Nikolski	6/2/1978
	Chaluka Site	Address Restricted	Nikolski	10/15/1966
	St. Nicholas Church	In Nikolski	Nikolski	6/6/1980
	Fur Seal Rookeries	St. Paul and St. George Islands	Pribilof Islands	10/15/1966
	St. George the Great Martyr Orthodox Church	On St. George Island	St. George Island	6/6/1980
	Sts. Peter and Paul Church	On St. Paul Island	St. Paul Island	6/6/1980
	S.S. NORTHWESTERN Shipwreck Site	Address Restricted	Unalaska	9/12/1994
	Sitka Spruce Plantation	N of Unalaska on Amaknak Island	Unalaska	2/14/1978
	Church of the Holy Ascension	In Unalaska	Unalaska	4/15/1970
	Dutch Harbor Naval Operating Base and Fort Mears, U.S. Army	Amaknak Island	Unalaska	2/4/1985

**Table 10.11.C: Listings in the National Register of Historic Places located in the Bristol Bay Borough**

Bristol Bay Borough	Address	City	Listed
Brooks River Archeological District	Address Restricted	Naknek	2/14/1978
Elevation of Holy Cross Church	In South Naknek	South Naknek	6/6/1980
Fure's Cabin	Katmai National Park and Preserve	King Salmon	2/7/1985
Old Savonoski Site	Address Restricted	Naknek	6/23/1978
Savonoski River Archeological District	Address Restricted	Naknek	6/23/1978

Source: NRIS

**Table 10.11.D: Listings in the National Register of Historic Places located in the Dillingham Census Area**

Dillingham Census Area	Address	City	Listed
Pilgrim 100B Aircraft	Dillingham Municipal Airport	Dillingham	8/7/1986
St. Nicholas Chapel	In Ekuk	Ekuk	6/6/1980
Transfiguration of Our Lord Chapel	In Nushagak	Nushagak	6/6/1980

Source: NRIS

**Table 10.11.E: Listings in the National Register of Historic Places located in the Lake & Peninsula Borough**

Lake & Peninsula Borough	Address	City	Listed
Aniakchak Bay Historic Landscape District	Surrounding the Aniakchak River from	Chignik	2/14/1997
St. Nicholas Chapel	In Igiugig	Igiugig	6/6/1980
St. Nicholas Chapel	In Nondalton	Nondalton	6/6/1980
Kijik Archeological District	Address Restricted	Nondalton	10/12/1994
Kijik Historic District	Address Restricted	Nondalton	1/29/1979
St. Nicholas Chapel	In Pedro Bay	Pedro Bay	6/6/1980
St. John the Theologian Church	In Perryville	Perryville	6/6/1980
St. Nicholas Church	In Pilot Point	Pilot Point	6/6/1980

Source: NRIS

## Endnotes

- <sup>1</sup> <http://www.tax.alaska.gov/programs/documentviewer/viewer.aspx?1896f>
- <sup>2</sup> IBID
- <sup>3</sup> IBID
- <sup>4</sup> [IBID](#)
- <sup>5</sup> <http://www.commerce.state.ak.us/dca/osa/pub/09Taxable.pdf>
- <sup>6</sup> <http://www.tax.alaska.gov/programs/programs/index.aspx?60620>
- <sup>7</sup> <http://touchngo.com/Iglcntr/akstats/Statutes/Title29/Chapter45.htm>
- <sup>8</sup> <http://www.commerce.state.ak.us/dca/osa/pub/09Taxable.pdf>
- <sup>9</sup> [http://www.commerce.state.ak.us/dca/osa/pub/09Taxable\\_less\\_statutes.pdf](http://www.commerce.state.ak.us/dca/osa/pub/09Taxable_less_statutes.pdf)
- <sup>10</sup> IBID
- <sup>11</sup> <http://www.nbc.gov/pilt/pilt/search.cfm#search>
- <sup>12</sup> **Alaska Journal of Commerce, August 2002**
- <sup>13</sup> <http://www.state.ak.us/local/03040901.htm>
- <sup>14</sup> [http://www.commerce.state.ak.us/dca/osa/pub/09Taxable\\_less\\_statutes.pdf](http://www.commerce.state.ak.us/dca/osa/pub/09Taxable_less_statutes.pdf)
- <sup>15</sup> [http://www.commerce.state.ak.us/dca/edrg/EDRG\\_BrowsePage\\_Template.cfm?Program\\_Name=Alaska+Municipal+Bond+Bank+Authority](http://www.commerce.state.ak.us/dca/edrg/EDRG_BrowsePage_Template.cfm?Program_Name=Alaska+Municipal+Bond+Bank+Authority)
- <sup>16</sup> [http://www.dced.state.ak.us/bsc/pub/2010\\_Directory.pdf](http://www.dced.state.ak.us/bsc/pub/2010_Directory.pdf)
- <sup>17</sup> <http://www.wellsfargo.com>
- <sup>18</sup> <http://www.commerce.state.ak.us/investments/permitsale.cfm>
- <sup>19</sup> <http://nces.ed.gov>
- <sup>20</sup> IBID
- <sup>21</sup> <http://www.northwestaccreditation.org>
- <sup>22</sup> <http://aprn.org/2010/04/02/senate-changes-funding-formula-for-rural-schools/>
- <sup>23</sup> <http://aprn.org/2010/04/02/senate-changes-funding-formula-for-rural-schools/>
- <sup>24</sup> <http://www.uaf.edu/bbc/programs.html>
- <sup>25</sup> <http://www.savec.org/index.asp?Type=NONE&SEC={14137915-9F19-4077-89D5-C119D89D7752}>
- <sup>26</sup> <http://www.koc.alaska.edu/degrees.asp>
- <sup>27</sup> <http://www.sfos.uaf.edu/fitc/about/>
- <sup>28</sup> <http://www.census.gov>
- <sup>29</sup> IBID
- <sup>30</sup> IBID and see discussion regarding population density in section five
- <sup>31</sup> <http://www.census.gov>
- <sup>32</sup> IBID
- <sup>33</sup> <http://www.ahfc.state.ak.us/>
- <sup>34</sup> <http://www.alaska.net/~aaha/>
- <sup>35</sup> <http://www.chems.alaska.gov/>
- <sup>36</sup> IBID
- <sup>37</sup> <http://www.anthc.org/index.cfm>
- <sup>38</sup> <http://www.dps.state.ak.us/ast/>
- <sup>39</sup> IBID
- <sup>40</sup> IBID
- <sup>41</sup> <http://www.dps.state.ak.us/Fire/docs/FDDirectory.pdf>
- <sup>42</sup> <http://www.museumsalaska.org>
- <sup>43</sup> IBID

<sup>44</sup> <http://www.library.state.ak.us/>

<sup>45</sup> <http://www.asaa.org/>

<sup>46</sup> <http://www.state.ak.us/dec/waterhome.htm>

<sup>47</sup> IBID

<sup>48</sup> IBID

<sup>49</sup>

<http://yosemite.epa.gov/r10/cleanup.nsf/webpage/Alaska+Cleanup+Sites>

<sup>50</sup>

[http://www.fws.gov/ecos/ajax/tess\\_public/pub/stateOccurrenceIndividual.jsp?state=AK](http://www.fws.gov/ecos/ajax/tess_public/pub/stateOccurrenceIndividual.jsp?state=AK)

<sup>51</sup> <http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm>

# 11.0

## CEDS Planning & Performance Evaluation Process

The CEDS Committee/SWAMC Board of Directors met on August 21-23, 2009 in a strategic planning retreat to review both economic issues within the region and the performance of the organization. This session was a continuation of twenty years of economic development planning efforts for the region, monthly board meetings throughout the past planning cycle, and other planning sessions, conferences and workshops that have identified and explored regional issues.

### Participants

Kara Sandvik, Wells Fargo Bank; Alice Ruby, Bristol Bay Economic Development Corporation; Trevor Brown, Kodiak Chamber of Commerce; Glen Gardner, City of Sand Point; Joe Sullivan, Mundt MacGregor; Ernest Weiss, City of King Cove; Louise Stutes, Kodiak Island Borough; Terry Haines, City of Kodiak; Shirley Marquardt, City of Unalaska. Michael Catsi, SWAMC Executive Director; Andy Varner, SWAMC Economic Development Specialist; Brett Welcher, SWAMC Planning VISTA; and Kathryn Abbott, SWAMC Special Projects VISTA. Participants in spirit: Lamar Cotten, Lake & Peninsula Borough.

### CEDS Planning Process

As context is always important to enable a group to stay on task, Michael Catsi provided an overview of the CEDS process and timeline. A discussion with the full group ensued about:

- The value of the CEDS document,
- The value of conducting the CEDS development process, and
- Recommendations to improve the CEDS process.

Following this discussion, SWAMC's Planning VISTA, Brett Welcher, gave a presentation to the group regarding progress made, changes for the new CEDS, and work to be done.

### 2010 CEDS Process

As a starting point, the committee reviewed the 2003 CEDS document and subsequent updates. SWAMC staff then described efforts to collect information from the region:

- Discussions with other economic development organizations, managers and staff from boroughs, cities, and communities
- Reviewed local community reports
  - Staff found that the information from the region was in inconsistent formats, and that different information was compiled in different locales.
  - Staff sifted through reports from communities to find commonalities.
  - Issued multiple calls for capital projects and cross-prioritization within sub-regions. This information is desired from funding agencies, but there's resistance from region due to concerns about projects being downgraded or ignored by funders

As the CEDS Committee, the SWAMC Board of Directors gave approval of the work done so far, and it was recommended that we revisit the issue after the Annual Membership Meeting in February 2010. After more discussion in the early part of the year, the CEDS Committee recommended action to:

- Post document on SWAMC website for 30 day stakeholder comment period before sending along for Federal approval.
- Finalize and send to U.S. Economic Development Agency (EDA) and DCCED
- CEDS Document will also be used to work more effectively with the:
  - Economic Development Administration

- Alaska Department of Community & Economic Development
- Denali Commission and other agencies

### Recommendations to improve the CEDS process

- Assist communities to use more standardized format and information collection
- Work to overcome or work around confidentiality issues for data from state and federal agencies
- Add in a component at the annual meeting regarding CEDS
  - Its value to the region
  - Provide information about what EDA and others (e.g., Denali Commission) are looking for, such as cross-prioritization of capital projects and why this is going to be increasingly important for the Region.
- Ensure that the CEDS compliments local/village plans and projects
  - SWAMC strives to do this by creating a CEDS document that is broad [not every project needs to be in a plan (per conversations with EDA). EDA checks in with SWAMC to see if the project is consistent with the broader Regional CEDS. SWAMC identifies how projects align with the CEDS and issues a letter of support].
- Perhaps SWAMC should consider what fish issues exist where there are no inherent conflicts that exist and build on that. (Been talked about for a number of years)

### SWAMC's Purpose and Value

The Board last had a strategic planning retreat in February 2007, and they reviewed SWAMC's Mission and Vision. The Board found these two statements consistent with SWAMC's current and future efforts.

#### SWAMC's Mission

The Southwest Alaska Municipal Conference is a regional membership organization that advances the collective interests of Southwest Alaska people, business and communities.

### SWAMC's Vision

SWAMC helps promote economic opportunities to improve the quality of life and influence long term responsible development.

## Performance Evaluation

The CEDS Committee/SWAMC Board of Directors views performance evaluation as an essential part of the CEDS planning and development process. Such an evaluation provides an opportunity to determine the efficacy of the plan, identify mid-course adjustments, and otherwise refine and focus ongoing implementation efforts throughout the planning cycle.

During the strategic planning retreat, the Board determined that the CEDS should be distributed widely throughout the region via the SWAMC website and newsletter. This will provide an opportunity for direct feedback from municipalities and other members in the region. The CEDS is viewed as a living document and feedback is important to give the effort meaning. Further, it is an opportunity to assess initial implementation of the action plan.

EDA has several performance measures which guide their investments in EDDs. With the updated CEDS, SWAMC strived to meet the desired outcomes of these measures. However, as with most issues in rural Alaska, it is often exceedingly difficult to meet measurements sent down from Washington DC. Many of the measures pigeonhole efforts and cannot truly reflect economic opportunities in Alaska. SWAMC will continue to advocate for more appropriate development measures in rural Alaska.

EDAs performance measures are:

- Number of jobs created after implementation of CEDS
- Number and types of investments undertaken in the region
- Number of jobs retained in the region
- Amount of private sector investment in the region after implementation of the CEDS, and
- Changes in the economic environment in the region.

In addition to its Performance Measures, EDA has several Action Plan objectives that they like to see in CEDS documents, and staff and Board

tried to reach these. The objectives that directly pertain to SWAMC's CEDS Action Plan include:

- Promotes economic development
- Fosters transportation access
- Enhances and protects the environment
- Promotes the use of technology in economic development, including access to high-speed telecommunications
- Balances resources through sound management of physical development, and
- Obtains and utilizes adequate funds and other resources

At the end of each program year, SWAMC staff will prepare an assessment of each goal, objective and strategy in the action plan. This process is consistent with the performance evaluation requirements of the EDA, which includes:

- the extent to which the annual work plan is consistent with identified CEDS goals
- the extent to which the annual work plan is consistent with the CEDS objections
- the extent to which the organization is meeting the performance measures specified in the annual work plan.

In addition to these EDA requirements, SWAMC has reviewed performance evaluation measures used by other EDDs and will use the following measures as indicators of performance:

- Quality of the Regional CEDS
  - Usefulness of the economic analysis
  - Appropriateness of Vision Statement
  - Relevance of the goals to the economic situation and community conditions
  - Completion of the annual work plan
- Extent of participation by government, business, and community leaders
  - Board of Directors meeting attendance
  - Establishment of effective committee structure
  - District Communication and dissemination of information
- Number of EDA grants award based on CEDS strategy
- Hours of non-EDA-funded staff/volunteer activity in CEDS process

These measurements will be reported in the annual report to the EDA along with the required assessments.

# 12.0 Vision, Goals, Objectives & Strategies

## Goal I: Economic Development

Facilitate and support efforts that grow and retain the region's wealth, including diversifying the economic base, resulting in optimal benefits for the residents of Southwest Alaska.

### Objective I.A: Fisheries Development

Promote healthy, sustained yield fisheries that provide a sustainable income base to the communities, businesses, and residents of Southwest Alaska.

**Strategy I.A.1:** Monitor fisheries regulatory, management, and marketing issues that may impact Southwest Alaska fisheries. Influence policies, management, and environmental initiatives to create a more stable fisheries economy in the region.

**Strategy I.A.2:** Facilitate and support industry, state and local efforts to expand seafood

marketing efforts and develop new seafood markets.

### Objective I.B.: Tourism Development

Increase jobs, tax revenues, capital investments, new business start-ups, and local wealth retention in the tourism sector.

**Strategy I.B.1:** Develop and maintain a regional tourism marketing program.

**Strategy I.B.2:** Influence federal, state, and local policies and management plans regarding public lands, fish and wildlife resources, infrastructure, and marketing.

### Objective I.C: Regional Economic Planning

A comprehensive regional economic plan integrated with sub-regional and local planning efforts that focus on increasing wealth retention in the region and improving the quality of life.

**Strategy I.C.1:** Coordinate an ongoing regional economic planning effort and supplemental research that highlights the economic needs and challenges of Southwest Alaska.

### Objective I.D: Small Business Development

Increased jobs, tax revenues, capital investments, and wealth retention due to new business startups in the region.

**Strategy I.D.1:** Develop appropriate methods to encourage and facilitate new businesses start-ups and provide technical assistance to existing businesses.

### Objective I.E: Other Business and Resource Development

The economic base of Southwest Alaska is increasingly diversified through the development of non-fisheries resources and the expansion of other economic sectors thereby reducing the region's fisheries-dependency.

**Strategy I.E.1:** Encourage the development of targeted industries that are compatible and complementary with existing development in Southwest Alaska and local community interests.

### Objective I.F: Workforce Development

Residents of Southwest Alaska are well educated and trained to assume existing and emerging jobs within the region.

**Strategy I.F.1:** Increase the capacity of individuals to participate effectively in the workplace, thereby improving their productivity and employability by aligning industry needs with job and skill training programs.

## Goal II: Community Development

Facilitate and support efforts to improve the quality of life for communities in Southwest Alaska, thereby creating an environment for sustainable economic development.

### Objective II.A: Infrastructure Development

Southwest Alaska has a comprehensive, sustainable and multi-faceted infrastructure network that meets the region's social, cultural and economic needs.

**Strategy II.A.1:** Facilitate the development of an integrated transportation infrastructure that expedites the movement of people and goods to, through, and out of Southwest Alaska thereby enhancing economic competitiveness and quality of life.

**Strategy II.A.2:** Support efforts for Southwest Alaska communities, businesses and residents to have sufficient access to communication and information infrastructure to be competitive in world markets and realize educational, medical, and other benefits.

**Strategy II.A.3:** Reduce energy costs by promoting energy efficiency, conservation and the development of renewable energy sources throughout Southwest Alaska.

### Objective II.B: Community Planning

Aid communities in the Southwest Region establish long term visions, goals and plans for sustainable community development.

**Strategy II.C.1:** Provide guidance in creating community-based plans that are the foundation and guiding tool for community change.

## Goal III: Organizational Development

Expand and strengthen the ability of the Southwest Alaska Municipal Conference to advance the economic and social interests of southwest Alaska.

### Objective III.A: Communications

SWAMC maintains and engages an extensive network of partners in ongoing communication about the activities of the organization and the state of the region.

**Strategy III.A.1:** Increase and broaden communication between SWAMC, communities, borough, members, partner organizations, and the general public to build understanding about the region, its economy, and the needs of its residents.

### Objective III.B: Policy and Issue Advocacy

SWAMC influences the development of state and federal policies to create favorable

outcomes for its communities, members, and partners.

**Strategy III.B.1:** Create consensus on regional and local issues that will advance the collective interests of the region.

### Objective C: Organizational Efficiency and Effectiveness

The Southwest Alaska Municipal Conference enjoys the visionary leadership of a fully engaged Board of Directors, contributions and participation of motivated volunteers, the productivity of a capable staff, and the involvement of interested and worthy partners. It is well-managed, financially secure, and progressive in developing programs and policies that further the collective interests of the region.

**Strategy III.C.1: Volunteers:** Engage municipal and associate members in leadership, committee, and other volunteer assignments to help guide and shape programs and policies.

**Strategy III.C.2: Membership Development:** Increase municipal and private sector membership investments and participation in SWAMC.

**Strategy III.C.3: Finances and administration:** Expand the financial resources and administrative capacities of the organization.

## **Appendix A: Community Improvement Projects**

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians East Borough									
Aleutians East Borough	1	2009	Akutan Airport & Marine Link	\$77,385,534		DOT&PF		Construction	Aviation
	2	2009	Akutan Harbor	\$24,000,000	\$10,400,000	COE		Construction	Ports/Harbor
	3	2009	King Cove Hovercraft Road	\$25,000,000		DOT&PF		Construction	Roads
	4	2009	Sand Point New Harbor Floats & Infrastructure	\$5,000,000	\$0			Construction	Ports/Harbor
	5	2009	Cold Bay Airport Apron			DOT&PF		Planning	Aviation
	6	2009	Nelson Lagoon Water System Improvements			ANTHC		Design	Public Works
	7	2009	False Pass Harbor Utilities & Infrastructure					Planning	Ports/Harbor
	8	2009	Sand Point School Loop Road Rehabilitation	\$6,000,000		DOT&PF		Design	Roads
	9	2009	Akutan Harbor Road	\$12,000,000	\$3,100,000	DOT&PF		Design	Roads
	10	2009	Cold Bay Clinic			ANTHC		Planning	Health
	11	2009	Nelson Lagoon Wastewater System Feasibility and Design			ANTHC		Planning	Public Works
	12	2009	Nelson Lagoon Seafood Plant			APICDA		Proposal	Economic Development
	13	2009	Cold Bay Airport Terminal Improvements			DOT&PF		Construction	Aviation
	14	2009	False Pass Wastewater System Construction			ANTHC		Construction	Economic Development
	15	2009	Aleutians East Borough School Building Improvements			DOE		Design	School Facilities

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians East Borough									
Akutan	1	2009	Akutan Airport/Marine Link	\$77,385,534	\$77,385,534	FAA/ SAFETEA-LU DOT/DC/AEB	On-going	Construction	Aviation
	2	2009	Akutan Harbor	\$24,000,000	\$12,400,000	ACOE/AEB/SOA/AC	On-going	Construction	Port/Harbor
	3	2009	Akutan Harbor Road	\$12,000,000	\$0	BIA	Planning	Permitting, Design	Port/Harbor
	4	2009	Hot Springs Bay Geothermal Project	\$45,000,000	\$3,395,000	AEA/TAC/AC/DOE	On-going	Assessment	Energy

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians East Borough									
Cold Bay	1	2009	Airport Apron					Planning	Aviation
	2	2009	Health Clinic					Planning	Health
	3	2009	Airport Terminal Improvements	\$500,000				Construction	Aviation
	4	2009	Small Boat Harbor					Proposed	Ports/Harbors
	5	2009	City/Commercial Storage Building					Proposed	Economic Development

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians East Borough									
False Pass	1	2009	Wastewater System Construction	\$7,200,000		ANTHC		Construction	Public Works
	2	2009	Airport Improvements			DOT&PF		Design	Aviation
	3	2009	Harbor Utilities & Infrastructure			COE		Design	Ports & Harbors
	4	2009	Airport Road & Bridge Repair			DOT&PF		Proposed	Aviation
	5	2009	Heavy Equipment					Proposed	Public Works

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians East Borough									
Nelson Lagoon	1	2009	Seafood Plant			APICDA		Proposed	Economic Development
	2	2009	Water System Improvements			ANTHC		Design	Public Works
	3	2009	Wastewater System Feasibility & Design			ANTHC		Planned	Public Works
	4	2009	Community Road Improvements			BIA		Planned	Roads
	5	2009	Gravel Pit & Access Road			BIA		Proposed	Economic Development

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians East Borough									
Sand Point	1	2010	Implement Wastewater Improvement Plan	\$500,000		City & DEC	In Process		Water & Sewer
	2	2011	School Loop Road Rehabilitation	\$6,000,000		Multiple			
	3	2011	New Harbor Floats & Infrastructure	\$5,000,000		AEB	In Process		Port/Harbor
	4	2010	Sand Point Seafoods	\$12,000,000		Multiple			
	5	2012	Harbor Access Road Rehabilitation	\$5,000,000		DOT	Future	Planning	Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians West Census Area									
Adak	1	2010	Small Boat Harbor Expansion				Future	Planning	Port/Harbor
	2	2010	Ungrades to Water System				Future	Planning	Public Works
	3	2010	Engineer for Small Hydro Project				Future	Planning	Energy
	4	2010	Hydro Project				Future	Planning	Energy
	5	2010	Wind Generation				Future	Planning	Energy

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians West Census Area									
Atka	1	2010	Construction of Hydroelectric System		\$3,141,808	EDA/AEA	Funded	Permitting/Constuction	Energy
	2	2010	Electric Distribution System improvements/repairs		\$446,360	DCCED	Funded	Permitting/Constuction	Energy
	3	2010	Water/Sanitation Improvements (Completion)		on-going	VSW/DEC	Partial Funding	Permitting/Constuction	Water & Sewer
	4	2010	Clinic/Civic Center		\$37,500	DCCED	Planned	Planning	Community Facilities
	5	2010	Road Improvements - Atkax Way		on-going	BIA	Funded	On-going	Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians West Census Area									
St. George	1	2010	Harbor Upgrade, FEMA Disaster Upgrade	\$200,000	\$150,000	DCED	Funded	Preliminary	Port/Harbor
	2	2010	Puffin Seafoods, L.L.C.			APICDA	Planned		Economic Development
	3	2010	Shoreside Processing Facility			APICDA	Proposed		Economic Development
	4	2010	Harbor South Breakwater Deferred Maintenance Project	\$4,000,000					Port/Harbor
	5	2010	Ulakaia Hill Road						Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians West Census Area									
St. Paul	1	2010	Power Plant Upgrade and Integrating Wind Power	\$2,500,000		City,TDX,AEA,DOE	Proposed	Planning	Energy
	2	2010	Ellerman Heights & East Landing Sewer Upgrades	\$1,041,000		ADEC-VSW, City	Proposed	Preliminary	Water & Sewer
	3	2010	Small Boat Harbor Sewer & Lift Station	\$360,000		ADEC-VSW, City	Proposed	Planning	Port/Harbor
	4	2010	Small Boat Harbor Water Line	\$130,000		ADEC-VSW, City	Proposed	Planning	Port/Harbor
	5	2010	St. Paul Harbor - Harbormaster Building	\$600,000		City, State	Potential	Planning	Port/Harbor

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Aleutians West Census Area									
Unalaska	1	2010	Geothermal - Engineering/Exploration	\$4,210,000	\$1,000,000	Grants	Partial Funding	Planned	Energy
	2	2010	Community Center Expansion (Construction)	\$2,435,000		City's General Fund	In Process	Planned	Community
	3	2010	Expedition Pk Access & Picnic Pavilion Upgrade	\$26,500		City's General Fund	Proposed	Planning	Public Works
	4	2010	Pool Filter Pump Replacement	\$13,000		City's General Fund	Proposed	Planning	Public Works
	5	2010	Roads - Steward Rd/Gilman/Biorka Paving	\$150,000		City Sales Tax	In Process	Planned	Roads

Community/Borough	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Bristol Bay Borough									
Bristol Bay Borough	1	2010	Port of Bristol Bay Expansion - Phase I and II	\$12,000,000					Port/Harbor
	2	2010	Alaska Peninsula Highway Road Improvements, Bike Path and Bridges	\$750,000					Roads
	3	2010	Emergency Access & Egress for BBB School (Feasibility Study)	\$25,000					Public Works
	4	2010	Industrial Park - Phase I	\$1,000,000					Construction
	5	2010	Road Grader	\$450,000					Roads
	6	2010	Insulate All Borough Facility Buildings	\$30,000					Energy
	7	2010	Public Safety Building						Construction
	8	2010	Pool Expansion to include Youth Room/Replace Siding						Public Works
	9	2010	King Salmon Road Improvements	\$1,000,000					Roads
	10	2010	King Salmon Public Water Project	\$1,230,000					Water & Sewer
	11	2010	Naknek River Bridge	\$30,000,000					Roads
	12	2010	Naknek Road Improvements	\$1,000,000					Roads
	13	2010	Naknek Sewer Line Relocation Feasibility Study	\$35,000					Water & Sewer
	14	2010	Naknek Sewer Extension Phase III						Water & Sewer
	15	2010	South Naknek Road Access	\$30,000,000					Roads

Community/Borough	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Bristol Bay Borough									
King Salmon	1	2010	King Salmon Road Improvements	\$1,000,000					Roads
	2	2010	King Salmon Public Water Project	\$1,230,000					Water & Sewer

Community/Borough	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Bristol Bay Borough									
Naknek	1	2010	Naknek River Bridge	\$30,000,000					Roads
	2	2010	Naknek Road Improvements	\$1,000,000					Roads
	3	2010	Naknek Sewer Line Relocation Feasibility Study	\$35,000					Water & Sewer
	4	2010	Naknek Sewer Extension Phase III						Water & Sewer

Community/Borough	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Bristol Bay Borough									
South Naknek	1	2010	South Naknek Road Access	\$30,000,000					Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Aleknagik	1	2010	Float Plane Road and Dock	\$1,800,000			On-going	Design/Construction	Aviation
	2	2010	Snow Removal Equipment Building	TBD			Proposed	Planning	Roads
	3	2010	Water & Sewer Projects	\$2,980,000			On-going	Planning	Water & Sewer
	4	2010	CAT D6 Bulldozer	\$135,000			Proposed	Planning	Roads
	5	2010	Multi-Purpose Community Cultural Center Business Plan	\$30,000			Proposed	Planning	Public Works

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Clark's Point	1	2010	Road Construction Including Landfill Access	\$4,750,000			Potential		Roads
	2	2010	Construct New Airport, Ph 2	\$4,000,000	\$2,500,000	FAA	Planned	N/A	Aviation
	3	2010	Acquire Airport Snow Removal Equip - Grader	\$266,677	\$200,000	FAA	Planned	N/A	Aviation
	4	2010	Aerial Mapping	\$25,000	\$25,000	DEC/VSW	Planned	Completed	Economic Development
	5	2010	Airport Relocation		\$2,850,000	DOT&PF			Aviation

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Dillingham	1	2010	Renovate Dillingham Schools	\$35,000,000	\$1,760,000	AK Leg./Bonds	Planned	Design	School Facilities
	2	2010	New WTP/New Water Source	\$7,700,000	\$1,146,000	DEC/ANTHC	Planned	Design	Water & Sewer
	3	2010	Old Airport Sewer Extension	\$804,000		DEC/ANTHC	Planned	Design	Water & Sewer
	4	2010	Harvey Samuelson Community Center	\$8,300,000	\$100,000	Denali Commission	Planned	Design	Community Facilities
	5	2010	Wood River Road Upgrade	\$7,000,000	\$1,200,000	STIP/BIA	Planned	Design	Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Ekwok	1	2010	Sewer System Improvements	\$364,231		City	Planning	Design	Water & Sewer
	2	2010	Design and Construction of Water and Sewer Facilities	\$682,873			On-going	Planning	Water & Sewer
	3	2010	Snow Removal Equipment Building	\$680,000		State Legislature	On-going	Planning	Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Manokotak	1	2010	Senior Citizen Transportation Vehicle				On-going	Assessment	Transportation
	2	2010	Road to Dillingham				Future	Planning	Roads
	3	2010	Multi-Purpose Building				Proposed	Planning	Community Facilities
	4	2010	Renovate Post Office				Future	Planning	Public Works
	5	2010	AC or N&N Affiliated Store				Future	Planning	
	6	2010	Construction of Igushik Dock				Future	Planning	Port/Harbor
	7	2010	Construction of New Landfill				On-going	Design	Landfill

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
New Stuyahok	1	2010	Construction of New Fire Department				Proposed	Planning	Public Works
	2	2010	Construction of New Police Department				Proposed	Planning	Public Works
	3	2010	Upgrade Roads				Proposed	Planning	Roads
	4	2010	Upgrade Water & Sewer Lines				Planning	Future	Water & Sewer
	5	2010	Airport Cross Strip				Proposed	Planning	Aviation

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Togiak	1	2010	Public Safety Facility				Proposed	Planning	Public Safety
	2	2010	Youth Multi-Purpose Center/Park/Library				Proposed	Planning	Community Facilities
	3	2010	Airport/City Roads Improvement				On-going	Planning	Roads
	4	2010	Sea Wall Maintenance Project						
	5	2010	Dock/Harbor Facilities						Port/Harbor
	6	2010	Alternative Energy						Energy

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Dillingham Census Area									
Twin Hills	1	2010	New Water & Sewer Distribution Lines & Storage Tank				Proposed	Planning	Water & Sewer
	2	2010	Dump Relocation				Proposed	Planning	Landfill
	3	2010	New Electrical Lines & Poles				On-going	Design	Public Works
	4	2010	Well Transmission Line				Future	Planning	Public Works
	5	2010	New Maintenance Building				Future	Planning	Construction

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Kodiak Island Borough	1	2010	Kodiak - Near Island Research and Administration Facility	\$20,000,000	\$4,950,000	ADF&G, EVOS	Planning	Partially Funded	Economic Development
	2	2010	Anton Larsen Dock (Design, Repair & Construction)	\$1,000,000			Proposed	Planning	Economic Development
	3	2010	Womens Bay Tsunami/Emergency Shelter	\$1,500,000	\$475,000	HUD	Proposed	Planning	Public Safety Facilities
	4	2010	Kodiak Roads	\$7,500,000			Proposed	Planning	Roads
	5	2010	Rezanof Drive Pavement Rehabilitation and Upgrade, Phase II	\$6,000,000		ADOT, PF	Proposed	Planning	Roads
	6	2010	Kodiak High School Vocational Education Facility	\$80,800,000		KIB	Proposed	Planning	Schools
	7	2010	Kodiak ADF&G Research Facility	\$20,000,000	\$14,950,000	EVOS, State	In Process	Partially Funded	Research Facility
	8	2010	New Long Term Care Facility - Planning and Design	\$1,500,000	\$135,000	Kodiak Area Native Assoc.	Proposed	Planning	Health Facilities
	9	2010	Emergency Generators for Schools/Emergency Shelters	\$2,400,000			Proposed	Planning	Schools
	10	2010	East Elementary Traffic Flow Improvements	\$500,000			Proposed	Planning	Schools
	11	2010	Traffic Safety Lighting (City of Kodiak to U.S.C.G. Base)	\$3,000,000		ADOT, PF	Proposed	Planning	Roads
	12	2010	Kodiak Roads/Service Area Paving	\$2,000,000		LID	On-going	Planning	Roads
	13	2010	Baranof Park Improvements	\$6,500,000	\$100,000	DCCED, City	Planning	Design	Community Facilities
	14	2010	Peterson Elementary School Parking Lot Paving	\$1,150,000			Proposed	Planning	Schools

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Akhiok	1	2010	Wind Generation Feasibility Study	\$100,000					Energy
	2	2010	Wind Turbine Purchase & Installment	\$750,000					Energy
	3	2010	Electric Pre-Pay System	\$80,000					Utilities
	4	2010	Construction of New Tsunami Shelter	\$100,000					Public Safety
	5	2010	New Landfill	\$250,000					Landfill

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Karluk	1	2010	Airstrip Upgrade	\$2,000,000			Proposed	Planning	Aviation
	2	2010	Landfill Construction	\$2,500,000			Proposed	Planning	Landfill
	3	2010	Multi Purpose Building	\$1,200,000			Proposed	Planning	Community Facilities
	4	2010	Karluk Permanent Dock	\$7,000,000			Proposed	Planning	Port/Harbor
	5	2010	Church Restoration	\$675,000			Proposed	Planning	Community Facilities

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Kodiak	1	2010	UV Water Treatment Facility Construction	\$9,000,000	\$2,884,000	DEC, MGL, City	In process	Partially Funded	Water & Sewer
	2	2010	State of Alaska Community Contract Jail	\$23,700,000	\$2,000,000	DCCED	In process	Construction	Public Safety
	3	2010	Emergency Operations Response Center Construction	\$2,000,000			In process	Planning	Public Safety
	4	2010	Aleutian Homes Sewer and Water Replacement Phase III	\$4,300,000		DEC, MGL, City	Planning	Design, Funding	Water & Sewer
	5	2010	New Public Library Construction	\$15,000,000		KPLA	Planning	Funding	Public Works

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Larsen Bay	1	2010	Docking Moorage	\$500,000			Proposed	Planning	Port/Harbor
	2	2010	Deepwater Dock Facility	\$5,000,000			Proposed	Planning	Port/Harbor
	3	2010	Replacement Aggregation for Road System	\$250,000			Proposed	Planning	Roads
	4	2010	Upgrade the City/Senior/Teen Center	\$750,000			Proposed	Planning	Community Facilities
	5	2010	Replace Machine Shop Building/Garage	\$650,000			Proposed	Planning	Community Facilities

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Ouzinkie	1	2010	Construction of New City Dock	\$6,140,000	\$4,000,000	DCCED	In progress	Partially Funded	Port/Harbor
	2	2010	Water Transmission Lines	\$3,782,000			Proposed	Planning	Water & Sewer
	3	2010	Electrical Infrastructure Throughout Village	\$600,000			Proposed	Planning	Utilities
	4	2010	Community Road Upgrade - Construction	\$3,275,000			Proposed	Planning	Roads
	5	2010	Harbor to Dock Access Road Engineering	\$150,000			On-going	Development	Roads

Borough/Community	#	FY	Project Title	Project Cost	Secured Funding	Partners	Status	Phase	Type
Kodiak Island Borough									
Port Lions	1	2010	Public Dock Facility Replacement	\$5,000,000			Proposed	Planning	Port/Harbor
	2	2010	Small Boat Harbor Repalcement	\$5,000,000			Proposed	Planning	Port/Harbor
	3	2010	Outer Breakwater Stub Construction	\$3,000,000			Proposed	Planning	Port/Harbor
	4	2010	Municipal Building Repairs	\$300,000			Proposed	Planning	City Facility
	5	2010	NEW Native Village of Port Lions Tribal Building	\$7,000,000			Proposed	Planning	Community Facility

## **Appendix B: CEDS Work Plan**

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**Goal I: Economic Development:** Facilitate and support efforts that grow and retain the region's wealth, including diversifying the economic base, resulting in optimal benefits for the residents of Southwest Alaska.

**Objective A: Fisheries Development:** Promote healthy, sustained yield fisheries that provide a sustainable income base to the communities, businesses, and residents of Southwest Alaska.

**Strategy 1:** Monitor fisheries regulatory, management, and marketing issues that may impact Southwest Alaska fisheries. Influence policies, management, and environmental initiatives to create a more stable fisheries economy in the region.

**Partners:** Boroughs, Communities, Tribal Entities, Harvesters, Processors, allied fisheries organizations, fisheries research entities, ADF&G, Marine Conservation Association, The Nature Conservancy, NFMS, NPFMC, Governor's Office, USFWS, World Wildlife Fund.

#### **Tactics and Tasks:**

**a). Influence policy development and management initiatives regarding implementation of state and federal fisheries policies such as the Endangered Species Act, the Marine Mammal Protection Act, and others**

- i. Network with agencies responsible for implementation.
- ii. Continue efforts to engage the State of Alaska to serve as an early intervener on legal challenges to the agencies charged with implementing the acts.
- iii. Mobilize the communities, harvesters, processors and residents of the region to participate and comment on policies and issues as they arise.
- iv. Track federal oceans policy development and implementation including the Interagency Ocean Policy Task Force and other similar organizations.

**b). Monitor budgetary and management plans of the Alaska Department of Fish & Game for the Westward and Central Regions**

- i. Annually identify and compile regional, sub-regional and local fisheries issues.
- ii. Review and comment on the annual operating and capital budget of ADF&G.
- iii. Meet as needed with the Governor's Fisheries Policy Advisor, the ADF&G Commissioner and the Director of the Commercial Fisheries Division.

- iv. Mobilize the communities and members of SWAMC to support annual and long-range fisheries issues.

**c). Advocate for supplemental state, federal and private funds to conduct fisheries, marine mammal and habitat research.**

- i. Identify research needs in the region through networking with harvesters, processors, FITC, KFRC, MAP, NPMSF and others.
- ii. Support research efforts by mobilizing SWAMC communities, members and others to contribute to research funds.

**d). Engage environmental groups that have been active in influencing fisheries policies to develop a new paradigm of interaction.**

- i. Develop a targeted network of environmental groups and contacts.
- ii. Examine cooperation models to build stronger relationships in communications and understanding.

**Performance Measures**

- # of North Pacific Fishery Management Council & NPFMC committee meetings attended annually.
- # of Board of Fish and state fishery meetings attended annually.
- # of comments and resolutions submitted related to fisheries management policy.
- # of personal meetings and communications with fisheries management and policy leaders.
- # of meetings held with environmental groups to discuss fisheries management policy and sustainability.

**Objective A: Fisheries Development:** Promote healthy, sustained yield fisheries that provide a sustainable income base to the communities, businesses, and residents of Southwest Alaska.

**Strategy 2:** Facilitate and support industry, state and local efforts to expand seafood marketing efforts and develop new seafood markets.

**Partners:** Communities, Boroughs, Tribal Entities, Members, AFDF, ASMI, DCCED, EDA, USDA/RD

**Tactics and Tasks:**

- a). **Advocate for sustained, well funded Alaska seafood marketing programs and ensure representation of SWAMC interests.**
- b). **Support regional seafood branding programs and initiatives.**
- c). **Stay informed of specialty food product development and marketing.**
- d). **Provide ongoing support for entities providing education and technical assistance to harvesters, processors and direct marketers.**
- e). **Advocate for the development of new fisheries, new fisheries markets such as identifying locations and potential for mariculture development.**

**Performance Measures**

- # of resolutions adopted in support of seafood marketing.
- # of panels and workshops offered by SWAMC pertaining to seafood marketing and new market development.
- # of new fisheries and/or markets identified.

**Objective B: Tourism Development:** Increase jobs, tax revenues, capital investments, new business start-ups, and local wealth retention in the tourism sector.

**Strategy 1:** Develop and maintain a regional tourism marketing program.

**Partners:** Boroughs, Communities, Tribal Entities tourism businesses, Public Land Agencies, APLIC, CVBs, Members, Village and Regional Corporations, Chambers of Commerce, Alaska Office of Tourism, AWRTA, ATIA, other tourism development entities.

**Tactics and Tasks:**

**a). Maintain and promote the [www.southwestalaska.com](http://www.southwestalaska.com) Web site.**

- i. Conduct content review.
- ii. Market the site.
- iii. Explore vendor ad options and paid listings.

**b). Develop and distribute Southwest Alaska visitor materials**

**c). Maintain an inventory of tourism businesses and attractions.**

**d). Inventory existing cultural tourism attractions and integrate with existing marketing tactics.**

**e). Network and interact with travel media to promote the region and attend events such as Alaska Media Road Show.**

**f). Promote the Alaska Marine Highway as a National Scenic Byway**

- i. Identify funding sources for marketing and interpretation.
- ii. Develop and promote itineraries through other marketing tactics.
- iii. Seek funding for implementation of regional interpretation plan

**Performance Measures**

- # of unique and total hits to Southwest Alaska tourism marketing website.
- # of requests for tourism information and brochures.

- # of travel trade and travel media events attended.
- # of ferry embarkments along Kodiak and Aleutian Chain segment per year.
- # of travel media hosted in the region.

**Objective B: Tourism Development:** Increase jobs, tax revenues, capital investments, new business start-ups, and local wealth retention in the tourism sector.

**Strategy 2:** Influence federal, state, and local policies and management plans regarding public lands, fish and wildlife resources, infrastructure, and marketing.

**Partners:** Boroughs, Communities, Tribal Entities, Tourism Businesses, Public Land Agencies, Fish and Wildlife Agencies, ATIA, DCCED, Alaska Marine Highway System, Marine Transportation Advisory Board

**Tactics and Tasks:**

**a). Collaborate with the State of Alaska Office of Tourism and ATIA to promote tourism efforts in the region and identify tourism workforce opportunities.**

**b). Advocate for additional infrastructure or infrastructure enhancements that accommodate access, and comfort of visitors.**

- i. Encourage communities to factor multi-use considerations into infrastructure design.
- ii. Examine transportation linkages to encourage more efficient and intermodal scheduling.
- iii. Urge AMHS to provide frequent and reliable ferry service to southwest communities

**c). Network with public land and fish/wildlife agencies in the region.**

- i. Track and report visitor usage of public lands, fish and wildlife resources.
- ii. Partner with communities and agencies to advocate for additional visitor facilities.
- iii. Seek cooperative marketing opportunities with agencies.
- iv. Advocate for more locally owned concessionaire contractors.

**Performance Measures**

- # of ads placed in annual State vacation planner.
- % increase/decrease of visitors to Southwest region year-over-year.
- # of meetings with AMHS officials, MTAB representatives, and affected communities regarding ferry funding and scheduling.
- # of coordinated marketing efforts implemented throughout the region.

**Objective C: Regional Economic Planning:** A comprehensive regional economic plan integrated with sub-regional and local planning efforts that focus on increasing wealth growth and retention in the region and improving the quality of life.

**Strategy 1:** Coordinate an ongoing regional economic planning effort and supplemental research that highlights the economic needs and challenges of Southwest Alaska.

**Partners:** Communities, Boroughs, Tribal Entities, Members, research contractor, EDA, hotel/meeting facility, State and Federal agencies, Village and Regional Corporations, DCCED, other ARDORs/EDDs.

**Tactics and Tasks:**

**a). Produce a Comprehensive Economic Development Strategy/Regional Plan(CEDS/RP) that meets or exceeds the requirements of EDA and DCCED.**

- i. Evaluate and update the CEDS/RP annually.
- ii. Conduct annual discussions and evaluations of economic development efforts in the region.
- iii. Continue ongoing information gathering and identify issues through networking, workshops, annual meeting/economic summit and periodic CEDS planning retreats.
- iv. Gather stakeholder input for incorporation in the CEDS/RP document.
- v. Conduct five year comprehensive evaluation and update.

**b). Conduct an update of the 2004 Southwest Alaska Economic Geography Study.**

**c). Participate in other regional economic planning efforts taking place in southwest Alaska.**

**Performance Measures**

- # of stakeholder comments gathered through public input process.
- # of communities submitting capital improvement projects for inclusion in CEDS.
- # of regional sub-regional CEDS and planning sessions attended.
- # of communities and/or sub-regions completing economic development plans.

**Objective D: Small Business Development:** Increased jobs, tax revenues, capital investments, and wealth retention due to new business startups in the region.

**Strategy 1:** Develop appropriate methods to encourage and facilitate new businesses start-ups and provide technical assistance to existing businesses.

**Partners:** Communities, Boroughs, Tribal Entities, Members, UA CED, Chambers of Commerce, USDA/RD, Sea Grant MAP.

**Tactics and Tasks:**

**a). Support local, regional, and state efforts to provide small business and entrepreneurial support and technical assistance in the region.**

- i. Identify barriers to small business development and technical assistance needs.
- ii. Collaborate with partners to overcome barriers to small businesses and entrepreneurs.
- iii. Identify methods to provide small business consulting through distance delivery.
- iv. Provide technical assistance workshops for small businesses.

**b). Network with agencies and partners providing or intending to provide small business/entrepreneurial training.**

**c). Support efforts of harvesters to apply transferable skills to other businesses and sectors.**

**e). Access to capital.**

- i. Help identify sources of capital for small business development and entrepreneurs.
- ii. Facilitate communications between lenders and small businesses.

**Performance Measures**

- # of trainings and small business technical assistance workshops offered in the region.
- # of small business consultations generated through *AK SourceLink*.
- # of business licenses in the region.
- # of barriers identified and targeted.
- # of contacts made and meetings scheduled between businesses and lenders.
- # of harvesters referred to workforce trainings

**Objective E: Other Business and Resource Development:** The economic base of Southwest Alaska is increasingly diversified through the development of non-fisheries resources and the expansion of other economic sectors thereby reducing the region's fisheries-dependency.

**Strategy 1:** Encourage the development of targeted industries that are compatible and complementary with existing development in Southwest Alaska and local community interests.

**Partners:** Communities, Boroughs, Tribal Entities, Members, Village and Regional Corporations.

**Tactics and Tasks:**

**a). Support local efforts to develop resources and identify opportunities for regional strategies and cooperation.**

**b). Identify targeted industries that might benefit from co-location with commercial fisheries or realize locational advantages in southwest Alaska.**

**Performance Measures**

- # of targeted industries identified.
- # of private sector strategies identified and coordinated.

**Objective F: Workforce Development:** Residents of Southwest Alaska are well educated and trained to assume existing and emerging jobs within the region.

**Strategy 1:** Increase the capacity of individuals to participate effectively in the workplace, thereby improving their productivity and employability by aligning industry needs with job and skill training programs.

**Partners:** Communities, Boroughs, Tribal Entities, Members, AWIB, ADOL, Job Centers, Alaska Association of Human Resource Managers, Alaska Manufacturers' Association, Village and Regional Corporations.

**Tactics and Tasks:**

**a). Capacity building strategy.**

- i. Identify capacity building/training resources in the region.
- ii. Determine unmet and ongoing needs in key sectors.
- iii. Coordinate training and workshops to create synergy.

**b). Encourage collaboration and integration between educational institutions and businesses.**

- i. Support local efforts to integrate career pathways curriculum at all grade levels.
- ii. Support local efforts to increase School-to-Work partnerships.
- iii. Research options to include entrepreneurship training at MS/HS levels.
- iv. Encourage regionwide coordination and utilization of voc/tec and university training, certificate, and degree programs.

**c). Coordinate regional efforts with the Alaska Workforce Investment Board ADOL Div. of Business Partnerships.**

**d). Identify means to increase local hire for both career and seasonal jobs within the public and private sectors.**

**Performance Measures**

- # of workforce development trainings and programs offered in the region.
- % change of local hire in both public and private sectors.

**Goal II: Community Development:** Facilitate and support efforts to improve the quality of life for communities in Southwest Alaska, thereby creating an environment for sustainable economic development.

**Objective A: Infrastructure Development:** Southwest Alaska has a comprehensive, sustainable and multi-faceted infrastructure network that meets the region's social, cultural and economic needs.

**Strategy 1:** Facilitate the development of an integrated transportation infrastructure that expedites the movement of people and goods to, through, and out of Southwest Alaska thereby enhancing economic competitiveness and quality of life.

**Partners:** Alaska Marine Highway System, Communities, Boroughs, CDQ Groups, Denali Commission, Tribal Entities, AKDOT&PF, Federal Highway Administration, Alaska Congressional Delegation, NADO.

#### **Tactics and Tasks:**

**a). Increase funding from State, Federal, and Tribal Funding Partners for transportation and infrastructure.**

- i. Advocate for the prioritization of Southwest Transportation Projects in STIP.
- ii. Support comprehensive regional transportation planning
- iii. Ensure that changes in the regional economy are reflected in the Southwest Transportation Plan
- iv. Advocate for full and timely implementation of the Southwest Alaska Transportation Plan with updates and revisions.

**b). Maintain a comprehensive, prioritized inventory of community infrastructure needs.**

- i. Annually prepare and update a regional Community Improvement Projects (CIP) list

**c). Explore the establishment of Regional Transportation Planning Organizations (RTPO)**

#### **Performance Measures**

- # of communities who have submitted community improvement projects for inclusion in SWAMC CEDS.
- % change in infrastructure funding for SWAMC region.
- # of resolutions, legislative support and meetings for prioritization of SWAMC projects.
- # of information meetings regarding RTPOs.
- Draft enabling legislation establishing RTPOs.

**Objective A: Infrastructure Development:** Southwest Alaska has a comprehensive, sustainable and multi-faceted infrastructure network that meets the region’s social, cultural and economic needs.

**Strategy 2:** Support efforts for Southwest Alaska communities, businesses and residents to have sufficient access to communication and information infrastructure to be competitive in world markets and realize educational, medical, and other benefits.

**Partners:** Communities, Boroughs, Tribal entities, Denali Commission, Private Telecommunications Entities, RCA, University of Alaska, USDA- RD.

**Tactics and Tasks:**

**a). Advocate for the development of a fiber optic backbone with the potential to provide broadband access to communities in Southwest Alaska.**

- i. Support the efforts of public and private entities to develop a comprehensive broadband network throughout southwest Alaska.
- ii. Ensure 80% of SWAMC population has access to this broadband backbone.

**b). Assist communities and small businesses take advantage of the full economic, medical and educational potential of this broadband network**

- i. Conduct workshops with fiber optic providers and other partners to educate local residents and businesses of opportunities related to high-speed broadband access.
- ii. Research and assist in the development of e-commerce activities for local business people.
- iii. Assist communities in developing strategies to take advantage of broadband connectivity for telemedicine, distance learning and other projects.

**Performance Measures**

- # of workshops highlighting broadband projects and related opportunities.
- % of SWAMC region population with access of broadband.
- # of jobs created through expansion of broadband infrastructure.

**Objective A: Infrastructure Development:** Southwest Alaska has a comprehensive, sustainable and multi-faceted infrastructure network that meets the region’s social, cultural and economic needs.

**Strategy 3:** Reduce energy costs by promoting energy efficiency, conservation and the development of renewable energy sources throughout Southwest Alaska.

**Partners:** Alaska Energy Authority, Denali Commission, USDA Rural Development, Tribal Entities, National Renewable Energy Lab, Communities, Boroughs, DOE, Village and Regional Corporations, Alaska Building Science Network.

**Tactics and Tasks:**

**a). Maintain, update and implement the SWAMC Comprehensive Energy Policy**

**b). Advocate Southwest Alaska energy issues to the Governor, Alaska Legislature and other relevant entities..**

**c). Develop an end-use energy efficiency and conservation strategy for the region and seek funding sources for implementation.**

i. Update the *Energy Savers Tips for Rural Alaska* booklet on a regular basis.

**d). Support and facilitate research and development of renewable and alternative energy in the region.**

i. Identify and publicize alternative energy projects in the region.

ii. Support further research and development of emerging energy sources.

iii. Advocate for funding and support of southwest Alaska energy projects to policy makers and funding agencies.

**e). Offer regular energy workshops related to a diverse range of relevant energy topics.**

**Performance Measures**

- # of workshops related to energy topics.
- # of communities receiving technical assistance for energy planning and policy development.
- % change in the price of energy.
- % change in regional renewable energy and efficiency projects.
- % increase of inter-community electrical transmission lines.
- # of stakeholder comments regarding SWAMC energy policy updates.

**Objective B: Community Planning:** Aid communities in the Southwest Region establish long term visions, goals and plans for sustainable community development.

**Strategy 1:** Provide guidance in creating community-based plans that are the foundation and guiding tool for community change.

**Partners:** Cities, Boroughs, Tribal Entities, DCCED, RurAL CAP, Denali Commission, BBNA, KANA, APIA, Kodiak Archipelago Rural Regional Leadership Forum, UA CED, Foraker Group and other resources.

**Tactics and Tasks:**

**a). Identify and collect existing community plans in the Southwest region.**

**b). Provide support for workshops on community planning, facilitation skills, leadership training and public administration throughout the Southwest region.**

**Performance Measures**

- # of workshops on community planning.
- # of communities with community plans.

**Goal III: Organizational Development:** Expand and strengthen the ability of the Southwest Alaska Municipal Conference to advance the economic and social interests of southwest Alaska.

**Objective A: Communications:** SWAMC maintains and engages an extensive network of partners in ongoing communication about the activities of the organization and the state of the region.

**Strategy 1:** Increase and broaden communication between SWAMC, communities, borough, members, partner organizations, and the general public to build understanding about the region, its economy, and the needs of its residents.

**Partners:** Cities, Boroughs, Tribal Entities, Media Outlets, members, contractors.

**Tactics and Tasks:**

**a). Disseminate information about SWAMC program, activities, and positions.**

- i. Continue publication of a newsletter.
- ii. Distribute email notices as issues arise.
- iii. Maintain the [www.swamc.org](http://www.swamc.org) site.

**b). Develop and implement member and partner feedback opportunities via surveys and other mediums.**

**c). Issue news releases and hold news conferences as needed.**

**d). Hold an Economic Summit/Annual Meeting each year in January/February.**

- i. Incorporate program content from CEDS goals, committee work, and emerging regional issues.
- ii. Have members/participants evaluate conference content, presenters, logistics, and identify future planning and technical assistance needs.

**Performance Measures**

- # of organizational newsletters and email notices distributed.
- # of attendees at SWAMC Annual Summit.
- # of participants evaluating conference content.
- # of responses to membership surveys.

**Objective B: Policy and Issue Advocacy:** SWAMC influences the development of state and federal policies to create favorable outcomes for its communities, members, and partners.

**Strategy 1:** Create consensus on regional and local issues that will advance the collective interests of the region.

**Partners:** Cities, Boroughs, Tribal Entities, Alaska Governor, Alaska Legislature, Alaska Congressional Delegation, all state and federal departments, regional private sector stakeholders, regional NGO's.

**Tactics and Tasks:**

- a). **Advocate for adequate state and federal funding issues in relation to municipalities/local communities.**
- b). **Provide municipalities and members with a resolution process to advance local and regional issues for SWAMC support.**
- c). **Maintain a record of SWAMC positions.**
- d). **Produce and distribute an annual compilation of legislative priorities.**

**Performance Measures**

- # of resolutions passed each year.
- # of policymakers attending SWAMC Annual Membership Meeting.

**Objective C: Organizational Efficiency and Effectiveness:** The Southwest Alaska Municipal Conference enjoys the visionary leadership of a fully engaged Board of Directors, contributions and participation of motivated volunteers, the productivity of a capable staff, and the involvement of interested and worthy partners. It is well-managed, financially secure, and progressive in developing programs and policies that further the collective interests of the region.

**Strategy 1: Volunteers:** Engage municipal and associate members in leadership, committee, and other volunteer assignments to help guide and shape programs and policies.

**Partners:** Members and stakeholders.

**Tactics and Tasks:**

**a). Regular meetings of the SWAMC Board of Directors to provide leadership, review performance, and give staff direction.**

- i. Monthly teleconferences.
- ii. Evaluate E.D. performance.
- iii. Annual planning/evaluation retreat.

**b). Maintain a cadre of SWAMC Committees actively providing input and suggestions on SWAMC programs and policies.**

- i. Monthly or as needed teleconferences.

**c). Task Forces/Work Groups established as needed to address specific issues.**

**Performance Measures**

- # of monthly Board meetings.
- # of active committee members.

**Objective C: Organizational Efficiency and Effectiveness:** The Southwest Alaska Municipal Conference enjoys the visionary leadership of a fully engaged Board of Directors, contributions and participation of motivated volunteers, the productivity of a capable staff, and the involvement of interested and worthy partners. It is well-managed, financially secure, and progressive in developing programs and policies that further the collective interests of the region.

**Strategy 2: Membership Development:** Increase municipal and private sector membership investments and participation in SWAMC.

**Partners:** Cities, Boroughs, Tribal Entities, targeted businesses, other economic development entities.

**Tactics and Tasks:**

**a). Evaluate current membership program.**

- i. Review member benefits and costs.
- ii. Regularly review membership dues, fees, and other costs.
- iii. Develop recommendations for improving membership program.

**b). Develop, maintain, and distribute membership recruitment tools.**

**c). Increase municipal member participation to 90% by 2015.**

**d). Recruit new private sector members.**

**e). Conduct a stakeholder satisfaction survey to gauge program.**

- i. Develop survey.
- ii. Conduct survey biennially.
- iii. Report findings.

**Performance Measures**

- % of regional municipal member participation.
- # of new private sector members.
- # of surveys returned.

**Objective C: Organizational Efficiency and Effectiveness:** The Southwest Alaska Municipal Conference enjoys the visionary leadership of a fully engaged Board of Directors, contributions and participation of motivated volunteers, the productivity of a capable staff, and the involvement of interested and worthy partners. It is well-managed, financially secure, and progressive in developing programs and policies that further the collective interests of the region.

**Strategy 3: Finance and administration:** Expand the financial resources and administrative capacities of the organization.

**Partners:** Accounting contractor, auditor, The Foraker Group.

**Tactics and Tasks:**

**a). Maintain or increase existing revenue sources, while seeking new recurring revenue sources.**

- i. Maintain and increase ARDOR and EDD funding.
- ii. Grow membership revenues by 3-5% each year.
- iii. Increase earned income by 3-5% each year.

**b). Conduct an annual audit or financial review.**

**c). Maintain financial records according to SWAMC Financial Management Policies.**

**d). Maintain organizational records according to SWAMC Administrative Policies.**

**e). Conduct annual performance evaluations for all staff members.**

**Performance Measures**

- % change in overall annual revenues.
- % change in overall annual expenses.
- % change in grant funding, membership revenues, and earned income.