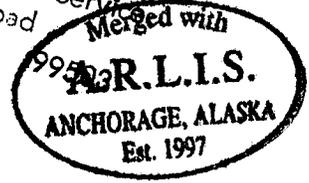


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PROPOSED BECHAROF WILDLIFE REFUGE  
HEADQUARTERS SITE INVENTORY  
KING SALMON AND NAKNEK

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November 2, 1978

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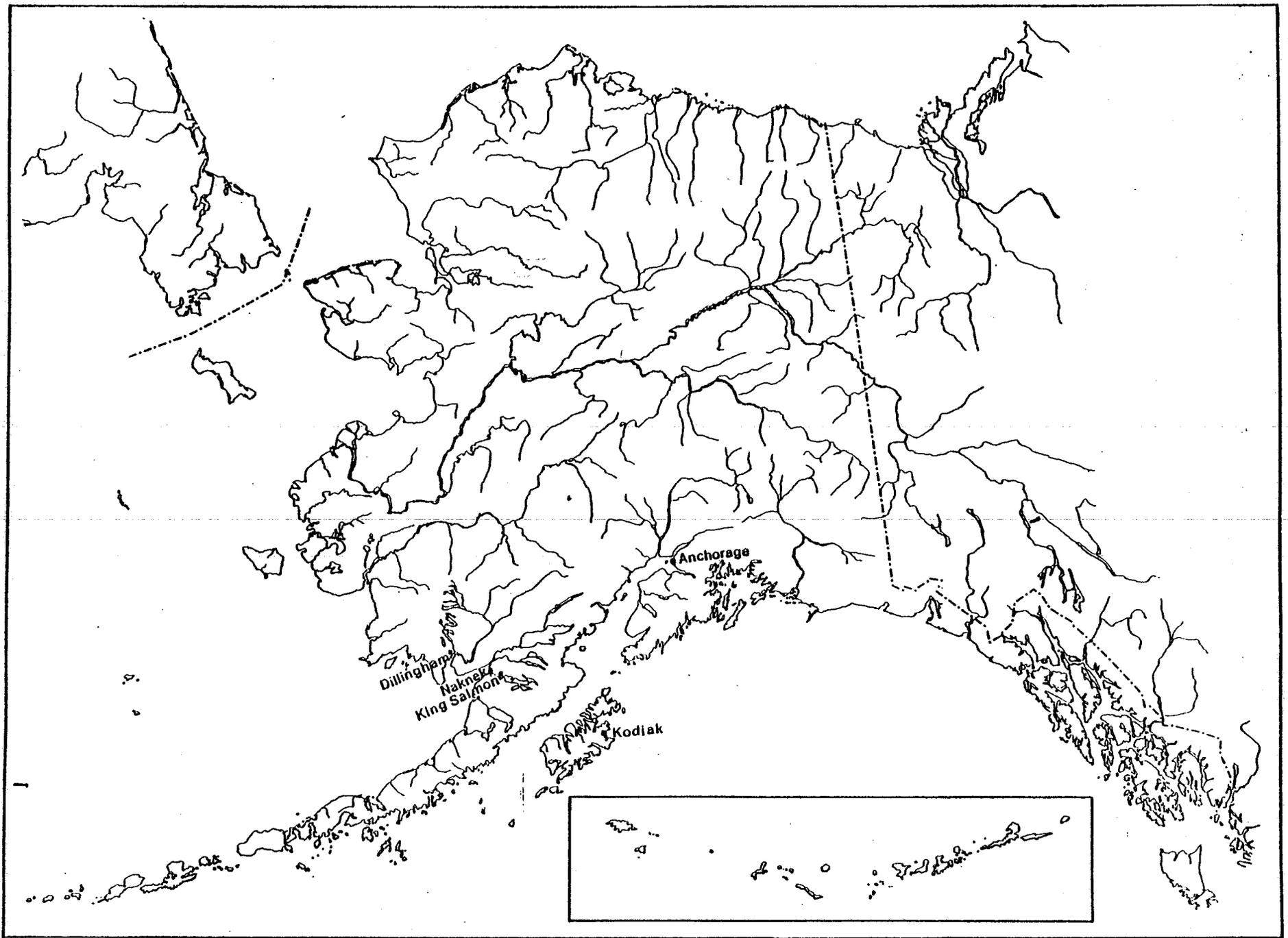
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## Introduction

As (d)(2) legislation moves through Congress, the Refuges and Resource Planning Divisions of the U.S. Fish and Wildlife Service office in Anchorage work to prepare for the initial phases of operation of the potential new Alaskan wildlife refuges. As part of the Resource Planning Team, I spent several weeks gathering written material about the Bristol Bay area in general and the Bristol Bay Borough in particular. After this initial familiarization, I spent 3 weeks in King Salmon and Naknek to interview local residents and physically investigate the local environment. I was only able to visit with a small percentage of the local residents and would welcome any further input into the subjects I will discuss in this report.

### Regional Environment :

Location: The Bristol Bay area is in southwestern Alaska and includes the upper portion of the Alaska Peninsula. The Bristol Bay basin opens away from the principal shipping routes and population centers of Alaska and therefore remains one of the more isolated regions in the state.

Physiography: Wahrhaftig, in his Physiographic Divisions of Alaska, described the area as the Nushagak-Bristol Bay Lowlands, underlain by several hundred feet of outwash and morainial deposits that are mantled in part by silt and peat. Outwash deposits are coarse near the mountains and grade to fine sand along the coast. The lowland rises 300-500 feet above sea level at its inner margin with local relief of 50 to 250 feet.

Hydrology: The lowland is drained by several large rivers, including the Nushagak, Kvichak, Naknek, King Salmon, Egegik, Ugashik, Dog Salmon, and Cinder Rivers. Most rivers rise in large lakes in ice-carved basins in the mountains and flow into tidal estuaries that appear to be drowned river mouths. The lowland is dotted with morainial and thaw lakes. Permafrost is sporadic or absent. (Wahrhaftig 1965). (See Map II).

Climate: The Bristol Bay area has a maritime climate with cooler summers, warmer winters and cloudier skies than inland locations. The air temperature is 7-9° colder than the seawater 9 months of the year and 1-2°F warmer during the summer. The Arctic ice pack begins moving south into the Bering Sea in late October and reaches its southern limit in February. In the more open and southern areas of Bristol Bay there is 10 to 40% ice cover from January through April. There is 50 to 70% ice cover in the northern bay during the same months. The small bays and inlets begin freezing earlier than the open bay and contain 80 to 90% ice from January through April, but the tidal action prevents the ice from freezing solid. Cold Bay weather station is the closest measurement of solar radiation. Their 6 year average was 58,353 langleys per year compared to 87,235 in Fairbanks. The persistent cloud cover in coastal areas reduces incident radiation.

Flora and Fauna: The Bristol Bay Lowlands is composed of coastal meadows backed by extensive flat wet tundra and rolling moist tundra, dotted with innumerable ponds and lakes. These wetlands are drained by meandering clearwater rivers that culminate in estuaries with sandbars and mudflats. Migratory waterfowl, lesser sandhill cranes, whistling swans and shorebirds depend on these rich estuarian food sources and the staging areas they provide in both spring and fall. Low to medium densities of waterfowl, shorebirds, cranes, terns, gulls and jaegers breed on the wet tundra and numerous ponds. Bald eagles, gyrfalcons rough legged hawks and short-eared owls nest locally along the coast and occur as migrants. Grouse and ptarmigan populations are low. Brown bear are well distributed in medium densities over the lowlands during the summer, concentrating along the salmon streams during salmon runs.

The Alaska Peninsula caribou herd contains approximately 15,000-20,000 animals utilizing the Bristol Bay Lowlands. The substantial moose population on the Alaska Peninsula is presently on the decline, and in the lowlands moose occur in medium densities only where willow brush occurs along stream valleys and lake margins. Land otter, mink, muskrat, beaver, snowshoe hare, lynx, red and arctic fox are common to abundant throughout the Bristol Bay area. The outer continental shelf area of Bristol Bay is highly productive due to abundant nutrients from upwelling along the continental slope and Aleutian passes, mixture by wind turbulence and abundant summer sunlight. Harbor seals pup on some of the low islands in the estuaries and inhabit all of the coastal waters along with migratory grey whales and other marine mammals. Bristol Bay river systems support some of the largest salmon runs in Alaska, as well as populations of rainbow trout, grayling, arctic char, and whitefish. Pike and lake trout are present in the lakes.

Local Environment:

Location: Naknek is 143' above sea level at 58°43'40" N latitude and 147°00'45" W longitude. It sits on the north bank of the Naknek River nears its entrance into Kvichak Bay, which is within Bristol Bay. (See Map III). King Salmon is 49' in elevation at 58°41'30" N latitude and 156°39'30" W longitude. It is 18.5 miles up the Naknek River on the north bank. They are connected by a 15 mile road and are roughly 300 air miles southeast of Dillingham and 170 air miles northwest of Kodiak. King Salmon is 10 air miles from the northwest boundary of the proposed Becharof Refuge and 40 air miles north of Becharof Lake. South Naknek is located across the river from Naknek without a road or bridge. Naknek and King Salmon are surrounded by flat to gently rolling tundra which offers magnificent panoramic skies with distant views of the Alaska Range, 60 miles to the east. On overcast dismal days, when the lack of local relief creates a longing for visual stimulation, one can look to the changing patterns on the tidal flats at the mouth of the Naknek River. During calm summer days, the hoardes of mosquitos, white sox and no-see-ums make it impossible to relax outside without adequate bug protection.

Commercial and Residential Areas: All commercial and government operations are confined to the centers of King Salmon and Naknek. People live within the town centers and scattered along the road a few miles east of Naknek and west of King Salmon. The residential area will undoubtedly spread along the entire length of road between the 2 towns.

Topography, Soils and Vegetation: The King Salmon-Naknek area consists mainly of low moraine hills with many shallow lakes and several large streams draining into the Naknek River through fairly deep narrow valleys. A high terrace, containing dune areas, borders much of the Naknek River. The principal soils in the area are formed in volcanic ash materials over alluvial sand or glacial till.

The Kvichak series consists of well drained volcanic ash over strata of loam, sandy loam and sand, on terraces bordering the Naknek River and other streams, and on some low hills and areas bordering small lakes. The soils support a sparse forest of spindly white spruce, willows, and alder with a ground cover of dwarf birch, Labrador tea, crowberry, lingenberry, sedges, mosses, lichens and other low-growing plants.

The Naknek series consists of poorly drained soils with thick peaty surface mats and mineral ash soils perennially frozen within a few inches beneath the organic mat. These are the principal soils of the low tundra hills and support sphagnum moss, sedge tussocks, dwarf birch, blueberry, lingenberry, Labrador tea, crowberry and other low growing plants.

The Pustoi series consists of well drained strata of silt loam over loamy sand over sandy substratum and occurs on stream terraces and valley sides. The vegetation consists of willow, dwarf birch, Labrador tea, crowberry, Lingenberry, grasses, sedges, mosses, lichens and occasionally spindly white spruce.

The Tolsona series consists of poorly drained strata of sand over fine gravel, with permafrost beginning from 4" to 24" beneath the surface organic mat. The soil occurs on flood plains of streams and supports sphagnum moss, sedges, low-growing shrubs and lichens, plus alder and grasses in some areas.

Tidal marsh along the Naknek River and its major tributaries has soil ranging from silt loam to silty clay loam, with patches of peat, and water-tolerant plants such as sedges, grasses, mosses, willow and alder.

The coastal and Naknek River cliffs are cut through glacial drift and support little or no vegetation. The following table lists the probable engineering properties of the soils. (U.S. Soil Conservation Service, 1968).

Table 4. Interpretation of Engineering Properties of Soils in the King Salmon-Naknek Area, Alaska.

Soil Series and Symbols	Soil	Suitability as source of		Potential Frost Action	Building and Highway location	Remarks	
		Topsoil	Sand				Gravel
248A 248B 248C 248D 248E	Kvichak	Good; loam and sandy loam texture	Poor above 40"; good below	Poor	High in upper horizons; low in substratum	Good to fair	Isolated areas have gravely glacial drift within 30" of the surface
257A 282A 257E	Naknek	Poor; perma- frost	Poor; loamy material, permafrost	Poor; perma- frost, loamy materials	High	Poor; perma- frost	Thick peaty surface; a few marshy areas included
281A	Nk	Poor; high water table	Poor	Unsuited	High	Poor; high water table	Permafrost at depth of several feet
228A 228B 228C	Pustoi	Poor; shallow loamy material over sand	Good; usually has silty ad- mixture in upper 7 inches	Poor	Low	Good	Commonly in low dunes; subject to blowing
17	Sea Cliffs	Poor; gravelly material	Unsuited except on included gravelly beaches	Poor; high proportion of fines. Good on included beaches	--	Unsuited, good to fair on beaches above tide line	--
188	Tidal marsh	Poor; high water table	Unsuited	Unsuited	High	Poor; high water table	Deep silty material
278A	Tolsona	Unsuited; sand	Poor to fair; permafrost	Poor	High	Poor; permafrost	--

Source: Soils of the King Salmon-Naknek Area, Alaska,  
Soil Conservation Service 1968

Table 3. Soils of the King Salmon-Naknek Area, Alaska, and their Estimated Physical and Chemical Properties.

Map Symbol	Soil Series	Depth from surface (typical profile) (inches)	USDA Texture <sup>1/</sup>	Unified	AASHO	Permeability (in./hour)	Available water capacity (in./in of soil)	Reaction pH	Shrink-swell potential
240A	Kvichak	0-21	l	ML	A-4	0.8-2.5	.18-.23	4.0-5.0	Low
248B		21-39	sl	SM	A-2	2.5-5.0	.10-.14	4.5-5.5	Low
248C		39-54	s	SP or SW	A-3	5-10	.02-.04	4.5-5.5	Low
248D									
248E									
257A	Naknek	0-3	l	ML	A-4	0.8-2.5	.18-.23	4.0-4.5	Low
257B		3+	permafrost (l)	-	-	-	-	-	-
281A	Pk	0-5	l <sup>*</sup>	ML	A-4	0.8-2.5	.18-.23	-	Low
		5-42	sl	SII or SC	A-4	1.5-3.0	.12-.16	-	Low
228A	Pustoi	0-4	l	ML	A-4	0.8-2.5	.18-.23	4.5-5.0	Low
228B		4-24+	s	SP or SW	A-3	5-10	.02-.04	4.5-5.0	Low
228C									
278A	Tolsona	0-6	s	SP or SW	A-3	5-10	.02-.04	4.0-4.5	Low
		6+	permafrost (s)	-	-	-	-	-	-

<sup>1/</sup> Explanation of symbols:

- l - loam
- s - sand
- sl - sandy loam

Source: Soils of The King Salmon-Naknek Area, Alaska  
Soil Conservation Service 1968

Hydrology: Naknek River is 34 miles long and drains 3720 square miles, including Naknek Lake. It has a mean annual runoff of 2 cfs, with a mean annual peak of less than 10 cfs and a mean annual low of a little over 1 cfs. It carries a concentration of dissolved solids between 25 and 75 mg/l during the summer (very clear water) and between 80 and 100 mg/l during the winter.

The mean tidal range of seawater flowing into Naknek River is 18.5 feet, which causes tidal influence about 20.7 miles upriver (2.3 miles above King Salmon). The diurnal range is 22.5 feet and the extreme tidal range is 28 feet, extending 6 miles above King Salmon.

At King Salmon, the mean tidal range is 2.1 feet, the diurnal range is 3.2 feet and the extreme is 9 feet. Recorded measurements of salinity are as high as 28 ppt 4 miles up the Naknek River and 10 ppt 8 miles up (Buck, 1978). The Naknek River has 40 to 60 foot high bluffs near its mouth and far upriver. The middle stretch has banks around 20 feet high. A small, shallow--draft motor boat or kayak can navigate upriver as far as the falls just before Naknek Lake. The River becomes rapid, rocky and difficult to ascend above "Rapids Camp", a few miles above King Salmon. During a typical year, the Naknek River freezes up around mid-November and breaks up in mid-April. The winters of 1976-77 and 1977-78 were so mild that the river remained open all winter. The Alaska Power Administration has identified a potential hydroelectric power site upriver from King Salmon.

The U.S. Geological Survey has a gaging station on Eskimo Creek, which flows through King Salmon into Naknek River. During their 1965 to 1971 period of records the maximum flood was in June of 1971 with a 10.7 foot gage height and a discharge of 168 cfs. This class of flood has a recurrence interval of 5 years. The Naknek River has ice jams and high water in the spring but there is never any flood damage because of its high banks.

Adequate groundwater is generally available at depths ranging from 50 to 600 feet below the surface. The Bureau of Indian Affairs drilled 3 test wells in Naknek and obtained a flow of 100 gallons per minute (gpm) at 168 feet, 155 gpm at 97 feet and 20 gpm at 176 feet. John Eckert, resident of Naknek, said that there were 3 aquifers; the first was very close to the surface and had decent water; the 2nd required a well driller but produced a safer source of pure water. He recommended drilling to the 3rd deepest aquifer for the purest possible water. Another long-time resident, Harry Shawback, said that Naknek had a problem of sulphurated groundwater from wells located between the coast and 1/2 mile inland. Fine black sand polluted the groundwater in many wells located from between 1/2 to 3 miles inland. In contrast, most people in King Salmon had abundant pure water with as much as 300 gpm from a well 46 feet deep.

Climate: King Salmon is a National Weather Service Station and therefore has excellent weather data. Naknek has no comparable information but has weather very similar to King Salmon because of their geographical proximity and similar elevations. The King Salmon--Naknek area has a climate that is predominantly maritime in character with diurnal and seasonal temperature ranges normally confined within narrow limits. However, winds occasionally blow out of northwest Interior Alaska and exaggerate the temperature extremes to +88° and -43°F.

July, the warmest month, has an average of only 5 days with temperatures reaching 70° or above. December and January, the coldest months, have an average temperature of around 13°. The average growing season is 100 days, from May 28th to September 6th.

Cloud cover is generally quite high, averaging about eight-tenths the year round. Mountain ranges to the south, east and west tend to uplift air moving from these directions and produce considerable cloudiness. When wind blows inland from the southwest across the ocean, it brings low level cloudiness which contributes to the frequent fog condition all months of the year.

Average annual precipitation is 19.75 inches with maximum rainfall in July through October. Seasonal snowfall averages about 45 inches with maximum depth averaging about 10 inches.

From December through March the area experiences rather strong winds due to the passage of eastward--moving Aleutian lows. The strongest winds are generally from the north after low centers have passed east of the local area. Winds as high as 50 m.p.h. have occurred in all months. (NOAA 1977).

According to local residents, Naknek has somewhat more rain and more frequent wind than King Salmon. The windiness is beneficial during the summer bug season but often causes white-outs during the winter. See Appendix A for detailed climatic data.

#### Community Amenities:

School: Naknek, King Salmon and South Naknek are grouped together under the jurisdiction of the Bristol Bay Borough School District, under the supervision of Dale Lunsford. There were 22 teachers working with 245 students in 1978. The average class has 14 students. The district has one of the highest budgets (dollars/student) in the state. Most residents respect and appreciate the excellent educational program. The teaching staff is very stable compared to many rural areas of Alaska and, in fact, the highest turnover in the last 7 years was 6 out of 22 due to several pregnancies. The district operates an elementary school in South Naknek, for children there, and an elementary and high school in Naknek for the remaining students of the district. King Salmon students are bussed and South Naknek students are flown to school daily.

The elementary program has the standard reading, writing, math, social studies, physical ed, etc. A high school student must complete the following requirements to graduate: 4 courses in language arts, 1 course in government and 1 in Alaska History, a course in career and consumer math plus 1 elective in math, 2 science courses (earth science, physics, general physical science, chemistry, biology I or biology II), 1 course in physical education and health, 1 course in vocational education (business, home economics or trades and industries), and 7 1/2 electives.

The Trades and Industries program includes courses in auto mechanics, power mechanics, metals and welding, buildings trade (carpentry, wiring, etc.), plus electronics (basic theory, and hands-on experience). The Home Economics program has courses in clothing, cooking, preservation of local foods, fur sewing, use of down, nutrition, interior design crafts, child care, family living skills and preparation for independent living.

The business program includes courses in secretarial and clerical skills and cooperative work experience. The district plans to add a program in fisheries, to include courses in marketing and preservation. 65% of graduating students continue a post-high school program, mostly in business schools or in a union apprenticeship program.

There is a community education program in the evenings with courses arranged in response to demand and around the available volunteer expertise.

Medical: Locally available medical care is limited to nurses, health aides and occasional visits of doctors. There is a Public Health nurse, Stephanie Hudson, stationed out of Naknek and responsible for the Alaska Peninsula area. She does eye and ear tests, pap smears, v.d. counseling, immunizations, well-child and well-woman clinics and general physical exams.

The Bristol Bay Area Health Corporation, directed by Robert Clark and working out of Dillingham, receives and channels funding for Bristol Bay area health clinics and for the training and salaries of village health aides. The Bay and Peninsula Health Clinic is located in King Salmon and is run by Nurse Tony Ballew and his assistant. The clinic charges nonnatives between \$6 and \$32 for an office visit, depending on their income. Natives receive free treatment. The clinic is prepared to care for family planning matters, general physical exams, basic health care and emergencies. The Air Force medic, normally responsible only for military personnel, will assist in emergency situations.

It costs around \$40 to fly to the nearest hospital, located in Dillingham. The nearest helicopter for field rescue is in Kodiak. The Kakanak Hospital is a fully accredited hospital serving 40,425 square miles and 27 communities in the Alaska Peninsula--Bristol Bay area. The medical staff includes 1 physician, 1 pharmacist, 7 clinical nurses, 4 LPN's, 1 medical records technologist, 1 medical technician and 2 nursing assistants. The hospital was built in 1941 by the U.S. Public Health Service and was completely rehabilitated into a 29 bed, general medical facility in 1973. An adjoining quonset hut houses medical and dental clinics,

services, administration, outpatients, lab, x-ray department, morgue, and pharmacy. Outpatient services include field trips to the villages for preventative health, in-school programs, screening exams, community health aide training, dental treatments and environmental health education. The community health aides and nurses are in radio communication with the doctor at the hospital when they need medical advise or supplies.

A private doctor visits both King Salmon and Naknek once a month during the warmest months of the year. A dentist visits once every 3 or 4 months and an optometrist and audiologist visit once a year.

Protection Services: There is no local constable and the one State Trooper stationed in Naknek serves the entire northern peninsula area, so he is not always available. Fire protection has depended on the Air Force in King Salmon and volunteers in Naknek, but the situation is improving. The Naknek Fire Hall was recently renovated. The King Salmon Fire Hall is being built in the fall of 1978 and 3 new fire trucks should arrive soon. The Borough supports a fire chief/maintenance man. Naknek has a new magistrate. There is no ambulance service. There are 2 Alaska Fish and Wildlife Enforcement officers stationed in King Salmon.

Utilities: Naknek Electric Association is a locally sponsored co-op under the Rural Electrification Act and State Laws. It began in December of 1960. There are currently 350 subscribers and the Air Force Base will come on line as soon as Paug-Vig will agree to transmission line easements. The present rates are as follows:

Farm & Home Service		All Other Service	
First 50 kwh	20.0¢/kwh	First 50 kwh	20.0¢/kwh
Next 50 kwh	16.0¢/kwh	Next 50 kwh	16.0¢/kwh
Next 100 kwh	12.0¢/kwh	Next 2900 kwh	11.5¢/kwh
Next 300 kwh	10.0¢/kwh	Next 7000 kwh	9.5¢/kwh
Over 500 kwh	9.0¢/kwh	Over 10,000kwh	8.0¢/kwh

Plus 2.56¢/kwh surcharge. Minimum bill \$10.00/month

Due to a revenue deficiency of \$69,983 for 1977, the NEA has proposed a 11% rate increase.

Solid waste of Naknek and King Salmon is dumped into a 2 acre land-locked pond halfway between the 2 towns at a Borough maintained sanitary landfill. The Borough is working with the Alaska Dept. of Environmental Conservation to upgrade the sanitary conditions of their solid waste disposal system within the next few years.

Raw sewage is in many cases inadequately disposed of at the present time. In King Salmon, the Alaska Fish and Game buildings, the National Marine Fisheries Service buildings and the commercial ventures are currently polluting Eskimo Creek with their sewage outflow pipes. Most private residences have septic tanks which tend to plug up after a few years. The Air Force Base has a 3-stage lagoon with a chlorination process and no outfall into any river. The National Park Service has tertiary treatment. Neither FAA nor the National Park Service have any outflow into the river.

In Naknek the sewage is handled by septic tanks, drainage fields and honey buckets. Several residences need to have their tanks pumped out regularly and a liquid waste disposal site is one of the highest priority proposed Borough projects. Bristol Bay Borough has planned and requested funding for a sewer system in both King Salmon and Naknek. King Salmon is #2 and Naknek is #17 on a state list of 80 for funding and construction. The Borough hopes to have the sewer projects completed within 4 or 5 years. The Borough has received a grant from the State and the EPA to develop a facility plan for a wastewater treatment plant.

Water systems of both private residence and government buildings are wells. A few residences haul water from a nearby river or lake.

Communications: Bristol Bay Telephone Communications Co-op had 234 subscribers in 1978 which it serves with its own local lines and with microwave long distance lines leased from RCA Alascom. They charge an installation fee of \$20 for a residence and \$25 for a business. The basic monthly fee is \$16 for a residence and \$24 for a business. King Salmon has good phone communications with the outside world. Naknek has only 2 long distance lines which makes it difficult to call in or out of Naknek. During the summer cannery business, it is virtually impossible to get a line.

The only TV station received in King Salmon and Naknek is the non-commercial Air Force station which plays tapes from a Los Angeles station. Radios receive KENI and KBYR from Anchorage, KDLG from Dillingham and the King Salmon Air Force Station.

The only way to read a daily newspaper is to subscribe to an Anchorage paper and have it flown in daily or buy one at the Air Force Base. There is no local newspaper. Both Naknek and King Salmon have a small library.

Transportation: Interdependancy on transportation is the primary bond between King Salmon and Naknek. By road, they are connected only to each other and to Naknek Lake, within Katmai National Monument. All manufactured goods and non-subsistence foods arrive by plane or boat. All the canned salmon produced in Naknek and South Naknek is shipped out. Red Stag, a subsidiary of Crowley Maritime, hauls SeaLand vans to Naknek on large cargo boats. Northland Marine Line (Jim Hagen) also ships goods into Naknek. The canneries have their own cargo boats and local people can place a grubstake order in with the cannery order if

they pay 50% in advance. Cargo boats only arrive a few times each year and must anchor in the bay and lighter the cargo to shore because of the shallow water, indefinite channels and lack of adequate piers at Naknek. It costs around \$0.18 per pound to ship goods from Seattle to Naknek but only \$.08 per pound if in with a large cannery order. Sea freight rates are approximately twice as expensive as rates from Seattle to Kodiak due to difficult shipping conditions, low volume, lighterage costs, and greater distance. Mostly oil, gas and fish are the goods hauled by boat. Food is generally flown in from Anchorage. Wien charges \$0.115 per pound. U.S. parcel postage rate is \$0.08 to \$0.10 per pound with a maximum of 70 pounds per parcel. Sholton and Carlson Air Freight charges \$0.143 per pound for miscellaneous cargo, \$0.21 per pound for furniture, showmachines and insulation type goods and either \$56.70 per foot or \$0.252 per pound (whichever is greater for vehicles).

Airplanes are the most frequently used mode of transportation between communities and to remote hunting and fishing spots. King Salmon has an excellent airport with 3 airlines plus the Air Force using 2 asphalt strips, one running east-west (8500' x 150') and one north-south (5000' x 300'), a radar direction-finding system, controlled approach lights, FAA and National Weather Service stations and fuel. The following flights are possible:

Airline	Destination	Schedule	Fee
Wien	Anch--King Salmon	Daily	\$55.50
	Dillingham	Sat & Sun	\$22.10
	Anchorage	Twice daily	\$55.50
Peninsula Airways	Egegik	Arranged	\$30.00
	Dillingham	"	\$40.00
	Pilot Point	"	\$45.00
	Port Heiden	"	\$70.00
	Chignik	"	\$110.00
	Illiamna	"	\$198.00
	Brooks Camp	"	\$28.00
	Anywhere	Charter	Wheel plane \$110/hr 5 passenger amphibian Widgeon \$190/hr 9 passenger amphibian Goose \$260/hr
Kodiak Western	Dillingham	Daily	\$26.40
	Egegik	Daily & Sat.	\$18.15
	Igiukuk	Monday	\$26.40
	Levelock	M/W/F	\$15.40
	Naknek	Daily & Sat.	\$12.11
	South Naknek	Daily & Sat.	\$12.00
	Pilot Point	Daily & Sat.	\$36.31
	Ugashik	Wed. & Arranged	\$36.31
Kodiak	T/Th/Sat.	\$38.39	

Planes as large as DC-8's and Air Force jets use the runways and float-planes use the Naknek River.

In Naknek, the State has 2 intersecting gravel runways (1800' and 1500') and Tibbetts have a private runway (1700' x 90') suitable for planes as large as a 180. There are no runway lights or other navigation aides. There is a lake large enough for conventional floatplanes and this will eventually be lengthened by connecting it to an adjacent lake. There are as many as 26 floatplanes on the lake during fall hunting season. There are 3 air charter companies operating out of Naknek. Eddie King's Flying Service charges \$110/hr for a Cherokee. Grietchen Air Taxi charges \$95/hr for a 185, \$110/hr for a 207 on wheels and \$125/hr for a 207 on floats. Martin Severson recently bought Roy Smith's Flying Service and operates the air taxi service between Naknek and South Naknek (\$5.00 one way).

There is a 15 mile graded and partially surfaced road between King Salmon and Naknek which is maintained by the state. Except for the 8 mile road from King Salmon to Naknek Lake, there are very few borough roads because the residents of King Salmon and Naknek voted not to give road powers to the borough.

In the late 1960's, the State Dept. of Highways was considering the feasibility of a road across the Alaska Peninsula but nothing has been done since the initial aerial reconnaissance. The 1979 to 1985 transportation plan has no plan for any such highway. Bristol Bay residents do not want a road connection to the rest of Alaska because they believe roads are components of pollution and ecological disruption. They would prefer improved air and marine transportation (Bristol Bay Overall Economic Development Plan, 1976).

Bristol Bay Contractors, owned and run by the Shawback family out of King Salmon, haul goods between Naknek and King Salmon at the following rates:

2000	-	24,000 pounds	(\$0.0307/lb)
24,000	-	38,000 pounds	(\$0.0132/lb)
Over		38,000 pounds	(\$0.0088/lb)

They also rent Luv trucks for \$24 a day and \$0.20 per mile. They operate the school buses and a community bus.

Most families own a truck or car. Since the 1970's, Honda 3-wheelers have become very popular as a recreational vehicle and workhorse. They are used all year round and can cross creeks. An expert rider can even float across lakes. People often use them for hunting 5 or more miles out of town. Some people tie them to the pontoons of airplanes and take them into remote hunting areas for use in packing out meat. They can haul up to 220 pounds, discounting the driver. Set-net fishermen use them to check their nets and pack fish to their homes and the canneries. Snowmobiles are not prevalent because of poor snow conditions.

Many local residents own small motor boats and frequently boat up the Naknek River and Big Creek to fish and hunt or just appreciate the surrounding area.

Residences: The majority of Naknek residents live in small old weathered frame houses clustered in the center of town. During the last few summers, new, larger houses have been built on the road out of town. The U.S. Department of Housing and Urban Development is working with the Bristol Bay Housing Authority to plan for the construction of 15 low income houses in Naknek within the next few years. This will not open up any rental units, however; it will only alleviate the extremely overcrowded conditions. The landlords in Naknek are: Alphas Alford, Alvin Aspelund, Gary Bradford, Bill Tolbert, Dick Edwards, Herman Foster, Wilmer Ferngren, Eddie King, Paul Johnson and John Lundgren.

King Salmon has several distinct residential areas. The F.A.A. has one compound of brightly painted modern frame houses adjacent to the airport and a newer compound a few miles west of town, adjacent to the Naknek River. They plan on moving all their houses out to the West End Housing area. The U.S. Air Force Base is an ugly conglomeration of old and new barracks among military support buildings. King Salmon Heights is the local name for a residential area 2 miles west of the airport. Most of the local businessmen live either there or scattered along the road. There are generally no vacant rental units in King Salmon but the following people are landlords who could be contacted in the future: Zita Stricklin, Morry Moorcroft, John Lundgren, and Mary Lamoreaux.

Supplies, Services and Cost of Living: In Naknek one can purchase the following types of supplies and services: groceries, liquor, clothing, fishing and hunting gear, building materials, hardware, fuel oil, gasoline, banking and postal services, well-drilling, mechanical repair (\$30/hr), house construction, building site preparation, air charter services and motel and restaurant amenities.

In King Salmon, one can purchase the following types of supplies and services: groceries, liquor, clothing, fishing and hunting gear, boats, hardware, postal services, truck rental, common carrier services, charter and scheduled air flights, and motel and restaurant amenities.

The Quarterly Report on Alaska Food Prices, the usual source of data for comparison of food prices between Alaskan communities and the lower 48 states, does not include any Bristol Bay communities. The only official study on comparative costs of living between Bristol Bay and Anchorage was done in 1972 by the Alaska Dept. of Administration, Division of Personnel. The study concluded that food in Dillingham (similar in size to King Salmon and Naknek combined and similarly dependent on air and sea transportation) was 42% higher than in Anchorage and 73% higher than in Seattle. Housing costs in Dillingham were 42% more expensive per square foot than in Anchorage. Based on this study, state employees receive a 26.25% cost of living adjustment above the Anchorage salary rate.

In 1978, the average rent was \$200-\$350 for a small 2 bedroom house or apartment and around \$500 for a 3 bedroom place. Electricity generally costs between \$15 and \$125 a month for a house. Fuel oil generally costs between \$50 and \$100 per month for a house, based on a price of \$0.58 per gallon to fill a person's own 55 gallon barrel.

If a family of 4 buys all their groceries in King Salmon or Naknek they can easily spend \$500 to \$600 a month. Most people buy bulk groceries while on trips to Anchorage or order from Prairie Market in Anchorage. FAA families buy their groceries through the FAA commissary in Anchorage and have them sent out on the FAA plane for no charge.

The cost of construction of a house is high compared to Anchorage. If most of the work is done by the owner, the average cost is around \$25 to \$35 per square foot, depending on what means are available for transportation of supplies from Seattle to Anchorage. The price jumps to more than \$40 per square foot if a contractor builds the house. Mr. Johnson will drill a well for a minimum of \$3000 for the first 100 feet, plus \$10 a foot for casing. Pang-Vig, Inc charges \$28.75 per foot to drill a well, including the casing.

FAA housing is maintained by a monthly rent payment from employees, electricity charges and fuel charges paid by FAA and routine maintenance work done by FAA. Average rents and electricity consumption figures for FAA housing throughout Alaska is as follows:

	Rent/Month	KWH/Month	Fuel Oil/Month (Gallons)
One Bedroom	\$130-\$240	9,750	2,150
Two Bedroom	\$224-\$328	10,240	2,350
Three Bedroom	\$260-\$360	10,500	2,600
Four Bedroom	\$340	11,000	2,920

(Personal communication, Lance Harvey, FAA Fiscal Support, Anchorage Alaska, October 1978).

History: Naknek was originally an Eskimo village and was first reported by Vasiliev in 1821. The Russians built a post called Fort Suvarov near the village to aid their fur trade but then influence was limited to coastal people, The Russian Greek Orthodox missionaries began operating in the area around 1830. Despite these Russian influences, there were very few changes in the area's population from aboriginal times up until the 1880's, when commercial fishing and the red salmon canning industry began. This brought many white men and their diseases into the native area and epidemics decreased the native population. The Russian church received patent to land in Naknek and eventually sold and leased some to people who wanted to make Naknek their home. A post office was established in Naknek in 1907. South Naknek apparently developed later as canneries located across the river.

In 1941 the U.S. Civil Aeronautics Administration (U.S.C.A.A., now called F.A.A.) surveyed the King Salmon airport site, acquired 3845 acres from the BLM, and began construction of the airport and support facilities. The U.S. Army took control of the facilities during World War II. The USCAA controlled the site from the end of the war until 1947, at which time the U.S. Air Force acquired a 2525 acre military reservation adjacent to and including some of the USCAA site. In 1966 the USCAA gave all but 456 acres to the Alaska Dept. of Transportation and Public Facilities who presently own 1560 acres in King Salmon. The King Salmon Air Force Base began as a satellite of Elmendorf AFB, as part of an air defense network. Today it serves as a forward fighter base and alternate landing site for Elmendorf. In 1949, the U.S. Army Corps of Engineers constructed a road in the path of the jeep trail that was growing between King Salmon and Naknek. The Alaska Coast and Weather Station was built in King Salmon between 1951 and 1955. Other government agencies continued to locate around the best airport in the Bristol Bay--Alaska Peninsula area and King Salmon grew into a civilian and military government town. Naknek continued as a fishing community but its economy diversified somewhat as Bristol Bay Borough and the local school district began operating out of Naknek.

Economy: The primary difference between the communities of King Salmon and Naknek as they exist in 1978 is that King Salmon supports over 90% of its work force with permanent jobs where as the majority of Naknek's labor force is seasonally employed in the salmon industry.

Naknek has grown from a tiny Eskimo village to a mixed community of over 350 permanent residents because it has grown to function as a transportation and service center for the Bristol Bay salmon industry, due to its road connection to the King Salmon airport. The fishery operates from early June through early August. There are 7 active canneries near the mouth of the Naknek River; Peter Pan Seafoods, Whitney Fidalgo, Red Salmon and Nelbro Packing companies on the north side of the river, in Naknek, and Bumblebee, Alaska Packers and Kenai Packers on the south side of the river, in South Naknek. The canneries employ nearly 700 people; only 30-60 high school students and a few women are local residents. Only 10-15 percent (around 135) of the gillnetters are local boats and most of these fish independently. Most of the remaining boats come up from Oregon and Washington and work for one cannery. An average boat makes about \$18,000 and the top boats bring in around \$40,000 worth of salmon. The captain generally takes 75% of this money for his boat and self and the crewmen gets 25%. Set-net fishermen earn at least \$4,000 during the season.

Naknek quiets down considerably after the canneries close and nonresident fishermen leave. Trade and Service jobs account for a small proportion of year round employment with a slight increase during the summer to accomodate the seasonal workers and visitors. The Naknek Cooperative is a general store owned by its members but open to all. Naknek Trading Company is a nonprofit general store owned by a cannery and open all year round. Naknek Chevron is a garage and service station. Standard

Oil has a bulk fuel farm. The Red Dog Saloon and lodge, Hadfield's Bar and Fisherman's Bar remain open all year. Built-Well Enterprises sells building supplies. Grietchen Air Taxi, King's Flying Service and Martin Severson operate private air charter businesses, doing most of their work in the summer and fall. There are several active guides working out of Naknek, receiving around \$2500 per caribou or moose hunt and \$8-10,000 per bear hunt. The Alaska Bank of Commerce opened a branch office in May 1978. The electric and phone companies have several permanent employees. As in other rural Alaskan areas, government supports the majority of permanent employees. The state hires a magistrate and a state trooper. The Federal government employs a Public Health Service nurse and a postmaster. Bristol Bay Borough employs 8 people, including the manager, planner, assessment clerk, librarian, maintenance man and fire-chief. The Bristol Bay School District employs 22 teachers and 15 ancillary people using Borough, State and Federal funds for its operation.

The paucity of job opportunities during the winter causes many people to drop out of the active labor force and depend on welfare, unemployment compensation, food stamps, personal savings from 2 months of summer fishing and/or subsistence resources.

The 1977 Bristol Bay Borough Overall Economic Development Plan stated that 45 to 50% of the labor force was unemployed most of the year. Arne Erickson, Borough Planner, estimated there was 68% unemployment during the winter in Naknek.

King Salmon is predominantly a government town with just a few private enterprises. The major employer is the U.S. Air Force, with around 410 service men and women and several civilian employees, such as RCA Alascom maintenance men. The Air Force is presently considering reducing their number to around 150 and contracting their non-defense operations out to civilians. The Federal Aviation Administration (FAA) is the 2nd largest employer, with up to 50 permanent people. The other permanent government positions are as follows: Alaska Dept. of Fish and Game (6), National Park Service (3), Alaska Dept. of Public Safety (2), Alaska Department of Transportation and Public Facilities (several), and the Bay and Peninsula Health Clinic (2). The private enterprises in town provide services and supplies and include the following:

King Salmon Commercial (general store)  
King Ko Inn (motel, restaurant, bar)  
Eddie's Fireside Inn (restaurant, bar)  
Wood-Z Lodge (fishing lodge and guiding operation)  
The Chinook (wild game processing)  
Charley's Sport Shop (boating, fishing & hunting equipment)  
Bristol Bay Contractors (vehicle rentals, bus service, common carrier)  
Foster Equipment Rentals (man with truck for hire)  
Peninsula Airways (scheduled and charter flights)  
Kodiak Western Airlines (scheduled flights)  
Wien Air Alaska (scheduled flights)  
Alaska International Construction (road builders based out of Anchorage)

King Salmon does not experience the tremendous summer influx of seasonal workers that influences Naknek. Alaska Dept. of Fish and Game hires around 35 people in their Commercial Fisheries Program but only a few remain in King Salmon. Summer tourists to Katmai National Monument must fly through King Salmon and many patronize the restaurants. A significant number of sport hunters and fishermen make travel and guiding arrangements through King Salmon to utilize the Alaska Peninsula's rich habitats during the summer and fall.

The most recent surveys concerning income levels for Bristol Bay Borough residents (Naknek, King Salmon and South Naknek) are as follows:

1. From the U.S. Bureau of the Census, 1971d.

EARNINGS BY OCCUPATION GROUP 1970

Median earnings for selected occupation groups	Bristol Bay Borough	Alaska
<u>Male</u> , 16 yrs old & over with earnings	\$ 8,800	\$11,242
Professional & Managerial	10,147	13,796
Craftsmen & formen	11,176	12,098
Operatives	--	9,566
Laborers	2,250	6,747
<u>Female</u> , 16 yrs old & over with earnings	2,200	4,818
Clerical & kindred workers	--	5,296
Operatives	--	2,274

2. From the Overall Economic Development Plan; Bristol Bay Borough.  
June 1978.

FAMILY INCOMES - 1969

<u>Income Class</u>	<u>Bristol Bay Borough</u>		<u>State of Alaska</u>	
	<u>No. of Families</u>	<u>Percent of Families</u>	<u>No of Families</u>	<u>Percent of Families</u>
TOTAL FAMILIES	149	100.0	66,670	100.0
Less than \$1,000	14	9.4	1,458	2.2
\$1,000 - \$4,999	20	13.5	8,004	11.9
\$5,000 - \$9,999	21	14.1	15,697	23.5
\$10,000 - \$14,999	63	42.3	16,368	24.5
\$15,000 - \$24,999	26	17.4	18,808	28.3
\$25,000 - \$49,000	5	3.4	5,825	8.7
\$50,000 +	0	0	550	.8
Median Income	\$12,390		\$12,443	
Mean Income	\$11,040		\$13,856	
Per Capita Income	\$ 3,641		\$ 3,765	

3. From the Alaska State Housing Authority Survey

LOCAL INCOME BY BOROUGH AND VILLAGE

	<u>King Salmon</u>	<u>Naknek</u>	<u>South Naknek</u>	<u>Borough</u>
Average Household Income	\$11,150	\$6,520	\$3,210	\$7,816
Average Per Capita Income	3,266	1,388	683	2,044
Annual Medium Income	10,500	6,800	2,400	8,300

Bristol Bay Native Corporation (BBN), the regional corporation of which Naknek is a member, has taken several steps towards developing the economy of Bristol Bay. They have paid Phillips Petroleum Company to explore for oil on their land and Phillips will soon drill a wildcat well at Ivanof Bay. Considerable oil exploration has occurred in the past in the Bristol Bay Region, which is part of a large sedimentary basin considered to have a high potential for oil and gas development.

BBNA has merged with several other native corporations to form the United Bank of Alaska. They are encouraging the creation of a local skill center to train tradesmen and an Agricultural Experiment Station to pinpoint potential farming areas and assist in introducing the village farm concept. (Source: Bristol Bay Overall Economic Development Plan. 1976 and 1977).

The Bristol Bay Borough (BBB) has an overall economic development plan which is updated each year. The June 1978 plan called for the following proposed projects in this order of priority:

1. Public dock, small boat harbor and cold storage facility. Bomhoff and Associates are doing a feasibility study.
2. Temporary liquid disposal site to be used until implementation of community sewers.
3. Naknek River bridge to connect South Naknek to King Salmon and Naknek.
4. Beach access road from Naknek to Pederson Point to offer greater access to commercial fishing sites and canneries in Kvichak Bay.

5. Extension of east-west runway by 500 to 1000 feet.
6. Auditorium--swimming pool complex at the school in Naknek.
7. Enlargement of float plane lake.
8. Walkway: Monsen Street to Bristol Bay High School.
9. Community water systems.
10. Cemeteries.
11. Solid waste disposal system.
12. Community Centers.
13. Paving the streets of South Naknek.
14. Construction and paving of streets in Naknek.
15. Paving the streets of King Salmon.
16. Construction of King-Johnson Road into a residential area of Naknek.
17. Completion of King Salmon Heights Road.
18. Construction of road from South Naknek to Savonoski.
19. Parks.
20. Telephone utility expansion.

BBB hopes to alleviate the impediments to economic growth and raise the general standard of living through the completion of the above projects.

There are several other possibilities that may economically stimulate Naknek and King Salmon. The rich bottom fishery in the eastern Bering Sea, that has been harvested by the foreigners for years, will become an important Alaskan fishery in the next several years. Although Naknek does not offer a deep enough port for the ocean going boats, King Salmon may function as a land base of operations due to its excellent airport. Increasing leisure time among U.S. residents, as well as the increasing trend towards appreciation of natural areas, may send more tourists through King Salmon on their way to Katmai National Monument, although their economic impact is minimal. Offshore oil and gas development may occur on state and federal leased land.

The Naknek-King Salmon area has the potential of increasing its role as a regional transportation, trade and service center. Their communication system is the best in the region at a time when Dillingham is severely

hampered by terrible long distance communications. With completion of the proposed water and sewer systems, more housing and the boat harbor cold storage complex, the area could attract more government agencies and private enterprises.

Population: The population of Naknek has grown steadily from 1973 people in 1929 to 350 people in 1977 (U.S. Bureau of the Census 1971d and Alaska Department of Environmental Conservation 1977). According to the Bristol Bay Borough Overall Economic Development Committee, about 30 percent of the borough population are classified as minorities. Most of the natives live in either Nakenk or South Naknek. According to a Bureau of Indian Affairs study written in 1966, Naknek was 60.5 percent native. King Salmon is almost exclusively caucasian. The civilian population has decreased from 227 in 1960 to 202 people in 1977 and the U.S. Air Force has dropped from 469 in 1960 to 425 in 1970 (U.S. Bureau of the Census 1971d). There were only 380 men and 27 women in the Air Force base in 1978 (pers. comm. Vickie Stein, U.S. Air Force, August 1978). The overall ratio of men to women is very high in King Salmon but more evenly balanced in Naknek.

Political Organization: Naknek and King Salmon are joined by South Naknek to form the Bristol Bay Borough, which has a Mayor (Gary Bradford), Manager (Stuart Bowdoin), Planner (Arne Erickson), 5 member Assembly (Dan O'Hara, Martin Seversen, Jim Clark, George Tibbetts Jr, and Withers Tolbert Jr), Planning and Zoning Commission, Platting Board and Parks Commission. The Borough obtains part of its operating funds through a 3% Rawfish Tax and a 10.5 mills property tax.

Pang-Vig, Inc., Ltd is the Naknek native village corporation formed under ANCSA. George Gottschalk Sr. is the President and Nels Monson is the Manager. Pang-Vig resents the Borough's powers to influence their lives with taxes, zoning and building codes.

Naknek Village Council is basically inactive, although George Gottshalk Jr. stands as the President.

The generally recognized community leaders include the above mentioned men as well as Carl Fundeen (FAA), Dale Lunsford (School Superintendent) and the Lions Club.

Lifestyles: Based on only 3 weeks in King Salmon and Naknek, I hesitantly offer this descriptive generalization about local lifestyles and welcome any corrections or additions from those who know better.

The military personnel seem to accept their one year assignment at the remote base as a difficult, but short, separation from their friends and family. Many of them enjoy fishing and hunting out of military recreational motor boats. Some of them pass their spare time by working another job in a local commercial enterprise. The Air Force's Morale, Recreation and Welfare Program offers ceramics, photography, motor boats, movies and a gymnasium. The Open Consolidated Mess provides food, liquor, a juke box and a social focal point. Despite these accomodations, the general morale is low. Military people seldom interact closely with local residents, but get to know some through the bars.

Most Federal and State employees live in King Salmon and seem content with their well-paid permanent jobs and modern government housing. They seem to enjoy the area, are avid hunters and fishermen and supplement their income with wild foods. Many of them participate in community activities and enjoy their privilege to use the Air Force Base recreational facilities. Some government employees have remained in King Salmon for 10 years.

People working for the borough, school electric company, phone company and private enterprises have generally lived in the area longer and consider it their home. Most of them depend on a substantial amount of wild foods and participate in the community.

Seasonal fishermen who are permanent residents have most of the year to hunt, fish and trap as well as take care of their homes and families. Some of them enjoy a winter vacation in a warmer climate.

Moose, caribou, rabbits, salmon, grayling, pike, lake trout, rainbow trout, char, whitefish, smelt, ptarmigan and waterfowl are the primary subsistence resources harvested by local residents. Spruce hens, porcupines, numerous plants and berries, beaver, lynx, mink, otter, fox, wolf and wolverine are also harvested. The areas receiving greatest use are along the Naknek River, Smelt Creek, Big Creek and King Salmon Creek and around the outlet of Naknek Lake. (Behnke, 1977 and personal communications with local residents).

Community Dynamics: Both King Salmon and Naknek are socially active communities within themselves but less so between each other. Work characteristics keep the fishermen and cannery workers in Naknek and the government and military employees primarily in King Salmon. The borough employees and business people have the most interaction with overall borough residents. Summertime recreation tends to be an individual, family or small-group-of-friends style affair. Wintertime indoor sports, community education classes, church and club meetings are the primary avenues for interaction between residents of Naknek and King Salmon. Government and military employees use the Air Force gymnasium for basketball and volleyball games. The school gym in Naknek provides similar recreation for Naknek residents. The Air Force photo lab and ceramics studio are only open to military and government families. The FAA ceramics club is open to anyone, if there is available space after all interested FAA people have joined. The churches and clubs that hold meetings in one of the towns are attended by residents of both towns. Naknek has a Lutheran, a Catholic and a Community Bible Church. King Salmon has a Baptist Church and Protestant and Catholic services are held at the base. There is a Teen Club, Brownies Troop, Boy Scouts Troop, and Lions Club that holds meetings in King Salmon. The Aspelund theater in Naknek and the Air Force theater attract residents of both towns. The bars in both towns have very steady patronage.

Interaction between the Eskimos, Aleuts and Causcasians is congenial compared to many places in Alaska. Much intermarriage has occurred and ancestry is often difficult to guess.

However, tension does exist over 4 basic issues. Alcoholic welfare cases are criticized by most hard-working, responsible people. There is much local resentment over the State's Limited Entry Program for the salmon industry. Roughly 50 percent of the true local fishermen were not given a permit to gillnet due to their lack of a gear permit during the critical years of 1973 and 1974 or to their loss of paperwork to prove their fishing history. Oregon and Washington fishermen have apparently had an easier time getting permits. (personal communication, Norman Anderson, August 1978). There is some animosity between the nearly 500 Filipino cannery workers and some of the local Naknek residents, with a few incidents of hostile aggression every summer. Quite a few Caucasians are bitter about the Alaska Native Claims Settlement Act. They don't believe that one group of people should be freely given an advantage over another group of people and they think that the natives never consider the welfare of non-natives. Concerning this last point, there are currently 2 very heated issues in the borough. Naknek Electric Association (NEA) recently expanded their generating capacity to be able to include the Air Force Base. Paug-Vig, Inc. will not agree to powerline easements essential to connect the base to NEA's system and therefore everyone's electricity rates will probably be raised 11 percent. The second matter of contention is that Paug-Vig controls the only public source of gravel in the area under a special use permit from the BLM in which they can only make a profit off of their transportation services. Paug-Vig's truck has been broken for quite some time and no one has been able to obtain gravel for very necessary projects.

#### Availability of Land and Buildings

Naknek: The land pattern is one of centralized ownership focusing around land patented very early to the Russian Greek Orthodox Church and later sold to individuals who wanted to live in Naknek. A few homesteaders have received patent to their claim. Under the ANCSA settlement, Paug-Vig, Inc. has selected all of BLM's land on the north side of the Naknek River in the Naknek-King Salmon area and has recently submitted land descriptions with initial easement reviews to BLM, but their selections have not been adjudicated yet and conveyance is a long way off. (personal communication, Barbara Roppke, BLM, Anchorage, September 78). BLM surveyed these native selections in the fall of 1978. There is very little private land for sale in Naknek. John Eckert has a homestead around 3 miles east of Naknek, adjacent to Leder Creek and Naknek River, and has sold most of his land for \$2,000 to \$5,000 an acre. Steve Kie wants to sell some of his land but it is a native allotment with restricted title and requires BLM's consent. Ralph Omholt has a subdivision 5 miles east of Naknek. George Gottschalk Sr. has 126 acres of patented land near Leder Creek which he will consider leasing or perhaps selling to USFWS. Bristol Bay Borough has a total land holding of only 70 acres and they will eventually require all of it for borough projects. The Russian Greek Orthodox Church has much land in Naknek and they may consider leasing some of it to USFWS.

There are presently no vacant rental units in Naknek. Paug-Vig, Inc. is constructing an office building in Naknek which should be completed by

the winter of 1978. They are interested in having USFWS lease the top floor (2800 sq. ft.) for around \$.87/sq.ft./mo. Paug-Vig is also remodeling a 40' x 300' section of barracks which they purchased from the King Salmon Air Force Base and intent to lease as garage and storage space and living units. Contact Nels Monson, Manager of Paug-Vig, Naknek.

Bristol Bay Native Association owns what used to be Peter Pan Seafoods cannery and land in Naknek and may have some land and/or buildings for lease. Contact Jack Morris in Anchorage.

There is some land to lease and to purchase in King Salmon. In 1966, the FAA gave 1560 acres to the Alaska Dept. of Transportation and Public Facilities (ADTPF), while retaining free use of land necessary for their operations and ownership of 456 acres west of town for their own new housing area. The ADTPF has leased many acres to the U.S. Air Force for an indefinite period of time. The ADTPF has also made the following lease arrangements:

Bristol Bay Borough	--	Until 2003
Bristol Bay Borough	--	Until 1988
RCA Alaska Communications, Inc.	--	Indefinite
RCA Alaska Communications, Inc.	--	Until 2020
Peninsula Airways, Inc.	--	Until 2007
Lathrop Co.	--	Until 1980
King-Ko Inn, Inc.	--	Until 1978
Bristol Bay Telephone	--	Until 2000
Muldoon Road Baptist Church	--	Until 1988

The ADTPF has land available for leasing on the following terms:

1. Maximum lease now available is 55 years.
2. Length of lease is determined by value of investment to be constructed on leased land.
3. Land used for aviation purposes is leased at a rate of \$.05/sq.ft./year. Land used for purposes directly related to aviation is leased for \$.06/sq.ft./year. No land will be leased for residences.
4. Processing of applications requires 90 days and there is a backlog of 300 applications. (personal communication, Steve Pavish, Chief Airport Leasing, 10/78). There are maps of ADTPF land in the Becharof Refuge Proposal files in the Resource Planning office of the U.S. Fish and Wildlife Service in Anchorage.

The National Marine Fisheries Service (NMFS) received 5 acres under PLO 3784, USS 4688 that is adjacent to the Naknek River. NMFS has temporarily, or perhaps permanently, terminated their operations in King Salmon and are going to lease their buildings and land. See Appendix B for detailed description of facilities.

There are several persons in town who own small parcels of land but are not interested in leasing or selling at the present time: Herman Foster, Shawbacks, Nick Anderson, Zita Stricklin, Arnie Omholt, Morry Moorcroft, Eddie Oakes, Tiney Mitchell, Jack Mathis, Jim Faro and Don Bill. Richard Jensen has recently subdivided his 140 acre homestead adjacent to the AF Base and is selling roughly 1 acre lots for around \$6,000 to \$12,000. The land is flat moist tundra with patches of white spruce. (Richard Jensen, Box 112, Girdwood, Alaska. 783-4381) Alphus Alford has a homestead adjacent to Jensen Subdivision which he plans on subdividing within the next few years. (Alphus Alford, Box 133, Naknek, Alaska 99633).

There are very few rental units in King Salmon and no vacancies at present. Three men recently bought old Air Force barracks to remodel into rental units. Jack Mathis is presently remodeling his into 2 bedroom houses located on his land next to the base. He is interested in long-term leases with government agencies and will remodel to suit USFWS specifications if an agreement could be reached shortly. He plans to complete each unit for \$350 plus utilities and heat. He can be reached at Box 204, King Salmon. Nick Anderson and the Shawbacks also bought some barracks.

S. barracks

### Advantages and Constraints of Alternative Headquarter Sites:

King Salmon and Naknek are only 15 miles apart, on similar terrain and with similar building constraints based on the occurrence of permafrost, prevailing winds, low winter temperatures, etc. There are few definite advantages of living in either town. The selection of a headquarters site will more likely depend on what is decided to be the preferable community atmosphere and where affordable, suitable land and/or buildings are available.

King Salmon has a much better phone system than Naknek, is closer to better sport fishing and hunting areas, has more clubs and more frequent movies and is adjacent to the airport. However, the military presence and noise of air force jets and daily scheduled commercial air flights must be considered. The fact that most residents are government employees may mean that future Fish and Wildlife Service employees would have more in common with King Salmon residents than with the predominantly fishery oriented residents of Naknek.

Naknek, in comparison, is a more typical rural Alaska community with a fishing town atmosphere. The population base is far more permanent and has far more natives than that of King Salmon. There are more civilian job opportunities that may be of interest to family members of future Fish and Wildlife Service employees. The Naknek Trading Co. (general store) has much cheaper prices than King Salmon Commercial. Gasoline and fuel oil are available only in Naknek. There does not seem to be anti-federal government feelings in either community.

So, Naknek is not a viable consideration as a headquarters site at the present time due to the lack of a road connection to the airport.

### Sources of Information

People Contacted: In King Salmon, the following people and organizations were contacted:

Chris Smith, ADF&G, Area Game Biologist.  
Don Bill, ADF&G, Area Fishery Commercial Biologist  
Lou Gwartney, ADF&G, Area Sportfish Biologist  
Nick Steen, ADF&G, Assistant Area Game Biologist  
Bill & Arlene Pinnette, NMFS  
Vickie Steen, U.S. Air Force, TV Station Manager  
Ed Robertson, U.S. Air Force, Newscaster  
Wood-Z Lodge, Colonel Wood and Zita Stricklin  
Bristol Bay Contractors, Lynne and Marianne Shawback  
King Ko Inn, Frieda  
Keith Nelson, NPS  
Gill Blinn, NPS  
Eddie's Fireplace Inn, Eddie Oakes

Eddie's General Store  
Patterson's Sanitation & Refuse Service  
Kodiak Western Airlines  
Wien Air Alaska  
Peninsula Airways  
Bay and Peninsula Clinic, Nurse Tony Ballew  
Carl Fundeen, FAA, Section Manager  
Dick Jensen  
Jack Mathis  
Duane Durand  
Morry Moorecroft  
Arnie Omholt  
Paul Demille  
Dorman Riddle  
Billy Tolbert

In Naknek, the following people and organizations were contacted:

Bristol Bay Borough, Planning & Zoning, Arne Erickson  
Bristol Bay Telephone Co.  
Naknek Electric Association, Alphas Alford  
Naknek Trading Co.  
Naknek Cooperative  
Paug-Vig, Inc, Nels Monson  
Red Dog Saloon  
King's Flying Service  
Grietchen Air Taxi  
Martin Seversen  
Norman Anderson, Legal Services  
John Eckert  
Bristol Bay Borough, School Superintendent  
Harry Shawback  
George Gottschalk, Sr.  
Arnie Erickson  
Jim Bird, manager, Alaska Bank of Commerce  
Built-Well, Mrs. Curtis Nestegard

In Anchorage, the following people and organizations were contacted:

Bristol Bay Native Corporation, Jack Morris  
Alaska Dept. of Administration, Division of Personnel, Bruce Carr  
Alaska Dept. of Transportation and Public Facilities, Airport Leasing,  
Steve Pavish  
Highways Design and Construction  
Errol Simmons, Real Estate Appraisers

Future Contacts:

Bristol Bay Borough, Arne Erickson, Planner, Naknek (268-4224)  
Errol Simmons, Real Estate Appraisers, 1069 W. 6th Avenue, Anchorage,  
Alaska (279-1431) (Tax assessor for borough, source of land  
ownership maps).  
National Marine Fisheries Service, John Kinney, Regional Engineer,  
Juneau, Alaska

Paug-Vig, Inc. (268-4277) Nels Monsen, Manager

George Gottschalk, Sr., President

U.S. Air Force (AK), Elmendorf AFB, APO, Seattle, Washington 98742

Director, Office of Information. (907-752-5226)

Bristol Bay Native Corporation, Jack Morris, Anchorage, AK (278-3602)

Weather Station  
KING SALMON

TABLE 1

30 Year Climatological Normals (1931-1960)

	<u>Maximum Temperature</u>	<u>Minimum Temperature</u>	<u>Average Temperature</u>	<u>Precipitation</u>
January	20.8	5.9	13.4	1.07
February	25.2	9.5	17.4	.95
March	27.8	11.1	19.5	.96
April	40.8	24.8	32.8	.64
May	51.9	34.7	43.3	.96
June	60.9	41.9	51.4	1.40
July	63.0	46.8	54.9	2.06
August	61.4	47.8	54.6	3.43
September	55.3	40.5	47.9	3.08
October	42.7	28.6	35.7	2.15
November	29.4	14.6	22.0	1.46
December	20.7	5.6	13.2	1.02
Annual	41.7	26.0	33.8	19.18

Source: United States Weather Bureau, Anchorage Alaska

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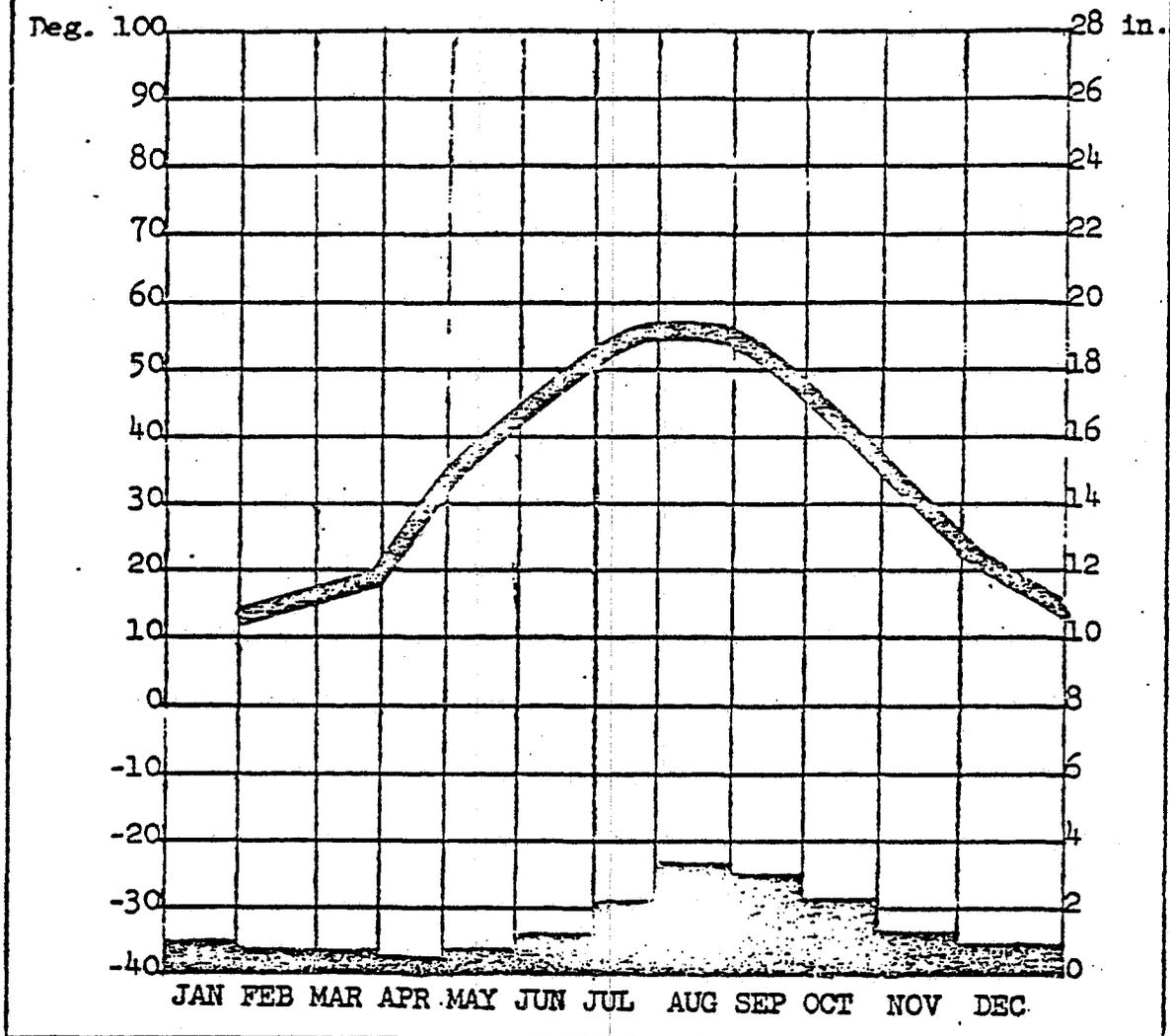
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CLIMATOGRAPH

STATION: King Salmon

LATITUDE 58 41' N LONGITUDE 156 39' W  
 ALTITUDE 43  
 MEAN ANNUAL TEMPERATURE 33.8 MEAN AN. PRECIP. 19.2  
 MEAN ANNUAL RANGE TEMPERATURE 41.7° F.



APPENDIX B: National Marine Fisheries Service Buildings.

Source of Information: Bill Pinnette, caretaker for past 14 years.  
Future source of information: John Kinney, Regional Engineer, NMFS,  
Juneau, Alaska. He has a copy of layout of buildings.

1. Building 6. Machine Shop. Furnace. Needs to be kept heated. Contains various machines including hydrolic drill press, lathe, hand tools, value refacer, hardseat grinders, air compressor, bench grinder, pedestal grinder and battery charger.
2. Building 5. Unheated warehouse. 60 x 100'. 20' at eves. 30' at gable. 12' foundation walls filled in with gravel and topped by concrete floor. Power entrance panel but no internal wiring. Purse seine skiff will remain in storage for NMFS.
3. Building 4. Unheated warehouse and heated office. Large warehouse with loft which will contain some NMFS lumber and gear. Office section contains 5 or 6 offices, laundry room, bathroom, wet lab (locked up but perhaps arrangements made for use by FWS biologists), drafting room, furnace room and dry lab. The wiring is only sufficient for a few lights. The sewer system will have to be completely remodeled. NMFS was collecting wastes from all buildings and dumping them into the river under a EPA waiver.
4. Building 3. Unsalvagable dormitory, storage and kitchen.
5. Building 1. Large guest house. 6 bedrooms plus a livingroom. Plumbing exists for entrance of water but no septic tank to receive outgoing wastes. No kitchen. No heat. Electricity.
6. 3 summer cottages. 2 bedrooms, kitchen, bathroom and livingroom. Electricity. No heat. No insulation. Plumbing for sewage collection is too close to surface of ground to be used during winter.
7. Year round residence built in 1948. 3 bedrooms, bathroom, kitchen, livingroom, and basement. No wall insulation. Ceiling insulated with rockwool. Furnace must run continually during cold months and still the house is chilly. Inadequate wiring. Unused well.
8. Wellhouse. Pump goes don 80'. Need to keep heater going in building to keep well from freezing in winter.

Bill Pinnette estimates that it would cost around                      to fix the facilities up to USFWS standards.

NAKNEK PHONE NUMBERS

Coast Guard Search and Rescue.....00-ZENITH-5555  
 To report a fire.....268-4249  
 Telephone trouble calls.....268-4211  
 To Dial King Salmon Air Force Base.....246-72xxxx

Alaska Bank of Commerce.....268-4402 & 4403  
 Alaska Independent Fishermen's Marketing Assoc.....268-4488  
 Alaska Manufacturing.....268-4493

ALASKA, STATE OF

Department of Highways.....268-4216  
 Third Judicial Court - Magistrate's Office.....268-4240  
 Public Health Nurse.....268-4250  
 Dept. of Public Safety - Trooper.....268-4235  
 Alford, Alphas.....268-4256  
 Alvarez, Alex.....268-4478  
 Anderson, Emil.....268-4475  
 Anderson, Norman - Ak Legal Service.....268-4253  
 Aspelund, Allan R.....268-4270

Bakken, Theodore.....268-4463  
 Bowdoin, Stuart.....268-4415

BRISTOL BAY BOROUGH

Borough Manager.....268-4224  
 Assessment Clerk.....268-4224  
 Planning & Zoning.....268-4224  
 Martin Monsen Regional Library.....268-4465  
 School District.....268-4225  
     Superintendent.....268-4225  
     Principal.....268-4265  
 Borough Bldg. Payphone.....268-4482  
 Bristol Bay Telephone Comm. Co-op.....268-4211  
 Built-Well Enterprises.....268-4226  
 Burnett, Buddy.....268-4258  
 Bird, James.....268-4424

Carricaburu, J. Bryan.....268-4420  
 Clark, Edward M.....268-4276  
 Coghill, Melvin.....268-4444

Drew, Robert.....268-4435

Eckert, John.....268-4206  
 Edwards Barbara.....268-4449  
 Edwards Bill.....268-4469

Fischer, Judy.....268-4436  
 Fisher, William.....268-4457  
 Fishermen's Bd. of Alaska.....268-4461

Library  
 U.S. Fish & Wildlife  
 1011 E. Tudor Road  
 Anchorage, Alaska 99503

