

III. DESCRIPTION OF PLANNING AREA

Location: Gustavus is a coastal community located in Southeast Alaska adjacent to Glacier Bay National Park. The community is located approximately 40 miles west of Juneau and is located at a latitude of 58° 24' North and a longitude of 135° 44' West (Figure 1).

Access: Access to Gustavus is by air and water only. Alaska Outport Transportation Association provides regularly scheduled barge service. Alaska Outport operates out of Seattle and provides monthly sailings to Gustavus except during the months of December and January. Alaska Outport does not service Juneau. Additional shipping service is provided by Gumption Freight and a local boat owner. Gumption Freight operates between Juneau and Gustavus about three times during the summer with a small landing craft. The local boat owner operates every two to three weeks and can only carry small items.

The Gustavus airport was built by the military and is large enough for jet aircraft. Alaska Airlines lands a Boeing 737 once daily during the summer months (June through September). In addition, there are at least three air taxis that operate regularly between Juneau and Gustavus. Daily service is provided by Glacier Bay Airways and LAB Flying Service. Wings of Alaska operates six days a week.

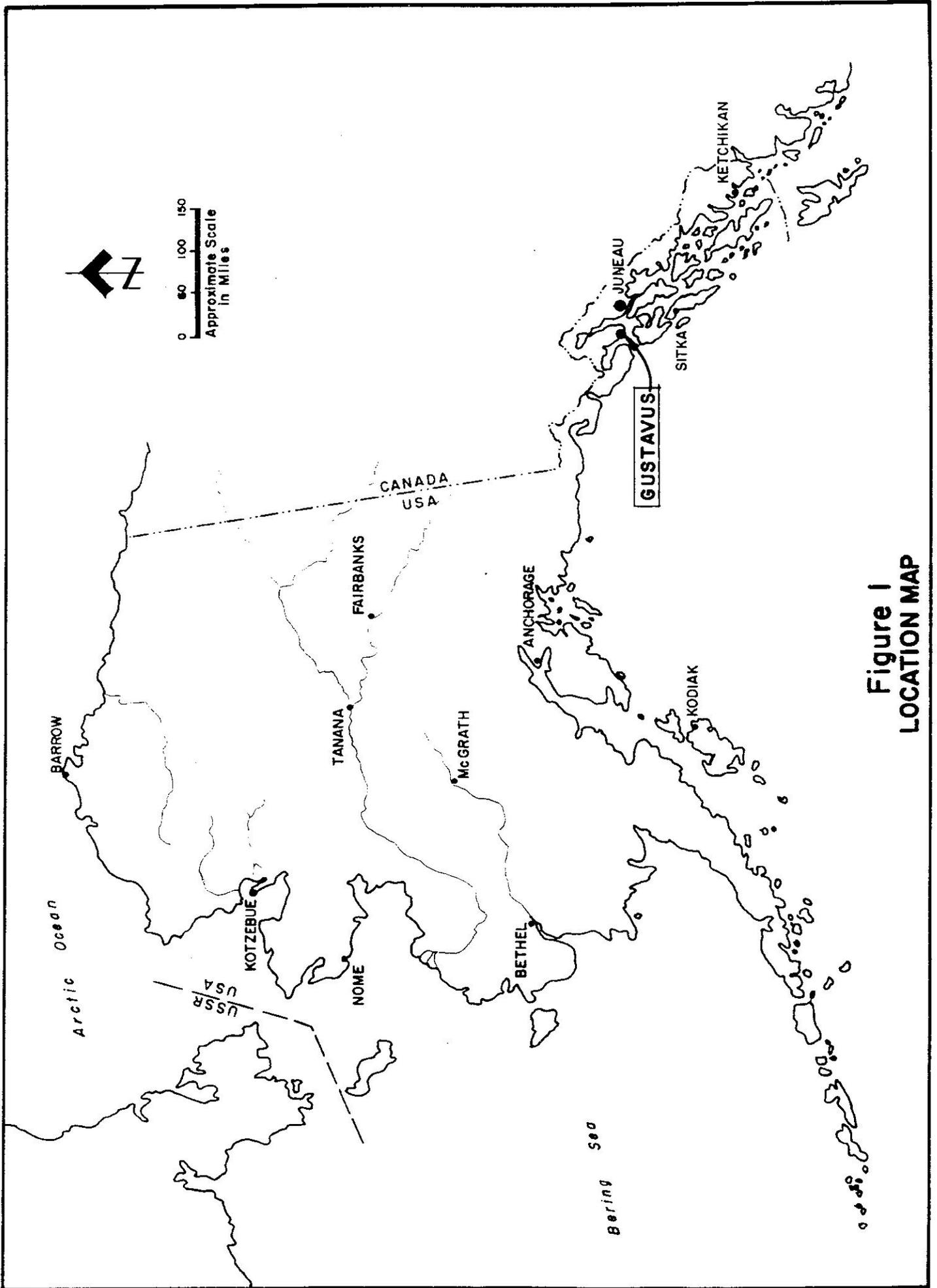


Figure 1
LOCATION MAP

Climate: The climate of Gustavus is a combination of maritime and transitional climates. Day to day temperature variations are typically small; the yearly temperature variations are large enough to allow some freezing. Moderate precipitation and humidity can be expected. Table I summarizes the climatic conditions.

Table I
CLIMATIC DATA^{1 2}

Mean Annual Temperature.....	41° F
Mean January Minimum Temperature.....	21° F
Mean July Maximum Temperature.....	63° F
Minimum Recorded Temperature	-25° F
Maximum Recorded Temperature	87° F
Freezing Index (degree days).....	550
Thawing Index (degree days).....	3500
Heating Degree Days.....	8860
Mean Annual Precipitation.....	54 inches
Approximate Annual Snowfall.....	70 inches

Soil Conditions: Most of the information contained in this section is taken from the survey: Soils of the Gustavus Area, Alaska³. Gustavus occupies part of a nearly level plain dissected by several south-flowing streams. Glaciers covered the entire area less than 300 years ago, but the glaciers have

¹ Alaska Climate Summaries, Second Edition, University of Alaska, Anchorage Alaska, February 1989.

² Environmental Atlas of Alaska, Charles W. Hartman and Philip R, Johnson, University of Alaska, Fairbanks Alaska, May 1984.

³ Soils of the Gustavus Area, Alaska, by Robert B. Hinton and Dale B. Schoephorster, U.S.D.A. Soil Conservation Service

receded several miles up-bay into what is today Glacier Bay National Park. The plain is composed mostly of coarse textured glacial outwash materials. The land is experiencing gradual uplift at the rate of about 1-1/2 inches per year. Most of the soils are saturated and still draining because of seepage from higher areas, except where soils are drained by incised streams or deep roadside ditches.

The most extensive soils of the Gustavus area consist of the "Stave Sand Series", which are generally poorly-drained soils formed in sandy alluvial materials. The water table is generally close to the surface, but in areas adjacent to incised streams or deep roadside ditches the groundwater level is much deeper. The native vegetation of the drained areas of the sands is a forest of Sitka spruce, lodgepole pine, and scattered hemlock. Where the water table is near the surface, the vegetation consists of low-growing shrubs, grasses, and sedges. The sand soils, both drained and poorly drained, comprise about 62 percent of the total distribution of soils in the Gustavus area.

The second most prevalent soils series in the area is the Bartlett series, consisting of a thin mat of surface litter, a few inches of dark brown and gray silty loam, under which lies 10 to 25 inches of mottled gray silty clay loam, and below this, coarse sand. These soils occur near the mouths of larger streams and in areas bordering tidal flats, and comprise about 18.5

percent of the soils in the Gustavus area. The remaining soils consist of silty loams, peats, and tidal flats.

Hydrology and Drainage: Most of the information in this section was summarized from the Gustavus Ditching and Drainage Study⁴ published in 1987. There are four natural drainages and several man-made ditches in the Gustavus vicinity, all flowing in a southerly or southeasterly direction, as shown in Figure 2. Dude Creek drains extensive meadows west of Gustavus and cuts through sandy soils overlying or in association with silt. The Good River drains a major part of west-central Gustavus, and the lower and middle reaches are deeply entrenched in stratified silts and sands. The main road ditch was constructed in the 1940's parallel to the main road to the park, and enters the Good River about one-quarter mile below the Good River bridge. The Salmon River is Gustavus' largest natural stream that flows through the center of town. The river's bed is dominated by gravels and is used by salmon for spawning. Glen's ditch and the east airport ditch are entirely man-made systems dating from the construction of the airport. Both ditches drain land surrounding the airport and throughout their lengths they flow through sand and a silt layer at the beach. Rink Creek is located east of Gustavus and flows through interbedded sand and silt layers along its lower reaches.

⁴ Gustavus Ditching and Drainage Study, by Daniel M. Bishop and Gregory P. Streveler, published by ENVIRONAID, Juneau, Alaska, June 1987.

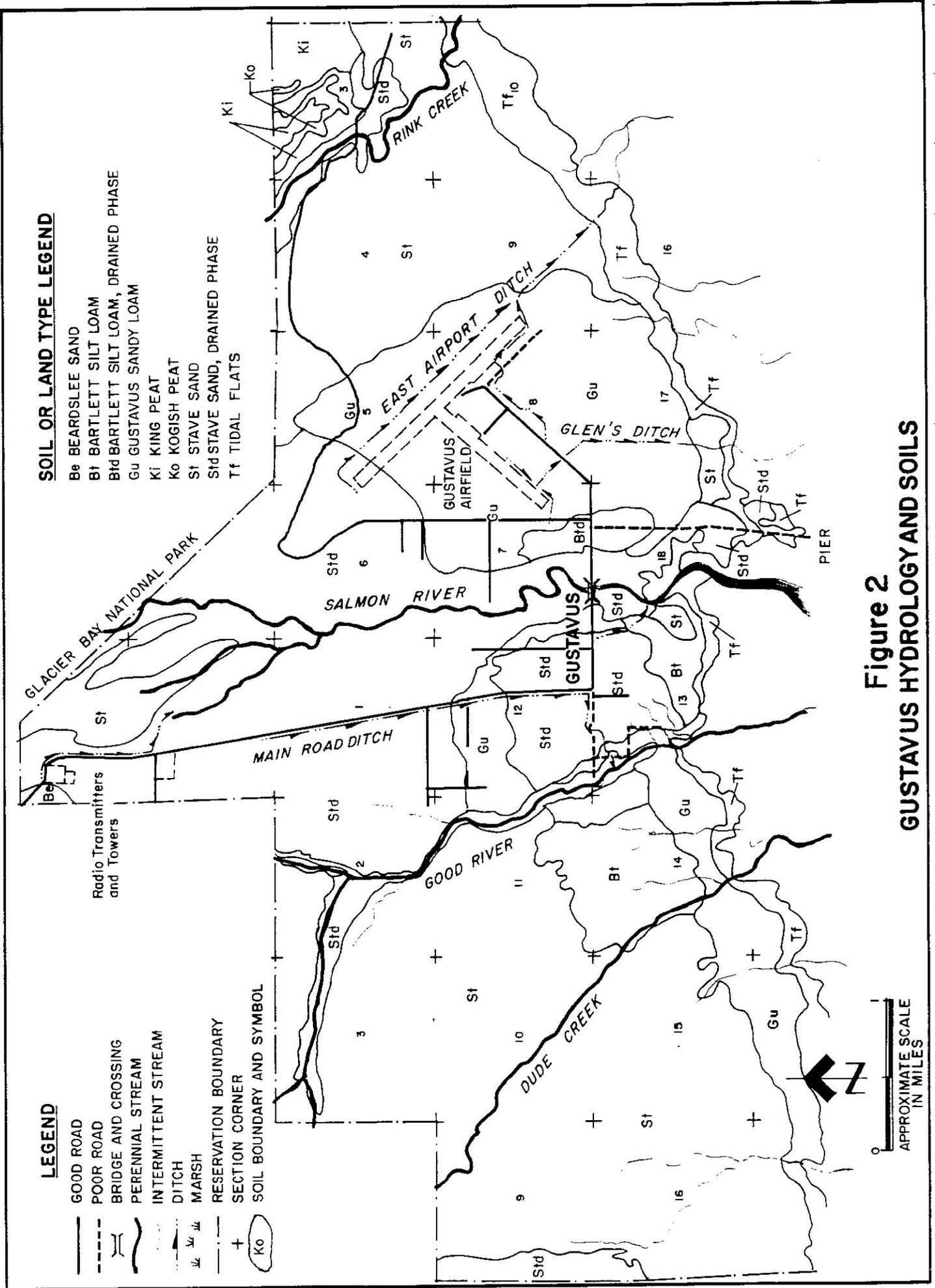


Figure 2
GUSTAVUS HYDROLOGY AND SOILS

Three important conclusions of the ditching and draining study are as follows: (1) water table differences caused by drains play a considerable role in determining the patterning of plant communities in Gustavus; (2) patterns of plant communities in Gustavus are changing their distribution over time because the land is rebounding from glacial activity. The streams and ditches are cutting deeper incised channels and are subsequently lowering the water tables; and (3) the best-drained soils are adjacent to or near natural streams and man-made ditches, and vegetation consists primarily of spruce or pine forests. This information is critical to the siting of a solid waste landfill facility, since groundwater and surface water contamination is a major health-related concern.

Flood and Seismic Hazard Evaluation: The U.S. Army Corps of Engineers rates the flood hazards in the Gustavus area as low. According to the Environmental Atlas of Alaska, Gustavus is in seismic Zone 2. Moderate earthquakes, measuring up to 6.0 on the Richter Scale are possible.

Economy: The Gustavus economy is based on tourism and fishing. The community receives nominal municipal assistance and State revenue sharing funds.

Glacier Bay National Park surrounds the community on three sides, drawing thousands of tourists each summer. During the summer

months, one can expect to find two restaurants, a hardware store, three inns, five bed-and-breakfasts, a gas station, two air taxis, charter businesses, construction companies, and other miscellaneous businesses.

Public Housing/Facilities: According to the Department of Labor statistics, there are 101 occupied households in Gustavus. Local residents feel that this figure is too high, and they estimate about 60 occupied households. Construction of new homes is very active. Approximately 20 homes were built last year and building activity is expected to continue.

Public facilities include a post office, library, school, and a fire hall which substitutes as the community building. The school currently enrolls 71 students ranging from kindergarten through 12th grade.

Aside from electricity, there are no public utilities. Homes are typically wood construction with shallow individual wells. A small percentage of homes have septic tanks.

Public Administration: The community of Gustavus is unincorporated. There is an eight member community association, but no mayor or city council.

Population: The 1990 census lists Gustavus to have a population of 258 people. The population figures only represent the permanent residents. Glacier Bay National Park is in very close proximity, resulting in a dramatic population increase during the summer tourist season (Memorial Day through Labor Day). The tourist season brings about 100 temporary residents. Furthermore, approximately 200 tourists can be expected to be staying in the area at any given time during the summer tourist season.

Table II
POPULATION DATA

Year	Population	Source
1970	64	Ak. Dept. of Labor
1980	98	"
1984	218	"
1986	211	"
1988	219	"
1990	258	"

