RESOURCE UTILIZATION IN ATKA, ALEUTIAN ISLANDS, ALASKA

by

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To the people of Atka, who have shared so much with us over the years, go our sincere thanks for making this report possible. A number of individuals gave generously of their time and knowledge, and the Atx̂am Corporation and the Atka Village Council, who assisted us in many ways, deserve particular appreciation. Mr. Moses Dirks, an Aleut language specialist from Atka, kindly helped us with Atkan Aleut terminology and place names, and these contributions are noted throughout this report. Finally, thanks go to Dr. Linda Ellanna, Deputy Director of the Division of Subsistence, for her support for this project, and to her and other individuals who offered valuable comments on an earlier draft of this report.

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CHAPTER 1

INTRODUCTION

Purpose

Located on Atka Island in the central Aleutian Islands, the village of Atka is one of the most isolated communities in the United States (Figure 1-1). It is also one of the few extant Aleut villages in an archipelago in which some 12-15,000 Aleuts lived until only 225 years ago.

This report examines contemporary resource utilization by the 91 residents of Atka. There have been no detailed studies of this kind concerning Atka; only in the Pribilof communities of St. Paul and St. George and in Unalaska in the eastern Aleutian has similar research been undertaken (Veltre and Veltre 1981, 1982). The present study will largely parallel the format of those works, emphasizing the view that subsistence use of resources involves not only the physical acquisition and consumption of fish, game, and plants, but also that such utilization is an integral part of a society and has ties to the technoenvironmental, the social, and

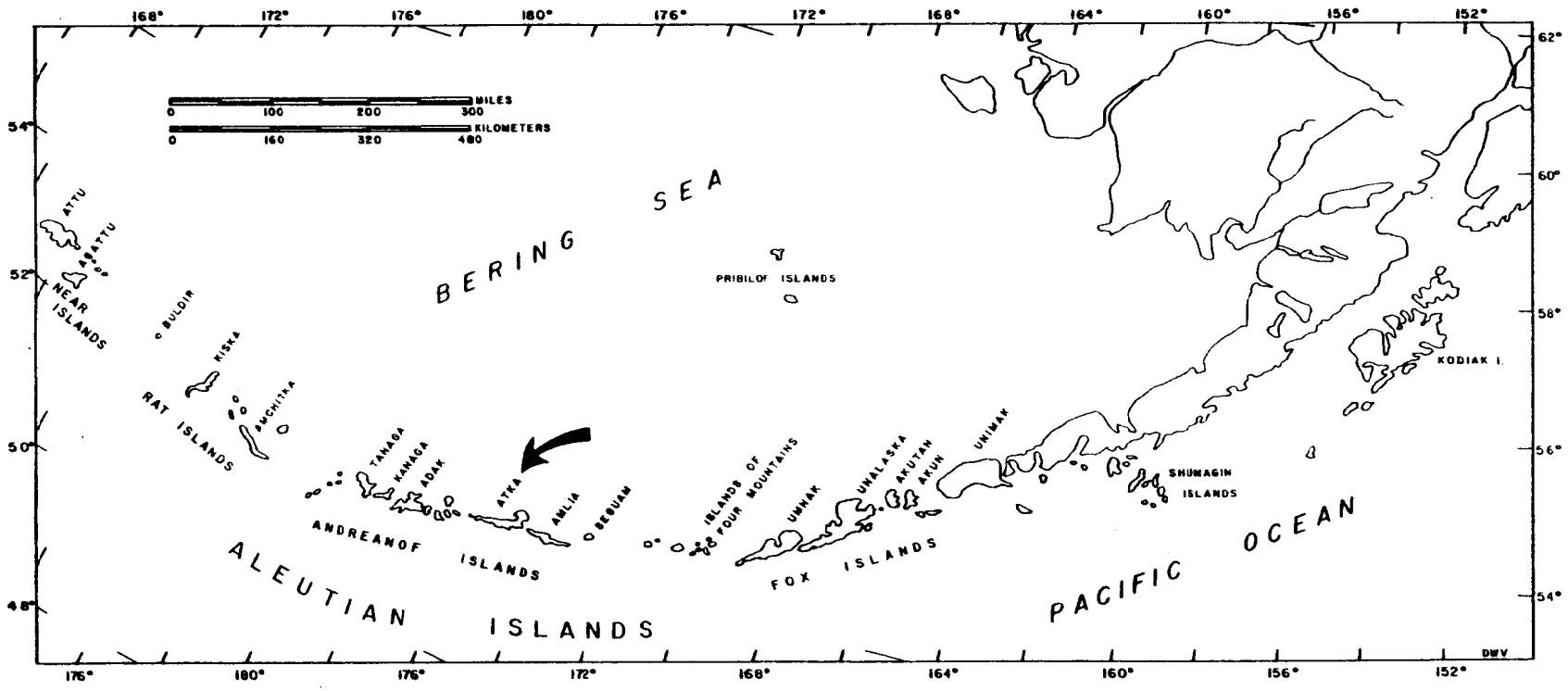

Figure 1-1. The location of Atka Island.

the ideological components of a complex cultural system.

It may be noted that the present work was not undertaken to address issues regarding the impact on the use of local resources of specific present or future developments in the Atka area. Instead, the focus is to provide baseline resource use data which in turn may be useful in impact assessments in the years to come. The following sections detail the objectives and methods of the research.

Research objectives

The research objectives which guided the investigation of resource utilization in Atka were identical to those employed in the Pribilof and Unalaska studies referred to above. They are as follows:

(1) To establish which species of plants and animals are taken for local use. Also to be determined were the area from which each item is obtained; the technology, methodology, and time of year of procurement; the use(s) to which each resource is put; and the distribution of each item within the community.

(2) To establish which community members (by analytic category, not by name) engage in subsistence pursuits and to investigate the social and cultural links which exist for the acquisition, distribution, and consumption of subsistence resources.

(3) To establish the general relationship between the subsistence and cash sectors of the economy. The proportion of subsistence foods in the diet of the community, the monetary cost of providing and maintaining the necessary subsistence technology, and the influence which cash employment has upon subsistence endeavors are among the factors to be considered.

(4) To investigate the ideological aspects of local resource use among community members.

(5) To determine the role of local resource harvest in land use; specifically, to determine the relationship between settlement patterning (including the use of seasonal camps) and resource procurement activities.

(6) To provide perspective on the manner in which various historical factors may have influenced contemporary resource utilization. In this regard, it may be pointed out that the present study was specifically desgined to focus most attention on contemporary subsistence patterns. Historical materials will be utilized not to provide a comprehensive history of resource use in Atka, but rather to gain an appreciation for the use of various resources and to place current use patterns in temporal perspective.

Research methods

To address the objectives itemized in the preceding

section, research employing a variety of methods was conducted. Except for field time, we were contracted on a part-time basis for this project. Approximately 15 days were devoted to background research between January and May, 1983, and an equivalent amount of time for analysis and report preparation between July and October, 1983. The basic research methods used during this project are as follows:

(1) The literature pertaining to Aleut resource use was surveyed. As mentioned in the previous section, relatively little time was spent investigating historical sources, with emphasis given instead to recent and contemporary materials. Literature research took place largely between January and May, 1983.

(2) We conducted two periods of field research in Atka: 9-23 May and 20 June to 19 July. Prior to the field research, telephone and written communication was maintained with the Atka Village Council and the Atxam Corporation (the profit corporation of Atka village), and permission to carry out the research in Atka was obtained. Likewise, the Aleut Corporation and the Aleutian/Pribilof Islands Association, both located in Anchorage, were apprised of the project. Copies of our Pribilof and Unalaska subsistence reports were sent to both village entities and both regional corporations. It may also be noted that we had spent several field seasons in Atka prior to the present study. Discussion of this previous work is found in Chapter 3.

(3) Data collection during fieldwork consisted of both formal and informal interviews with community members as well as observation and participant observation of resource use activities. Formal interviews generally consisted of questioning with a predesigned, though flexible, list of topics and mapping resource areas on special large scale maps of the island.

(4) In Atka, every effort was made to inform the entire community of the nature of our research. In addition to many less formal occasions, we made a presentation on our work to several classes at the school, gave a public slide show and talk concerning our similar research in the Pribilofs, and presented a formal outline of the project at a community-wide meeting.

Discussion of research methodology

Several additional points may be made regarding the research methods itemized above. First, all persons who participated in the formal interviews (usually including mapping of resource areas) were paid an hourly rate for their time. Second, the anonymity of each individual from whom we obtained information will be maintained throughout this report. This decision was made by us prior to the start of this project and was made clear to prospective informants.

Third, on the whole the community was quite willing to assist in this project. Most individuals were extremely interested and gave generously of their time and knowledge. An

effort was made to interview as many adults as possible, although various factors limited the number of interviews. These included the relatively high level of employment in Atka during the period of fieldwork. In addition to permanent full- and part-time employment, much of the adult population was employed on a temporary full-time and part-time basis on the construction of a new school and 18 new houses. Such employment effectively limited the time available for interviewing. Also, many people were out of the village at summer camps during their non-working hours, and some were out of Atka for part or all of the fieldwork time. Finally, a few people preferred not to be interviewed.

In total, some 27 men and women (44% of those 20 years old and older) from Atka were formally interviewed. Of this number, substantially more time was spent (spread over the duration of fieldwork) with three or four especially knowledgeable individuals than with most others. In addition to the formal interviews, we had casual conversations with the vast majority of community members, including children, and this added greatly to the information gathered. Information obtained from individuals was essentially pooled to obtain a community perspective on resource use in Atka. This is especially important for understanding the resource use maps contained later in this report, which are composites based upon maps done by a number of individuals.

Fourth, prior to writing the final version of this report, we sent draft copies to Atka for community review. Each household

in Atka as well as the Atx̂am Corporation and the Atka Village Council were sent personal letters inviting them to read and comment on the review copies. Information received in this manner was incorporated in the final report.

Fifth, unless otherwise stated, the "ethnographic present" in this report may be understood to comprise the last 10-15 years. For example, if a particular kind of hunting is described without qualification as taking place "today" in Atka, it should be taken to mean that that activity has taken place at some time since the late 1960s. As will be made clear later in this report, the use of resources may be quite variable year to year; hence, use of a broad ethnographic present is appropriate. On the other hand, certain data pertain specifically to June, 1983. These include information such as population size, employment, vehicles in the community, etc. -- data out of date virtually as soon as they are published.

Organization of the report

This report is organized as follows: Chapter 2 details the natural environment of the Atka Island area. Chapter 3 reviews the history of relevant research on Atka and the most important literature on which subsequent chapters are based. Chapter 4 provides an overview of Aleut resource utilization throughout the Aleutian Islands, from the precontact period through the early postcontact period. The history of Atka Island, including a contemporary community profile, is the subject of Chapter 5, while

Chapter 6 presents a detailed examination of resources used on Atka in the past and today. Chapter 7 offers a summary, conclusions, and discussion of particular topics relating to resource use on Atka. Finally, three appendices provide supplementary data relevant to this report.

CHAPTER 2

THE NATURAL SETTING

Introduction

Central to an understanding of resource utilization by the residents of Atka is knowledge of the natural environment of the Island. This chapter presents geographical, climatological, and biological characteristics of the Aleutian Islands generally and Atka Island specifically.

Location, geography, and geology

At 174°15' West longitude, the village of Atka is the westernmost non-military community in the entire United States. And, at 52°12' North latitude, Atka is the southernmost non-military community in Alaska. Some 550 miles from the tip of the Alaska Peninsula and 1,250 miles from Anchorage, Atka Island is located approximately midway in the 1,100 mile arc of the Aleutian Islands. The nearest communities to Atka today are the Aleut village of Nikolski, some 225 miles to the east on Umnak Island, and the Naval Station on Adak Island, 100 to the west.

With 261,905 acres and 294.7 miles of coastline (Sekora 1973:16), Atka is the fourth largest of the more than 70 islands comprising the archipelago, and it is the largest member of the Andreanof Islands group. The Andreanofs consist of those islands between the Islands of Four Mountains to the east and the Rat Islands to the west, the major islands of which are (from east to west) Seguam, Amlia, Atka, Great Sitkin, Little Tanaga, Kagalaska, Adak, Kanaga, Tanaga, Gareloi, Ogliuga, Kavalga, Skagul, Ilak, and Amatignak Islands. The last six of these islands, in addition to numerous smaller islets, are often also referred to as the Delarof Islands.

The entire Aleutian Islands chain is a curvilineal volcanic archipelago, a product of earth plate tectonics. Movement of the Pacific Plate under the stationary North American Plate not only has resulted in the extreme vulcanism of the Aleutians but also has created the Aleutian Trench, a narrow valley in the Pacific Ocean floor paralleling by approximately 100 miles the Aleutian Islands at depths of over 20,000 ft. An additional manifestation of this process is the high frequency of strong earthquakes throughout the region.

Geographically, Atka Island consists of two distinct, and nearly separate, parts (Figures 2-1 and 2-2). First is the west-southwestward-trending long axis of the Island, some 57 miles in length and varying from approximately 3 to 7 miles in north-south width. This part of the Island is characterized by convoluted

Figure 2-1. Atka Island, eastern portion.

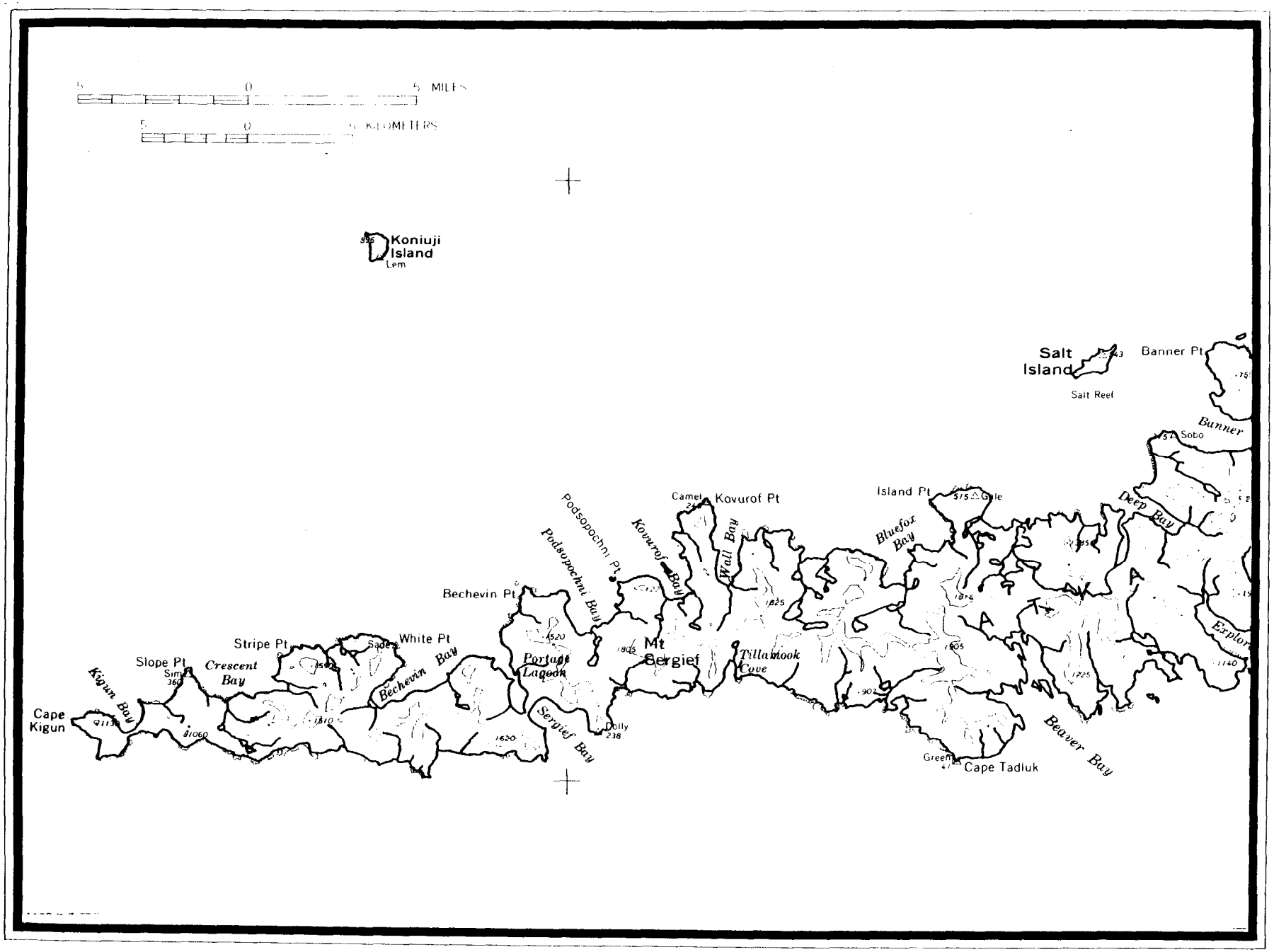

Figure 2-2. Atka Island, western portion.

Pacific Ocean and Bering Sea coastlines, with many deep bays, separated by a backbone of sharp peaks extending the length of the Island. Rising to heights of up to 2,275 ft, these mountains are the source of many short, but steep, streams which are characteristic of the Aleutian Islands in general. There are also numerous small lakes on this portion of the island. The southern portion of Atka is composed primarily of Tertiary materials consisting of "interbedded lava flows, pyroclastic deposits, and sedimentary rocks" (Selkregg 1976:70).

Attached to this southern portion of Atka by a narrow neck of low-lying land is the second major part of the Atka -- the volcanically active north end. Dominated by 5,030 ft. Korovin Volcano, this roughly circular segment of the Island possesses four major volcanic peaks, of which Korovin Volcano was active as recently as August, 1974 and July, 1976. The degree of activity for Atka's volcanoes in the postcontact period (since 1741) appears to have been minimal, however. Of the four volcanoes on the island, Sergief, Korovin, Kliuchef, and Sarichef (Coats 1950:38), Korovin smoked in 1829, 1830, and 1844, and Sarichef was "active to an unspecified extent in 1818" (Coats 1950:Table 2).

The coastline around this northern part of Atka is markedly different from that of the southern portion of the island. Few sheltered areas occur, and beaches are short and narrow and backed by cliffs rising to the volcanic slopes. On the western side, however, a narrow tombolo connects an otherwise

insular portion of Atka, the Sarychev Peninsula, forming in the process one of the few lagoons in the entire Aleutian Islands (Vernon Byrd, pers. comm. 1975), to be referred to in this report as Korovin Lagoon. No volcanic peaks occur on the Sarychev Peninsula, its central ridges rising to a maximum of 1,455 feet. On the eastern portion of Atka observed by us (Explorer Bay on the south coast to Sarana Cove on the north coast), extensive strandflats (important procurement areas for marine invertebrates) such as those on southwestern Umnak Island are absent.

The lowland separating these two portions of Atka consists primarily of sand dune accumulation in its lowest elevation and contains the large Korovin Lake as well as several smaller ponds. Military activity during World War II has rendered it impossible to describe the pre-war condition of this area completely. To the west of this lowland lies Korovin Bay, some 5 miles wide from north to south and about 10 miles long. The north shore of Korovin Bay is generally fronted by steep cliffs, the only suitable harbor being Korovin Lagoon. The south shore of Korovin Bay, on the other hand, is an irregular coastline, with several areas, especially Martin Harbor and Sarana Cove, convenient for small vessel anchorage (U.S. Dept. of Commerce 1964:211).

To the east and southeast of the lowland is Nazan Bay. Unlike the south shore of Korovin Bay, Nazan Bay possesses no large coves or bays within it. However, numerous small islands, especially immediately to the east and southeast of the village of

Atka, provide some protection to small craft from winds and ocean swells.

Climate

Few climatological data are available specifically for Atka, but the island fits into the "typical" Aleutian weather pattern (Table 2-1). Summers are cool, with mean high temperatures around 55°F. Winters are relatively "warm," with mean low temperatures of around 29°F. Seasonal maximum and minimum temperatures, of course, often exceed these means; recordings of 77°F and 12°F have been reported from Atka (Selkregg 1976:14). Perhaps the most significant aspect of weather in the Aleutians is the wind. Throughout the Aleutians, the percentage of calm days averages roughly 5, while the wind speed averages 15 mph. Such constant wind, with its drying and chilling effects, has substantial consequences for plant communities (Bank 1952:26-28; Hulten 1960:40-41).

Additional aspects of the climate of Atka are the frequent precipitation, cloud cover, and poor visibilty. For selected Aleutian locations, fog is present from 14-35 percent of the time, rain or drizzle from 15-26 percent, and snow from 5-16 percent. Sky cover averages about 8.5 tenths for these same locations (Selkregg 1976:13-14, 17). Average annual precipitation (water equivalent) on Atka is about 60 inches, including 60 inches of snow (Selkregg 1976:13).

TABLE 2-1

METEOROLOGICAL DATA FOR SELECTED ALEUTIAN LOCALITIES

	Unalaska	Nikolski	Adak	Shemya	Attu
Mean Annual Precipitation (inches)	61.6	--	68.1	27.3	--
Mean Annual Percentage, Frequency of Occurrence of Rain and/or Drizzle	24.0	15.5	27.0	20.6	25.7
Mean Annual Sky Cover (tenths)	8.6	8.2	8.7	8.7	8.6
Mean Annual Percentage of Occurrence of Fog	8.3	34.9	14.1	25.7	15.0
Mean Date of Last Spring Occurrence of 32°F	6 May	--	3 May	7 May	9 May
Mean Date of First Fall Occurrence of 32°F	30 Oct	--	23 Oct	30 Oct	13 Oct

SOURCE: Selkregg 1976:16-20.

The Pacific Ocean and Bering Sea are the dominant factors in determining the weather patterns of the Aleutian Islands. The relatively small annual and diurnal temperature variations are directly attributable to the moderating effect of the maritime environment. Weather systems in this region generally move quickly from west to east (Figure 2-3). One low pressure area follows another in rapid succession, thus giving rise to the ever-present "Aleutian Low." A single day often experiences a wide range of weather phenomena: rain, snow, sleet, wind, calm, sunshine, etc.

Ocean temperatures around Atka range from 38°F in the winter to 48°F in the summer. Atka lies well south of the limit of winter sea ice (Figure 2-4), and the sea never freezes in bays or coves during the winter. The mean diurnal tidal range is 3.3 ft. in the Nazan Bay area (U.S. Dept. of Commerce 1978). The surface circulation of the seas in the Aleutian region is shown in Figure 2-5. Perhaps the most noteworthy, and certainly the most dramatic, aspect of the seas near the village of Atka is Amlia Pass, the one mile wide junction between the Pacific Ocean and the Bering Sea. This pass, one of the narrowest and one of the most dangerous in the entire Aleutian Islands, is beset with shallow reefs. When the tidal current floods north or ebbs south, speeds of as much as 10 knots have been recorded. Navigation is particularly hazardous to all types of vessels, as swirls and heavy tide rips can extend miles north or south of the pass at maximum flow (U.S. Dept. of Commerce 1964:209).

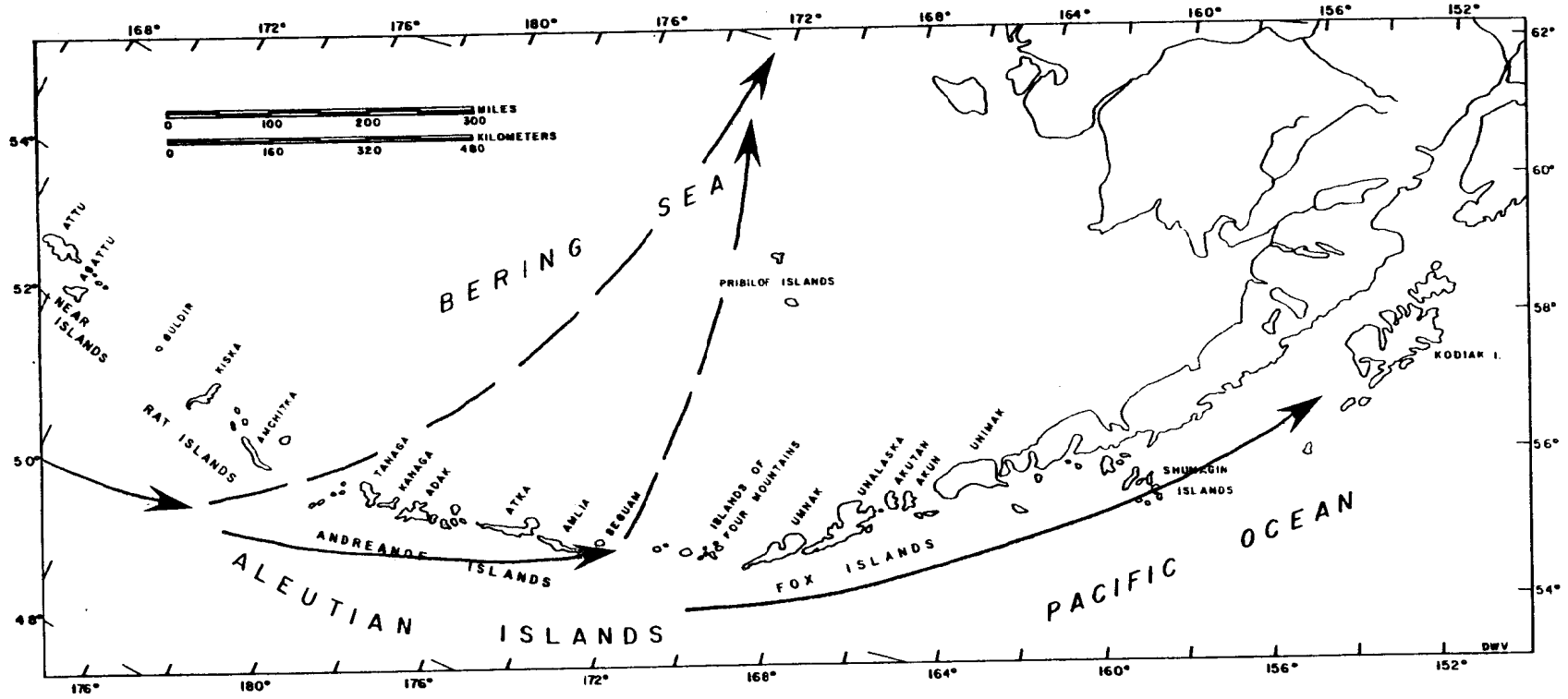

Figure 2-2. Storms tracks for the month of February (Selkregg 1976:5).

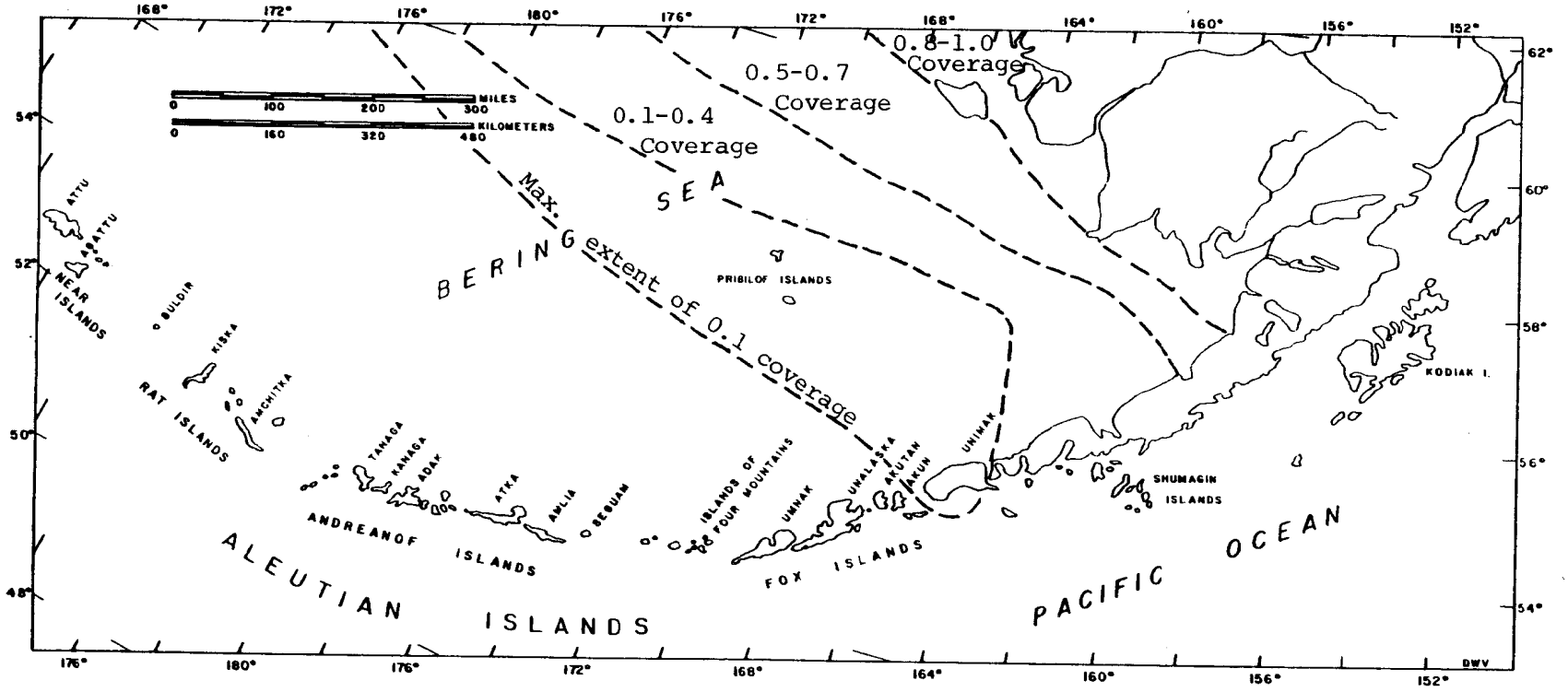

Figure 2-4. Maximum extent of sea ice coverage in the Bering Sea (Selkregg 1976:30).

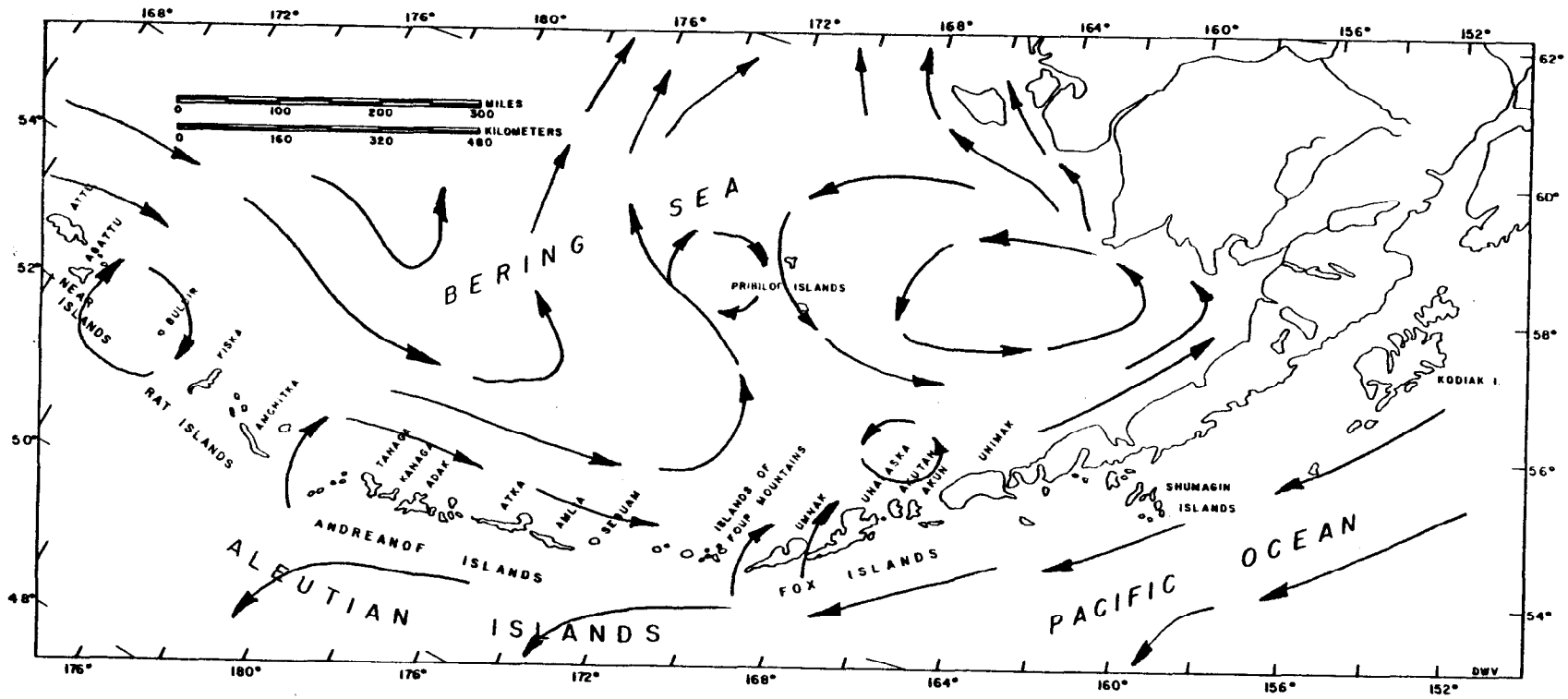

Figure 2-5. Surface circulation of the ocean in the Aleutian Islands region (Selkregg 1976:29).

Flora

In general, all but the lowland area and the immediate coastal margins of Atka is composed of alpine tundra vegetation. Alpine tundra is generally sparse and low on upland hills and ridges, with major species being various lichens and crowberry (Empetrum nigrum). Coastal areas and the lowland divide consist of moist tundra, also called heath. This a complex and variable floral community and is generally found in wetter areas of low altitude. Its major species include crowberry, sedge (Carex saxatilis), hair moss (Dicranum sp.), cow parsnip (Heracleum lanatum), angelica (Angelica lucida), and reindeer lichen (Cladonia sp.). In addition, mosses, herbs, and dwarf shrubs (in particular dwarf willow, Salix sp.) are often present. Bank (1952) and Hulten (1960) provide further details of Aleutian plant communities and distribution.

Except for the native dwarf willows and a few Sitka spruce introduced during World War II, Atka and the Aleutians in general are treeless. Finally, there is abundant kelp and seaweed around the coast of Atka Island.

Terrestrial fauna

Only three species of terrestrial animals live on Atka, and all are mammals which have been introduced to the island since initial Russian contact. They are the Norway rat (Rattus norvegicus), the blue fox (a color phase of the arctic fox, Alopex lagopus), and the reindeer (Rangifer tarandus).

Although the dates are uncertain, the rat and the blue fox were certainly introduced during the Russian period. Prior to foreign contact in the Aleutians, blue fox were native only to the Commander Islands and to Attu Island, while red fox were native to the eastern Aleutians. It appears likely that with their interest in fur-bearing animals, the Russians were responsible for bringing the blue fox to Atka.

Reindeer were introduced on Atka Island in 1914, when 40 animals were brought to the island from Ugashik on the Alaska Peninsula. The size of the herd has always been difficult to estimate, given the mountainous nature of the Island. Table 2-2 presents reindeer population data for selected years.

Marine fauna

Mammals. Table 2-3 itemizes the wide variety of marine mammals which are present in the Atka Island area. Several of the species listed (e.g., the common dolphin, the right whale dolphin, and the bowhead whale) are probably actually quite rare in Aleutian waters, according to Haley (1978), although they have been reported to occur by Collins, et al. (1945). Estimates for the numbers of the two sea mammals most important for subsistence in Atka, the harbor seal and sea lion, are given in Tables 2-4 and 2-5, respectively. The locations of sea lion rookeries and hauling grounds are shown in Figures 2-6 to 2-8.

Fishes. Anadromous fish of the Atka Island region include

TABLE 2-2

REINDEER POPULATION ESTIMATES FOR SELECTED YEARS

Year	Population Estimate
1914	40[a]
1918	60[b]
1921	115[b]
1926	228[b], 272[c]
1928	340[b]
1929	570[b]
1930	2189[b]
1931	2250[b]
1973	2500-3500[d]

[a]Year animals first brought to Atka.

[b]Teacher's records, Bureau of Education, Atka School, 1931.

[c]Teacher's records, Bureau of Education, Atka School, 1927(?).

[d]Sekora 1973:169.

TABLE 2-3

MARINE MAMMALS OF THE ATKA ISLAND AREA

Common Name	Scientific Name
Sea otter	Enhydra lutris
Harbor (or hair) seal	Phoca vitulina
Steller sea lion	Eumetopias jubatus
Northern fur seal	Callorhinus ursinus
Long-nosed (or spinner) dolphin	Stenella longirostris
Rough-toothed dolphin	Steno bredanensis
Common dolphin	Delphinus delphis
Bottlenose dolphin	Tursiops truncatus
Right whale dolphin	Lissodelphis borealis
Striped porpoise	Stenella coeruleoalba
Killer whale	Orcinus orca
Grampus (or Risso's dolphin)	Grampus griesus
False killer whale	Pseudorca crassidens
Pilot whale	Globicephala macrorhynchus
Harbor porpoise	Phocoena phocoena
Dall's porpoise	Phocoenoides dalli
Belukha whale	Delphinapterus leucas
Baird's beaked whale (or giant bottlenose whale)	Berardius bairdii
Stejneger's (or Bering Sea) beaked whale	Mesoplodon stejnegeri
Cuvier's beaked (or goosebeak) whale	Ziphius cavirostris
Sperm whale	Physeter macrocephalus
Pygmy sperm whale	Kogia breviceps
California gray whale	Eschrichtius robustus
Finback whale	Balaenoptera physalus
Sei whale	Balaenoptera borealis
Little piked (or minke) whale	Balaenoptera acutorostrata
Blue whale	Balaenoptera musculus
Humpback whale	Megaptera novaeangliae
Pacific right whale	Balaena glacialis
Bowhead whale	Balaena mysticetus

SOURCE: Collins, et al. 1945:75-76 and Haley 1978.

TABLE 2-4

ESTIMATED NUMBERS OF HARBOR SEALS FOR SELECTED ALEUTIAN ISLANDS AND ALASKA PENINSULA AREAS

Date	Location	Estimated Total
19 May 1959	Near Islands	2,000
19 May 1962	Amchitka Island	1,200
19 May 1959	All other Rat Islands	1,600
19 May 1959	Delarof Islands	1,000
19 May 1959	Andreanof Islands	7,000
3 March 1960	Islands of Four Mountains	1,000
3-4 Mar 1960	Fox Islands and Amak Island	10,000
10 Apr 1962	Sanak-Sandman Reef area	5,000
July 1964	Izembek Bay	700
June 1960	Simeonof Island (Shumagin Islands)	1,500
April 1962	Remainder of the Shumagin Islands	3,000
Total Estimate		34,000

SOURCE: Sekora 1973:191, based on data from Karl W. Kenyon.

TABLE 2-5

STELLER SEA LION POPULATIONS IN THE ATKA ISLAND REGION

Location of Hauling Ground or Rookery[1]	Estimated Numbers of Sea Lions (a)	(b)	(c)
1. Koniuji Island (northern point)			15
2. Atka Island (North Cape)	550	4,900	
3. Atka Island (Cape Korovin)	100		
4. Salt Island	100		
5. Sagchudak Island	1,200		360
6. Amtagis Island	800		
7. Amlia Island (Cape Misty)	750	3,700	
8. Amlia Island (rocks in Sviechnikof Harbor)	800		
9. Amlia Island (Agligadak Point)	700		
10. Sagigik Island	100		
11. Tanadak Island	20		260
12. Agligadak Island	250		120
Total	5,370	NC	NC

SOURCE: Sekora 1973:179, from sources below:

[1]Location numbers correspond to those used in Figures 2-6 to 2-8.

(a) Survey done in 1959, Kenyon and Rice 1961.

(b) Survey done in 1965, Kenyon and King 1965.

(c) Survey done by Sekora in 1969-72.

NC = Not calculated due to insufficient data.

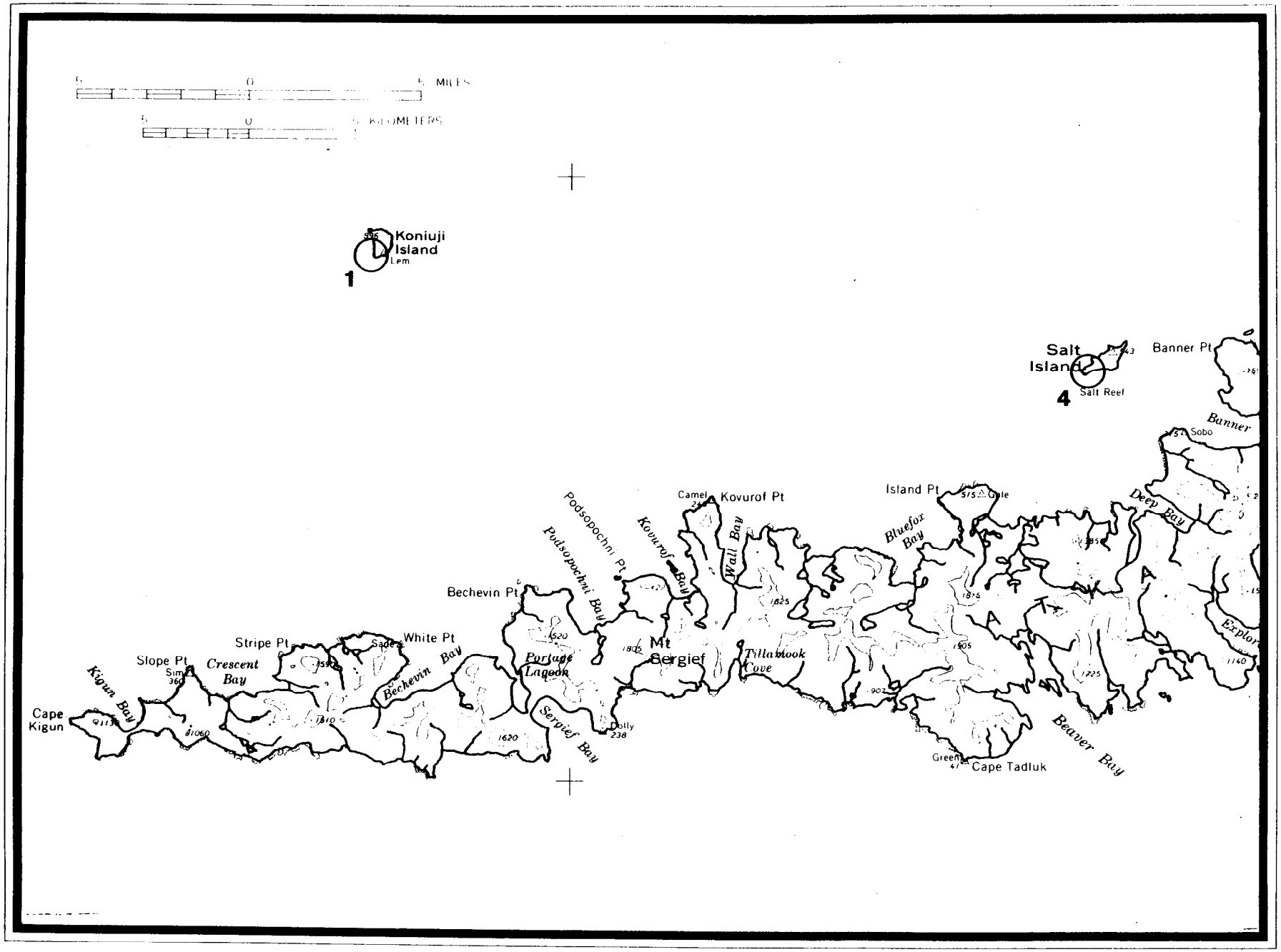

Figure 2-6. Sea lion hauling grounds and rookeries (see Table 2-5).

Figure 2-7. Sea lion hauling grounds and rookeries (see Table 2-5).

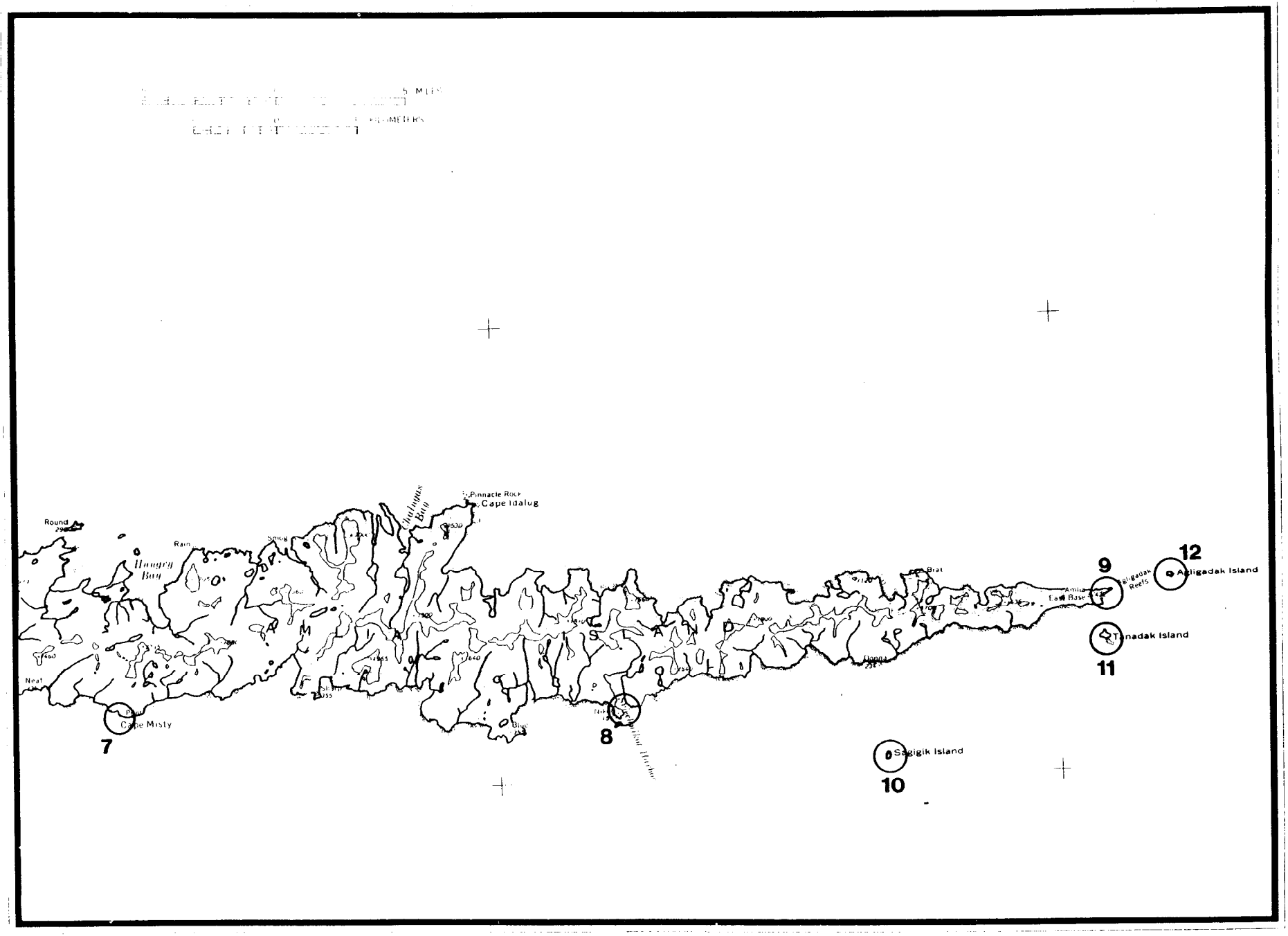

Figure 2-8. Sea lion hauling grounds and rookeries (see Table 2-5).

Dolly Varden as well as the following species of salmon: pink (humpback), chum (dog), coho (silver), sockeye (red), and chinook (king). Pinks are by far the most numerous of the salmon in the streams of Atka, with one stream on the north side of the island being "one of the best pink systems west of Unalaska" (Holmes 1982:8). Although the number of red salmon is substantially less than pinks, "Atka . . . had the largest red salmon run west of Unalaska [in 1982]" (Holmes 1982:8). Likewise, while not numerous, the largest run of chums in the Aleutians was recorded on Atka (Holmes 1982:8). Ocean fish important to the residents of Atka include halibut, cod, pogy (greenling or rock cod), sculpin, Atka mackerel, and herring.

Invertebrates. As in the entire Aleutian archipelago, the intertidal zone on Atka is rich in marine invertebrates. Those most important to the Aleuts of the Island include sea urchins, chitons, limpets, mussels, clams, sea cucumbers, and octopus.

Birds

The Aleutian Islands constitute a major breeding area for pelagic birds (those which feed on the open sea beyond two miles from shore), although other waterfowl and shorebirds exist in substantial numbers. Terrestrial species are generally limited to a few with relatively small populations. It may be noted that many bird populations in the Aleutians have undergone substantial changes due to the introduction of rats and fox to various islands; hence, contemporary bird distributions and populations do

not necessarily reflect accurately those of the pre-Russian period.

Determination of the size and distribution of bird populations, a difficult task in itself, is made even more difficult in the Aleutian Islands due to isolation and weather conditions. While recent accurate surveys have been conducted for much of the archipelago (e.g., Nysewander et al. 1982), bird data for the Atka Island region must come from older, less complete studies (e.g., Sekora 1973). Table 2-6 lists those species documented as occurring regularly in the central Aleutian Islands, including Atka. In addition to those itemized, there are 59 species which are casual or accidental in the Aleutians.

Conclusions

The natural environment of Atka Island is like that of most of the Aleutian Islands. The Island's landforms, climate, flora, and fauna are characteristically Aleutian, and its potential to support human residents today does not appear to be markedly different from other Aleutian localities.

TABLE 2-6

BIRD SPECIES OF THE ATKA ISLAND AREA

Common Name	Scientific Name
Loons	
Common loon	Gavia immer
Arctic loon	Gavia arctica
Red-throated loon	Gavia stellata
Grebes	
Red-necked grebe	Podiceps grisegena
Horned grebe	Podiceps auritus
Tubenoses	
Black-footed albatross	Diomedea nigripes
Laysan albatross	Diomedea immutabilis
Northern fulmar	Fulmarus glacialis
Sooty shearwater	Puffinus griseus
Short-tailed shearwater	Puffinus tenuirostris
Scaled petrel	Pterodroma inexpectata
Fork-tailed storm petrel	Oceanodroma furcata
Leach's storm petrel	Oceanodroma leucorhoa
Cormorants	
Pelagic cormorant	Phalacrocorax pelagicus
Red-faced cormorant	Phalacrocorax urile
Swans	
Whooper swan	Olor cygnus
Geese	
Black brant	Branta bernicla
Emperor goose	Philacte canagica
Ducks	
Mallard	Anas platyrhynchos
Gadwall	Anas strepera
Pintail	Anas acuta
Green-winged teal	Anas crecca
European wigeon	Anas penelope
America wigeon	Anas americana

TABLE 2-6 (Continued)

Common Name	Scientific Name
Northern shoveler	Anas clypeata
Canvasback	Aythya valisineria
Greater scaup	Aythya marila
Tufted duck	Aythya fuligula
Common goldeneye	Bucephala clangula
Bufflehead	Bucephala albeola
Oldsquaw	Clangula hyemalis
Harlequin duck	Histrionicus histrionicus
Steller's eider	Polysticta stelleri
Common eider	Somateria mollissima
King eider	Somateria spectabilis
White-winged scoter	Melanitta deglandi
Surf scoter	Melanitta perspicillata
Black scoter	Melanitta nigra
Smew	Mergus albellus
Common merganser	Mergus merganser
Red-breasted merganser	Mergus serrator
Hawks and falcons	
Rough-legged hawk	Buteo lagopus
Bald eagle	Haliaeetus leucocephalus
Marsh hawk	Circus cyaneus
Gyrfalcon	Falco rusticolus
Peregrine falcon	Falco peregrinus
Merlin	Falco columbarius
Ptarmigan	
Rock ptarmigan	Lagopus mutus
Cranes	
Sandhill crane	Grus canadensis
Shorebirds	
Black oystercatcher	Haematopus bachmani
American golden plover	Pluvialis dominica
Black-bellied plover	Pluvialis squatarola
Ruddy turnstone	Arenaria interpres
Whimbrel	Numenius phaeopus
Wood sandpiper	Tringa glareola
Wandering tattler	Heteroscelus incanus
Lesser yellowlegs	Tringa flavipes
Rock sandpiper	Calidris ptilocnemis

TABLE 2-6 (Continued)

Common Name	Scientific Name
Sharp-tailed sandpiper	Calidris acuminata
Pectoral sandpiper	Calidris melanotos
Baird's sandpiper	Calidris bairdii
Dunlin	Calidris alpina
Western sandpiper	Calidris mauri
Bar-tailed godwit	Limosa lapponica
Sanderling	Calidris alba
Phalaropes	
Red phalarope	Phalaropus fulicarius
Northern phalarope	Lobipes lobatus
Jaegers	
Pomarine jaeger	Stercorarius pomarinus
Parasitic jaeger	Stercorarius parasiticus
Long-tailed jaeger	Stercorarius longicaudus
Gulls and terns	
Glaucous gull	Larus hyperboreus
Glaucous-winged gull	Larus glaucescens
Slaty-blacked gull	Larus schistisagus
Herring gull	Larus argentatus
Mew gull	Larus canus
Black-headed gull	Larus ridibundus
Black-legged kittiwake	Rissa tridactyla
Sabine's gull	Xema sabina
Arctic tern	Sterna paradisaea
Aleutian tern	Sterna aleutica
Alcids	
Common murre	Uria aalge
Thick-billed murre	Uria lomvia
Pigeon guillemot	Cepphus columba
Marbled murrelet	Brachyramphus marmoratus
Kittlitz's murrelet	Brachyramphus brevirostre
Ancient murrelet	Synthliboramphus antiquus
Cassin's auklet	Ptychoramphus aleuticus
Parakeet auklet	Cyclorrhynchus psittacula
Crested auklet	Aethia cristatella
Least auklet	Aethia pusilla
Whiskered auklet	Aethia pygmaea

TABLE 2-6 (Continued)

Common Name	Scientific Name
Horned puffin	Fratercula corniculata
Tufted puffin	Lunda cirrhata
Owls	
Snowly owl	Nyctea scandiaca
Corbids	
Common raven	Corvus corax
Wrens	
Winter wren	Troglodytes troglodytes
Pipits	
Water pipit	Anthus spinoletta
Shrikes	
Northern shrike	Lanius excubitor
Finches and sparrows	
Gray-crowned rosy finch	Leucosticte tephrocotis
Song sparrow	Melospiza melodia
Longspurs and buntings	
Lapland longspur	Calcaris lapponicus
Snow bunting	Plectrophenax nivalis

SOURCE: U.S. Fish and Wildlife Service 1974.

CHAPTER 3

LITERATURE REVIEW
AND
HISTORY OF RESEARCH ON ATKA

Introduction

The bulk of ethnographic, linguistic, and archaeological information pertaining specifically to Atka comes from a limited number of written sources. While a host of minor works offers some valuable data, this chapter focuses on those documentary items of major importance in establishing the history of resource utilization on the Island. It is primarily on these sources that the historical background in the following chapters, especially Chapter 6, is based. In the sections that follow, research efforts and their resultant publications are discussed in general chronological order.

Netsvetov

From 1829 to 1844, Iakov Netsvetov served as a priest of the Russian Orthodox Church on Atka. Netsvetov, whose father was

a Russian employed in the fur trade and whose Aleut mother was very likely from Atka, was the first priest to serve in the entire western and central Aleutian Islands. Netsvetov's journals for the years 1828 to 1842 have recently been translated, with supplementary materials, by Lydia Black (Netsvetov 1980).

Netsvetov's lengthy work provides a wealth of information regarding Aleut life on Atka and the other islands of his parish. In addition to important church statistics, such as the numbers of births, deaths, marriages, etc., Netsvetov often details hunting, fishing, and gathering activities of the Aleut residents of the islands. As Black (in Netsvetov 1980:xxi-xxii) notes, Netsvetov translated various secular and sacred works into the Atkan Aleut dialect, and he "contributed to Veniaminov's ethnography of the Aleuts, pointing out in a brief sketch some differences in the culture of the Eastern and Central Aleuts. . .." Although Netsvetov was not a "trained observer" in a modern anthropological sense, his Russian-Aleut parentage and Russian missionary education gave him the perspective and ability to provide a valuable written record from which much may be learned.

Jochelson and Hrdlička

Neither Waldemar Jochelson nor Aleš Hrdlička conducted extensive research on Atka, but both were prominent specialists on the Aleutian Islands and Aleuts, and their Atka work should be mentioned. Jochelson visited Atka briefly in 1909 as the leader of the anthropological division of the Aleut-Kamchatka Expedition,

which was under the auspices of the Imperial Russian Geographical Society. The results of his archaeological investigations on the Island have been published (Jochelson 1925), but much of his other work, particularly linguistic data, remains in archives. Jochelson states the following concerning his stay on Atka: "I studied the language, made records, photographed, took measurements and models of the faces in plaster of Paris, as well as other work. In one tent I had a phonograph to record texts of traditions and songs" (1912:337).

Hrdlička, director of a Smithsonian Institution expedition to the Aleutians, likewise spent only a brief time on Atka. In 1936 and again in 1937 he conducted minimal archaeological research on the Island, although in those years and in 1938 he worked throughout the archipelago. His major research publication (1945) incorporates some of his Atka data and is valuable in the present context because it brings together many historical sources.

Bank

Following World War II, Ted P. Bank, II conducted several years of research in the Aleutian Islands. Under the sponsorship of the University of Michigan, Bank and others undertook botanical and anthropological investigations on several islands from 1948 to 1951 and in 1954, and, under the sponsorship of the American Institute for Exploration, Bank pursued additional research in more recent years. Bank and his wife also served as teachers in

Atka during the 1948-1949 school year.

While Bank's botanical research has been published in some detail (e.g., Bank 1953a, 1953b), information concerning his anthropological and archaeological work on Atka is available largely only in unpublished form (Bank et al. 1950). Although some of his material concerning resource utilization on Atka is valuable, Bank's popularized account of life in that village (1956) is an unfortunate, ethnocentric piece of writing which throws some doubt on the integrity of his other works.

Bergsland

The scholar with the longest history of research in Atka is the Norwegian linguist Knut Bergsland. Beginning in 1950, Bergsland has traveled many times to Atka (and other Aleut communities), collecting proper names, place names, folklore, and traditions. His research has resulted in a detailed monograph (1959), which, among other items of interest, provides names and functions for many locations on Atka and neighboring islands. As Bergsland obtained much of his information from a generation whose hunting and fox trapping excursions took them farther from their village than is generally true today (and from a generation which is no longer with us), the data which he collected are all the more valuable for ethnohistoric purposes. Bergsland is also responsible for many bilingual publications, which are discussed below.

Veltre and Veltre

From 1974 to 1976, Douglas Veltre, assisted by Mary Veltre, conducted a three-year ethnohistorical archaeological research project on Atka. Focused primarily on the site of Korovinski on Korovin Bay, the study integrated historical and ethnographic data with those from archaeology in an effort to delineate changes in Aleut culture caused by Russian contact. The report of this research (Veltre 1979) brought together much of the historical information relating to Atka. The Veltres returned to Atka in 1977 and 1979 for short archaeological and cultural heritage projects for the U.S. Public Health Service and the Aleutian Region School District.

Taniisix̂

In 1980, the Aleutian Region School District published the first issue of Taniisix̂, which in Aleut means "to shed light" or "to shine on" (Aleutian Region School District 1980; 1981; 1982a). Under the direction of Sherry Ruberg (nee Spitler) and written by the students in the District's schools, most of the topics in each issue pertain to life in the various communities and to Aleut cultural heritage. Articles are supplemented with numerous drawings and photographs. To date, three volumes of this excellent publication have appeared; they comprise an invaluable aid to the study of Aleut culture, past and present.

Bilingual materials

Over the last decade, a number of works have been

published in the Aleut language. Designed primarily for school-age children and published by or in conjunction with the National Bilingual Materials Development Center in Anchorage, they include over two dozen short booklets on a wide range of topics as well as book-length dictionaries and grammars. The Atkan Aleut works are chiefly the result of the efforts of Knut Bergsland, discussed above, and Moses Dirks, of Atka (e.g., Bergsland and Dirks 1978, 1981; Bergsland 1980). These works (especially the Atkan dictionary) were a valuable asset in conducting research on resource use in Atka, for they provided important leads for inquiry and enabled more precise identification of food resources to take place. Appendix A is derived solely from Bergsland (1980).

Conclusions

This chapter has provided a perspective from which to view much of the data contained in this report. While the available information relating to Atka, past and present, is quite varied, it is also uneven in depth. Regarding resource utilization specifically, none of the literature provides an abundance of information, but instead offers bits and pieces which must be brought together. That is the aim of Chapter 6.

CHAPTER 4

OVERVIEW OF ALEUT RESOURCE UTILIZATION

Introduction

This chapter provides a brief overview of precontact Aleut resource use patterns. This review will offer a general perspective from which to view both historic and contemporary subsistence economy adaptations in Atka. It should be noted that in Chapter 6 more detailed treatment of certain resources and their history of use in Atka, specifically, will be presented.[1]

Precontact Aleut distribution

Prior to Russian contact, Aleuts occupied a territory consisting of the entire Aleutian archipelago, from Attu Island in the west to Unimak Island in the east, as well as the Shumagin Islands and the tip of the Alaska Peninsula from Port Moller westward (see Figure 1-1). Although the more distant past is less certain, it is apparent from archaeological data that at least from 4,000 years ago, and likely from 8,500 years ago, to the present, Aleuts have been the sole occupants of this area and they

have, over this period, maintained a fundamental cultural adaptation that was focused on the sea as the direct or indirect provider of virtually all basic necessities of life.

To the east on the Alaska Peninsula and continuing onto the mainland of Alaska, various Eskimo groups were the neighbors of the Aleuts. To the north of the Aleutians, the Pribilof Islands were most likely not inhabited by anyone in the precontact period, although Aleut legend maintains that the islands were, in fact, known to exist prior to their "rediscovery" in the late 1700s (Veniaminov 1840, quoted in Elliott 1881:146).

It may be pointed out that most Aleutian scholars (e.g., Laughlin and Aigner 1975) agree that the Aleutians have exhibited remarkable cultural stability over a relatively long time, much of this attributable to a stable and uniform environment as well as to Aleut residence in a geographic cul de sac, which effectively limited interactions with other people.

Precontact resource use patterns

Knowledge of precontact and early postcontact resource use in the Aleutians comes primarily from two sources: artifactual, faunal, and settlement data obtained from the usually very rich archaeological sites throughout the archipelago, and the historic and ethnographic accounts of early hunters, travellers, and missionaries. Each of these two sources has obvious limitations in providing accurate insight into Aleut

resource use patterns. Archaeological data, though easily quantified, are limited by preservation, the difficulty in identifying food versus fabricational use of faunal remains, the vagaries of which sites have been dug and in what manner, and so on. Historic and ethnographic data likewise are biased, primarily because the early writers were not trained observers, and also because such information has rarely been recorded in a quantified manner. In sum, we may reliably itemize what was being utilized, but not necessarily when, by whom, where, how, or in what quantity.

Thus, the following outline will concern itself with general patterning: those characteristics of Aleut resource use which were pan-Aleutian. Only rough estimates of the relative importance of particular food items will be possible. Consideration will first be given to an inventory of food resources and the technology related to their acquisition. Next, the social and economic aspects of subsistence economies will be discussed.[2]

Table 4-1 presents an inventory of the major resources and the means by which they were obtained. Included in this table are items important exclusively for fabricational use (such as stone for knives, etc.), although it must be realized that many of the food items listed were additionally utilized for non-food purposes. This point will be reiterated again in Chapter 6, particularly in the discussion of sea lions.

TABLE 4-1

MAJOR PRECONTACT RESOURCES AND HARVEST TECHNIQUES
IN THE ALEUTIAN ISLANDS

Resource	Hunting/Gathering Techniques and Implements
1. Sea mammal hunting offshore (includes whales, hair seals, sea lions, sea otters, fur seals)	Sight and surround animals with bidarkas or baidars; use of harpoon, spear, and/or club except for large whales which wash ashore when dead; possible use of aconite poison for whales.
2. Sea mammal hunting onshore (includes hair seals, sea lions, and sea otters)	Surprise animals on mainland shore or on islets; approach by foot or boat; kill by spear, harpoon, and/or club; possible use of nets.
3. Bird hunting on water (includes all species of ducks)	Stalk birds on water surface; capture with bird spear or arrow; net birds on lakes from blind.
4. Bird hunting at nesting sites (includes all species of nesting birds)	Bird cliffs approached by boat from below or by rope from above; birds caught with snares, bolas, handnets, leisters, clubs, or by hand at nests as well as away from nesting areas.
5. Fishing offshore (primarily halibut and cod)	From boats with hook and line or leister.
6. Fishing onshore (primarily salmon and Dolly Varden, but also other fish, including halibut and cod)	Hook and line from shore; use of nets, leisters, weirs, and hands at stream mouths and in streams.
7. Intertidal and beach collecting (various marine invertebrates, including sea urchins, clams, periwinkles, etc., and algae; also	Combing the beach and intertidal zone for these items; use of prying tool to loosen items from rocks and use of grass collection baskets or gut or skin containers.

TABLE 4-1 (Continued)

Resource	Hunting/Gathering Techniques and Implements
washed up fish, sea mammals, birds and driftwood)	
8. Onshore collecting (terrestrial plants, raw materials such as stone for fabricational use)	Techniques and implements: travel to areas of resource availability; use of wedges, digging tools, etc., to extract materials; grass, gut, or skin containers to carry collected items.

SOURCE: Adapted from McCartney (1977:81-82). See that source for detailed citations concerning specific items, techniques, and implements.

Although precontact Aleut sites lend themselves well to quantification of archaeological faunal remains and determination of corresponding food values, relatively little research has been directed towards these ends. Therefore, it is possible only to suggest the general relative importance of the various food items listed in Table 4-1. Denniston has presented data from the site of Ashishik Point on the north end of Umnak Island. Her figures for the relative food values represented by remains at that site of marine invertebrates, birds, fish, and sea mammals are 1:1.75:35.88:51.74, respectively (1972:208). The precision of these figures should not be mistakenly interpreted as an accurate reflection of resource use thoughout the Aleutians, however. As various authors have pointed out (e.g., Denniston [1972], Yesner [1977], McCartney [1977]), substantial variations exist with respect to seasonal and local abundance of virtually all resources, and no single site may be taken as "typical" of Aleut resource use patterning. Nevertheless, Denniston's ratios very likely portray the correct order of magnitude of food importance of those major categories, and, as McCartney points out, the ratios constitute "a more precise estimate of the Aleut diet than that suggested by the ethnographic literature" (1977:82). (See also McCartney [1975:293-295] in this regard.)

The ethnographic literature, however, supplies valuable evidence lacking in archaeological sites, such as the importance of eggs. Laughlin's (1980:49) proportions of basic food items, most likely based on ethnographic as well as archaeological data,

are less precise, but perhaps more accurate than those provided by archaeological data alone. His estimates (which he states may have varied by as much as 10 percent over time and space) are as follows: marine mammals, 30 percent of the diet; fish, 30 percent; birds and eggs, 20 percent; invertebrates, 15 percent; plants, 5 percent.

Although many resources could be obtained through individual effort, cooperation was an important theme in much of Aleut food procurement. Aleuts were required to work together, especially for such activities as sea mammal hunting, egg collecting, and fishing (with nets and weirs). It is not at all surprising, then, that food was shared among Aleuts, certainly within extended family households and perhaps within an entire community. Veniaminov states: "From time immemorial it has been the custom of the Aleuts, when there is a shortage of food, to divide among themselves all that is obtained. For example, he who has caught some fish divides them among all who are in need and not only does he not take a larger share than the rest, but not infrequently he gets less than the others" (1840:56). Similar examples regarding sharing exist, and it may be assumed that in most instances of food exchange a system of general reciprocity was followed.

Aleut religion and ceremonialism, although less well known than that of many other Alaska Natives, certainly included features pertaining to resource use common to many northern

cultures: the belief in human and animal spirits, the necessity of placating animal spirits in order to assure continued hunting success, and the ability of shamans and human mummies to influence and assist in hunting endeavors. Sarychev, for example, reports that the person who obtained the first sea lion of the season shared it with all the members of his village. Afterwards, all of the bones were returned to him, and he threw them back into the sea (1807:57-58). Whaling, too, was surrounded by behavior governed by spirits: a man, after wounding a whale, would go into seclusion and behave as though he were sick, thus hastening the whale's demise (Veniaminov 1840:133-134). Merck reports from Unalaska around 1790 that

> During the first six months the Aleuts hang a piece of anything they kill on the infant's cradle. Birds they attach whole to the cradle. Of sea lions, fur seals and harbor seals they attach only the muzzle, and also pieces of fish. This is done by the closest relatives so that the mother and child might have food (1980:72).

Laughlin describes the use of charms by hunters: "A powerful charm that was carefully wrapped in a waterproof pouch and that was known only to the hunter, in addition to many precautionary customs, were all necessary parts of open sea hunting" (1980:40). Laughlin also discusses the Aleut use of animal names that possessed souls (1980:113-114) and of powerful carved images: "This figurine was suspended from a ceiling beam where the hunter could speak with him before going out and report on his return" (1980:52). Numerous additional examples exist which exemplify the important ideological component of hunting and fishing pursuits in precontact Aleut culture (see Lantis 1947 and Ransom 1946).

The early postcontact period

The early Russian period -- from 1741 to 1800 -- was clearly a period of profound cultural change for Aleuts. Population declined, settlements were relocated, and Aleuts were forced to labor either directly for the fur trading companies or indirectly for them to produce the required tribute. Although the specific changes that occurred in subsistence activities can only be suggested at this stage in our knowledge of archaeology and ethnohistory, the following general points can be made. First, the utilization by the Russians of Aleut males to hunt sea otters could very well have limited the amount of sea mammal hunting done for local use. Second, if Aleut males were removed from their villages for non-subsistence hunting or other activities, dietary proportions of various food items likely would have changed. Third, although the Russians gradually introduced foreign foodstuffs (sugar, tea, flour, etc.), these items did not assume a significant portion of the Aleut diet since they were expensive and limited in quantity. Thus, Aleuts continued to be highly dependent on traditional resources obtained, especially in this early Russian period, with traditional technology.

Conclusions

From the foregoing outline of precontact Aleut resource use, the following conclusions may be offered:

(1) An inventory of food items utilized by Aleuts closely mirrors an inventory of edible foodstuffs in the Aleutian

archipelago. Stated differently, it appears that Aleuts made use of almost all available edible food sources (albeit, of course, to varying degrees).

(2) Aleut resource use was by necessity directed almost exclusively to the sea as the direct or indirect source of food and of fabricational materials. Land resources provided very little in terms of total dietary intake.

(3) Although local differences do exist in the presence and abundance of some species, the archaeological record supports the notion of basic resource use uniformity over space and time for precontact Aleuts. Uniformity is evident in the specific food items, the hunting and gathering technology, and the social and economic aspects of food acquisition and use.

(4) The wide variety of edible foodstuffs, especially the marine invertebrates, enabled most members of an Aleut community to participate to an important degree in the acquisition of food. In other words, food getting was not limited to a single category of people, although the bulk of the food was undoubtedly provided by the able-bodied younger males, who did all of the sea mammal hunting and participated as well in other activities.

(5) The early Russian period was characterized more by shifts in traditional economic pursuits (through movement of people, reduction of population, etc.) than by the introduction of

new resource harvest endeavors or reliance on imported foodstuffs.

(6) Cooperation in hunting and fishing, and sharing of food within a community, were precontact cultural patterns which continued into the historic period. Subsistence for Aleuts must be viewed as an economic system of adaptation which involved technological, social, and ideological components, and which continued from the precontact period into the Russian period.

NOTES

1. The material that follows is taken, with some changes, from Veltre and Veltre (1981:13-26).

2. Discussion will be limited to traditional Aleut subsistence as revealed by precontact and early postcontact sources as well as by archaeology. Only a few studies of Aleut subsistence in more recent times exist (e.g., Ransom 1946 and Veltre and Veltre 1981, 1982), but these do not deal directly with Atka; hence, they will not be dealt with in the present study.

CHAPTER 5

HISTORICAL BACKGROUND OF ATKA

Introduction

This chapter offers a concise outline of the precontact, Russian, and American periods on Atka in order to provide a foundation upon which subsequent discussions of the history of resource utilization on the Island may be based. A community profile describing the contemporary village of Atka is also presented.

The precontact period

Based upon the work of Jochelson, Hrdlicka, Bank, and Veltre (as discussed in Chapter 3), it is clear that Atka has been occupied by Aleuts for at least the last 2,000 years. The only large-scale and well-reported excavations on the Island have been those at the site of Korovinski, where Veltre found that precontact midden deposits containing "typical" Aleut artifact types dated to a maximum of 1,930±100 radiocarbon years B.P. (1979:262-265). While there have not been any older sites

documented on the island, this is likely a function of the limited work which has been done there. It would not be unexpected for the earliest Aleut occupation on Atka to extend to 3-4,000 B.P.

There are 49 archaeological sites on Atka Island, including those of uncertain existence. Since most have not been investigated at all, only the most general statements concerning them may be made. Veltre (1979:157-159), based on archaeological, linguistic, and ethnographic data, estimates that 16 of the 49 sites were major village locations, 5 were fishing camps, 1 was a burial site, and 5 were postcontact period sites. The function of the remainder of the sites could not be determined.

Precontact population numbers for Atka are very difficult to determine. Laughlin (1972) estimates that of a total Aleut population of 16,000, some 4-5,000 lived in the central Aleutians. The 49 sites on Atka represent 19 percent of those in the central Aleutians, according to survey data presented by McCartney (1972) and by Veltre (1979). Therefore, 19 percent of Laughlin's 4-5,000 (i.e., Atka's share of the central Aleutian population, based solely on proportion of all known sites) amounts to a maximum of 960 persons, or an average of 60 persons for each of the 16 "villages" mentioned above. Although derived from the most limited data, it is nevertheless interesting to note that this estimate is of the correct order of magnitude (e.g., see Veniaminov 1840:202-203).

Regarding precontact Aleut adaptations on Atka, it simply may be stated that the archaeological record indicates that the Aleuts of Atka in general possessed the same range of artifact types and features (houses, burials, etc.) as Aleuts of the same time period elsewhere in the archipelago (as described in Chapter 4). Their subsistence patterns likewise were similar. The most "unusual" aspect of the archaeological record on Atka is the occurrence of a major volcanic ash fall about A.D. 1,400. This event, which terminated precontact occupation of the site of Korovinski (Veltre 1979:253ff), was felt over much of the eastern end of Atka Island and thus very likely had significant ramifications on Aleut settlement and subsistence patterns.

The Russian period in the Aleutians[1]

Russian contact in Alaska began with the 1741 voyages of Vitus Bering and Alexei Chirikof, made on behalf of the Russian government. Although only brief landings and encounters with Natives occurred during these voyages, the return of the crews to Kamchatka in 1741 and 1742 with the skins of sea otters and foxes from the Commander Islands insured the future of Russian contact in the Aleutians and farther eastward. As early as 1743, Emelian Basov journeyed to Bering Island, hunting there until the following year. He sailed again in 1745, returning from Bering Island in 1746 with a cargo of 1,600 sea otters, 2,600 fur seals, and an equal number of blue fox pelts (Berkh 1974:2). Basov journeyed again and again to the Aleutians, his ventures anticipating those of dozens of other promyshlenniki, or fur

hunters. By the early 1770s, no fewer than 31 fur hunting expeditions had successfully been made to the Aleutians, the promyshlenniki pushing ever farther eastward in their pursuit of the sometimes elusive, and ever fewer, sea otters.

The Commander Islands (Bering and Copper) became frequent wintering stopovers for these voyages, and by 1768 the crews had exterminated the last of the sea cows which were found there and which had been easily hunted for food. The Near Islands (Attu, Agattu, and Shemya) were discovered by 1745, the promyshlenniki pushing to the Andreanofs of the central Aleutian archipelago by 1750, to Umnak and Unalaska of the eastern Aleutians by 1759, to the Alaska Peninsula by 1761, and to Kodiak by 1763. The voyages made during these early years of Russian contact -- until 1799 -- were usually of several years' duration, not returning until a profitable number of skins had been amassed. The promyshlenniki were ruthless in their pursuit of fortune, and over the latter half of the 18th century their activities brought exploitation, disease, and death to many of the Aleut residents of the islands. Standard procedure for the hunters included the collection of yasak, or tribute, from the Aleuts, usually in the form of sea otter skins, and to insure "good" relations with the Natives, the promyshlenniki took hostages from among the Aleuts.

From the first interaction between Russians and Aleuts on Agattu Island (Bancroft 1886:102-105), violence seemed to be the rule rather than the exception, and the precontact Aleut

population dwindled to perhaps 20 percent of its size within the first 75 years of contact (Lantis 1970:277). Men like Soloviev and Glotov were personally responsible for the murders of thousands of eastern Aleuts in the 1760s (Davydov 1977:188; Veniaminov 1840:194), and many other Aleuts died at the hands of promyshlenniki throughout the islands.

Aleuts were subjected to extraordinary hardships by the fur hunters. Aleut men were taken from their homes and forced to accompany the Russians eastward, often in the face of hostilities from neighboring Native groups. Such was the case in southeastern Alaska, for example, when in 1793 nine Aleuts were killed and 15 wounded while accompanying Baranov and again in 1802 when 130 Aleuts perished defending the new settlement at New Archangel (present day Sitka) (Tikhmenev 1978:33). Similar examples abound.

Lacking firearms, the Aleuts never posed a serious threat to the advancing promyshlenniki, although there were relatively few Russians in Alaska at any given time, and what population there was was always scattered among various small settlements. In 1778, for example, there were approximately 462 Russians between Unalaska and Prince William Sound, and these were divided among eight settlements (Fedorova 1973:116-117). In the following decade, from 1778-1788, the Russian population never exceeded 500, dropping to about 400 by 1794 (Fedorova 1973:124) and to no more than 225 by 1799 (Gibson 1976:7).

The 1780s and 1790s saw the formation and elaboration of a number of trading companies, among them ones owned by Grigorii Shelikov and Ivan Golikov as well as by Mylnikov. It was the merger of companies owned by these three men into the United American Company in 1797 that led directly to the 1799 formation of the Russian-American Company. The latter company was given legal monopolistic rights to all commercial hunting activities north of latitude 55° and was authorized the support of the Russian military forces, including its navy.

While payment of tribute by Natives was eliminated in 1795 (Fedorova 1975:16), the Russian-American Company's success was based on the availability of Aleut and other indigenous labor. Not only was it difficult to maintain a Russian population large enough to undertake hunting pursuits, but, as one Russian naval officer observed in 1820,

> "If the company should somehow lose the Aleuts, then it will completely forfeit the hunting of sea animals, because not one Russian knows how to hunt the animals, and none of our settlers has learned how in all the time that the company has had its possessions here" (quoted in Gibson 1976:8).

Thus, Aleuts were a valuable labor pool for the Company, and they were forced to work for it:

> As a result of a need for competent hunters and the availability of Aleuts for service, the company compelled Aleut men to catch primarily sea otter, fur seal and sea lion. In effect, it turned Aleut men into serfs, for compulsory hunting for the company was similar to forced labor . . . by Russian serfs on a lord's land. . . . Thus, the Company followed the very practice which promyshlenniki had begun and the government knew that the

> company was forcing Aleut men to hunt sea mammals, but permitted this practice apparently because the company was unable to obtain the sea otter fur wealth of the North Pacific Ocean in any other way (Sarafian 1970:155).

Over the years, the activities of the Russian-American Company changed. Plagued by various misfortunes during its early years (Gibson 1976:13-15), by the 1830s the Company had settled down to more conservative administration. Increasing foreign competition (British and American) encouraged northward exploration and expansion by the Company; humanitarian needs were attended to, with doctors, priests, and teachers brought into service in the colonies; fur production was down sharply from earlier years, so that prices rose and alternate sources of income were sought.

The later years of the Russian-American Company were times of diminishing financial success. Not only was the supply of furs down, but so were world demand and prices, and the Company diversified its activities in order to spread its risks (Gibson 1976:25). Attempts were made at such enterprises as whaling and coal mining, and these yielded certain financial rewards. The Company, however, slowly lost ground, and by the early 1860s its stability was on the wane. The Russian government had its own interest directed to Europe at the time, and the Company was in debt to the Treasury. In 1867, the unprofitable American operations of the Russian-American Company came to an end with the sale of Alaska to the United States.

The Russian period on Atka

The postcontact record of Atka begins in the years 1749 to 1753, during which time the Russian merchant Nikifor Trapeznikov hunted in various islands of the Aleutians. Although the precise year is uncertain, it was during this four-year expedition that Trapeznikov discovered Atka, from whose Aleut residents an accompanying cossack named Sila Shevyrin collected tribute (Berkh 1974:10; Bancroft 1886:112; Coxe 1780:39-40). Jochelson reports that the navigator Nakvashin, in a ship owned by Trapeznikov, captured an Aleut named Khalunasan from Atka during a voyage between 1750 and 1752, "in order to teach him the Russian language" (1933:3).

Fur hunting voyages continued over the years that followed the initial discovery of Atka, but little detailed information concerning the way of life of the Aleuts there is available. It appears that ships frequently based themselves at Atka, sending hunting parties to the east and west over a period of several years to gather furs. Although population figures for the latter half of the eighteenth century are unreliable for a number of reasons, it may safely be assumed that the Atka Aleuts, as Aleuts throughout the archipelago, suffered greatly. Forced labor, blatant brutality, introduced diseases, settlement relocation, and population loss certainly took their toll.

By the 1790s, the main -- and perhaps only -- settlement remaining on Atka was at Kigun Bay near the western tip of Atka.

Gavriil Sarychev, a member of the Billings Expeditions of 1790 and 1791, reports that the village there, Atxamica, had a population of 30 taxable men and seven other male inhabitants (Sarychev 1802:table).

In 1795 Grigorii Shelikov founded the Atka Company, a business venture designed to trade from the Andreanof Islands westward, as well as in the Pribilof Islands. Two years later, the Atka Company merged with the American Northeastern Company, the American Northern Company, and the Irkutsk Company to form the United American Company (Fedorova 1973:127). By 1798 there were some 41 Russian men in the various hunting parties from the Commander to the Andreanof Islands, with the main base of operations on Atka (Fedorova 1973:126-127).

The United American Company had three offices, in addition to its main office in Irkutsk: Unalaska, Kodiak, and Okhotsk (in Siberia). This last office administered the Atka office, and it was for this reason that in 1799, when the Russian-American Company was formed from the United American Company, the Atka office remained under the control of the Okhotsk office rather than of the American colonial office of the Company.

By the time of the formation of the Russian-American Company, Atka Island's sole permanent Russian and Aleut settlement was on the north shore of Korovin Bay. First located at the water's edge near the base of a steep bluff, the settlement was

moved to its final location at the base of a long spit about one mile away by the mid-1820s. Called Korovinski on maps published today, the former settlement is also referred to as "Old Harbor" by residents of Atka, many of whose ancestors once lived there.

Administrative control of the Atka office was transferred to the main colonial office in Sitka in 1823. The Atka office continued to manage fur hunting operations in the entire central and western Aleutian Islands, although by this relatively late date in the Russian exploitation of furs, Atka was no longer of majoreconomic importance.

During at least part of the Russian period, some Aleuts lived at the ends of the Korovin Bay to Nazan Bay portage in what were most likely seasonal camps rather than permanent settlements. Most of the Aleut population of Atka and Amlia Islands lived at a settlement on Amlia Island during the early and mid-1800s. This settlement changed locations over the years, but was finally at the small bay at the western end of the Island.

Primarily from Netsvetov's journals, the following picture of the Russian-American Company settlement at Korovinski emerges. Company personnel numbered only a few Russians, with an officer-manager in charge of operations and a clerk to assist him. Beginning with the 1829 arrival of Netsvetov, Atka had a resident priest. Structures included a community store house in the form of a large barabara, which was under the control of the office

manager. Aleuts from the settlement were employed to stock supplies there, especially during the summer months. Also during the summer, while Aleut families were off hunting and fishing, younger Aleuts who were students at the company-run school collected provisions for it, including food and fuel for burning.

Other buildings included a boarding school, a church, a retail store for selling goods both to employees and to Aleuts not employed by the Company (the Amlia Aleuts were "free Aleuts," i.e., not in service to the Russian-American Company), a reserve store house kept by the office manager, a barn for cattle, and about seven houses. There were also various warehouses, storage buildings for skins, tool sheds, and steam baths. In addition, Korovinski had gardens for potatoes and other vegetables and a mill for producing flour from imported wheat.

Throughout the remainder of the Russian period, it appears that -- in addition to working for the Russian-American Company -- Aleuts on Atka and Amlia Islands took part in a seasonal subsistence cycle, consisting of utilization of seasonal camps during the summer months, during which time fish and edible plants were obtained and some hunting was done. However, much of the resource procurement activities of the Atka Aleuts was likely related to two important factors. First, much hunting and gathering of food and fabricational items was done expressly for the Company, although a certain amount of that produced was returned over the course of the year (food primarily in the

winter) to the Aleuts. Second, the absence of many of the able-bodied men during various times of the year likely made seasonal subsistence activities less dependent upon sea mammal and bird resources (which the men traditionally obtained) and more dependent upon fish and gathered plants and animals, including eggs (which women could more easily procure).

The American period

Shortly following the sale of Alaska to the United States, the relocation of the Korovinski settlement, begun in the late 1850s or early 1860s, to the location of the present village of Atka on Nazan Bay was completed. Reasons for the move are not clear, but may include depletion of resources at Korovinski:

> . . . [A] few years ago, when both fish and drift-wood were becoming scare, in order to better themselves, they removed [from Korovinski] to their present village-site [at Nazan Bay]. Where they are now the Alaska mackerel is quite abundant, and quantities of this palatable fish are salted in barrels and shipped to California (Petroff 1884:21-22).

Also, residents of Atka reported to us that the Russians told the people at Korovinski that the volcano on Atka was going to explode, that the settlement there was in danger of being destroyed, and that the move to Nazan Bay was necessary. The Amlia Island settlement, which was also moved to the new Nazan Bay settlement at this time, had reportedly been partially destroyed by an earthquake.

For whatever reasons, therefore, by the mid-1870s the

Korovinski settlement was finally abandoned. Since that time, the sole village on Atka Island has been the village of Atka on Nazan Bay. It may be noted that by that time Atka was the only Aleut settlement between Nikolski on Umnak Island, some 225 miles to the east, and the settlement at Constantine Harbor on Amchitka Island, 285 miles to the west.

In 1870 the Alaska Commercial Company took over the trade that the Russian American Company had been conducting. Atka, as well as most other Aleutian villages, remained isolated and without government control, however. By the 1920s, the principal cash industry was fox trapping on the islands of the central Aleutians. The villagers remained heavily reliant on subsistence resources, including reindeer, which were brought to the island in 1914.

In 1942 during World War II, the Atkans were hastily evacuated from their village by American troops, who burned the church and most of the houses to prevent them from possibly being used by the Japanese, who occupied some of the islands to the west. Unable to bring along virtually any of their personal belongings, the people were interned in Southestern Alaska until 1945. At that time they, along with some of the returning Aleut prisoners of war from Attu, were resettled in Atka, where their community was rebuilt.

Following the war, fox trapping continued on a reduced

scale due to lower prices for furs. Some of the residents of Atka continued seasonal employment with the fur sealing operations in the Pribilof Islands, while others worked part of the year for various fishing and processing enterprises in Unalaska, Kodiak, and elsewhere. Hunting, fishing, and gathering continued to provide sustenance for the people, although an increasing variety of goods was available in the community's store.

Atka community profile

Today, Atka has a population of 91 individuals, only two of whom are non-Native. Table 5-1 itemizes the population of the village over the past century, while Figure 5-1 presents an age and sex breakdown for the current population. Twenty-one of the 22 houses in the community are occupied, with the average household size being 4.33 persons. Table 5-2 documents the number of households of various sizes. Other buildings in the community include the following: a number of boathouses and small sheds; a school building and neighboring teacherage; an older school building, now housing the office of the Atx̂am Corporation (the village profit corporation), the village telephone, an office and classroom for the school's Aleut Language Associate, a small laundry, two freezers for community use, and a youth activity room; a Russian Orthodox Church; a generator building; a carpentry shop (which is also used for community meetings and bingo); a clinic building, which also contains the office of the Atka Village Council and a two-bedroom apartment run by the Council; and a pumphouse, which is associated with the community's water

TABLE 5-1

POPULATION OF ATKA FOR SELECTED YEARS

Year	Population
1890	132
1900	128
1920	56
1930	103
1940	89
1950	85
1960	119
1970	88
1980	93
1983	91

SOURCES: Jones (1973:8), from various Bureau of Census publications. The 1980 population is from U.S. Department of Commerce (1981). The 1983 population is from Atka Village records for June.

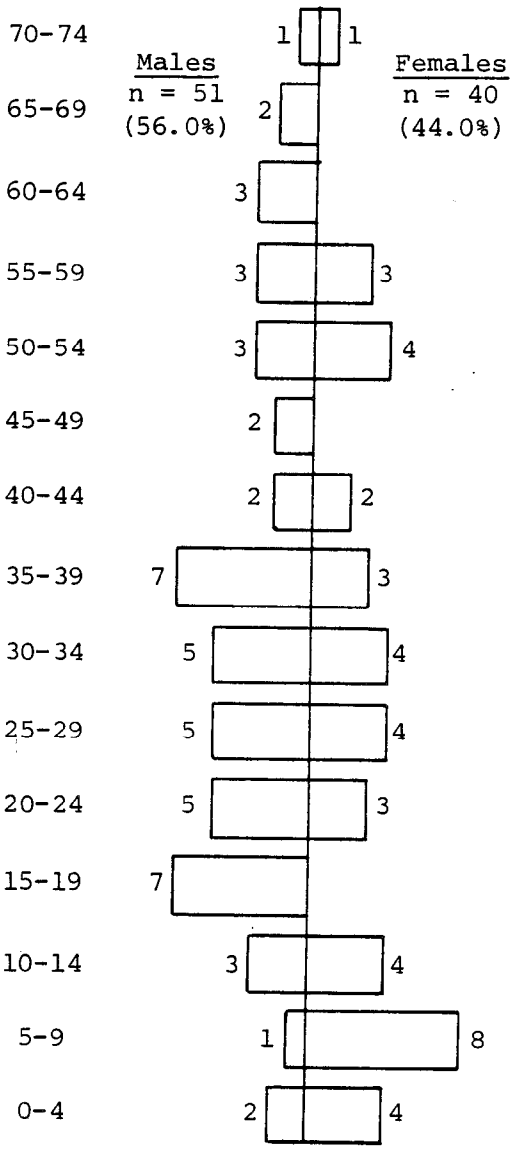

Figure 5-1. Population of Atka, ages attained in 1983 (as of 6/1/83).

TABLE 5-2

HOUSEHOLD SIZE IN ATKA

Household Size	Number of Households
1	2
2	4
3	2
4	3
5	4
6	3
7	0
8	2
9	1
Total	21
Mean Size	4.3

system and which also is the center for the Village Public Safety Officers and the fire engine.

In addition to the buildings listed above, a new school and 18 new houses have recently been completed about one mile outside of the older portion of the village. Use of these buildings began in August and September, 1983.

Transportation to and communication with Atka has become easier over recent years. Until the late 1970s, a Navy tug made the 10-14 hour trip from Adak to Atka every 2-4 weeks, depending on weather and other factors. The tug usually remained at Atka only two nights, making it difficult for residents to conduct needed business. At the same time, the only means of voice communication to the island was a tempermental radio located in the house of the non-Native school teacher, who controlled its use.

In the late 1970s, however, things began to improve. Tug service was replaced by commercial flights from Adak with a Goose, which landed in the bay directly in front of the village. A satellite dish was erected in the village, and the single telephone it provided was located in the old school building under control of the village council. In the fall of 1982, a $6 million paved airstrip was completed, with Peninsula Airlines now flying a two-engine Chieftain between Adak and Atka 4 or 5 days a week every other week.

In 1939 Atka established a council under provisions of the Indian Reorganization Act. Today, this council is involved with a wide range of village activities and services, including the Atka Native Store, the telephone, and the volunteer fire department. Under provisions of the Alaska Native Claims Settlement Act of 1971, the village of Atka formed the Atx̂am Corporation, a profit-making entity established, in part, to manage the village land holdings which were part of the 1971 Act. Village lands include much of the eastern half of Atka Island as well as lands elsewhere in the eastern Aleutians and on the Alaska Peninsula. The Atx̂am Corporation currently owns one subsidiary corporation, the Andreanof Electric Corporation, which provides electric services for residents and organizations on the island.

Employment in Atka is largely part-time. Of the 31 regular job positions listed in Table 5-3, only eight are full-time. It should be noted that temporary seasonal jobs, such as fishing and construction, are not included in the table. Likewise, three teaching positions held by individuals resident only during the teaching year are not included. While it was more common in recent years, in the summer of 1983 only one resident left the village for a seasonal fishing job.

Voluntary community organizations in Atka include the Russian Orthodox Church Sisterhood and Brotherhood, which take care of church-related activities. There is no resident priest in Atka. Church services are conducted by lay readers and a small

TABLE 5-3

REGULAR EMPLOYMENT IN ATKA, JUNE 1983

Employers and Positions	Part-Time	Full-Time[1]
Atx̂am Corporation		
President		1
Land Manager	1	
Secretary	1	
Andreanof Electric Corporation[2]		
President	1	
Secretary/Treasurer	1	
General Operator	1	
Atka School[3]		
Aleut Language Associate		1
Title I Aide		1
Pre-School Aide	1	
Maintenance		1
Atka Village Council		
Secretary	1	
Phone Attendant	1	
Janitor	2	
Handyman	1	
Recreation	2	
Summer Youth Supervisor	1	
Administrator		1
Atka Native Industries Cooperative Store		
Manager		1
Helper	2	
Aleutian/Pribilof Islands Association		
Health Aide	1	
Health Aide Alternate	1	
Community Health Representative	1	
Village Public Safety Officer		2

TABLE 5-3 (Continued)

Employers and Positions	Part-Time	Full-Time[1]
Island Store (privately owned)		
Owners/Workers	3	
Alaska Department of Transportation		
Runway Maintenance	1	
Total	23	8

SOURCE: Atka Village Council.

NOTE: Figures do not include seasonal construction jobs.

[1]Full-time = 30 or more hours per week.

[2]A subsidiary of the Atx̂am Corporation.

[3]Not included are 3 non-Native teachers resident only during the school year.

choir. From time to time, the Russian Orthodox priest from Unalaska comes to Atka, although it is often months between his visits. A volunteer fire department begun four or five years ago is now fully organized. The position of traditional chief was slowly phased out after World War II, as the Village Council took over the responsibilities of that individual.

While there are three stores in Atka today, it is the Atka Native Store which is by far the largest. Part of the Alaska Native Industries Cooperative Association (ANICA), the store is open three days each week for a total of 10 hours. It has only been in the last couple of years (following the start of full time electricity in the village) that the store has been able to provide a wide variety of frozen and refrigerated foods. Some of the store's supplies arrive once a year, on the Bureau of Indian Affairs' ship North Star, but most food items are received on the semimonthly plane flights as well. Two smaller private stores in the village sell a limited range of food and sundry items.

Conclusions

Atka is truly one of the most remote and isolated villages in Alaska today. Except for extremely costly charter flights from the Alaska Peninsula and Unalaska, Atka is reachable only via Adak Naval Station. The roundtrip airfare between Atka and Anchorage is currently $980. Although accommodating, the Navy has never been particularly enthusiastic about its Adak facility being used as a stopover point for the Atkans (or, formerly, about the tug service

which it provided).

There is currently no local industry in Atka, although the village is considering various options for the future (see Chapter 7). Nevertheless, existing employment and the on-going subsistence economy (to be discussed in chapter 6) combine to maintain the well-being of the residents there.

NOTES

1. This section on the Russian period in the Aleutian Islands is taken, with some revision, from Veltre (1979:64-67).

CHAPTER 6

NON-COMMERCIAL UTILIZATION OF RESOURCES IN ATKA

Introduction

In this chapter, the non-commercial use of resources by the residents of Atka is detailed. Historical information pertaining to Atka is incorporated in the discussion of contemporary utilization to provide additional perspective concerning both persistence as well as change in resource use patterns over time.

In general, details concerning hunting, fishing, and gathering activities and the food and fabricational uses of resources on Atka for the last century and a half are extremely scarce. Aside from information provided by a few key historical documents discussed in Chapter 3, the bulk of the material in this chapter was obtained from residents of Atka today and, therefore, applies at most to the last 50 or 60 years.

Table 6-1 itemizes the resource categories presented in this chapter. This list is organized for convenience only, and no significance should be attached to the order in which resources are presented or to the grouping of various resources in single categories. The resource categories in the table are numbered to correspond to the inventory in the text. Discussion of these resources in terms of their dietary and cultural significance will be undertaken in Chapter 7.

Three appendices provide supplemental information regarding various aspects of resource utilization on Atka. Appendix A presents the Atkan Aleut words for various resources and resource procurement activities. Appendix B gives the months of the year in Atkan Aleut, and Appendix C itemizes place names on Atka and Amlia Islands which pertain to resource use.

1. Sea lions

Sea lions are found throughout the Aleutian Islands, generally in waters less than 50 fathoms. They maintain hauling areas and rookeries, as discussed in Chapter 2 for the Atka Island region, and since they are non-migratory, are present in the Aleutians on a year-round basis. Sea lions are large animals, with adult males measuring up to 13 ft. in length and 2200 lb. in weight. Females are significantly smaller, at 6 ft. and 800 lb.

For Aleuts of the precontact and early postcontact period (and in some cases even more recently), sea lions provided much

TABLE 6-1

INVENTORY OF RESOURCES USED IN ATKA

Resource	Chapter Section*
Sea lions	1
Harbor seals	2
Other marine mammals	3
Reindeer	4
Salmon	5
Cod and halibut	6
Other fish	7
Birds and eggs	8
Marine invertebrates	9
Plants	10
Fox	11
Livestock and gardening	12

*Numbers correspond to those used in the resource discussion sections in this chapter.

more than just food. Table 6-2 details the various uses to which these animals were put. For people who derived virtually all of their food and fabricational materials directly or indirectly from the sea, such complete use of a resource was not limited to the sea lion but was characteristic of resources generally.

In the 1830s, sea lions were not found in substantial numbers in the Aleutians (Veniaminov 1840:387-388), although the causes and magnitude of the presumed decline since initial contact are not known. Only in the Pribilof Islands, especially on St. George (Veniaminov 1840:387), and in the Commander Islands were sea lions apparently plentiful at this time. Writing about the Commander Islands, Netsvetov says the following:

> These islands are unique in the entire Atkha District [i.e., the central and western Aleutian Islands], offering the inhabitants food resources in abundance . . . not matched anywhere in other islands, as can be attested when observing subsistence activities in various localities, as I had the occasion to do (Netsvetov 1980:35).

Use of precontact harpooning methods for hunting large sea lions gave way to the use of firearms during the Russian period. In the Commander Islands, these animals were "killed either by firearms (old animals) or by clubbing (the young ones)" (Netsvetov 1980:35). A song of the Atka Aleuts collected in the early 1800s describes hunting sea lions with a harpoon from a skin boat. It says in part (Veniaminov 1840:20-21):

> As it is done by the timid that I might do likewise, I hid and departed.
> And when I rode, gazing about, I saw the beast sea lion, that he adroitly dives and come up;

TABLE 6-2

UTILIZATION OF THE STELLER, OR NORTHERN, SEA LION

Part of Animal	Partial List of Uses
1. Hide	Cover for bidarka and baidar; line for harpoon
2. Flesh	Food
3. Blubber	Food (eaten with meat; also rendered for oil)
4. Organs	Food
5. Bones	Ribs for root diggers; humerus for club; baculum for flaker
6. Teeth	Decorative pendants; fishhooks
7. Whiskers	Decoration on wood hunting hats and visors
8. Sinew	Cord and thread for lashing and sewing
9. Flippers	Soles used for boot soles; contents gelatinized in flipper and eaten
10. Pericardium	Water bottle; general purpose container
11. Esophagus	Parka, pants, leggings of boots, pouches
12. Intestines	Parka, pants, pouches

SOURCE: Laughlin 1968:40.

Stopping opposite him, I begin to think:
Even for the timid one it seems possible to do with him one's will;
And thinking, that in my undertakings even I have had success, I took from the stern of the baidarka a javelin, stripped the sheath (from the point) and placed (the javelin) before me.
I rode and drawing near to him, I shot at him, but did not place the javelin in him.
He became enraged and dived.
I rode after him and shot at him, but could do nothing with him, but only spoiled the points on my javelins.

During the 1830s and 1840s, sea lion hunting by men from the settlements on Atka and Amlia Islands was sometimes done near Kasatochi Island, a small volcanic island northwest of the western tip of Atka Island, near Seguam and Amukta Islands, northeast of the eastern tip of Amlia Island, and around the coast of Amlia Island (Netsvetov 1980). On at least two occasions between 1828 and 1842 (in 1841 and 1842), a ship brought salted sea lion meat and oil to the settlement on Atka from the Pribilof Islands (Netsvetov 1980).

Before World War II, sea lion hunting in Atka was done primarily from dories, but occasionally from the shoreline. One hunter who was fox trapping on Amchitka Island described shooting from the shore sea lions which were playing and gliding in the surf. When one was hit, it continued to glide right up to the beach. This same hunter said that when hunting sea lions from a boat, a barrel without ends was placed in the water to view through to search for sunken sea lions. There was also a wooden stake device that had at least two attached but moveable pieces. Used by a person on shore to help a hunter in a boat locate a

sunken sea lion, the moveable pieces were aligned with the location of the last sighting of the animal.

In the past, sea lion meat which was not eaten fresh was either dried or salted. In addition, other parts of the animal were used for utilitarian purposes. The stomach of the bull sea lion was prepared for use as a container by turning it inside out, taking it to the beach, and washing it by walking on it in the sand. This was done to remove any slime, worms, etc. from the inside of the stomach. It was then taken to a nearby fresh water stream and washed and rinsed well to get rid of all of the salt water and sand from the beach. Next, it was turned right side out and blown up, and the meat was very carefully scraped off of the outside. Finally, it was left to dry.

Stomachs prepared in this manner continued to be used, primarily to store dried fish, until the years following World War II. A family would normally have a number of such stomachs, one for each kind of dried fish, such as cod, red salmon, and pink salmon. Further details concerning the use of sea lion stomachs are found in the section describing dried fish.

Sea lion gut was used in Atka to make raingear until sometime before World War II. The gut was prepared in the following manner: first it was soaked in salt water overnight. Next, it was turned inside out and scraped with a blunt object, like a spoon, taking care not to poke any holes in it. Then it

was dried outside on a day that was not too warm or too cold. If the conditions were not right, the color of the gut would change. To dry it properly, one would blow through the gut on an area of clear ground, at which time it would begin stretching out and circling around. It was then hung off the ground on sticks to dry. When dried, the gut was skillfully cut lengthwise to form a strip some 3-4 inches wide.

Sewn with sea lion or whale sinew in a special waterproof stitch, the gut was made into pants and hooded jackets. These garments, and especially the seems, needed to be oiled and smoked to keep them supple. Because they had drawstrings at the openings and the pants and jackets could be overlapped and tucked together, a complete gut rain garment was totally waterproof, with only some leakage around the opening for the face. It is claimed that one could bob around in the water like a cork in such an outfit.

Another product manufactured from sea lion before World War II was boots. Called in Atkan Aleut <u>uliigix</u>, these boots had soles made from sea lion flipper. The soles were crimped near the toe and heel in order to produce the proper shape and were stitched to uppers made from harbor seal skin from which the hair had been shaved off very short. All sewing was done with the boot inside out, so that the seams would be on the inside of the finished boot. The seal skin uppers were about 5-6 inches high, and sea lion throat leggings were sewn to the tops of them. Some men wore leggings which were as high as their thighs, although the

height depended on individual preference. Leggings could be folded and tucked with the gut rainpant legs for a watertight seal.

The throat for the leggings was prepared by turning it inside out, soaked for a couple of days, and then stretched to fit the leg. Stretching was done by placing the throat over a rounded length of wood that had been split at one end. Wedges were forced between the halves to stretch the throat, which ended up with a tapered shape. The throat was then dried in the sun, although care had to be taken not to let it tan too much. The completed new boots were oiled and then smoked just a little; this process was repeated a few times, and the boots turned brown.

Left and right sea lion boots were identical so that they could be switched between feet for extended, even wear. Grass "socks" were worn inside the boots (see plant section). For repairs, a hunter could carry a piece of sea lion skin taken from the area between the ear and the shoulder to use as a patch. Also, on long trips, a man might carry a spare pair of boots. When men were out on long hunting trips, women would stay at home and sew new boots to be ready when the men returned.

Today, sea lion hunting may take place almost anywhere along the coast of Atka and Amlia Islands, although there are known rookeries and hauling areas where hunters often concentrate their efforts. Figure 6-1 shows those areas most frequently

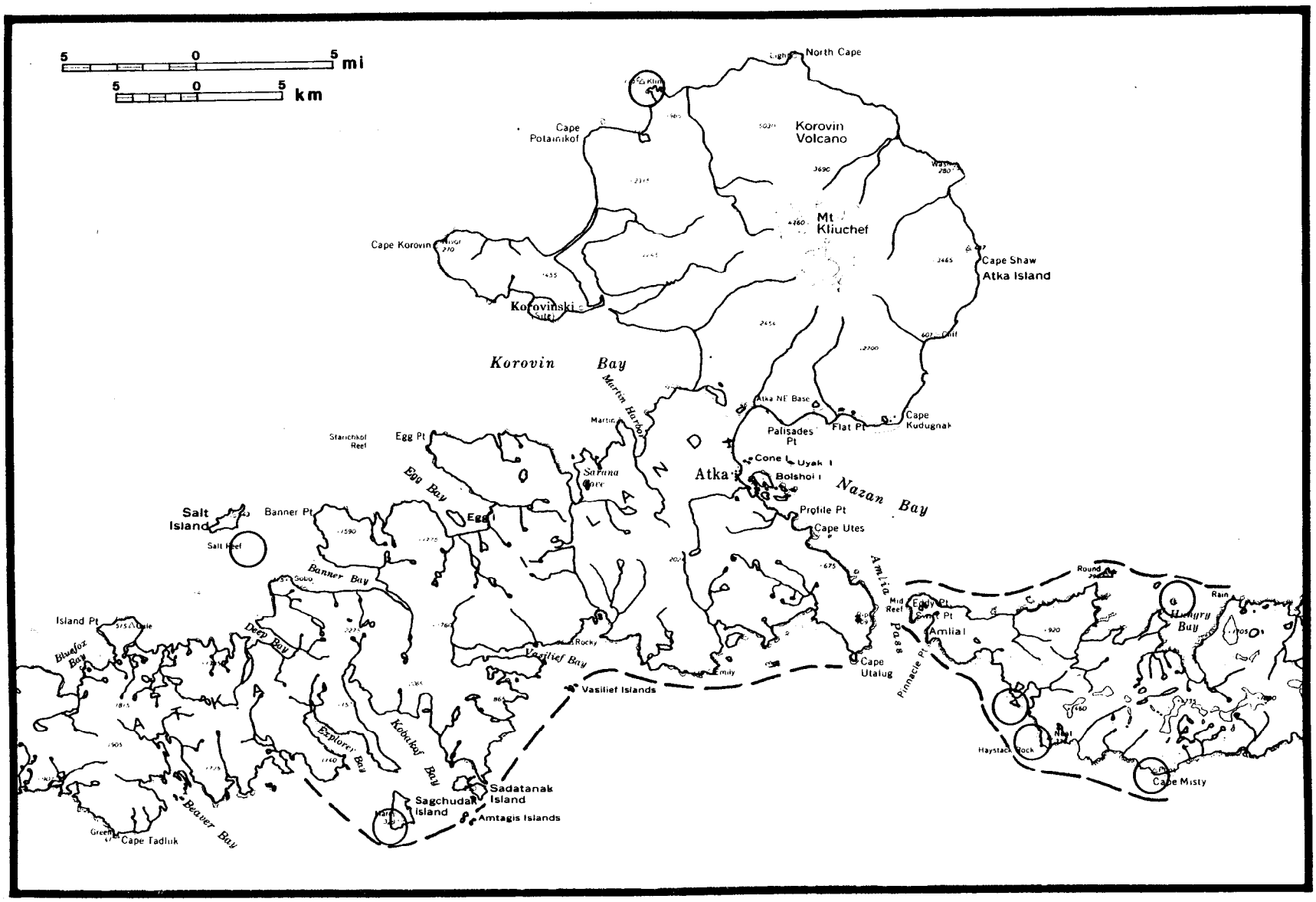

Figure 6-1. Major sea lion hunting areas (dashed lines) and rookeries and hauling areas (circled) reported by the residents of Atka.

hunted. Although in the recent past individual boats would go sea lion hunting, today -- for safety reasons as well as due to the time constraints imposed by wage employment -- up to three or four skiffs with usually two men per boat hunt for sea lion together.

The boats used in sea lion hunting, as well as in all other marine hunting and fishing pursuits, are of various kinds. There are 13 homemade wooden skiffs, 9 aluminum skiffs, and 3 fiberglass boats, most of which are about 14 feet in length. Common size engines for these boats are 25- and 35-hp. In the recent past, men often took CB radios with them in their boats, although this is less frequent now due to the damaging effect of the ocean environment on such equipment. Equipment for boating new in the last one or two years includes, for some men, survival suits and distress flares. Also for safety, some men are taking more food and cooking equipment along with them on boating trips than was taken five or ten years ago.

There are no formal hunting partnerships among the men of Atka, although some men frequently go hunting together. The two or three men in a single skiff will often split the cost of gasoline. Hunting equipment for sea lions includes high-powered rifles, the common calibers being .243, .22-250, .30-06, and .222. One person mentioned using a .44 magnum hand gun, explaining this preference as enabling him to keep both eyes on a sea lion, while with a rifle he had to keep one eye on the sea lion and one eye on his rifle scope. When a sea lion is spotted, a hunter may signal

this to other boats nearby by raising one arm and making a forward diving motion with his hand. This signal imitates the diving behavior of sea lions, while raising the arm and bringing it straight down indicates that a harbor seal has been spotted.

One strategy for hunting sea lions involves positioning a boat so that the animals are driven towards shallow water and the beach. Hunters pursuing a sea lion toward the beach may shoot near, not at, the sea lion in order to move it nearer the beach. This also serves to tire the animal and to prevent it from obtaining sufficient breath to sustain deep and lengthy dives. Since sea lions frequently sink after they are shot, they may be retrieved from shallow water by means of a weighted retrieving hook. If a sea lion floats after being killed, it may be retrieved with a similar device, but one which has a float attached to keep the single hook at the surface and pointed downward. It is thrown over and past and sea lion and jerked until it catches the animal. Sea lions are rarely shot while at their hauling areas because the water is usually too rough for a landing. Also, a wounded sea lion falling into the water could be dangerous to the hunters below.

An especially large sea lion -- one that is impossible to bring into a skiff -- may be towed to shore for butchering, or it may be butchered in the water at the side of the boat. If a sea lion is to be brought into a boat, special care is taken to make certain that the animal is actually dead, and, once in a boat, the

head is the first part of the animal removed.

A sea lion is butchered into five main parts after the head and most of the internal organs are removed: two foreleg/shoulder/chest/rib sections, two hind leg sections (with the kidneys attached), and a single backbone section (although this is sometimes left behind). The liver and heart are also frequently saved. Today, the only use of sea lion skins is occasionally to cover homemade skis.

Most sea lion hunts in Atka are successful. When several boats go sea lion hunting together, there is often an older, more experience man who decides when they have killed enough animals. It was explained that if four boats go out hunting, one sea lion per boat would be a sufficient take. Sharing of sea lion meat, if enough are taken, is village-wide. For example, if four animals are butchered into five portions each, then there 20 portions for the 21 households in the village. Distribution of the meat is quite informal. The man who killed the sea lion may take the part which he considers most desirable. The other hunters are the next to choose. When the boats returned to the village, any families wanting meat may simply go down to the beach to receive some. Sometimes meat is taken home by someone who in turn divides and shares it with others. Hunters may also send a message via CB radio announcing that meat is available. In a community as small and interrelated as Atka, everyone is provided with meat by these means.

Sea lions are hunted throughout the year. Generally, medium to large bulls are preferred, while females are less desirable since lactation affects the taste of the chest meat. Sea lion pups are also less desirable since their meat was reported not to taste as good as that from larger animals. It is estimated by the hunters that an average of 15-25 sea lions are killed and brought back to the village each year. Because of the fact that sea lions often sink quickly after being shot, the hunters also estimate that 60 percent of all sea lions killed are actually retrieved.

Sea lion meat, with the bone left in, can be salted with rock salt in barrels or other containers to preserve it for future use. Although still done today, salting was more common before freezing meat became possible. Strips of meat can be dried. Today, fresh meat may also be frozen, although this is not possible at camps outside of the village. Sea lion front and rear flippers can be hung outside and aged for a few weeks, until the skin begins to peel. It is then salted a bit to preserve it. Flippers prepared this way are mostly fat and are soft. In the past, flippers were sometimes cooked until they came apart. Potatoes, onions, and other other vegetables were often cooked along with the flippers. When everything was cooked, the entire dish was allowed to cool and gell, and pieces were sliced and eaten with bread, salt, pepper, and mustard.

The main cooking methods for sea lion meat include

roasting, frying, boiling, and stewing. Sea lion meat is also sometimes ground for cooking various ways. Fresh meat can be aged for about five days to improve the flavor before cooking. Salted or dried meat can often be cooked in the same manner as fresh meat. Sea lion liver can be fried; hearts and tongues can be boiled, fried, or potroasted. Sea lion pancreas is sometimes dried and frozen to store for future cooking.

Sea lion blubber, which is often cooked and eaten along with meat, can also be used in other ways, such as a source of fat when boiling beans. Eight or ten pieces of blubber can be boiled with fish. Blubber can also be cut into small pieces and put into a jar with some salt. Prepared in this manner, the blubber can be eaten with dried fish. For making oil, chunks of sea lion blubber are put in a jar and left in a cool place for at least several weeks. The chunks render oil, which keeps somewhat longer than does oil from harbor seals. Chunks of blubber can also be rendered into oil over a direct low heat; this kind of oil may be used for making fried bread.

While this discussion of sea lion hunting has consistently referred to men as the hunters, it should be noted that there is one woman currently residing in Atka who has gone on a number of sea lion hunts and who has, in fact, killed three sea lions herself. Three other young women who are now living outside of Atka also went on hunting trips when they lived in the village. There appears to be no prohibitions or restrictions on women

hunting, although the traditional Aleut role of men as sea mammal hunters remains. The following story was written by the young woman hunter mentioned above:

> When we go hunting for sea lion, we have to get dressed up warm. We have to get everything ready like rifle, retrieving hook, shotgun and coffee.
>
> Then it's time to go. We can go toward the Range [Cape Kudugnak] or we can go toward Amlia Pass. We travel close to shore where we can look for the sea lion. When we spot the sea lion, we try to trap it between the land and us. That makes it easier for us to shoot it. Once we shoot it, we take the retrieving hook and fish for the sea lion. Sometimes it is hard and we have to wait for the blood to clear from the water. When we finally catch the sea lion, we take it ashore to butcher it. Then we take it home and divide it with the other people in the village (Aleutian Region School District 1980:33).

2. Harbor seals

Like sea lions, harbor seals are non-migratory sea mammals found throughout the Aleutian Islands. Although they may often haul up at specific locations, they do not maintain rookeries, as do sea lions. Male harbor seals may reach 6 1/2 feet in length and weigh as much as 260 pounds. Females are about 25 percent lighter than males. Table 2-4 indicated that there may be 7,000 harbor seals in the entire Andreanof Islands area.

Detailed information concerning harbor seal hunting and use on Atka in the precontact period is minimal, although it may be assumed that these animals were a regular food source. One interesting early (circa 1756-1762) reference to the use of harbor seals in rituals is in a drawing, which Black describes as "[t]he earliest known pictorial representation of the Aleut people. . ..

This drawing illustrates ritual dress and hats of men and women, hairdos, the manner of dancing and drumming, and differences in the shapes of the [seal] bladders used in dancing by men and women" (1982:preliminary pages).

Netsvetov (1980:45ff) describes the use of seal skin decoys in sea otter hunting, although he does not mention any details of seal hunting itself. Black (1982:133) describes lavishly decorated seal skin decoys, perhaps of the kind referred to by Netsvetov. Netsvetov also mentions that some harbor seal meat was sent from the Commander Islands to the settlement on Atka to supplement the food supply of the Aleuts and Russians there (1980:37).

Within the living memory of some residents of Atka, parts of harbor seals were used for a number of fabricational purposes. Skin, preferably from a large seal, was used along with sea lion flipper and throat in the construction of boots (see description under sea lions). Skins were also used to make pants and to cover the bottoms of homemade wooden snow skis. Harbor seal stomachs, prepared in the same manner as already described for sea lion stomachs, were used as containers for rendering oil from chunks of harbor seal blubber. Such stomachs were also used to carry water while at sea. Until recent decades, virtually all parts of a harbor seal were utilized for food. In addition to the meat, blubber, and internal organs, even the skin was sometimes scraped clean of its fur, cut into strips with some fat attached, cooked,

and eaten.

As with sea lion hunting, harbor seal hunting today is done almost exclusively by men. Harbor seals may be hunted along the entire coast of Atka and Amlia Islands, although there are certain locations at which these animals frequently haul up (Figure 6-2), and hunters often seek them there. In former years, hunters would sometimes go to these hauling spots, sneak up from the seaward side, and kill a number of surprised seals. Certain factors serve to concentrate the distribution of seals in specific areas. For example, in rough weather seals may travel to protected lagoons and bays. Likewise, seals may congregate near stream mouths when anadromous fish are present. Reportedly, there are also sea caves in which seals sometimes congregate.

Especially in terms of equipment and fundamental strategy, the hunting of harbor seals is very similar to that already described for sea lions. While sea lions are sometimes driven close to shore before they are shot, this is generally not done with harbor seals, which may be shot wherever they are sighted. It is also likely that more harbor seals than sea lions are shot from land by hunters who have beached their boats on offshore rocks or on Atka Island itself in order to provide firmer footing for more accurate shooting. Raising the arm and bringing it straight down, in imitation of the vertical manner in which harbor seals surface and submerge, is sometimes used by a hunter to signal other boats that a harbor seal has been seen. It is best

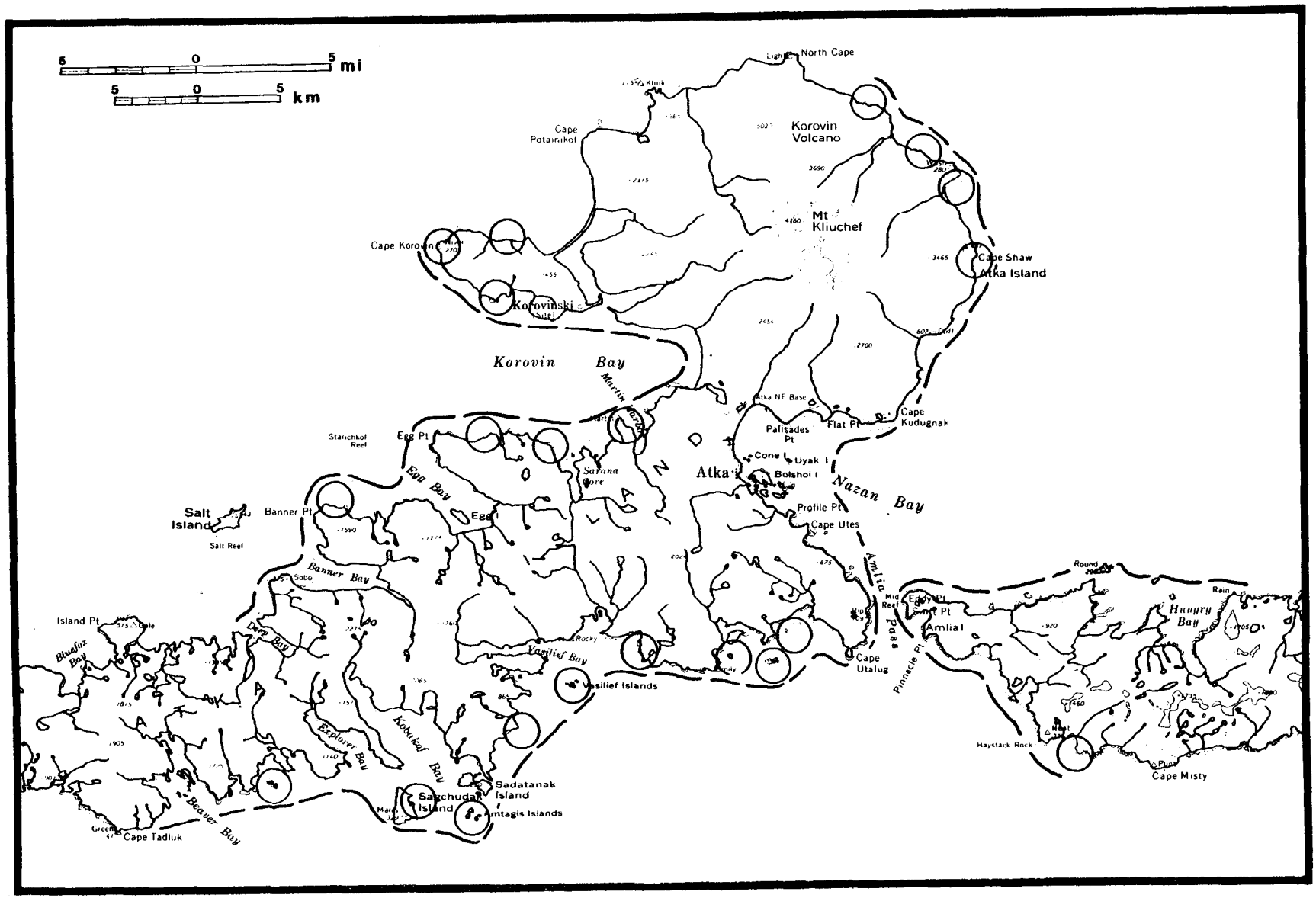

Figure 6-2. Major harbor seal hunting areas (dashed lines) and known hauling areas (circled).

to shoot a seal just before it dives, rather than just after it surfaces, since its lungs will be full and it will float better. Retrieving hooks are used to bring animals to shore or to lift them from shallow water if they have sunk. Unlike a large sea lion, harbor seals are small enough to be pulled directly into a skiff at sea after they have been killed.

While estimates of the number of harbor seals killed and successfully retrieved per year vary, they tend to average about 30. Hunters in Atka claim that far fewer harbor seals than sea lions are lost due to sinking, since seals are fatter than sea lions and float better. The hunters estimate that only about 10 percent of the harbor seals that are shot are not retrieved. These 10 percent are often lost when thick kelp obscures their location. Since seals are rarely lost after they have been shot, they are considered to be a dependable food resource, especially for families at summer camp.

Boys begin hunting in their young teens. They look forward to participating in seal hunting, and when they kill their first seal, it is a source of great pride for both the boy and his family. In the old days, people would have a party when a boy killed his first seal. One older man described the excitement of his first seal kill. After he shot the seal from the shore, his retreiving line could not reach the carcass in the water. Even though ice pellets were falling, he took his clothes off, jumped in the water with his retrieving hook, and managed to get the

seal.

If a harbor seal is shot from land, the initial butchering of it is done at the kill site. Otherwise, a seal may be brought by boat to a nearby beach or islet to be butchered. Only if a seal is shot close to the village will it be brought back to the beachfront in Atka and butchered there. The fist step in butchering a seal is to remove the head, which is discarded. If the skin is to be saved, the seal is laid on its back, and a cut is made on the ventral side from the neck to the tail. The skin is then cut away from the blubber towards the back, first on one side and then on the other. Next, the chest and stomach cavity are opened, and the internal organs are removed. The liver, heart, pancreas, lungs, and intestines (especially from a young seal) may be saved as they are removed, but the kidneys are usually left attached to the carcass. Care must be taken when butchering, since an accidental cut to a bile duct may taint the meat.

A cut is then made down each side of the backbone, with another cut made on each side below the ribs. As when a sea lion is butchered, this yields the right and left foreleg/shoulder/chest/rib sections, two hind leg sections, and the backbone. Further butchering is done when the meat is prepared for cooking.

In Atka today, few seal skins are saved. One hunter said

that the skins are not always suitable for keeping. If the hair pulls out easily, for example, or if the skin does not look bluish when the blubber is scraped off, the skin is not particularly good. Those which are saved are cleaned of any remaining fat. One man who was preparing a skin had it laid, hair side down, over a large oblong rubber float. He used a sharp hunting knife to scrape the skin clean of fat, working from the head end towards the tail so that the hair would not fall out. He demonstrated how skins were prepared in the old days: he held the head end of the skin in his teeth, and, with the back of one hand holding the skin up from underneath, he scraped the skin with his knife. He said that when he was young he saw hunters who were so skilled that they could skin a seal and cover skis in only 15 minutes. Once cleaned of their fat, skins are nailed tautly around their edges to the sides of sheds. About 1-2 inches of space are left between the skin and the shed to allow air to circulate to dry the skin. Once dried, skins are sent to Anchorage or Seattle for tanning.

In Atka today, untanned harbor seal skins are used to cover homemade skis, while tanned skins are usually left whole and appreciated for their esthetic value. Occasionally, items are sewn from seal skins, and one person in the village is considering making clothing from them.

Three factors make the distribution of harbor seal meat somewhat different than that of sea lion. First, harbor seals are smaller than sea lions, and, with about 30 seals killed per year,

there is less meat available for distribution. Second, many people prefer sea lion meat over than of harbor seal, although harbor seal meat is considered very desirable by many older residents. The number of seals killed per year is, of course, at least partly related to the food preferences of the Atkans. Third, while several large animals may be brought back from a successful sea lion hunt that has involved several boats, harbor seals are most often brought back to the village in smaller numbers, since their hunting does not frequently involve cooperative efforts. Thus, meat is distributed by the hunter to relatively fewer people, whose portions may be too small to subdivide further.

As indicated above, various parts of the harbor seal are used for food. The liver, sometimes eaten raw by the hunters away from the village, may also be prepared in other ways. Liver from a year old seal may be soaked over night and then eaten raw, reportedly one of the best things that can be eaten. Liver may also be fried, perhaps with onions and bacon. Other organs are generally prepared by roasting or boiling. We were shown the preparation of a lung and blubber dish. The lungs from a two year old seal were soaked overnight in fresh water. Chunks of blubber were then put in the lungs to keep them moist while they cooked.

A dish called amax̂ is made from the small intestine and the blubber from a young seal. An older man demonstrated for us how it is made. The intestine, which was cut into two lengths,

was soaked over night and then cleaned in running water in a sink, although in the old days it would have been taken to a stream. The blubber was then cut into long strips about 3/4 inch square in cross section. The ends of the intestine and blubber strip were tied together, and the intestine was woven on his fingers around the blubber. After such a woven braid was completed for each of the two lengths of intestine, they were put in a cooking pan with water and placed on the stove to boil for about two to three hours.

Harbor seal meat is often soaked in water over night before it is cooked in order to remove some of the blood from it. Meat can be aged in a slightly warmed place for five to seven days before cooking, a process which enhances its flavor. Glands, small hard nodules which occur especially around the neck area, should be cut out and not cooked with the meat. Otherwise, these glands may impart a bad taste. Boiling seal meat with onions, potatoes, and local greens is a common way in which seal is prepared. Meat which is not eaten fresh may be dried, salted, or frozen.

Harbor seal blubber is frequently used to make oil. The processes are identical to those described for sea lion oil, with most oil being made by the jar method. Harbor seal oil is thinner and more clear than sea lion oil and is used in the same manner as the latter. Both sea lion oil and harbor seal oil are eaten with dried and boiled fish and wild celery. Oil may also be mixed with

crowberries and fish. A recent publication by the National Bilingual Materials Development Center on Atkan food (Dirks 1980) details the preparation and uses of sea mammal oil.

The following portion of a story written by a young girl in Atka summarizes the account of harbor seals presented above:

> How do we hunt seal on Atka? First go in the boat, start the motor and hunt for seal. If you see one, shoot it if you think it's fat. If you shoot the seal it will float on the water. If you shoot the seal in water, put the seal in your boat.
>
> You take the seal to the nearest island and cut the seal open and get the guts out, then go home. After splitting it open, some people save and dry the skin. We hang the skin on a board or on a house. What do we do with the fat? We cut the blubber off the skin and put the blubber that was cut into a jar. Now for the meat. It doesn't matter what part of the seal you cut or cook. To cook it, put water in the pot and then put the meat that you cut in the pot with the water, then put the pot on the stove. When the water in the pot starts to boil add salt, pepper, potatoes, lard or shortening, onions, rice, macaroni or rock salt. Then taste in a few minutes (Aleutian Region School District 1980:33).

3. Other marine mammals

In addition to sea lions and harbor seals, the use of five other marine mammals may be discussed. These animals -- fur seals, sea otters, walrus, whales, and porpoise -- have varying significance to the contemporary Atkan subsistence economy, and some were of substantial importance in the past.

A. Fur seals: Fur seals are not normally found in the central Aleutian Islands in great numbers. They generally migrate between their breeding grounds in the Pribilof Islands and their

wintering territories south of the Aleutians through the passes of the eastern Aleutians. Their bones are found archaeologically throughout the archipelago, however, and historic and contemporary reports indicate that they are regularly spotted in low numbers near Atka. In 1778 an unusual event occurred, when strong winds forced a large number of fur seals westward from their normal migration to the waters around Atka. A Russian ship secured some 40,000 of these animals (Berkh 1974:92).

Before World War II, fur seals were only rarely hunted by residents of Atka. Fur seals haul up very seldom in the Aleutians, so most were killed at sea during their southward migration in the fall. Shotguns, rather than rifles, were sometimes used to make it easier to hit the swimming animals. On at least one occasion a pup which had hauled up on the sandy beach of Nazan Bay was clubbed, but it was not considered especially good eating since it was very fatty. Fur seal throat was an excellent material for use in rain clothing, but most that was used was likely traded from the Pribilofs rather than obtained by hunting near Atka. In more recent years, the only use of fur seals has been salted meat and flippers brought from the Pribilofs by Atkan men who worked seasonally in the fur seal harvest in those islands. Since the 1960s, however, few men from Atka have worked in the Pribilofs, so very little fur seal meat has been eaten in Atka over the last two decades.

Sea otters: Sea otters were an important resource to the

Aleuts of Atka Island from at least 2,000 years ago, as bones in archaeological middens attest, through the nineteenth century. In the precontact period, the pelts of sea otters were used by Aleuts for clothing, and the bones were fashioned into various utilitarian objects. There is some uncertainty concerning the extent to which sea otters were used for food prehistorically. Aleut legends speak of a close relationship between sea otters and humans, although there is not a clear prohibition on eating the animal. Many Aleuts today claim that sea otter meat is unpalatable, although it is probable that few have tasted it.

Sea otters were the fur-bearing animal most sought after by the early Russian fur hunters in the Aleutians, and in the latter half of the 1700s the number of these animals declined considerably from over-exploitation throughout the Aleutians. There were so few sea otters, in fact, that Netsvetov wrote the following in 1830:

> . . . during my entire life, which I up to now spent almost exclusively in the Aleutian Islands, I have never seen a live sea otter; I have never seen even a dead sea otter -- only pelts, which are hereabouts, of course, no rarity. Thus, I decided to take part in the [sea otter] hunt and have approached the toion [chief] with the request that when such a hunting party should be assembled, I might be included (1980:42).

Netsvetov's lengthy description of sea otter hunting on Atka in the 1830s, done by Aleuts working for the Russian-American Company, is valuable not only for providing information on the various strategies used to find and kill sea otters but also for the detail which it offers concerning Atkan Aleut hunting skills

and technology in general:

> Sea otters are hunted by several methods and each method calls for a different technique.
>
> The first method is as follows: in calm weather, on a clear day, preferably when the sun is shining, the hunters, having assembled all the necessary equipment and properly armed well . . . with darts, sail out into the sea in their baidarkas, the entire party as a unit.
>
> [Once in the open sea] they carefully observe [the area] looking for sea otters . . .; the hunters line up their baidarkas in a line . . .. The line of baidarkas advances slowly, everyone keeping a sharp lookout to the front and around each baidarka. When a hunter sights a sea otter, he stops, and lifts up his oar; the hunter closest to the first one, seeing the signal, also lifts his oar, and thus, one by one, the message is transmitted to all. They immediately move into a large circle surrounding the spot where the sea otter had been sighted.
>
> The sea otter, having spotted the baidarkas, dives and remains up to 5 minutes under water. The baidarkas are kept stationary, while the hunters wait for the sea otter to surface. A sharp lookout is maintained at all times. If the otter remains submerged for a long time, the baidarka circle is enlarged. If the otter surfaces near [one of the] baidarkas, this hunter signals the others . . . and paddles rapidly toward the otter. If the distance is right, he then shoots the otter with a dart discharged by means of the throwing board. Then he stops his baidarka over the spot where the sea otter submerged again. The rest of the baidarkas reform the circle, in the same manner as is done when the sea otter is sighted initially. This action is repeated [again and again] and the darts are discharged not in much hope of hitting the animal but in order to prevent it from remaining on the water surface being able to take a breath. . . .
>
> [W]henever the animal surfaces, the hunters shower it with darts. Even if only one dart hits the animal, it weakens the sea otter more and more; eventually, hit by several darts, the animal becomes completely exhausted, and remains on the surface. The hunters approach the animal and finish it off with a blow to the head with a stick. . . . The sea otter . . . belongs to the man whose dart hit it first. . . .
>
> The second method consists of capture of sea otters by netting . . ., called here sea otter nets. . . . In calm weather and when no breakers are running near shore, at night fall, the nets are positioned at the entrance to

the cave where the sea otters have their lairs and where they return at night. It must be noted that as the caves are partially under water, the nets are erected not on shore, but in the water. . . . During the night, and occasionally in the daytime, sea otters moving from the sea into the cave, or from the cave to the sea, are caught in the net, entangled in its mesh. In the morning, early, the hunter goes in his baidarka to the trap he has set, inspects it, and if a sea otter has been caught, the hunter clubs the animal and stows the carcass in the baidarka. Then, he rearranges the net in its proper order, and either leaves it in place for the day, or he may remove it. . . . Nets are used not only at the cave entrances but also on kelp beds in the open [sea]. . . . On [the kelp beds] the nets are spread, the sea otters which often rest on such kelp beds, if they chance onto the net spread thus, become entangled therein. . . .

The third method consists of killing the sea otters on dry land, and is employed only in areas where the sea otters have special hauling grounds, which may be used by large or small sea otters herds [regularly] or even by a solitary sea otter. . . . In this method, the techniques utilized in the taking of fur seals and seal lions are not followed: that is, approach to the herd from the sea side and the drive away from the sea, then the clubbing. It is impossible to drive sea otters away from the sea. . . . Therefore, the hunter, as soon as he locates a sea otter on shore and succeeds in sneaking up to it, immediately clubs the animal, or even grabs it by hand by the tail or by the skin and then clubs it. . . .

[The] described method of clubbing sea otters is used on open shores, but sea otters are also clubbed in the caves. The latter are especially numerous along the south coast of Atkha Island. . . . And into these caves [some] hunters dare to enter by any means possible. Depending on the size of the cave, they may enter it in a baidarka, or, with the aid of decoys (inflated seal skins) or even by swimming. When they reach dry ground within the cave, they proceed to follow a set of various actions designed to enable them to spot, capture and kill the sea otter. As there is no light within the cave, and it is dark, their first aim is to strike a light, and do so as quickly as possible . . .. If, in the light of the lit lamp, the hunter sees a sea otter, he attempts immediately to club it with the stick which he holds at ready in his hand at all times. If this is not possible, the hunter attempts to get hold of the sea otter by hand, and then club it. . . . In the past, this method of taking sea otters was widespread, but nowadays is employed very seldom, and has fallen almost into total disuse, as it is now considered to be too desperate and

> dangerous, even irrational, easily leading to loss of life. . . .
>
> The fourth method consists of shooting sea otters by firearms and is employed as follows: wherever neither nets nor any other means of taking sea otters can be employed, and outside the caves but in places where hunting is not feasible. The hunter positions himself on shore in a spot above the cave which the sea otter enters [habitually] or from which the sea otters go out to sea. . . . Having his baidarka in readiness nearby, the hunter sits patiently, until the sea otter is sighted. If the sea otter approaches from the sea, and the hunter is relatively certain that he has a good chance to kill the animal, he shoots and immediately sets out in his baidarka to retrieve the carcass. If he fails to follow through immediately, the carcass will sink, and, in deep water, be lost. If the water is not too deep, the sunken carcass is retrieved by means of a gaff (Netsvetov 1980:43-48).

In 1911 sea otter hunting for any purpose became illegal, as over-exploitation of the animals had reduced their population almost to the point of extinction. It has only been in the years of the last decade that the sea otter population in the waters around Atka has reestablished itself. The success with which sea otters have rebounded, however, has had adverse effects on the local natural food economy of Atka village, as Aleuts there have found themselves in competition with those animals for various shellfish. This situation will be discussed in detail in Chapter 7.

C. Walrus: Walrus are not normally found as far west and south as the waters around Atka Island. They are generally found in areas of seasonal sea ice, which do not extend into the Aleutian archipelago. Amak Island, just north of the Alaska Peninsula near Cold Bay, is the walrus breeding locale closest to

the Aleutians. Very rarely, however, walrus apparently do stray at least as far as Atka, and residents of the village say that a long time ago some walrus used to be killed near the island.

In more recent times, walrus were seen and killed on two occasions. In 1958, one hunter shot a walrus having tusks at least 15 inches long near the northwest corner of Martin Harbor, on the north coast of Atka Island near Korovin Bay. He hadtaken care to shoot at the neck of the walrus. His father had told him never to shoot at a walrus' head because a bullet would not penetrate its thick skull. About five years ago, another man killed a walrus near Amlia Pass. Its tusks were about 5 inches long. People who have eaten walrus meat say that it has a strong taste.

D. Porpoise: Although porpoise are relatively common in the waters around Atka, they swim very fast and are difficult to hunt. Now and then, hunters try to shoot one, but we heard of only one occasion, some years ago, when a porpoise was actually killed and eaten. Its meat was described as having a good taste.

E. Whales: The degree to which Atka Aleuts whaled in precontact times is unknown. While beached whales were certainly utilized, it is almost impossible from archaeological data to ascertain the extent to which whales were actually hunted. During the Russian period, however, whales were hunted by residents of Atka, although, as Netsvetov describes, these people were Kodiak

Island "Aleuts" [probably Koniag Eskimos] brought to Atka in 1832 for that purpose (Netsvetov 1980:82).

On 10 July 1833, Netsvetov reports that "a whale carcass, a cachelot [the only inedible species of whale], was washed ashore near Korovin Cape" (Netsvetov 1980:92, bracketed comments by Black). The next day a baleen whale was killed in Korovin Bay and towed to the settlement, where it was butchered the following day. From this whale, five barrels of meat were salted and 100 pairs of meat strips were cut to dry. The blubber was saved to render oil (Netsvetov 1980:93). On 29 July, Netsvetov reports the following: "I myself, with the rest of the people, travelled in baidarkas to [the carcass] of the whale, the cachelot, which was mentioned previously. We cut it up and obtained a fair quantity of sinew, several chunks of the fatty tissues and several pieces of spermacetti, for candles" (1980:95, bracketted comments by Black).

Between these examples in 1833 and 1842 (the end of Netsvetov's journal), Netsvetov mentions only two other whales obtained locally on Atka. It is interesting to note that in August of 1833 a Russian ship brought various food supplies from Bering Island, including eight barrels of whale meat, one barrel and one cask of whale oil, and one barrel of whale oil for lighting (Netsvetov 1980:97). Whale meat and oil were obtained from the Pribilof Islands as well, as Netsvetov reports occurred in 1842 (1980:241).

What is not possible to determine from these accounts is the extent to which the Aleuts on Atka Island (or Amlia Island as well) partook of locally obtained or imported whale products. It is not clear from Netsvetov's account whether the whaling by the hunters from Kodiak, for example, was done primarily to supplement the food supply of the Russian residents on Atka or the Aleuts of that island.

Whales have probably not been hunted in Atka since the Russian period. Residents of Atka today report that before World War II the meat and blubber from beached whales were occasionally used.

4. Reindeer

As mentioned in Chapter 2, reindeer were brought to Atka Island from Ugashik on the Alaska Peninsula in 1914. Since that time, their numbers have grown from 40 to about 2,000 today. In the past, butchering licenses, issued perhaps by the federal government, apparently were required, as indicated by the following exerpt from a letter from the Atka Bureau of Indian Affairs school teacher to her director in Juneau:

> By the way, please give me instructions as to the issue of the Butchering License. I was not told about that while I was there. I have found the book of blanks here but can't figure the procedure followed in the issue of the license. Different families ahve [sic] been issued previous licenses to butcher different numbers. The same families ahve [sic] been issued different numbers at different times, so please instruct (Murray 1956).

Residents of Atka are no longer required to have licenses to hunt

the reindeer, which are now owned by the community.

Today, reindeer are hunted throughout the year, although from the middle of March to the end of June less hunting takes place since the animals are skinny at winter's end and calving is taking place. Most hunting is done by men who travel in boats along the coast searching for reindeer on the hills (see Figure 6-3). Some overland hunting is also done in the winter months by means of three- and six-wheel vehicles, although such travel westward on the Island is impossible past the vicinity of Egg Bay due to the ruggedness of the terrain.

Since the reindeer are wary of human activity, they generally stay towards the central and western portions of Atka Island. Most reindeer hunting trips, therefore, are major excursions, involving substantial planning and coordination among those men participating. Commonly, two or three boats, each with two men, will hunt together. If hunting is to be done on the north side of Atka, the community truck will often be used to transport the hunters' boats to their departure area at Korovin Bay.

As they travel along the coast in their boats, the reindeer hunters search the hills with rifle scopes and binoculars for the animals. Use of such sighting instruments allows the men to avoid traveling in and out of every cove, and, hence, to conserve time and fuel. The color of the reindeer varies

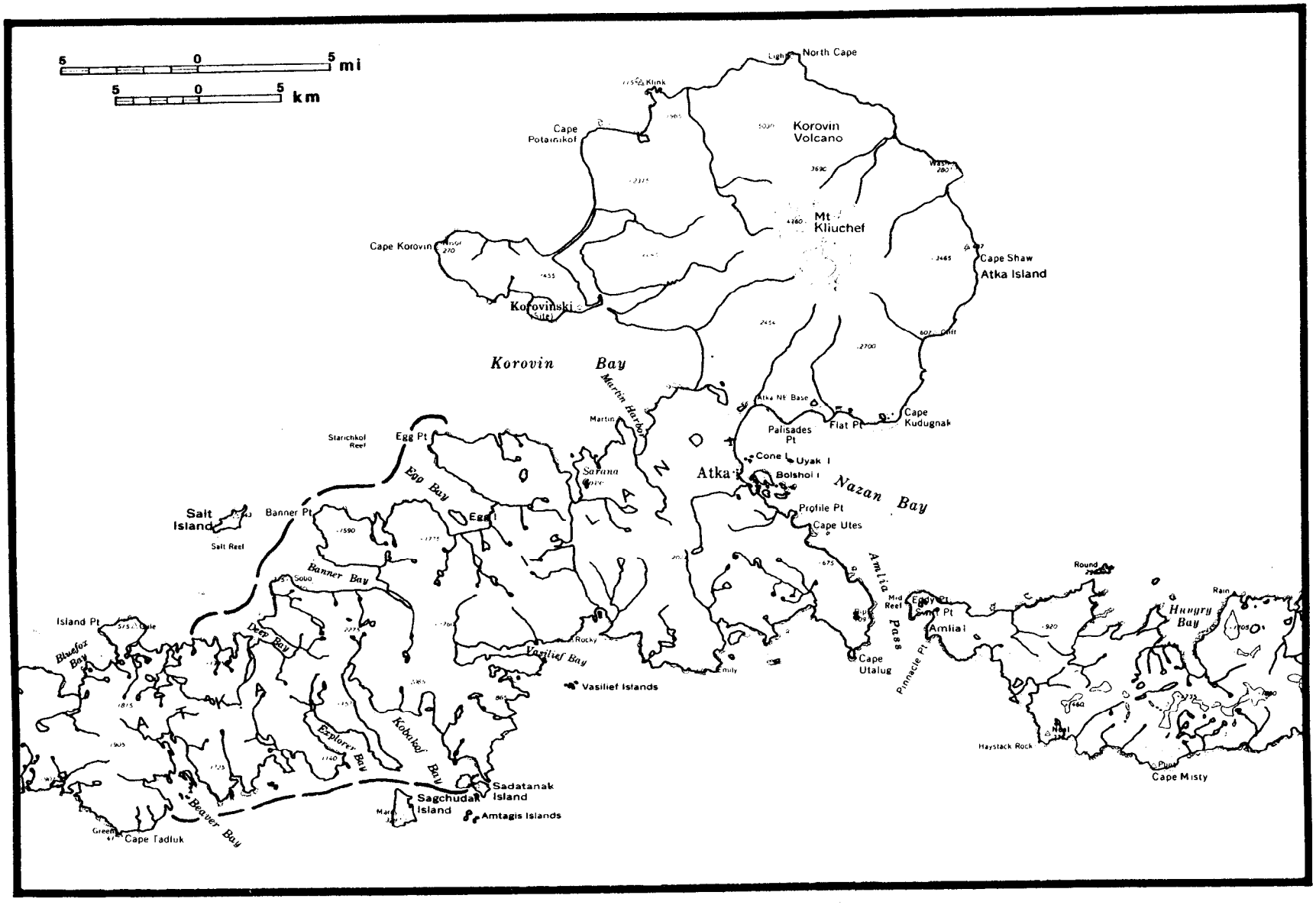

Figure 6-3. Coastal areas from which most reindeer are obtained.

throughout the year. In the summer, they are dark and difficult to see, especially if they are lying down. In the winter, on the other hand, the reindeer are easier to see since their coats are lighter and they come down the hills closer to the shore.

When reindeer are spotted, the boats are landed, and the men sneak as close as possible to the animals. Their shooting is coordinated, with the hunters firing at the same time at specified animals. The best target is the head, since it can kill the reindeer quickly without damaging the meat. Generally, the same rifles as those use for sea mammals are employed for reindeer: the .30-30, .243, .222, etc.

At the kill site, preliminary butchering takes place. After the lower portion of each leg is removed, the head is taken off, and the tongue is saved. A cut is then made up the belly side of the reindeer, with care taken not to pierce the stomach. The internal organs are removed, with the heart usually saved. If there is room in the boats and if few other animals have been killed, the entire remaining carcass, with the skin on, is taken back to the village. However, if several animals have been killed or if space is at a premium in the boats, then only the two shoulder and two rump portions are saved.

Once back at the village, the major cuts of meat may be shared among those who participated in the hunt and others in the village who need or desire some meat. In the past, the lack of

refrigeration facilities encouraged more immediate, widespread sharing, although some meat was salted for future use. Today, people may keep larger portions due to the availability of freezers. Sometimes, reindeer meat is hung in boathouses to age for three to four days before it is eaten fresh. When this is done, the meat is often covered with cloth.

Hunters estimate that there are about 100 reindeer killed per year on Atka, although this number varies from year to year as weather and other factors affect hunting patterns. Fall is the most active season for reindeer hunting. While the hunting is almost exclusively a male activity, women sometimes go along on hunts, perhaps helping to watch the boats while the men are on shore hunting. It is the women, most frequently, who have the responsibility for preparing the reindeer meat for eating. The meat, which is very lean, along with hearts and tongues are prepared by roasting, frying, stewing, etc.

During the period in which the Navy provided transportation to Atka with a tug boat (until the late 1970s), crew members of the tug sometimes went reindeer hunting on Atka during their layover period on the Island. Occasionally, men from the village accompanied the tug's crew (and sometimes other hunters from the Naval Station on Adak) on trips down Atka Island in search of reindeer. Atka men enjoyed these trips very much, in part because they were able to see more distant parts of their island which they did not normally travel to. Commercial crab

boats used to hunt reindeer on Atka as well, but this was done without permission from the village. Men from Atka would now and then spot spoiled reindeer carcasses from these illegal hunts.

Although the reindeer herd on Atka appears to be stable, with increased commercial fishing activity in the region there has been an increase in the amount of netting washed up on the Island's shores. The reindeer, which frequent beaches during the winter, have gotten caught in such netting and starved on the beach.

Beginning in about 1979, the village of Atka, in conjunction with the Aleutian/Pribilof Islands Association, initiated a reindeer herding project on the Island. This venture was aimed at providing reindeer antlers to Korean buyers. On Atka the project consisted of constructing two fences across the Island -- from Sarana Cove to the south coast and between Korovin and Nazan Bays -- to help contain the animals. Corrals were also built to hold the reindeer during herding, and cabins and a work building were constructed as well.

Due to an apparent breach of contract on the part of the Korean buyers, however, the reindeer project on Atka came to an end within about two years. The fences that were built are now down in many places, and the reindeer may move freely over the Island.

Before the war, reindeer skins were sometimes used with eider duck blankets for bedrolls that could be used by hunters and trappers when they were camping away from the village. Today, however, reindeer are exclusively a food resource for the residents of Atka.

5. Salmon

The various species of salmon available to the people of Atka are present at the following times of year: reds from mid-May to mid-September, pinks and dogs from mid-July to mid-September, silvers from August to mid-October, and kings sporadically throughout the entire year. Although salmon bones do not preserve in archaeological sites, there is no reason to suppose that these fish were not a major food resource in the precontact past.

According to residents of Atka today and to a recent scientific study (Holmes 1982:8), Korovin Lagoon is a rich pink and dog salmon area. In 1833, according to Netsvetov (1980:91ff), the residents of Korovinski obtained at least 1,000 of each of these species from the lagoon, in addition to a few reds from Sarana Cove and a substantial number (930) of salted dog salmon imported from Bering Island. Those fish obtained in the lagoon were caught by seining, and most of each catch was salted for future use. Salmon, caught by seining and other methods, have continued to be vital to the food economy of Atkans to this day. The following discussion focuses on the contemporary use of each individual species. This is followed by a general discussion

regarding the preservation and preparation of salmon.

A. Red salmon: Reds are considered by the people of Atka to be the most desirable of the salmon. This is evidenced in part by the considerable time and effort people expend to obtain them. Figure 6-4 shows the four streams to which people travel to catch reds. Since red salmon need to spawn in lakes, the number of streams in which they may be found is limited, and the four indicated in the figure are those recognized by Atkans as being the most productive and accessible.

The outlet to Korovin Lake has long been an important red salmon fishing location. The past practice of erecting a fish trap there has, in the last two years, resumed. In the old days, a funnel made of wood channeled the fish into a holding area from which fish could be harvested or lifted over the barrier and allowed to enter the lake for spawning. Today, the fish trap is made of heavy netting, with the downstream net having a funnel-shaped opening to allow fish to pass. A second net is about 15 feet upstream, and between the two salmon collect as they attempt to enter the lake.

Placed on the shore near the trap is a long-handled dip net, and people with three-wheelers or trucks check the trap frequently, taking the fish that they need and letting some enter the lake. The trap area is kept very clean, with a sign reminding people not to gut their fish there. Sometimes a person obtaining

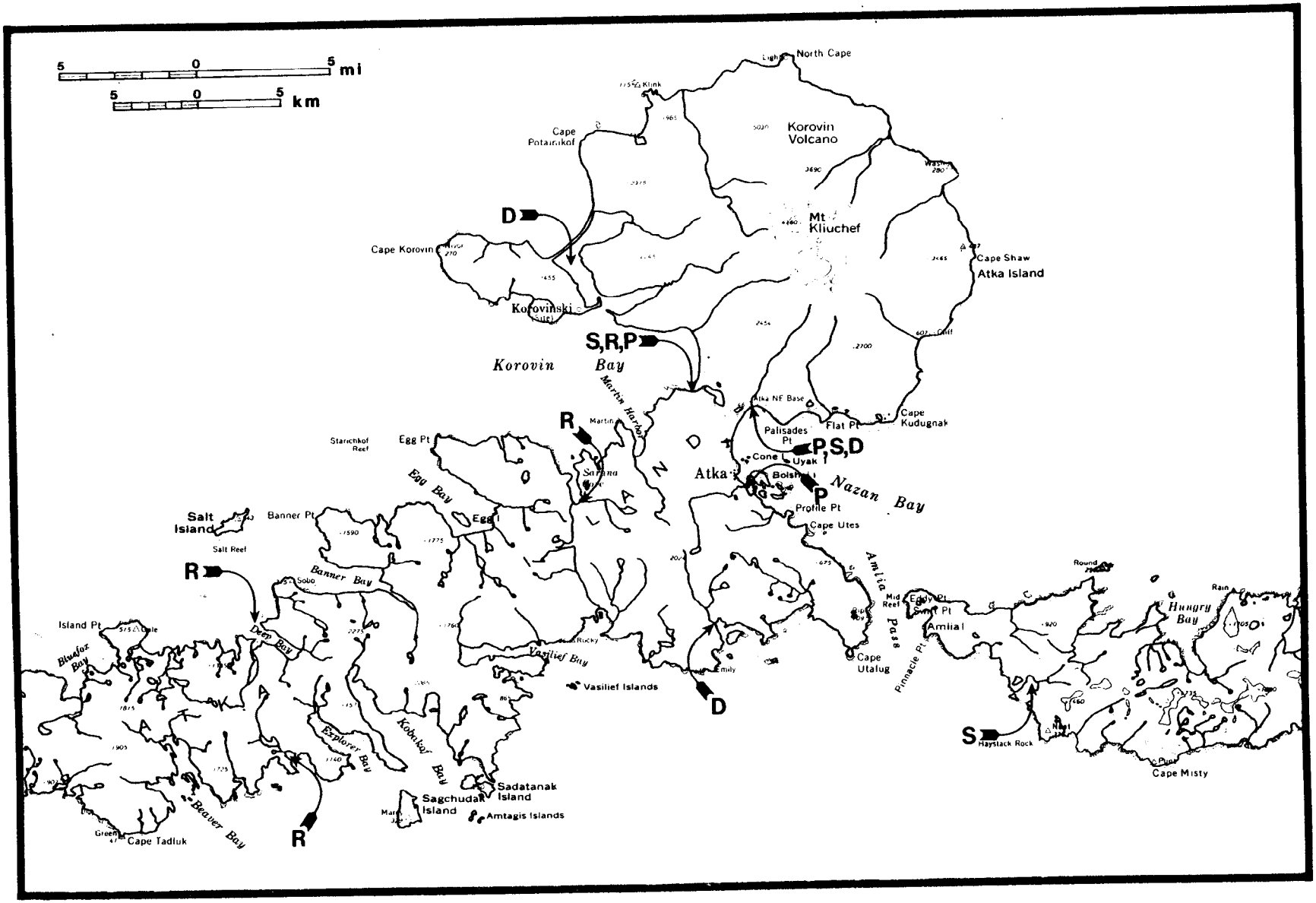

Figure 6-4. Major salmon fishing areas (P = pink salmon, R = red salmon, D = dog salmon, S = silver salmon).

several fish (often from an early morning check of the trap) will share fish with other families. Both men and women take part in obtaining reds from the trap. One important factor which influenced the reestablishment of the fish trap at Korovin Lake was an improved road from the village that passes near the fish trap and continues to the beach at Korovin Bay.

Red salmon are also obtained in the stream draining Korovin Lake by gill netting. This is done close to the stream mouth near several camp houses. High ocean tides raise the stream's level to a point a short distance upstream of where the netting is done. A net is placed in the stream, often in the evening. It is checked in the morning and then left folded on the bank until it is used again. Fishing in this manner has been done for many years by the families who have camps in this locality. When the fish trap is in operation, however, gill netting is not done.

Beach seining is the means by which red salmon are caught at the other red salmon fishing localities on Atka, although this method is occasionally used at the mouth of the Korovin Lake stream as well. A seining net is owned by the Atka Village Council and rented for $5 a day. Seining is done where salmon are congregating near the stream that they are preparing to ascend. The procedure for seining is as follows: One person on a hillside overlooking the fishing location watches for fish, which may be spotted when they break the water or, more often, when their

numbers turn the color of the water brown. When fish are spotted, a boat is rowed in an arc around the fish, and the net is let out behind, curving in on itself towards the beach where it began. When the fish have entered the curve of the net, the ends of the net are brought to shore, the net is pulled to the beach by several people, and the fish are brought on shore.

Another seining method is called a round haul. This is done away from a beach, with the net laid out in a circle and the lower leaded line pulled in to close the bottom. Oars are used as plungers to keep the fish from escaping out of the open area at the ends of the net. In several seining attempts (of both kinds of seining) over the course of several hours it is possible to catch 100 or more fish. It is also possible, however, to catch few or no fish (the latter called a "water haul").

The people (mostly men) participating in the seining divide the catch among themselves according to need. For example, if one person knows that he will be able to catch more reds later in the season, he will let others take more. Since seining trips to even the more distant streams in Figure 6-4 generally take only a day or two, fish caught during these trips can be brought back to the village for cleaning.

B. Pink salmon: Pink salmon are the most numerous salmon around Atka. A particularly heavy run of pinks occurred in 1982, with enormous numbers of fish in Korovin Lake and in various

streams. Pinks also attempted to ascend streams, some of them quite small, which had not seen salmon for years. The 1983 salmon season, however, was not of similar magnitude.

Pink salmon are caught by beach seining (with the Council's net) at several locations, one of the most popular being near the mouth of a large stream a short distance southeast of the village (see Figure 6-4). Pinks are also caught using gill nets and occasionally from the shore with fishing poles and spinners.

C. Dog salmon: Dog salmon are less important to the people of Atka than are either red or pink salmon. A major dog salmon stream is located on the south side of Atka, and they are also found in Korovin Lagoon (Figure 6-4). Seining for dog salmon occasionally takes place at both of these locations.

D. Silver salmon: A popular place for catching silver salmon is on the south side of Amlia Island (Figure 6-4), where they are sometimes obtained by beach seining. They are occasionally found in other streams as well.

E. King salmon: While it is not definite, some Atka residents say that king salmon spawn in one of the streams emptying into the north shore of Nazan Bay. Although scarce, kings are liked very much, and they are caught occasionally throughout the year. In the fall there is a king salmon derby in the village, during which people fish with poles from their boats

in Nazan Bay. In May, when gill nets are set for red salmon, king salmon are sometimes caught.

Some salmon is eaten raw. The hump on the back of the male pink salmon may be eaten this way. The flesh of the hump is fatty and different from the main flesh of the fish. It is sliced off and eaten with salt or soy sauce. The front part of the head just above the nose is soft and may also be eaten raw. Sometimes male silver salmon are eaten raw after their skin turns red.

Fresh salmon may be cooked in a number of ways. Like most other fish, it may be fried, baked, cooked in soups, etc. Heads from pink or silver salmon can be fried or boiled. Salmon eggs may be boiled and eaten, or they may be cured with salt and then mixed with diced onions. Milt is less frequently eaten than eggs; it is usually fried. Stomachs from silver salmon can be scraped clean, turned inside out and washed in cold water, and then stuffed with salmon liver, chopped onion, and salt and pepper. This dish is boiled, cooled, and sliced for eating.

Salmon which is to be saved for future use is salted, smoked, dried, or frozen. The procedure for salting salmon is as follows: First, the fish is boned. Some people fillet their fish from the stomach side, while others do it from the back side. The heads and tails are then cut off. Next, the fish are washed and placed in layers in barrel with plenty of salt between each layer of fish. When the fish and salt are first put in the barrel, the

salt may become somewhat wet due to the moisture from the fish. After a while, however, the fish become dry due to the action of the salt. While any salmon may be salted, it is most frequently done with reds and pinks, which are prepared in their own separate barrels. Almost all families in Akta salt fish in this manner. Another less commonly used method of salting salmon is one in which less salt is initially used, and the salmon are allowed to ferment.

When salted fish is to be used, the fillets, often cut into strips, are soaked in fresh water for about one day. The water is changed several times to aid in removing the salt. The fish can then be eaten as is with various condiments, boiled and served with rice and sea mammal oil, or baked. Needless to say, there are many specific recipes for cooking salted salmon.

All species of salmon, except kings, are smoked. The fish are first cleaned and filleted. The fish are then soaked for six to eight hours in a brine solution made from salt and water. The brine is the proper solution when a medium sized potato with two 12-penny nails stuck in it floats. Next, the fish, rinsed or unrinsed, are hung to dry for about two to three days. Most people smoke their fillets whole, although some cut the fish into long strips. There are different procedures for smoking the fish, depending on the degree of doneness desired and other factors. Cottonwood is collected from the beach for fuel for smoking. Care must be taken not to allow the wood to flame, since the fish would

cook too quickly. After the fish has been smoked, it is allowed to air dry, a process which may take as long as two weeks. Finally, the finished smoked salmon can be stored in paper bags, wooden boxes, or foil. Some table salt is usually put on the fish to retard spoilage. Before it is eaten, the salt is shaken (not rinsed) off. Smoked salmon is eaten as is, and it frequently is given as gifts to friends and relatives outside of Atka.

The smokehouses which are used in Atka are usually located next to their owners' houses. About one-third of the households in Atka have smokehouses, and some people have smokehouses at camps outside of the village. Some of the smokehouses are screened and double as drying sheds for fish when their outside wooden covers are removed.

Drying salmon, like drying all other fish, is risky due to the weather. The first step in preparing salmon to dry is to fillet the fish. It is best to make a single, smooth cut when doing this, since a jagged cut can provide slivers in which flies might land and lay eggs. The head is removed, but the two fillets remain joined at the tail. Once filleted, cuts are then made across the fillet almost perpendicular to it, but at a slight angle towards the head, so that when hung by the tail end the horizontal rows of flesh separate nicely and allow air to circulate between them. Fish cut in this manner are hung to dry on lines either outside or in a screened shed.

The fish need cool breezes in order to dry properly. Warm weather, though infrequent, is not especially good. If the weather is good, it takes about 1 1/2 to 2 weeks to dry an average salmon. August and September are better than earlier summer months, since the weather is generally more cooperative. If the weather turns bad, fish may be brought under a porch roof or into an entryway. Almost all families dry some salmon.

In the past, dried fish was stored in sea lion stomachs. The fish were placed compactly in the stomachs in layers so that there would be little air left. Today, dried fish may be kept in paper bags, Tupperware, or any similar container. It is eaten dry, sometimes with sea mammal oil, and is a convenient food to take on hunting and fishing trips.

Freezing salmon has become more common since the entire village received electricity in the last four years. Fish may be frozen cleaned or uncleaned, and, since freezer space is limited for most people, usually the most desirable salmon -- i.e., reds -- are frozen.

6. Cod and halibut

In the Russian period, cod were a very important resource to the residents of Atka Island. Netsvetov provides frequent reference to their being taken, but it is noteworthy that nowhere does he mention that halibut were caught. Since, as will become clear shortly, halibut are commonly caught in Atka today, it is

entirely possible that the distribution and abundance of halibut have changed over the past 150 years.

Some of most detailed information provided by Netsvetov concerning cod fishing is for the year 1833. For 15 days during the month of July, 975 cod were caught by an average of about 5 men fishing per day using hand lines from their baidarkas (Netsvetov 1980:90ff). On 13 August a shipment of 390 salted cod was received from Bering Island (1980:97), and in September the school students, who worked during the summer months to procure various food supplies, salted 200 cod and dried 1,200 cod (1980:99).

Cod have continued to be an important food resource in Atka. Today, cod and halibut fishing are, for the most part, a single enterprise: they are fished for in the same places at the same times of year using largely the same gear. Consequently, regardless of which of the two fish is preferred, both are likely to be caught while fishing, and both are saved. Figure 6-5 shows the major winter and summer fishing localities. Winter fishing often takes places in waters 90-100 fathoms deep, while in summer fishing is done in water about 20 fathoms deep. In the fall, halibut come closer to the beach because they are attracted by the dying salmon. In the past, fishing during the spring months was sometimes done in the immediate vicinity of Amlia Pass as well as along the north side of Amlia Island.

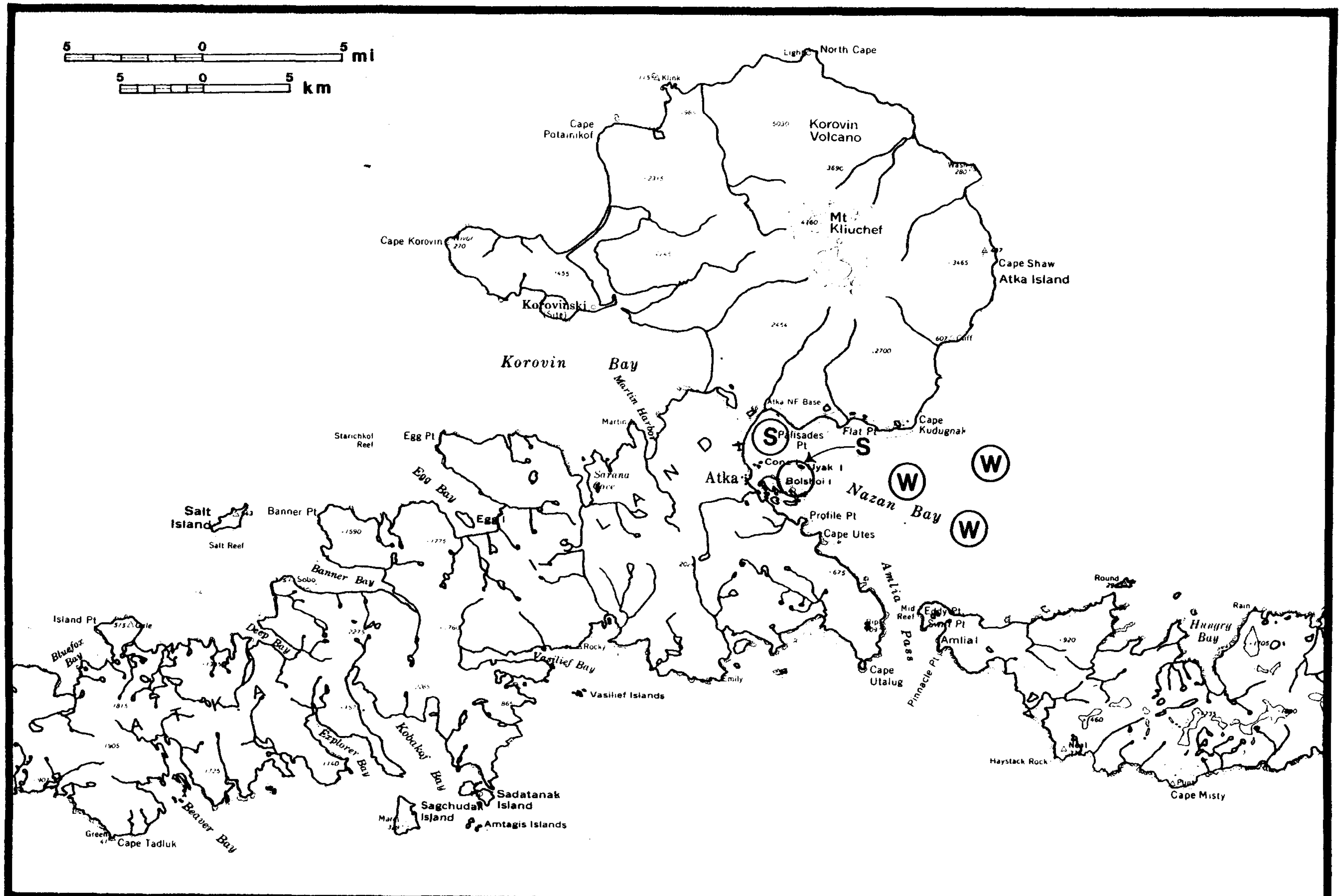

Figure 6-5. Major halibut and cod fishing areas (W = winter, S = summer).

Both cod and halibut are caught on skates, hand lines, or deep sea poles. Skates are single lines with multiple baited hooks. As many as 25 hooks spaced about one fathom (or more) apart are baited with chunks of salmon, Dolly Varden, or other fish. Such skates are often put into the water from boats, marked with a buoy, and left for several hours before they are checked. Hand lines consist of single baited hooks which are weighted (more heavily in winter due to stronger tides) and dropped over the sides of boats. Usually a single large hook is used, but occasionally treble hooks, sometimes homemade by pouring lead into a can of sand holding a carved wooden form, are employed. Hand lines are jigged, but some skill is required so as not to damage the fish by jerking too hard. Fishing with deep sea poles is done primarily in the summer, when fish are sought after closer to land in shallower waters. Finally, it was mentioned that a net could be put close to the ocean floor and bait thrown in to attract cod, after which the net would be pulled up. This method, however, is probably no longer used today.

Due mainly to the large size which these fish can reach, halibut fishing involves certain considerations absent in cod fishing. Killing an especially large halibut before it is brought into a boat is necessary. Before World War II, one fisherman caught a 500 pound halibut in Korovin Bay. He shot it in the backbone with a .30-30 rifle and then towed it to shore, where he gutted it. It had been caught with an old-style homemade hook: two pieces of wood carved and fastened together in a V shape, with

a nail at one end for a barb. This type of hook fell into disuse in the years after the war. If a fisherman does not have a gun, he may tire the halibut by towing it at high speed with his boat. Halibut may also be killed with a blow from a club across the nose, although most fishermen carry small rifles or handguns for this purpose.

Most of the cod and halibut fishing in Atka today is done by men, although in the past women sometimes fished for halibut from shore. Fishing is done alone or in groups of two or three, and people usually choose days when the water is relatively calm to go out. Trips last less than a full day and commonly take place after dinner. When cod and halibut are brought back to the village, they are frequently shared among many people, especially if many have been caught. An announcement on CB radio from the fisherman may even inform the village that fish is available at the beach.

Although cod are available throughout the year, there are probably fewer used now than a decade ago. This is because many cod, especially those caught in shallower water, have worms in their flesh and are less desirable. Sometimes cod are given to villagers by commercial cod fishing boats, whose cod comes from deeper water and is considered better.

In the past, cod was cut in pieces or left whole for drying, after which it would be stored in a sea lion stomach.

Today, cod is salted, dried, or frozen if it is not eaten fresh. If there are any worms in the flesh, they are removed. The liver can be made into a pate with onions, salt, and pepper. The cod stomach can be cleaned, filled with cod liver, boiled, and cooled -- a dish which is time-consuming but considered highly worthwhile to prepare. Cod heads can be cut so that the soft part of the head may be fried or boiled, a dish which is eaten with seal oil.

Halibut may be caught year round, and most probably weigh 30-50 pounds. Halibut weighing in excess of 250 pounds tastes somewhat fishy or "muddy" and has a different smell. For this reason, some of the large halibut caught in the past were used to fertilize gardens. For drying, 20-30 inch halibut are best. Halibut is not salted or smoked. Most halibut which is not eaten fresh is frozen, with a lesser amount dried. Since freezing is a recent preservation option, most people in Atka grew up eating dried halibut and are still fond of it today. Thus, even though drying fish has its risks due to the unpredictable weather, many families still dry some.

Halibut is eaten raw or cooked. The cheeks as well as other parts of the halibut may be eaten raw. The gills, except from a large halibut, may be eaten raw as well. Halibut is the only fish from which gills are eaten. Cooked halibut is most often prepared by frying or baking, although heads or other parts of the fish may be boiled in a soup or chowder. Like cod liver,

halibut liver may be made into a pate with onions. Halibut stomachs can be cleaned, stuffed with halibut liver, boiled, and served in slices when cold. There are, of course, many specific recipes for halibut and cod, some of which are included in the Atkan food book (Dirks 1980).

7. Other fish

In addition to salmon, halibut, and cod, several other kinds of fish are important in the local food economy of the people of Atka. These include Dolly Varden, pogy, Atka mackerel, and others.

A. Dolly Varden: Dolly Varden "trout," or "Dollies" (actually a species of char, Salvelinus malma), are anadromous fish, smaller than salmon, found throughout the Aleutian archipelago. Information regarding their use in the past is sparse, but Netsvetov provides some detail for the year 1833. At that time they were caught by beach seining during July, and many were salted (1980:91ff). The next month, 400 salted char (i.e., Dollies) were brought from Bering Island to Atka (1980:97).

One older Atka resident described the life cycle of the fish and described how they were sometimes caught during the winter in years past. According to him, Dollies make their winter homes under the banks of streams. People walking along the banks could tell where these places were, and the fish could be caught. He said that since these fish do not eat all winter, their tongues

disappear as their bodies get thinner and their color changes. In the spring, they return to the ocean.

Today, Dollies are obtained from May to October. The two ways they are caught are by seining and by fishing with poles. Beach seining is done early in the fishing season in the same manner as described for salmon. It is attempted all along the sandy beach of Nazan Bay, from just north of the village almost to the old dock (Figure 6-6), although the most productive area seems to be near the mouth of the large stream in the northwestern corner of Nazan Bay. This entire beach is easily accessible from the village by both boat and three-wheeler, and in seining endeavors some people traveling overland to the beach may help those in a boat.

In May, 1983, two of several seining attempts yielded 40 and 80 Dollies, respectively. When seining produces numbers such as these, the fish are widely shared when they are brought back to the village. The participants in the seining each take a share, with the remaining fish often being available at the beach to those people who come for a share.

Dollies are also fished for by individuals using fishing poles along the Nazan Bay sandy beach. This activity lasts all summer, and on nice days several people may be found spaced along the beach trying for the fish. Spinning rods with about eight-pound line are most often used for Dollies. The best time for

Figure 6-6. Main Dolly Varden fishing area.

fishing is on the incoming tide, since the fish feed along the beach. Fishing for Dollies is an activity that adolescents and men (and some women) of all ages participate in. Dollies are abundant, and people rarely go home after an hour's fishing without catching at least one. Dolly Varden are also sometimes caught in gill nets set across streams, although the primary purpose of such nets is to catch salmon.

Although in the past Dollies were sometimes smoked, today people dry or freeze those that are not eaten fresh. Fresh fish are most often fried or boiled. Some fresh Dollies are used as bait for cod and halibut fishing.

B. Pogy: Pogies, which are available throughout the year, occur along rocky shores and may be obtained with hand lines or poles. Traditionally, these fish have been utilized most frequently during the winter and early spring months, when other food resources are not readily available. It was said that pogies are a fish that women could easily catch from shore.

Pogies can be dipped in sea mammal oil and eaten raw, or they may be boiled, baked, or fried. Pogies may also be dried. Pogy eggs are found in June in a particular kind of kelp that is brown and has holes in it. At low tide clumps of these purplish eggs are collected. If the eggs are brown, they are too old to be eaten. The eggs are eaten raw, and are a popular food in Atka. Both men and women participate in collecting pogy eggs.

C. Atka mackerel: Although this fish is not seen much today, before the war Atka mackerel (Pleurogrammus monopterygius) used to be caught easily in Nazan Bay by the kelp beds near Amlia Pass. After the war, their numbers diminished greatly, and those which were caught were smaller than the pre-war size of about 18 inches. Such schooling fish are found mainly where the tide runs and were caught by jigging. Atka mackerel, an oily fish, were boiled or salted. Today, very occasionally, some of these fish are caught.

D. Incidental fish: Several other fish are caught less frequently than those discussed above. Yellow sculpin (Hemilepidotus jordani) are occasionally caught by residents of Atka. In addition to eating the flesh, the stomach of this fish may be stuffed with its liver, boiled, and eaten when cool. Bullhead and Japanese perch are bony fish that can be fried or pickled. Herring (Clupea harengus pallasi) are salted or pickled.

8. Birds and eggs

From archaeological data and from reports by Netsvetov (1980), Veniaminov (1840), Bergsland (1959), and others, it is clear that in the past the people of Atka utilized a wide range of birds not only for food but also for clothing, decoration, and tools. Today, birds and eggs continue to be important to Atkans as a food resource.

Hunting for most birds is done with 12- and 16-guage

shotguns, although before the war 20-guage shotguns were more popular. Certain birds, such as ancient murrelets and puffins, are obtained by grabbing them from their underground burrows. Much bird hunting is done either from boats or from the coast of Atka and Amlia Islands. Some hunting is done at lakes when the ocean is especially rough. Bird hunting is, with few exceptions, a fall, winter, and spring activity, since it is during these times of year that migratory ducks and geese pass the Atka region. Like most hunting on Atka, bird hunting is almost exclusively done by men. Also, like the products of most hunting, birds are shared within the community.

A. Geese: Emperor geese are the most common geese to visit Atka and Amlia Islands. Figure 6-7 shows the most common hunting areas for geese. The common hunting strategy is to camp at a cabin and wait for the geese to fly from the ocean to the island for fresh water. They are usually shot while flying, although some may be killed if they are seen on offshore rocks. If hunting is good, it is possible to obtain between 20 and 30 geese per hunting trip. The main hunting time for geese is in December and January, when the birds are flying westward. However, they may also be killed in February on their eastward migration. One hunter estimated that perhaps as many as 150 geese are killed by the people of Atka in a good year.

B. Common eiders: Common eiders are very likely the single most frequently hunted bird. Unlike most other ducks, common

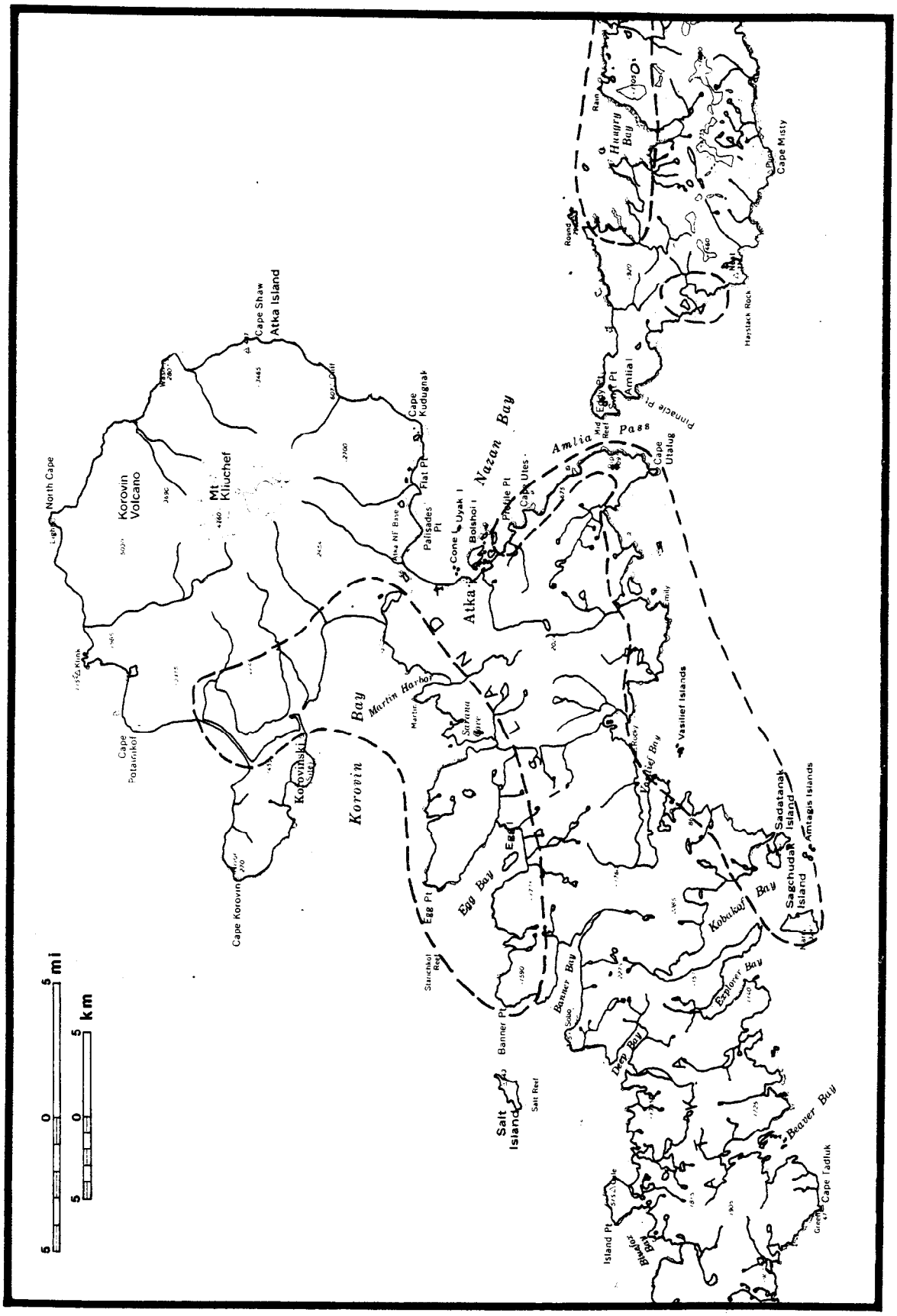

Figure 6-7. Main hunting areas for geese.

eiders are hunted more frequently in summer than in winter. This is probably due in part to the fact that they are one of the few ducks on the Island in the summer. They are also relatively easy to hunt. On Round Island (Figure 6-8) and other islands these birds are caught without the use of guns. Hunters can often sneak up in the tall grasses where the eiders nest and grab the birds before they have a chance to take off. Most of the time, however, eiders are killed with shotguns.

Females are preferred over males, since they have already plucked their own down for their nests (and, hence, are easier for the hunter to clean). In the pre-war years, eider skin blankets were used with reindeer skins for camping bedrolls.

C. Other birds: A wide variety of other birds is hunted by the men of Atka. Drawing on information from residents as well as Moses Dirks' Atx̂am Sangis: Atkan Birds (n.d.), these include the following: mallards, scoters, mergansers, oldsquaws, harlequins, buffleheads, teals, ancient murrelets, king eiders, scaups, goldeneyes, horned and tufted puffins, ptarmigans, common loons, red-throated loons, and guillemots. Dirks (n.d.) provides some details concerning the hunting and preparation of these birds. Some of the birds listed above are rarely killed today, and others, such as sandpipers, sea gulls, cormorants (Dirks n.d.:7), shearwaters (Bergsland 1959:66), and gray-crowned rosy finches (Golley 1981:75), which were hunted in the past, are no longer utilized.

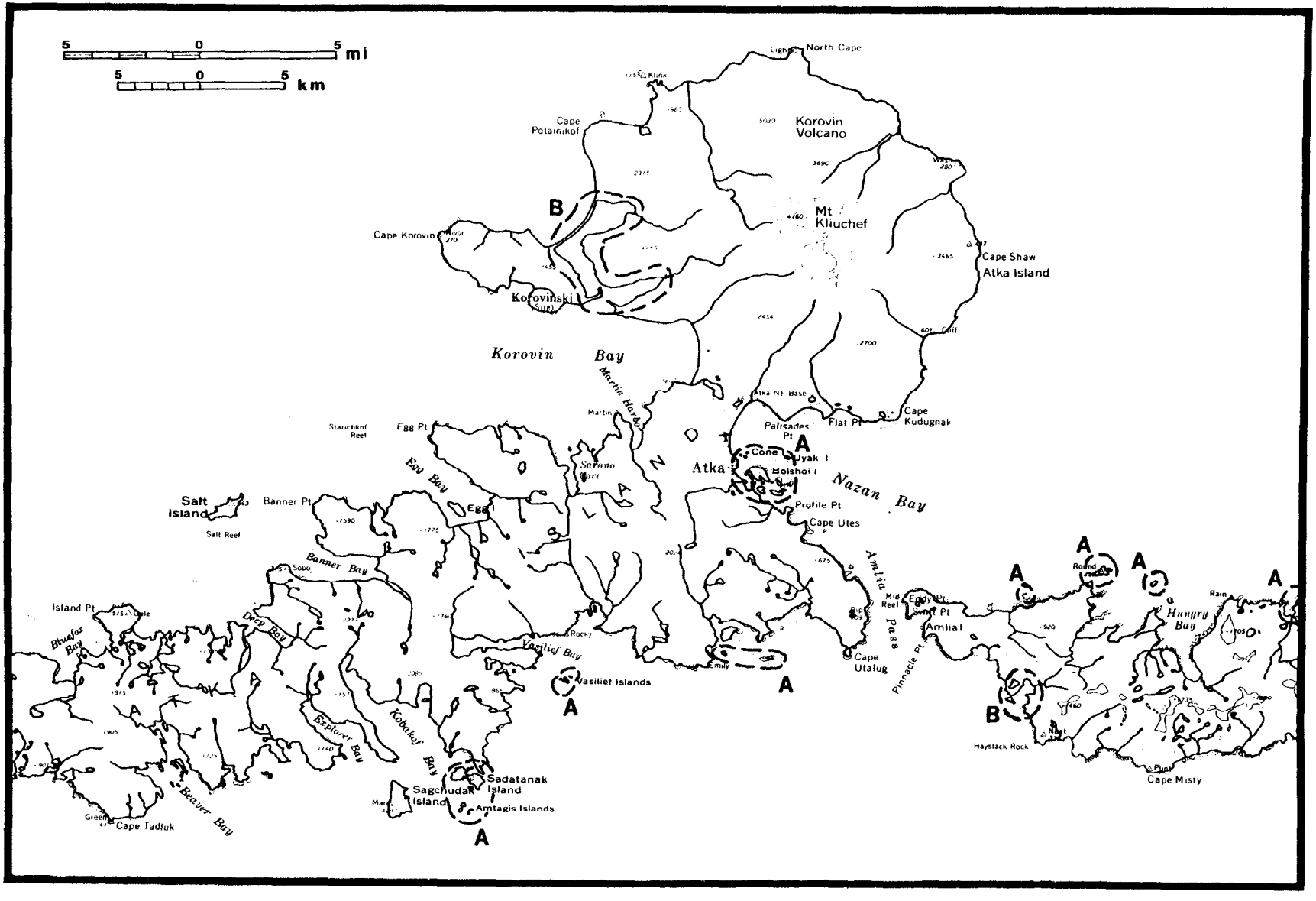

Figure 6-8. Major duck hunting areas (A = especially eiders and eggs; B = other ducks).

Some birds have been, and occasionally still are, used for non-food purposes. Murres are sometimes killed to use as fishing bait (Dirks n.d.), bald eagle wings are rarely used as little brooms to sweep in tight places, and sea gull and eider chicks are sometimes kept as pets.

D. Preparation of birds: One time-consuming aspect of the use of birds for food is the plucking required. Some birds, such as female eiders, are easier to pluck than others, and this is taken into consideration by hunters when deciding which birds to kill. It is interesting to note that children make an important contribution to the use of birds, since it is they who often are given the chore of plucking and cleaning the birds which the men have harvested.

Birds may be roasted, cooked in soups, or fried. Giblets can be eaten, sometimes as part of a stuffing. Birds to be saved for future use may be salted, in which case they are either kept whole (in one flat piece) or cut into pieces, or frozen whole. If a bird has too much fat, it may go rancid if salted or frozen.

E. Eggs: Within living memory, murre eggs were collected by residents of Atka, although this is no longer done. Compared to collecting the eggs of other birds, gathering murre eggs can be dangerous, since the especially sharp bills of these birds can be a hazard to the collector. One man recalled a time when, upon entering a sea cave to collect eggs, he was confronted with a

flock of murres flying out of the cave. He held up one of his oars to protect himself, and a murre's bill penetrated straight through the oar. Murre eggs were also obtained by lowering a man on a rope over the edge of a cliff (with a boat below for safety) to gain access to the eggs on the rock ledges.

Today, more sea gull eggs are collected than those of any other bird. Eider eggs are also popular, and some oystercatcher, puffin, and ancient murrelet eggs are obtained as well. When collecting eider eggs, if there are only three eggs in the nest, they may all be taken. But if there are more, then the eggs are probably too old to be eaten, and they are not disturbed. Puffin and ancient murrelet eggs are obtained from the burrows of these birds. Eggs are collected along many coastal areas, especially on islets just offshore. It has been observed by residents of Atka that eggs laid on the north side of the Island mature later than those laid on the south, presumably due to their orientation to the sun.

Eggs are not stored for future use, but are instead used soon after collecting. The may be boiled, fried, or used in cooking various dishes, such as cakes and fried bread. All families in Atka use eggs.

9. Marine invertebrates

Since the earliest known occupation of Atka Island and the entire Aleutian archipelago, a wide variety of marine

invertebrates has been utilized as a major food resource by the Aleut people. Archaeological sites on Atka and elsewhere, with shell middens many feet deep, clearly attest to the importance of these animals. As concluded in Chapter 4, it was especially the marine invertebrates which enabled most members of an Aleut community to participate to a significant degree in the acquisition of food, since these resources generally may be gathered locally with little risk.

According to Netsvetov, the use of marine invertebrates by the Aleuts of Amlia Island during months when it was difficult to get out in boats to hunt and fish was vital: "The inhabitants were subsisting mainly on kelp and various creatures found on shore, as it was impossible [for them] to put out to sea to hunt sea mammals or to fish . . ."(Netsvetov 1980:123, bracketed comments by Black).

Little historical information is available detailing the use of marine invertebrates since the time of Netsvetov, although there can be no doubt that they continued to be used. The sections which follow detail the recent and contemporary utilization of a number of these animals, each of which is gathered by men, women, and children. It should be noted that sea otters, which have increased in number in the last decade, have dramatically reduced the availability of all of the invertebrates eaten by the residents of Atka.

A. Sea urchins: Until very recent years, sea urchins were relatively abundant in the coastal waters around Atka Island. They used to be gathered throughout the year. Since sea otters in substantial numbers have expanded their range to the Atka Island region in the last ten years, however, sea urchins -- a favorite food of sea otters -- have become virtually unavailable to the Atkans. Formerly, sea urchins collected by residents along the shore averaged about three to four inches in diameter; today, only much smaller ones are found. Sea urchins remain a much-desired food item to the people of Atka, and their unavailability is a subject of local concern.

Sea urchins are eaten by breaking open their shells and extracting the clusters of orange eggs which lie just inside the shell. These are usually rinsed and eaten raw. They have a mild, sweet taste. According to one couple, in March and April sea urchins have few, if any, eggs, and this is one reason why these months were especially hard for Aleuts in the past. They also said that, according to tradition, a person eating too many sea urchins will fall asleep and never wake up.

B. Chitons: Chitons, oval-shaped animals up to about five inches in length which live attached to rocks, are gathered today near the village and camps on Atka. Hunting knives are usually used to pry chitons off the rocks. As with other marine invertebrates, chitons are most often eaten raw. The soft underside of the chiton requires no preparation, but the

surrounding black part is frequently soaked (perhaps boiled) and eaten later.

C. Red chitons: Red chitons are similar, though larger, than those chitons described above. Large red chitons may get to be eight inches in length. These animals, which are eaten in the same manner as chitons, are not found often.

D. Limpets: Like chitons, limpets live on rocks. They have a single conically shaped shell and may be pried off the rocks and eaten raw.

E. Blue mussels: Some blue mussels are collected today in Atka. They are steamed, fried, or made into a stew.

F. Clams: Prior to the increase in the sea otter population, razor clams, butter clams, and cockles were collected along several sandy beaches by the residents of Atka. Though they can occasionally be found in small numbers today, people generally agree that the otters have ruined the clam beds. Until the mid-1970s, especially good places for clams and cockles were Martin Harbor (cockles), at the mouth of the stream draining Korovin Lake (razor clams), and near Korovin Lagoon (razor clams). Clams of various kinds were also found around the beaches of Nazan Bay.

Clams may be eaten raw, baked, fried, or boiled in a chowder. Although some people used to collect them throughout the

year, now people feel that it is not safe to eat clams during the summer months due to the possibility of paralytic shellfish poisoning.

G. Octopus: Octopus make their homes under rocks along the coast. These homes are sometimes identifiable by the shell refuse at their entrances. Atkans often seek octopus around the islets close to the village.

In previous times, octopus were caught by poking at them and then gaffing them as they came out of their holes. Today, bleach is sometimes used, either on a rag on the end of a pole or put down through a hose to the octopus' homes, to get the animals out of hiding. They are then gaffed. Most people boil their octopus, although it is sometimes fried. The body portion is generally more tender than the tentacles.

H. Crabs: According to residents of Atka, crabs were rarely utilized before World War II. During the years of wartime internment in southeast Alaska, Atkans became familiar with eating crabs, and in the years since have occasionally caught crabs in pots set in Nazan Bay or on halibut and cod fishing lines. Residents mentioned to us that king crabs can be caught in the winter. With commercial crab boat activity in the area in recent years, a few people in Atka who have personal contacts with the crabbing crews sometimes receive gifts of crab, a part of which is then shared within the community.

I. Sea cucumbers: Sea cucumbers, sometimes called footballs, are about seven inches in length and reddish in color. They have no shell and are very soft. While fishing for cod and halibut near Amlia Pass, people sometimes bring these animals up on their hooks. They can be caught all year.

Small ones are said to be the best to eat. After the insides are removed, the remainder is eaten raw. Large sea cucumbers -- which may be up to 2 feet in length and 2 1/2 inches in diameter -- are sometimes considered too large to eat. Today, not many sea cucumbers are eaten, although older people are fond of them.

J. Sea anemones: These red, tentacled animals live on rocks. Small anemones may be cut from their rocks and eaten whole. While they are infrequently eaten, sea anemones are especially good when eaten with sea urchins.

K. Sea snails: Sea snails, about 1 to 1 1/2 inches in length, were collected for food in the past. Today, very few are eaten.

10. Plants

Although plant resources never constituted a major portion of the precontact Aleut diet, a wide variety of them was used in the past, and many remain important to the people of Atka. Those resources used today include the following:

A. Wild rice: This plant (Fritillaria camschatcensis), which is sometimes also referred to as the chocolate lily, was one of the plants that school children collected during the Russian period (Netsvetov 1980:91). The edible portion of this plant is the cluster, or bulb, of rice-like kernels which form the upper portion of the root.

Today, wild rice is collected during the summer months. It is easiest to collect wild rice from those locations where the ground is soft and the root system of the plants is not too thick. If the ground is soft enough, the plants may simply be pulled up to get the root. Otherwise, they may be dug out of the ground with knives, spoons, or similar tools.

Wild rice may be prepared for storage by sun-drying, which causes the bulbs to shrivel. When they are to be used, they are soaked until they regain their original shape. Cooking is usually done by boiling, sometimes with wild celery leaves separating layers of bulbs. The cooked wild rice, eaten with sea mammal oil, makes a suitable accompaniment to foods such as boiled fish. Cooked wild rice may also be frozen or stored in sea mammal oil for future use.

B. Wild celery: Wild celery (Heracleum lanatum) is a plant consisting of several hollow round stalks topped by broad leaves. These plants grow commonly along the coast and especially well on ancient village sites. They may grow to heights of 5 or 6 feet by

the end of summer. It is when the plants are young, however, and the stalks are short and tender that they are a popular food item.

Two slightly different kinds of stalks grow on a single plant: those topped only with leaves and those which flower. Each kind of stalk must be carefully peeled in its own manner before eating, since the outer fibrous portions can produce painful blisters on the lips and mouth. After peeling, the remaining long stringy fibers are removed, and the stalks may be eaten, often after having been dipped in sea mammal oil. Stalks which are redder are said to have better flavor, and those picked after a rain are moister and easier to digest.

Leaves from wild celery plants are not eaten, but they are sometimes used to wrap and layer foods while cooking. They are also occasionally used to prepare and serve food on.

C. Petrusky: The stems and leaves of this small plant (Ligusticum hultenii) are picked when they are young -- about 3" high. They are commonly boiled with fish or meat, sometimes tied into a bundle before being added to the pot. Petruskies can also be cut very thin and put into a brine solution, in which they may be stored all winter. Before using such petruskies, they are rinsed, although they will retain some salt. In the past, these plants were sometimes preserved for future use by hanging a bundle of them inside to dry. A relatively new preservation method involves freezing pertruskies in plastic bags.

D. Berries: Crowberries (Empetrum nigrum) are the most abundant kind of berry on Atka. They are commonly found inlarge patches over much of the Island. Locally called mossberries, these firm, dark berries are picked from late summer until early winter. Some people believe that the same patch should not be picked every year, since that might cause a decline in the production of berries for that patch. The yearly abundance of berries is correlated by some Atka residents with the abundance of pink salmon (and possibly other fish): if it is not a good year for fish, it will be a poor year for berries. Today, crowberries are eaten raw and used to make jams and pies.

Some wild strawberries occur in isolated patches on Atka Island, including near Martin Harbor and on the shore of Korovin Lake, although the latter area was disturbed by military construction during World War II. A patch of strawberries was planted before the war by school students near the stream just past the south end of the village, and some plants still remain. Very few strawberries are collected today by Atka residents.

E. Other plants used today: Three plants used for fabricational and medicinal, rather than food, purposes are driftwood, grass, and yarrow. Driftwood is used today for heating and cooking at camps outside of the village. In Atka, cottonwood is used for smoking salmon, and cottonwood ashes are used by some people as an ingredient in making homemade snuff. In this procedure, about 2 cups of very finely sifted cottonwood ashes are

mixed with 4 cups of leaf tabacco which have been ground in a meat grinder, 1-2 teaspoons of salt, and 3 cups of brewed tea. This mixture may be moistened and flavored with vodka or whiskey. It is stored in jars.

Grass has long been used for basket making by the women of Atka. Today, about eight women from the community weave baskets, and in late June a few still collect and use real grass, the wild rye (Elymus mollis) which grows in many areas. Raffia, purchased from craft stores, is used instead of grass by some weavers. The following account relates how grass was, and is today, prepared for basket making on Atka:

> [The] women would pick grass that was flexible so that it would not break when they weave. They didn't pick the kind that would crack or break. They would mostly pick their grass by the sandy beach because it was closer to the village. They would pick the kind that was green with white spots at the tip of the grass.
>
> After picking the grass they would lay them on the ground to dry in the sun. The grass was then turned over once in awhile [sic] so that it will sun bleach evenly. After that, they would take the grass, clean it, and then sun dry it again. They would start weaving their grass that they picked, then it was kept in a damp place, so that it would not get brittle from being too dry (Aleutian Region School District 1981:12).

Grass preparation is a long process, taking some nine weeks. It is also somewhat risky, since it is possible for drying grass to spoil. Once grass has been successfully prepared, however, it can store for years. Grass is picked and prepared by some women of Atka not only for their own use but occasionally to send to Aleut weavers living outside of Atka. Baskets made by the

women of Atka are frequently sold.

In the past, grass was also woven into forms other than baskets, such as mats for bedding. When driftwood was scarce, it was used as a fuel for cooking. Beaters made from grass were used in steambaths, and grass socks were worn inside of sea lion boots. Such socks were made from dried grass. The stems were placed under the foot, with their basal ends sticking out behind the heel. The grass extending past the toes was divided into thirds. The center section was brought straight back over the foot, the two side sections were crossed diagonally over the top of the foot, and the foot was slipped inside the boot.

Yarrow (Achillaea borealis) grows abundantly on Atka. It is recognized for its ability to stop bleeding. Although used more in the past, it is occasionally used today. The short stems are picked, rolled between the hands, and the aromatic plant is sniffed to stop a nosebleed, for example.

F. Plants used in the past: A number of plants used in Atka in the past are no longer used. Various seaweeds were once collected for use as fertilizer in gardens. In particular, a large marine plant, called gahnguŝ in Atkan Aleut, was used for this purpose. After it was collected, it was soaked in fresh water before it was put in the gardens. One man told of giant kelp being cut into strips for use as fishing line a very long time ago, and another man recognized the nutritional value of kelp

and seaweed and felt that it may be possible to market this abundant resource commercially.

Various roots were also used in the past. These were collected from favorable places (plants from certain locations tasted sweeter than those from others) and often steamed and dipped in oil to eat. A specific root mentioned by residents of Atka today as having been used in the past is the white orchid (Platanthera hyperborea).

Certain plants were used as teas. These include the Aleut aliχsiisiχ (Leptarrhena pyrolifolia). After it was picked, it was washed carefully, since any traces of mud would dry one's mouth out. It was then soaked over night, boiled, and the tea cooled before being drunk. This tea gave a person deeper breath and improved breathing. Another tea used in the past was the wild geranium (Geranium erianthum). This tea was also cooled after being boiled and, according to residents today, was mainly used for curing colds and sore throats (also Bank et al. 1950:80). Finally, the Aleut chikayaasiχ was also used as a tea. Its long and thin leaves were prepared in the same manner as those described above, according to an older Atka resident.

Sagebrush (Artemisia unalaskensis aleutica) was an important plant used when steambaths existed in Atka. A bundle of these plants was tied together at one end to form a beater to stimulate the skin while taking a steambath. This plant was also

placed anywhere on the body where there was a pain in order to help draw the soreness out. One location where sagebrush grows well on Atka is near the large stream at the northwest corner of Nazan Bay.

In addition to those plants described above, information about which was obtained from residents of Atka today, it must be noted that there was undoubtedly a host of plants which were used by Atka Aleuts in the past for a variety of food, medicinal, and spiritual purposes. Veniaminov (1840:[III]5-6) describes the use on Atka of parsley and scorched birch bark by shamans for curing sickness and bestowing good luck in hunting.

11. Fox

Fox trapping has been an important activity on Atka and Amlia Islands since the Russian period. In this century, the height of the fox trapping industry was reached in the 1920s and early 1930s. Amlia and Amchitka Islands were leased for trapping by the community of Atka, and many other islands west of Atka were leased by individuals from the village and elsewhere. Traders' boats or small inboard dories took men from Atka to the islands to trap, and they often spent two months or more (sometimes from October to March) building and maintaining cabins and managing their trap lines. Fur prices dropped after 1929, and by World War II, little trapping was being done in the islands.

During the trapping season away from the village, men

would take with them food items such as coffee, corned beef, flour, and sugar. Hunting of sea mammals and birds, however, provided an important part of their diet.

After World War II, minimal trapping was done on islands west of Atka Island, although it did continue to some extent on Atka and Amlia Islands. Trapping continues today on Atka and Amlia Islands, though more intensively in some years than in others. Atka Island has only blue fox, while Amlia Island possesses both blue and silver fox. It is said that on Amlia Island the blues and silvers do not get along; therefore, the silvers tend to be found at the eastern end of the island.

Fox are most commonly found along the coast inside bays, where food resources, such as ducks, occur. Trapping efforts are concentrated in these same areas (Figures 6-9 and 6-10), and although fox sometimes travel inland, they are trapped only along the coast. Trapping is done from December through January, when the furs are at their best. A typical trapping trip may last about 10 days. Traps (#2 size) are set with bait between two logs or rocks through which fox are known to pass. Common bait includes goose heads and duck or goose entrails. After baiting, traps are camouflaged carefully with grass and securely staked or tied in place.

Traps are checked once a day. A pole is used to hold a trapped fox, which weighs only 10 to 15 pounds, to the ground.

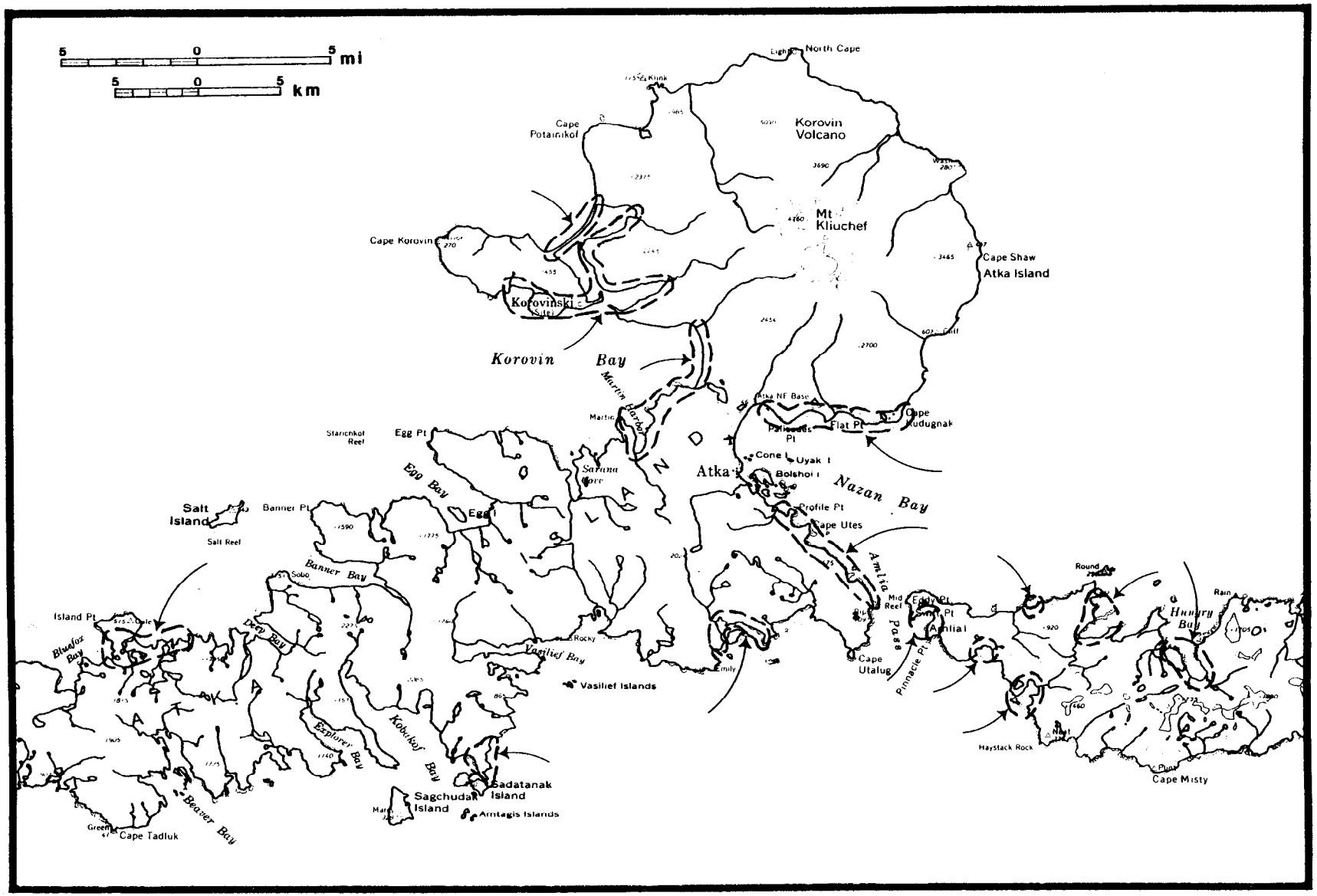

Figure 6-9. Areas trapped for fox in the last 10 years (see also Figure 6-10).

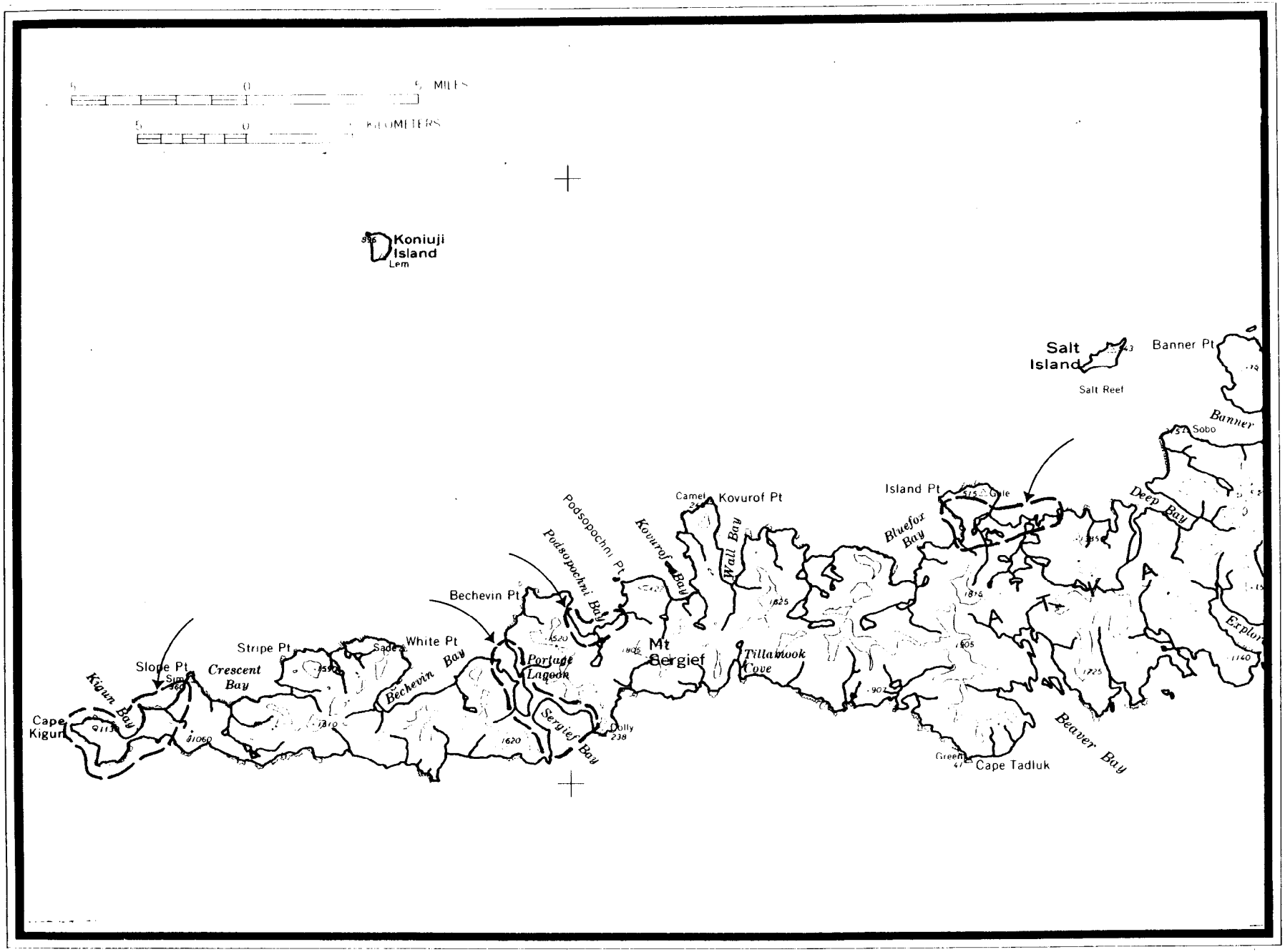

Figure 6-10. Areas trapped for fox in the last 10 years (see also Figure 6-9).

The trapper walks on the pole, grabs the head of the fox, and pushes it to the ground with one hand. With the other, he pulls up under the head of the fox to break the animal's neck. Fox are skinned where they are trapped, and the trap is reset a short distance from its former location.

Skins are brought back to the cabin at which the trapper is staying and are scraped clean of fat. They are then put on stretchers, devices made of driftwood or lumber which are used to hold the fresh skins taught while they dry for about one day. Dried skins are sent to fur dealers in Anchorage and other cities outside of Alaska.

In the 1982-1983 trapping season, perhaps 80 fox were trapped by men in Atka. Trappers frequently work in pairs, with younger men learning from more experienced trappers. Prices are now only about $25-$30 per pelt, down from previous years. Such low prices, combined with substantial increases in gasoline costs, have made fox trapping less lucrative than a decade ago. It may be mentioned that while fox skins are the chief economic commodity from this harvest, fox grease previously was used as a salve and fox oil, rendered by frying fat, was used as a fuel in tin can oil lamps in the trappers' cabins.

Even though some bays are trapped year after year, it is said that the fox population is in no danger of being over trapped. Fox are also said to be extremely clever, sometimes

springing traps purposefully without getting caught.

12. Livestock and gardening

Both livestock raising and gardening had their beginnings during the Russian period. When Atka's only settlement was at Korovinski, cattle, pigs, and goats were kept. In 1832, Wrangell, chief manager of the Russian-American Company, wrote the following:

> No other place in the colonies except Ross [in California] is so suitable for the breeding of cattle and swine as Atka and the islands adjoining it; there is lush grass everywhere in summer, and the moderate cold and light snowfall save the work of making a winter supply [of hay], and the cattle always have pasturage (quoted in Gibson 1976:96).

The number of such animals kept at Atka is not known. However, given the favorable conditions described above, it may have been substantial. Although cattle were raised at many locations in Russian America, the difficulties in producing hay generally kept such ventures to a limited scale. At New Archangel, for example, the livestock kept for meat and milk numbered only 10 to 12 animals per year from 1817 to 1832 (Khleblnikov 1976:105).

Cattle were also raised at the Aleut settlement on Amlia Island in 1838, the year in which the Russian-American Company's chief manager Kupreanof visited the village and wrote the following:

> Although there are few cattle, they are kept in good condition. Most of the cattle are obtained from the offspring of those sent by the company when the local natives were gathered into common settlements. The toion [chief] has left some of the cows in the possession of those Aleuts who have shown themselves the most

knowledgeable and most industrious cattle raisers . . . (quoted in Tikhmenev 1978:471).

Gardening was given "special attention" on Atka, since it was difficult to supply the settlement (Gibson 1976:96, quoting Russian sources). Gardening was, however, undertaken throughout the colonies of Russian-America, and virtually "every post had small gardens and several cattle, pigs, chickens, and ducks and perhaps some sheep and goats" (Gibson 1976:96). In addition to the potatoes mentioned by Netsvetov (see below), other vegetables may well have been grown at Korovinski. At other settlements in Russian America, turnips, cabbages, carrots, radishes, and other vegetables were planted, and there is every reason to believe that a variety of items was also grown at Korovinski.

On Atka the school children participated in planting, caring for, and harvesting the garden crops during Netsvetov's time. The yearly harvests of potatoes varied from 3 casks to 60 casks between 1833 and 1841 (Netsvetov 1980). The gardens at Korovinski were very extensive. Veltre (1979:166-192) describes in detail the Russian period gardens on both the Korovinski spit as well as the spit immediately to the east of the settlement at the south side of Korovin Lagoon. The garden on the Korovinski spit alone measures 105 x 565 feet and is divided into 4 distinct plots. Each plot is enclosed by sod walls (most likely necessary to kept the livestock out) some 3 feet high and equally as thick.

Petroff, writing after the abandonment of Korovinski and

the resettlement of its population to the present village of Atka, provides a final perspective on animal husbandry at Korovinski:

> The Russians introduced cattle and goats here as an experiment in those days. The latter became very unpopular with the timid Aleuts on account of their pugnacious disposition and the morbid propensity for feeding upon the grasses and flowers that grew on the earthen roofs of the barabaras, frequently breaking them in or causing serious leaks. Though there is an abundance of nutritious grasses all over the island, the stock-raising experiment was allowed to lag, and finally, a short time after the transfer of the country to the United States, the last of the bovine race found its way into the soup-kettle and to the tables of the traders (1884:22).

Today, Atkans tell of cows and pigs being kept in the late 1920s. The pigs were confined to small islands close to Atka, while the cows roamed near the village. In the winters, the cows sometimes fell off cliff edges hidden by snowdrifts. At least four families kept chickens before World War II. The chickens laid their eggs in the grasses at the base of the bluff on the south side of the village. Pigeons were also kept by some people at this time. Sheep were brought to Atka by the federal government in 1946, but the attempt to raise them failed within a short time (Bank et al. 1950:211). In the mid-1970s, one family kept some chickens, though there are none left today.

In the first half of this century, the main gardens for the residents of Atka were near the west end of Amlia Island, which lacked the rats which plagued gardening efforts on Atka Island. On Amlia, big turnips as well as carrots and small potatoes were grown. The father of one of the older men of Atka

today taught his son how to make a garden. Ground preparation began in April. Potatoes from the store were cut between the eyes into pieces and placed in holes made with a planting stick in dirt mounds. Kelp or fish was put between the mounds for fertilizer and to help raise the temperature of the soil. Gardens were checked periodically during the summer, with vegetables harvested when ready. In the old days, the community would work together on garden projects.

Potatoes were stored in a hole in the ground. First, dried grass was put in the hole to line the bottom, and then potatoes were placed on top of the grass. More grass was put on the top. After dirt was put on top of the grass, potatoes stored in this manner would keep all winter long.

Some gardens have been attempted elsewhere on Atka Island and on the offshore islands directly in front of the village. As mentioned above, rats were a problem on Atka Island. One method to keep rats away was to burn large quantities of grass mixed with mud around the perimeter of a garden. The lingering smoke smell helped to keep rats away. Today, there are no active gardens on Atka.

CHAPTER 7

RESOURCE USE ON ATKA:
DISCUSSION AND CONCLUSIONS

Introduction

Based on the detailed information contained in the previous chapters, this chapter focuses on broader issues and conclusions regarding the non-commercial use of resources by the residents of Atka.

The annual round

While the previous chapter discussed resource use on a resource-by-resource basis, the best way to gain an appreciation of the annual "flow" of resource procurement activities in Atka is by means of a yearly chart of harvest periods. Table 7-1 presents such a chart, with the various resources generally listed in the order in which they occur during the year. It should be understood that the resource harvest periods in the table represent composites based on information supplied by several individuals.

TABLE 7-1

RESOURCES HARVESTED BY TIME OF YEAR

Resource	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Sea lions	+	+	+	+	-	-	-	-	-	-	+	+
Harbor seals	+	+	+	+	+	+	+	+	+	+	+	+
Reindeer	+	+	+	+	-	-	-	+	+	+	+	+
King salmon	+	+	+	-	-	-	-	-	-	+	+	+
Red salmon				-	+	+	+	-	-			
Pink salmon							-	+	-			
Dog salmon							-	+	-			
Silver salmon								-	+	-		
Halibut	-	-	-	-	+	+	+	+	-	-	-	-
Cod	-	-	-	-	+	+	+	+	-	-	-	-
Dolly Varden				-	-	+	+	+	-			
Pogy			-	+	+	-						
Pogy eggs					-	+	-					
Ducks	+	+	+	-	-						-	+
Geese	+	+	+	+	-							-
Oystercatcher eggs					-	+	-					
Sea gull eggs					-	+	-					
Eider eggs						-	+	-				
Clams	-	-	+	+	+	+	+	-	-	-	-	-
Sea urchins	-	-	+	+	+	+	+	+	+	-	-	-
Mussels	-	-	+	+	+	+	+	+	+	-	-	-
Berries								-	+	+	-	-
Wild celery						-	+	+	-			
Fox trapping	+	+	+	+	+	+	+	-	-	-	-	-

+Primary procurement period
-Secondary procurement period

Starting the year in spring (the end of April), people begin to turn their attention to fishing. Compared to previous months, sea lion hunting is becoming less frequent at this time of year, as is reindeer hunting, and although some cod and halibut may be caught during the winter months, the summer is the main time for catching these important fish. Likewise, all of the salmon except kings are caught during the summer, with the particularly desirable red salmon the first to appear. Dolly Varden also begin to appear along the coasts, and during May and June seining along the beach of Nazan Bay may procure a large number of them.

As the summer proceeds, harbor seals continue to be hunted, as they are during the entire year. In May and June a variety of eggs becomes available, and many, particularly sea gull and eider eggs, are collected. Picnics away from the village and trips to summer camps become frequent at this time of the year, and people of all ages collect marine invertebrates, wild celery, and, later in the summer, berries. Eider ducks, one of the few birds hunted during the summer, are generally obtained during June.

Toward the end of summer, in about August and September, fishing is on the wane, and reindeer hunting becomes more frequent than earlier in the summer. As fall turns into winter, sea lion hunting, in conjunction with harbor seal, duck, and geese hunting, become the major subsistence activities. These ventures

take the hunters on long trips to Amlia Island or down the coast of Atka Island, weather conditions becoming an important limiting factor for such pursuits. For those few men who trap fox, December and January are busy months, and days on end may be spent at cabins away from the village.

From mid-winter to spring, sea mammal, reindeer, and bird hunting remain the most important activities, although some cod and halibut are caught when the weather permits ocean travel to the deeper waters where these fish are obtained in winter. Marine invertebrates are also collected at this time, not because they are absent during the remainder of the year, but because other resources are somewhat limited during these months. As the migratory birds leave the area in late winter, the yearly cycle of resource use continues.

An important aspect of the yearly resource harvest pattern in Atka is that certain resources of major importance, like birds and most species of salmon, are seasonal; hence, they may be obtained at only specific times of the year. On the other hand, other important resources, like harbor seal, sea lion, and reindeer, are present throughout the year and may be obtained whenever necessary. The fact that some of the resources in this latter category are not harvested uniformly during the year underscores the fact that factors other than resource availability bring about the observed pattern of resource use. Included among such factors are the following: weather conditions, food

preference, wage employment, species accessibility, and the reproductive cycles of the animals. Some of these will be elaborated upon in the following sections of this chapter.

Variability in resource abundance

One fact that became clear to us through conversations with people in Atka is that there are significant, marked variations in the abundance of many resources over the years. This was beyond the scope of the present study to learn from direct observation of resource procurement activities, since periodic shifts in resource abundance occur minimally at one year intervals. Nevertheless, it is a most important aspect of resource use in Atka and underscores the fact that an accurate understanding of such use requires investigation of as long a time span as possible.

While it is difficult, if not impossible, to determine the ultimate cause of most variation in resource abundance, residents of Atka point to one situation which they understand well: as sea otters have become more common in Atka's waters over the past decade, two things have happened. First, the abundance of marine invertebrate resources has drastically been reduced to the extent that many are no longer available to the villagers. Second, harbor seals appear to be displaced as sea otters move into an area, resulting in fewer seals for hunting. Some people reported to us that sea otters and harbor seals occasionally fight, and that it is the sea otters which appear to be stronger. Other

people reported that the sea otters pester seals and get in their way.

Although not affecting a food resource of the residents of Atka, an additional result of the increase in sea otters has been the increase in kelp around the island. Since the sea otters eat sea urchins, which in turn feed on kelp, a decrease in the sea urchin population has resulted in subtantial growth of kelp beds. This has indirectly affected resource procurement, since extensive kelp makes boating much more difficult, and even dangerous, especially at night.

Variations in the abundance of other food resources have been observed by the people of Atka. The summer of 1982 saw an exceptional run of pink salmon, for example, but the 1983 run was not nearly as good. It is interesting that the summer of 1983 was a relatively poor one for berries as well. People saying that if it is a bad year for salmon, it will also be bad for berries.

While this section has focused on natural variation in the abundance of resources, a later section will detail some of the cultural and natural factors which affect patterns of resource procurement. At this point, it is sufficient to note that, for various reasons, resource use in Atka is different each year and that no single year, or even two- or three-year period, should be taken as entirely representative of the manner in which resources are utilized. In fact, it is likely that there never has been,

nor never will be, an "average" or "typical" year in Atka; hence, any attempt to describe one may erroneously ignore the dynamic aspects of resource use over time.

Cooperation and sharing

Two of the basic tenets of the Aleut subsistence economy since precontact times have been cooperation in subsistence endeavors and sharing of the products of hunting, gathering, and fishing. Both cooperation and sharing are still very much a part of resource utilization in Atka today, as the descriptions of individual resources in the previous chapter made clear.

While almost all resource procurement activities can be -- and sometimes are -- undertaken by individuals, most hunting, fishing, and gathering is done by two or more people working together. From women picking grass for baskets, to children looking for pogy eggs along the shore line, to people seining for Dolly Varden near the beach, to men on a two-day sea lion hunt to Amlia Island -- cooperation is a characteristic feature of the subsistence economy in Atka. In certain activites, such as beach seining, cooperation is required, since a single person could not manage the task alone. In the majority of cases, however, cooperation provides other equally important benefits, such as increased safety, greater productivity, exchange of knowledge about the resource and its procurement, lessening individual costs in the enterprise, and companionship.

Though widespread in the community, cooperation is not characterized by formal partnerships or other fixed groupings. Depending on particular circumstances, a man will hunt with any of a number of other men, although he might somewhat more frequently team up with one or two individuals. Analysis of these flexible groupings did not indicate any marked patterns, although in several cases brothers, sometimes with their father, seemed to work together. However, it should be noted that task group analysis in Atka could be somewhat misleading, since the community's population is small and interrelated enough to yield spurious results.

In a sense, cooperation in the procurement of food and sharing of that food are two sides of the same coin. Both stem from long-standing patterns of reciprocity within the community. Sharing of food items is common in Atka. When a large amount of food is brought back from a hunting or fishing trip, it is likely that everyone in the community will receive a portion of it. Distribution is accomplished several ways. When meat or fish is brought back to the village by boat, people may go to the beach to see if there is enough to share. Sometimes announcements will be broadcast on CB radios inviting people to come to the beach to share in a catch. Such wide-spread sharing usually takes place after the participants in hunting and fishing take food enough for their households and perhaps for those of their closest relatives.

Secondary sharing also takes place. A recipient of meat

or fish from someone else's efforts often divides her/his portion and gives some to one or more persons. This is often the case when there has not been enough food for the hunters to share with the entire village, but there was too much for their immediate families to use.

All of the residents in Atka know who the needy are -- those people unable, due to age or health, to engage in resource procurement themselves. These individuals are always provided directly with meat, fish, and other local resources, or they share in such resources by eating many of their meals in others' homes. Occasionally, people unable to hunt or fish due to employment schedules will exchange ammunition or gas for a portion of the resources obtained.

Sharing does not always involve freshly obtained food resources. Frozen, dried, and salted local foods are often exchanged at times when, for whatever reasons, hunting and fishing have not been productive. Nor does sharing involve only the residents of Atka. Frequently, food is sent from the village to relatives and friends in Anchorage and other communities.

A final aspect of sharing in Atka is that sharing patterns have changed somewhat over the lifetime of the older community members. In the 1920s and 1930s, for example, the community functioned more as a single unit, and sharing of food -- and of money -- was often community-based. The needs of the community

were established by consensus, with a chief directing various subsistence activities. Today, sharing continues to take place in a community-wide, but less formalized, manner. Vestiges of the earlier system may be found in the use of the community's truck. When it is used to support reindeer hunting activities on the north side of the Island (by transporting men, boats, and equipment across the Island to Korovin Bay), the entire community shares in the meat obtained.

Division of labor

From the resource procurement descriptions in Chapter 6, it is apparent that the clearest division of labor occurs in hunting. Hunting is almost exclusively a male activity, with only rare participation by women. Men also do much of the fishing, run and maintain the boats most of the time, and do the large-scale butchering of animals killed. Women, on the other hand, have the primary responsibility for the preparation of food in the home, and, for their efforts to put meals on the table each day, they are often thanked by their family after each meal. Women also collect grass for weaving.

Several resource procurement activities involve the joint efforts of men and women, and, sometimes, children. These include seining for fish, picking berries, and collecting marine invertebrates. By themselves, children in their young teens (and too young to go boating alone) often fish along the beach, search for invertebrates in the intertidal areas, collect berries, and so

on. With the broad range of food resources in the Atka area, males and females of nearly all ages can -- and do -- contribute to a subsistence livelihood.

Maintenance of cultural traditions

The preceding discussion has touched upon several aspects of the continuing cultural traditions of the Aleuts of Atka. This section explores several additional features of their use of local resources which support the notion that such use is an integral part of the lives and heritage of the people of that community.

Except for reindeer (which, as previously mentioned, were introduced on the Island in 1914), the entire range of local resources used today in Atka has been used since people first came to the Island at least 2,000 years ago. On the other hand, some resources which were once used are no longer procured or are no longer used in the same manner. These largely include certain marine invertebrates, birds, and fish. And while sea lions are still hunted, for example, their intestines are no longer used to make waterproof garments.

Especially in the last century, there has been a shift towards increased use of imported foodstuffs. Even today, however, as the variety of such food increases, people in Atka say that at least 50 percent of their diet is made up of local food resources. There is not a household in the community that does not depend to a substantial degree on a variety of local foods,

and there are few people who are not involved directly with some aspect of its procurement.

One factor which has contributed to the maintenance of a vigorous subsistence way of life has been the isolation of the community from the outside world. Even in the Russian period, Atka was considered an out-of-the-way stop on the routes of supply ships between Russia and Russian America. Since that time, little has changed. There are no Native communities close to Atka that are easily travelled to, and commercial transportation to and from the village has typically been infrequent and very expensive. It has only been within the last several years that telephones became available in Atka; earlier communication was by means of a radio operated by the non-Native visiting school teacher.

Thus, for the last two centuries, the village of Atka has largely had to fend for itself in many respects, one consequence being that various aspects of its earlier culture -- including the Aleut language being spoken actively and the reliance upon local resources -- have been retained. This has not been so clearly the case in many other Aleut communities.

In Atka today, successful hunting and fishing are a source of satisfaction and pride. Being able to share food resources with other members of the community is also a source of pride. People prefer their traditional foods over many items available in the local stores, and traditional preservation methods, such as

salting and drying, continue to be popular despite the introduction of freezers to many households. Even the younger generation shares in this continuing tradition: subsistence activities are common subjects in the articles which they write for the school district's publication (Aleutian Region School District 1980; 1981; 1982a).

Although the use of many resources has remained unchanged, the resource procurement technology has changed markedly over the last two centuries. Gone are the skin-covered bidarkas and baidars, the harpoons and spears, and the stone and bone knives and other tools. The replacement of such implements was not sudden, however, but occurred gradually during the historic period, as technology changed throughout the world. In the decades prior to World War II, for example, most boats in Atka were dories with inboard engines. Since the war, skiffs with outboard engines have completely replaced dories. Many of the patterns of resource procurement, cooperation, and sharing discussed above persist fundamentally unaltered despite such changes in technology.

One aspect of the precontact subsistence economy which has changed significantly is the spiritual realm. Veniaminov provides the following description of the beliefs of the Atkans:

> The pantheon of the Athin [sic] Aleuts was extremely extensive. They believed in birds and fish and other animals; in the sun, the heavens and other inanimate objects, and they believed that spirits lived in them. Since communication with the spirits was reserved for the shaman alone, they represented them as they wanted or as

> they could with the masks or effigies used in the shamanist performances and in plays (1840:[III]:2-3).

It is worth noting that traditional supernatural beliefs were not as easily gotten rid of as the early Russian Orthodox priests might have thought -- or would have liked. As late as 1862, some 121 years after the first Russians arrived in the Aleutian Islands and 34 years after the first resident priest arrived on Atka, the priest of Atka preached a sermon to the Aleuts of Amlia "on the sins of superstitions and fortune-telling" (Salamatov n.d.:17). It seems that a group of men from that community had visited a mummy cave on Kanaga Island in order to learn if they would have a successful hunting trip. The mummy's prediction was positive, but 13 of the men later drowned, and the priest made a lesson out of their misfortune.

Over the years, the precontact spiritual belief system of the people of Atka was replaced with that offered by the Russian Orthodox Church. Today, Atkans certainly respect the animals upon which they depend for food, although with a different spritualism than was expressed in the past.

Camps

One major point of continuity between precontact life on Atka and today is the settlement/subsistence system. In precontact times, Aleuts throughout the archipelago maintained permanent villages, at which it is likely at least some people lived throughout the year. Seasonal satellite camps were also

used, to which people from the villages would go to take advantage of the particular seasonal food resources which were available nearby. The same pattern is in effect in Atka today, with at least 25 camps on Atka and Amlia Islands currently used (Table 7-2). Those camps closest to the village tend to be privately owned by families, while those in outlying areas are those which are available for general use by persons who are hunting, fishing, and trapping (Figures 7-1 through 7-3).

The use of such camps also points to continuity in site location over time. Many camps are now located where earlier camps are known by residents to have been located, and many of these locations have archaeological deposits predating living memory. Such long term use may be based in part on tradition, but also testifies to the continuing advantage of certain locations in terms of resource procurement. People told us that when they are at camp, they tend to eat more local resources than they do when they are back in the village.

Notes regarding hunting and fishing

A number of points regarding hunting and fishing could not be adequately dealt with in the resource descriptions in Chapter 6. The first of these is that of the 48 males 10 years old and older, most resource procurement involvement is by 25 men between the ages of 15 and 39 (Figure 7-4). Also revealed in the figure is the strong correlation between age and degree of activity in procuring resources, with only one male under 15 years

TABLE 7-2

CAMPS CURRENTLY IN USEABLE CONDITION

Camp Number[1]	Location	Aleut Name[2]	Comments
1	Nazan Bay, Atka	Yaxagim chuqaa	Needs some repair; near large salmon stream; privately owned.
2	Cape Kudugnak, Atka	Gunas hanii	Originally built for trapping.
3	Nazan Bay, Atka	Chunixsax̂	Near large salmon stream; privately owned.
4	Bolshoi Island, Nazan Bay, Atka	Sviiniyam udaa	Privately owned.
5	Nazan Bay, Atka	Ignaachxaĝix̂	Privately owned.
6	Near Profile Pt., Nazan Bay, Atka	Atxalax̂	Privately owned.
7	Near Profile Pt., Nazan Bay, Atka	Malas	Privately owned.
8	Near Amlia Pass,	Kasamim Chuguu	
9	South coast, Atka	Tanaangis	
10-13	Korovin Bay, Atka	Imlam Chugaa	All privately owned; near large salmon stream.
14	Korovin Bay, Atka	Saguuĝux̂	Built for trapping.
15	Martin Harbor, Atka	Chiĝzang	
16	Near Island Pt., Atka	Suung	
17	Sergief Bay, Atka	Sitax̂	Built for trapping.
18	Kigun Bay, Atka	Chuguuĝix̂ uĝalux̂	Built for trapping.

TABLE 7-2 (Continued)

Camp Number[1]	Location	Aleut Name[2]	Comments
19	Kobakof Bay, Atka	Chungidigas	
20	Beaver Bay, Atka	Uzax̂ hacha	
21	North coast, Amlia	Iiyangiilgis	
22	Hungry Bay, Amlia	Amunax̂agix̂	
23	South coast, Amlia	Saganax̂	
24	North coast, Amlia	Chaamlaga	Built for trapping.
25	North coast, Amlia	Angusxus	Built for trapping.

[1]Numbers correspond to those used in Figures 7-1 through 7-3.

[2]Provided by Moses Dirks, Atka, 1983.

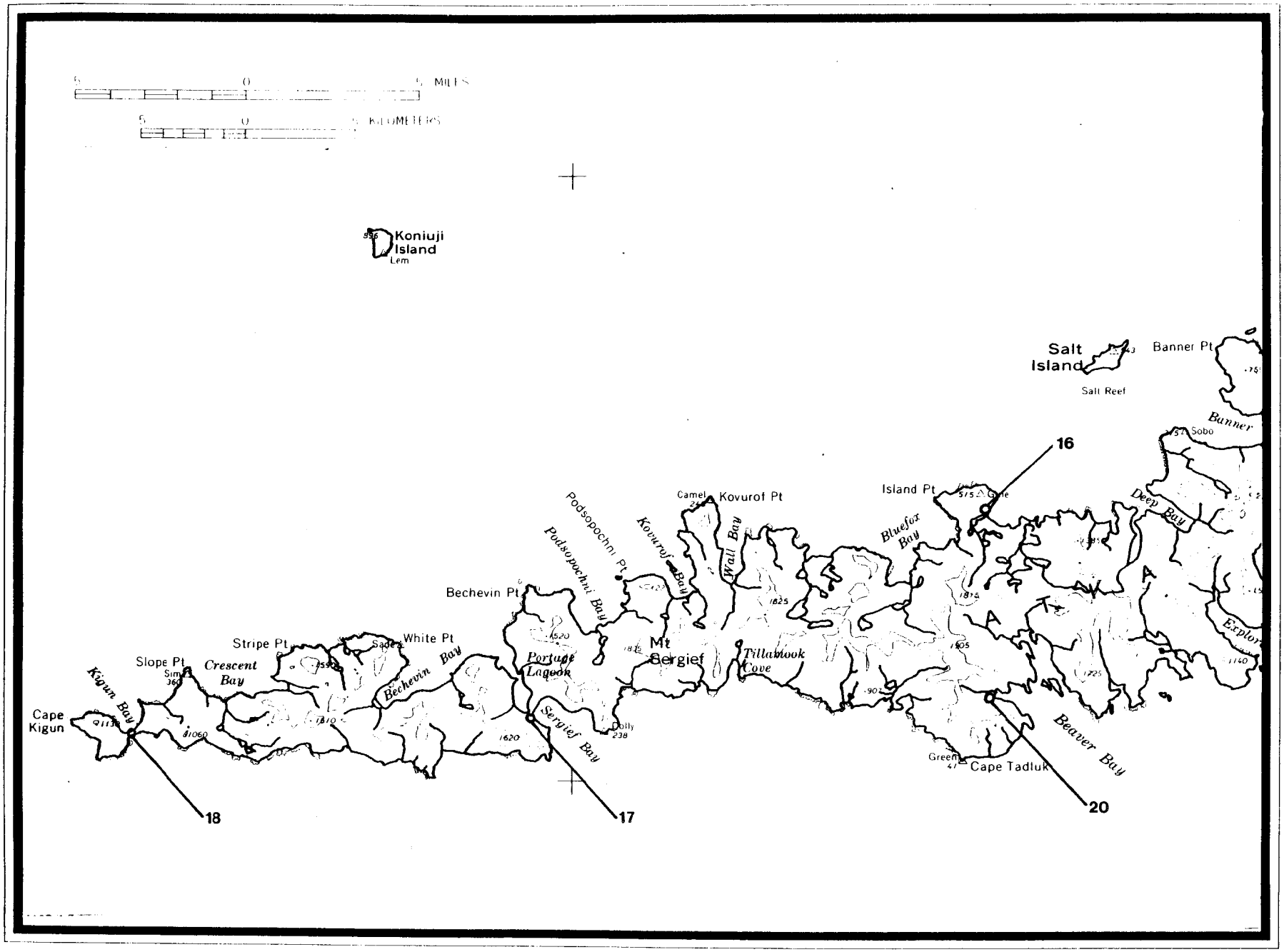

Figure 7-1. Camp locations on western Atka Island.

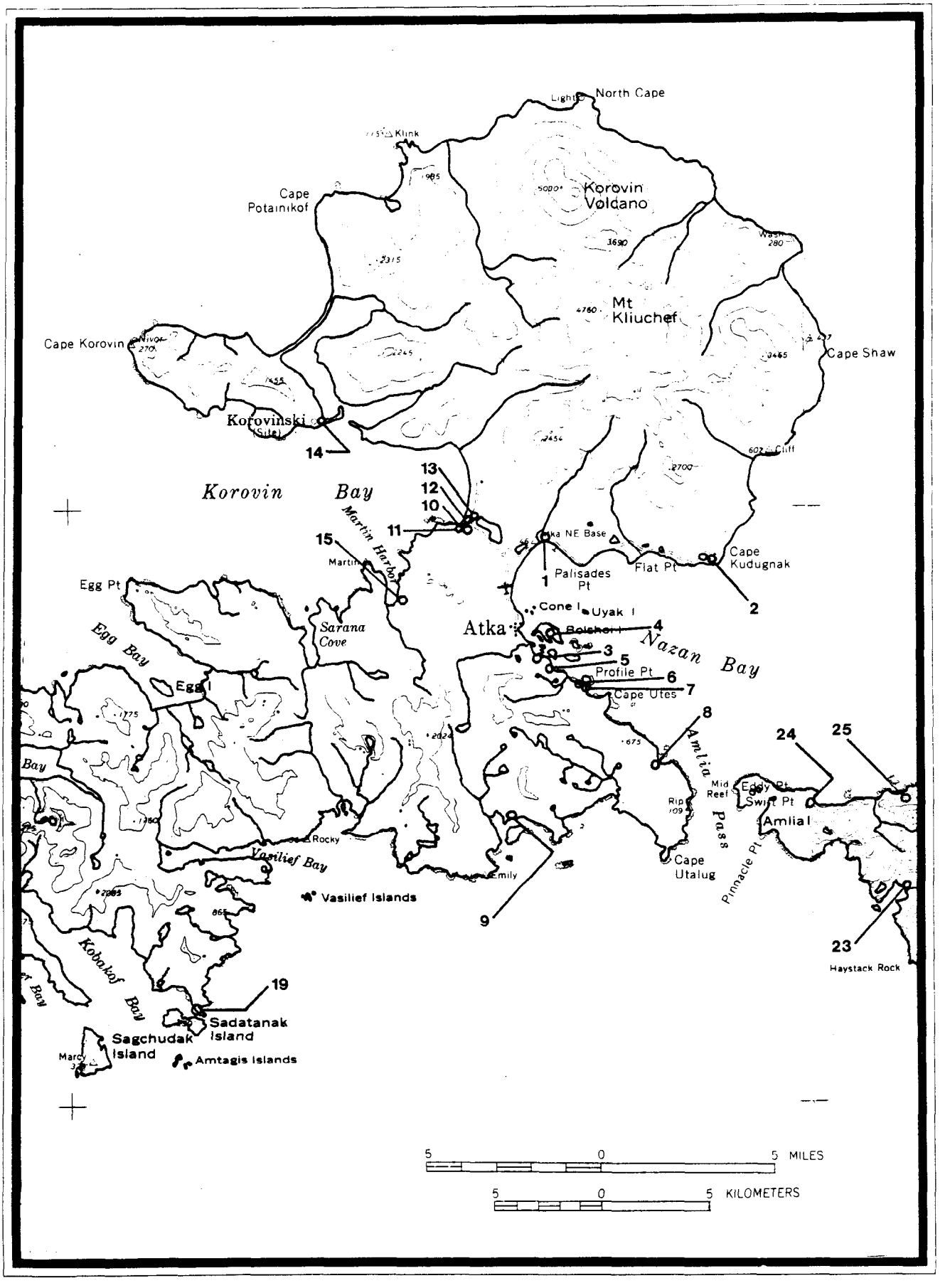

Figure 7-2. Camp locations on eastern Atka Island and western Amlia Island.

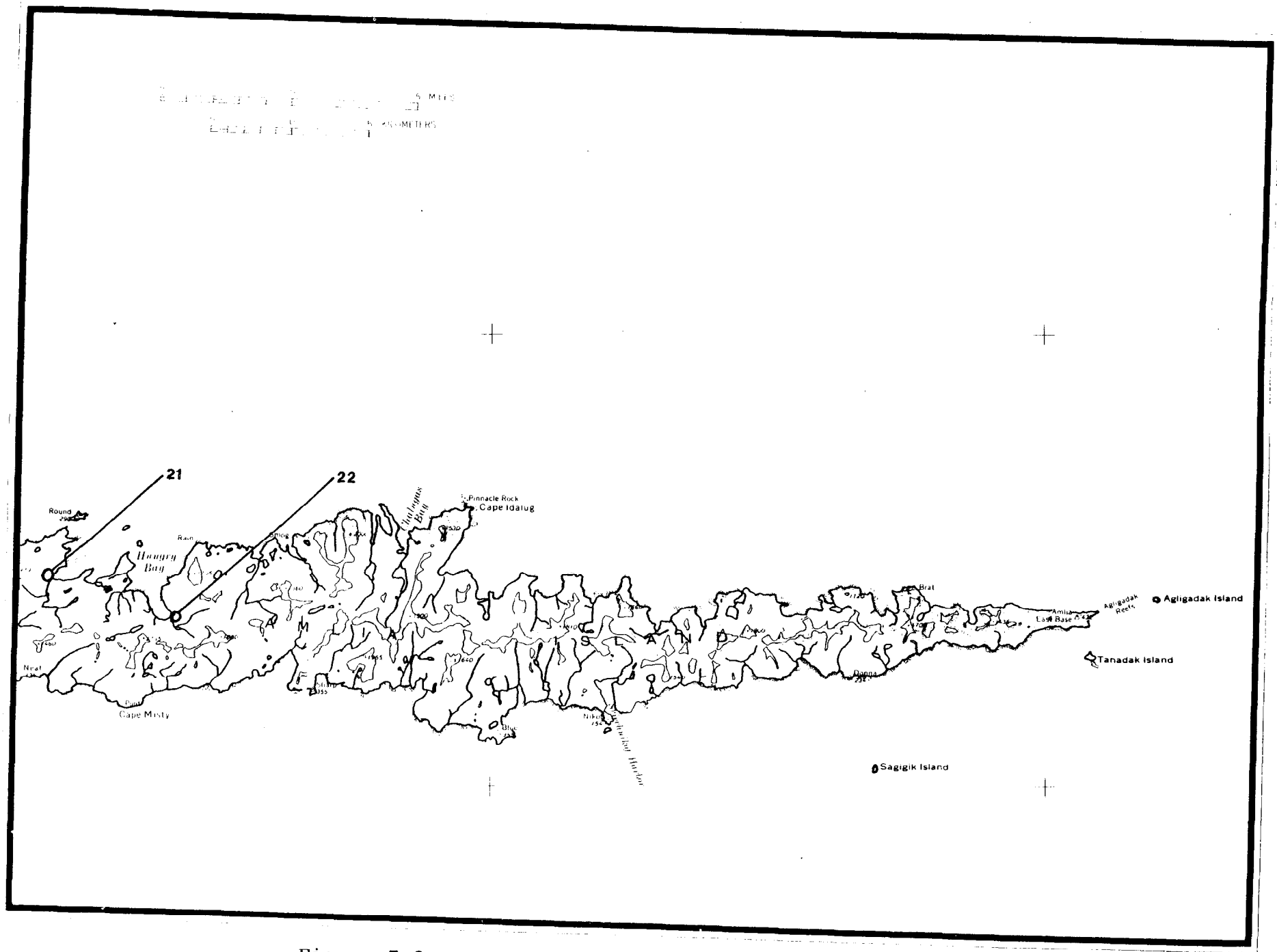

Figure 7-3. Camp locations on eastern Amlia Island.

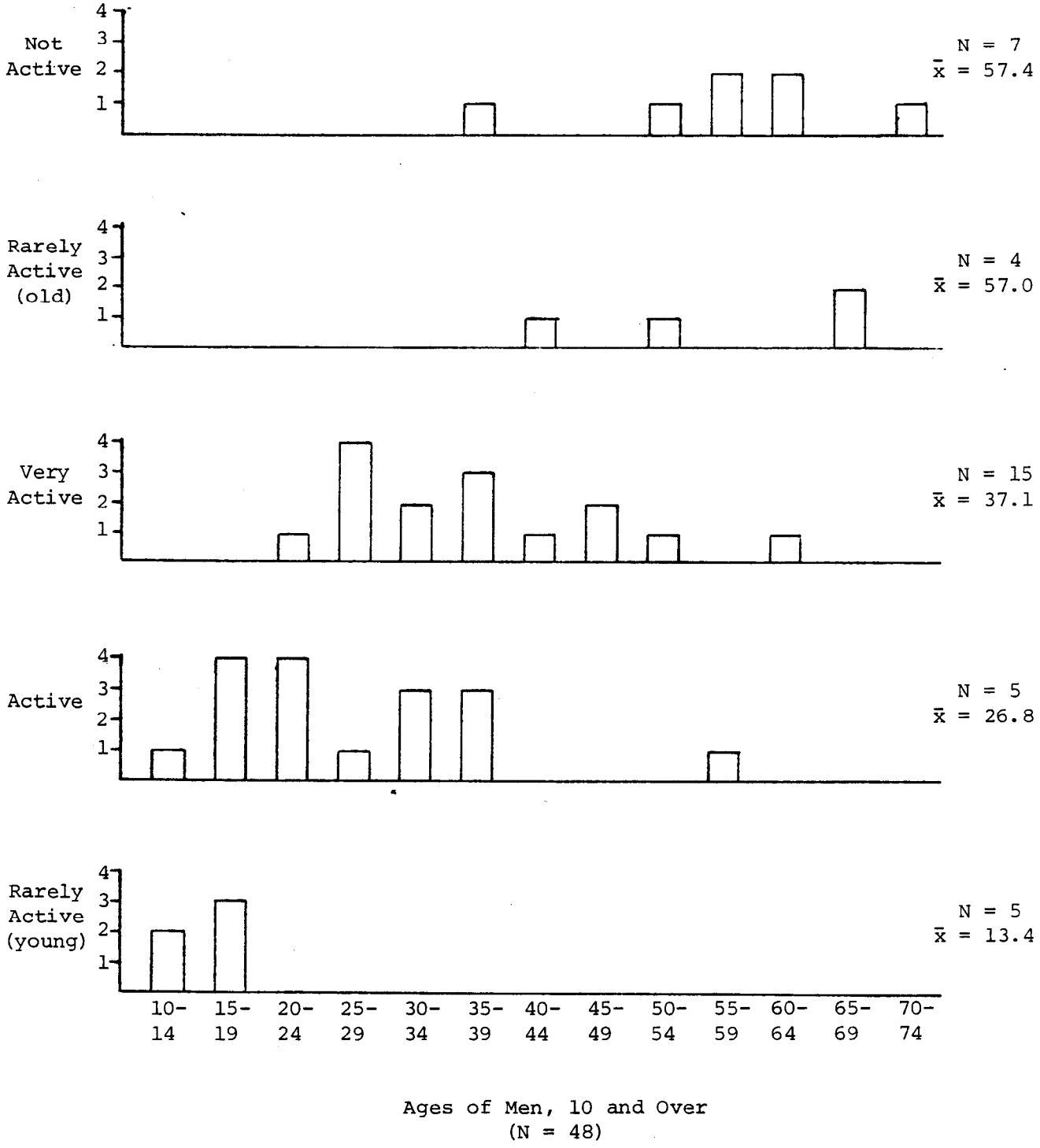

Figure 7-4. Distribution of male resource procurement involvement by age and degree of activity.

of age being classified as "active" or "very active" and with only 6 of the 16 men over 39 years old being similarly classified.

A second point regarding hunting and fishing is that such activities are largely opportunistic in nature. That is, although an individual or group of men might set out with the hope of killing sea lions, they will generally not pass up the opportunity to obtain geese, reindeer, or other resources during the trip. Likewise, reindeer hunting ventures on the north and south side of Atka Island will frequently include duck hunting, beach seining for red salmon, harbor seal hunting, or some other similar activity, especially if reindeer are not located or are few in number. That this pattern exists is evidence of at least two facts: first, the resource base is diverse and plentiful, enabling a number of resources to be obtained on a single trip; second, the high cost of long boating trips discourages coming home empty-handed.

Third, the men of Atka are especially knowledgeable about Atka and Amlia Islands and the surrounding ocean. Boating in Aleutian waters is particularly dangerous, but the men watch the tides and weather carefully before setting out on trips of any distance. Hunting along the north side of Atka is preferred when the prevailing ocean swells have been coming from a southern direction, while south side hunting is favored with northern swells. Weather forecasts on television and radio are consulted, and there is discussion of the situation by those making plans.

Many trips are undertaken without the benefit of a compass, the men able to read from the ocean swells the direction to travel if fog obscures the land. Even with the best knowledge, it is not infrequent that men are stranded unexpectedly at one of the camps on the islands for several days, waiting for a storm to pass and the seas to calm down.

Fourth, hunting and fishing, especially when done in conjunction with boat trips, can cost a substantial amount. Many boats are homemade wooden skiffs, the material for which costs roughly $500. Boats purchased commercially, such as an aluminum skiff, may cost in the neighborhood of $2,000, including freight. Engines range in cost from about $1,300 for a 25-horsepower to $1,600 for a 35-horsepower. With exceptional care, engines can last many years, but the Aleutian environment usually limits the useful life to perhaps 5 years. The combined cost for a shotgun and rifle -- which, with care, last many years -- is about $800. For overland travel, many men have three-wheelers. These convenient, labor-saving vehicles, are about $2,000 to purchase, and six-wheeled vehicles can cost three times as much.

To those enumerated above must be added the costs of many smaller items which nevertheless add up over time. Special outdoor clothing (perhaps including a survival suit), a CB radio, a tent and sleeping bag, fishing reels, poles, tackle, butchering equipment, and ammunition are virtual necessities for most hunting and fishing trips. Ammunition alone typically costs about $13 for

20 rifle or 25 shotgun shells. Finally, all motorized travel requires gas, which, at nearly $4 per gallon, ranks as a major expense.

Cost of living in Atka

As one might expect, virtually all costs in Atka are substantially higher than those in Anchorage. While no standardized cost of living figures are available for the community, Table 7-3 presents the prices of selected grocery items in Atka (at the larger, cooperative store) and Anchorage. The Atka total is 61.8 percent higher than that for Anchorage.

Factors affecting resource utilization

A number of factors currently affect the pattern of resource utilization in Atka. Many of these are interrelated with one another, and many have been alluded to earlier. They may be itemized as follows:

1. The cost of fuel for transportation has increased dramatically in recent years. While only a few years ago gasoline cost approximately $1 per gallon, today it is nearly $4, and the increase has tended to do two things. First, although difficult to assess, there is probably somewhat less boating being done. Second, and a clearer change, increased importance has been placed on success in hunting and fishing excursions. To increase their success, men are more frequently going out in two or more boats, rather than singly.

TABLE 7-3

PRICES OF SELECTED GROCERY ITEMS IN ATKA
AND ANCHORAGE -- JULY, 1983

Item	Atka	Anchorage
Frozen Meat and Seafood		
Pork chops, lb.	$4.59	$2.49
Beef rib steak, lb.	7.39	3.99
Beef top round roast, lb.	6.19	3.39
Beef short ribs, lb.	3.99	2.29
Hormel thick sliced bacon, lb	5.39	2.99
Lean ground beef, lb.	3.30	1.59
Smoked pork hocks, lb.	2.49	1.49
Stew beef, lb.	4.30	1.99
Tasty Bird frying chicken, breast with ribs, 2 lb. 8 oz.	10.35	4.99
Ball Park hot dogs, lb.	4.55	2.39
Armour beef hot dogs, 12 oz.	3.10	1.69
Oscar Mayer beef bologna, 12 oz.	2.45	2.29
Swift Premium brown and serve sausage, 8 oz.	2.95	1.69
Certi-Fresh breaded shrimp, 14 oz.	8.55	6.49
Canned Meat and Fish		
Bar S ham, 3 lb.	13.45	9.99
Dinty Moore corned beef, 12 oz.	3.25	2.29
Nalley's beef stew, 1 lb. 8 oz.	3.19	1.79
Corned beef hash, 15.5 oz.	2.20	1.49
Chicken Ready whole chicken, 3 lb. 2 oz.	4.55	2.75
Starkist chunk light tuna, 9.25 oz.	2.65	1.69
Spam, 12 oz.	3.09	1.69
Miscellaneous		
Hills Bros. coffee, lb.	3.55	2.99
White bread, 24 oz.	1.80	.89
White flour, 10 lbs.	4.75	3.09
Sugar, 10 lbs.	7.50	4.09
Corn muffin mix, 8.5 oz.	.65	.33
Mild cheddar cheese, 2 lb.	8.45	5.12
Tomato soup, 10.75 oz.	.65	.39
Canned creamed corn, 17 oz.	1.09	.67
Eggs, dozen	1.70	1.15
Tide detergent, 20 oz.	1.65	1.29
Reynold's aluminum foil, 75 sq. ft.	1.85	1.85
Brawny paper towels, 85 sq. ft.	2.00	1.09
Best Foods mayonnaise, 32 oz.	3.55	2.09

TABLE 7-3 (Continued)

Item	Atka	Anchorage
Heinz ketchup, 14 oz.	1.85	.89
Top Ramen noodles, 3 oz.	.65	.35
Oranges, lb.	1.35	.69
Apples, lb.	1.35	.89
Onions, lb.	.65	.59
Potatoes, 5 lb.	2.80	2.29
Cabbage, lb.	.75	.59
Turnips, lb.	.95	.69
Carrots, lb.	.95	.69
Wesson oil, 24 oz.	4.19	1.59
Kingston margarine, lb.	.85	.69
Maxim freeze dried coffee, 4 oz.	4.45	3.19
Kraft singles American cheese, lb.	4.45	2.59
Skippy creamy peanut butter, 18 oz.	3.35	1.95
Sailor Boy pilot bread, 2 lb.	2.65	2.39
Total	$172.40	$106.56

2. There has been a rapid increase in the number of three- and six-wheeled vehicles over the past eight years. While in 1975 there were only 2 of the three-wheelers in the community, today there are nearly 30 (Table 7-4). The use of these vehicles by men, women, and children has meant that accessibility to certain parts of the Island has increased substantially, and there has been a concomitant increase in the use of camps, particularly those on Korovin Bay.

3. Coupled with the point above is that the road system has undergone vast improvement within the last few years. The roads on Atka, mostly left over from military activity during the war, are not extensive. They do, however, provide a link between the Korovin Bay area and the village. With the repair of washouts and bridges along this route, vehicle travel is once again possible, a factor which has certainly influenced new camp construction on the Korovin side. Improved roads also make the salmon trap at the outlet of Korovin Lake easily accessible, renewing interest in this particular method of catching fish.

4. One additional recent change in the means of transportation has been an increased number of aluminum and fiberglass boats. Ten years ago such boats were rare, but today they account for about half of all boats used (see Table 7-4). Many people recognize some of the disadvantages of the newer boats, such as the difficulty of repair, but their light weight makes them easily portable, a positive asset when transporting a

TABLE 7-4

VEHICLES AND BOATS IN ATKA

Type of Equipment	Number
Vehicles	
Honda three-wheelers	28*
Six-wheelers	8**
Passenger trucks and vans	8**
Boats	
Wooden skiffs	13
Aluminum skiffs	9
Fiberglass boats	3

*Includes 3 in need of repair.

**Includes 2 in need of repair.

boat from the village to Korovin Bay by truck.

5. The weather plays a major role in resource procurement. The winter of 1982-1983, for example, was particularly bad for boat-based hunting because of generally poor weather conditions. Such bad years, which are not predictable, can -- and do -- have serious consequences for families who depend to a major degree on products of the hunt.

6. The employment of residents of Atka -- either in the village itself or at seasonal jobs in other communities -- is intimately linked with the subsistence economy. It has been clear for many years in subsistence-based communities in Alaska and elsewhere that involvement in local resource procurement (particularly for fish and game animals) requires substantial financial backing. This point was implicit in the earlier discussion of the purchase costs of hunting and fishing equipment.

On the one hand, the relationship between employment and resource procurement is simple: it takes cash to purchase and maintain the equipment necessary to procure various resources, so people must work to earn that money. One the other hand, however, the situation (in Atka and elsewhere) is more complex for several reasons. First, work schedules rarely make room for subsistence activity; thus, even though cash is available for such endeavors, time is not, since people may be tied to their jobs. Similarly, the time that becomes available after seasonal employment may not

occur during optimum resource procurement periods. Second, it appears that given a choice between cash employment (on either a temporary or long-term basis), or lack of employment (but freedom to pursue hunting and fishing at their discretion), residents of Atka invariably choose employment. This is not surprising, since cash can not only provide food purchased from the village store, but it can also supply a family with various household items necessary for a comfortable life. It should be noted that employment does not eliminate, but instead limits, the opportunities to hunt and fish. During May and June, 1983, when local employment was high, it was obvious that weekends and evenings when many men were off from work were times of especially intense concentration on subsistence activities. It was suggested to us that when employment is low, dependence on local foods rises to perhaps 75 percent of the diet (compared to the overall 50 percent mentioned earlier).

Third, in terms of the kinds of foods available in the store, the ability of people to "live" out of the store has increased considerably in the last two years. In that time, with village-wide electricity, the store has been able to stock a modest variety of frozen foods, especially meats. Although, as one man put it, "today people hunt in the store," dependence on store food -- particularly meat -- as a result of employment is considered by most Atkans as significantly less desirable (from both cost and taste standpoints) than eating locally obtained foods.

A final point regarding employment in Atka and its relation to the local food economy is that family ties and reciprocity are important in the community. Thus, an extended family, such as several brothers and their families (not necessarily living together), may depend on the income from one or more family members -- including women -- to support the hunting and fishing efforts of other men in the family. These latter individuals, in turn, support the food needs of the group. Since the number of employed persons varies greatly over time in the community, and since we were not able to document all instances of sharing, we are unable to support this assertion in a quantitative fashion. We can point out, though, the general point discussed above, namely, that those persons financially most able to participate in hunting and fishing are likely those who have the least time to do so.

7. Relating to the previous point is that with the advent of electricity in the community within the last several years, virtually all families now have refrigerators, and many families have deep freezers. Although many foods have been and continue to be preserved for future use by salting, smoking, and drying, freezers have had an impact on resource procurement patterns. Since they have become available, people have taken more of an interest in "stocking up" on resources easily preserved by freezing, especially fish and meat. This strategy has been put to good use during times of high employment and limited hunting and fishing times. On those occasions when an employed man can go

hunting and fishing, he is likely to make the most of the opportunity and obtain a large amount of food, since he knows that it can be preserved fairly easily in his freezer. In addition to personal home freezers, there are freezers available for community use in the basement of the old school building, and a new large freezer unit is planned for community use in the near future.

7. A final factor affecting subsistence, although to a relatively minor degree, is the church. During particular times of the year, such as certain weeks during Lent, the Russian Orthodox Church imposes restrictions on eating meat. Since there is no resident priest in Atka, and since fish are not always available to substitute for meat, such restrictions are not rigorously adhered to.

Local concerns relating to resource utilization

The residents of Atka generally express satisfaction with the manner in which they utilize the various resources available to them. They do, however, have a number of concerns regarding present and future aspects of their subsistence economy. These are the following:

1. The abundance of sea otters and their depletion of invertebrate resources and effect on harbor seals is a serious issue in Atka. Over the years, the people have voiced their concern to various individuals and governmental entities, but to no apparent avail. Residents are frustrated by the total

protection given to the "sea rats," while they watch their food resources dwindle. It seems likely that this issue will become increasingly important and that some action on a regional basis may be undertaken in an effort to control the sea otter population. Suggestions for such control include allowing members of affected villages to harvest a certain number of sea otters to keep their population size down.

2. The cost of fuel for transportation is of concern to Atkans, since, at nearly $4 per gallon, it has forced them to limit their hunting and fishing trips to a certain degree. Whether there exist any solutions to this situation is unknown.

3. Increased commercial fishing by outsiders in the seas around Atka Island has raised general concerns over the possible impact on local resources from such causes as oil spills, increased noise, and garbage thrown overboard. Over the years, for example, many reindeer have been found along the beaches of the island where they died after having become hopelessly entangled in fishing nets that have washed ashore.

Future of Atka's economy

The community of Atka, largely through the efforts of the village profit corporation, the Atxam Corporation, and the Village Council, is actively involved with planning for its economic future. A number of possibilities to provide local jobs are being considered, perhaps including building a cannery or processing

plant somewhere on the island and development of bottom fishing. In these endeavors, the experience of many people in the community in the fishing industry would certainly be an important asset, and such recent improvements as the paved airstrip should make development more feasible.

Since Atka is a community isolated from centers of commerce, economic development is likely to occur slowly and on a modest scale. There is every reason, therefore, to expect that for the foreseeable future the hunting, fishing, and gathering of local resources, and the cooperation and sharing that are an integral part of those activities, will remain an essential element in the way of life of the people of the community.

APPENDIX A

ATKAN ALEUT RESOURCE AND RESOURCE PROCUREMENT TERMS

Table A-1 presents those Atkan Aleut terms which relate to various resources and aspects of resource procurement. The table is derived entirely from the work of Bergsland (1980). It must be noted that we selected for inclusion in this table all terms relating to plants and animals (as well as a small number of terms relating to hunting and gathering activities) regardless of whether it is known that they have been, or are, used by the people of Atka.

TABLE A-1

ATKAN ALEUT RESOURCE AND RESOURCE PROCUREMENT TERMS

Atkan Aleut	English
Sea mammals	
aataax	adult male fur seal
agamaxchix̂	a small kind of rorqual (possibly little piked whale)
agdixix̂	sperm whale
adlux̂	killer whale
alax̂	whale (in general)
alaadax̂	harbor porpoise
alamax	a kind of rorqual (possibly humback)
amgaadax̂	walrus
aniidax̂	pup; young of sea animal
qawam aniidangis	sea lion pups
chadux̂	oil, fat
isuĝim chaduu	seal oil
chaduĝnax̂	blubber, fat
chaĝalix, chaĝaligix̂	young of seal, less than one year old that has left its mother
chaamzax̂	seal blubber mixed with seal liver
chiidux̂	kind of whale (perhaps beaked whale)
hulustaakax̂[R]	half grown (one year old) fur seal, "bachelor"
igignax̂	blubber
isux̂, isuĝix̂	harbor seal
kdangix̂	dolphin with white spots
kulamax	Pacific right whale, maybe also bowhead whale
lastax̂	fermented fur seal flipper
hlaaqudax̂	fur seal
mangidax̂	maybe gray or humpback whale
nayus	inflated bladders made of sea lion throats or guts, tied around <u>bidarka</u> in stormy weather
nuĝdax̂	round piece of rock (ca. 5 pounds) with a line around the neck, used to hit harpooned sea lion
qachuqix̂	shark
qagdux̂	seal skin parka (without hair)
qawax̂	sea lion
qawam aliĝa	male sea lion
qawam ayagaa	female sea lion
qawam hlaa	young of sea lion
qawam tanaa	sea lion rookery
qawaadax̂	one to two year old sea lion

TABLE A-1 (Continued)

Atkan Aleut	English
qawaagamax	adult sea lion
qawax̂sil	to kill sea lions
qayux̂	retrieving line
tux̂tux̂	maybe ribbon seal
tumgax̂	walrus tusk, ivory; foreshaft of spear, harpoon
ugûlux̂	spear, harpoon
ukutux̂	small seal (white)
umĝulix	blue whale
Fish	
adgayux̂	humpback (pink) salmon
araamacux̂[R], kuhyux̂	bullhead, catfish
atxidax̂	codfish
ayux̂ax̂	lumpfish
baliikax̂[R]	smoked fish
chaĝax̂	lure (grass or the like tied to the fish hook)
chagix̂	halibut
chalaaqux̂	a kind of swordfish or sailfish
chavichax̂[R]	kind salmon
chidĝis	kind of mackerel
x̂aykux̂[R]	dog salmon
haanux̂	red salmon
hudax̂	dried fish
kalagax̂	yellow sculpin
hmiikaayax̂	red sculpin
imyaĝnax̂	fisherman
niivudix̂	seine
hnix̂	a kind of eel-like fish, three to four feet long, with a head like a bullhead
qachimaazax̂	partially dried fish (without cuts, sometimes with backbone)
qax̂	fish
qaadax̂	Dolly Varden
qaĝdax̂s	to fish in a river with a 3-spiked hook on a pole
qaĝdaĝasix̂	fishing pole with hook (3-spiked)
qanaax̂s	to fish, to try to get fish
qanaaĝusix̂	seine
qakiidax̂	silver salmon
qam	milt
qunquĝa	roe

TABLE A-1 (Continued)

Atkan Aleut	English
riiyax̂	hook for halibut or cod (wooden pole with three hooks)
satxax̂[R]	gill net
sx̂iix	pogy, greenfish, Japanese perch
sildix̂[R], unglax̂	herring
qam suliĝii	salted fish
sumgax̂	king salmon that goes out again to sea after spawning
taadaayux̂	flounder
taaqax̂	resembles cod, has big mouth with thin black lips
takdax̂	cod bladder, cod stomach stuffed with cod liver
tluhmul	to stir a creek with a stick to which grass is tied, in order to scare fish into net
tmadgix̂	Atka mackerel
tukux̂	bass
tumduĝdas	rock minnows
tutuunus	fish eggs, hard roe
udĝiinux̂	fish cooked with seal fat
uĝaaĝux̂	a kind of black flounder
umĝuulus	roe of pogy or herring
umx̂ix̂	stomach used for storing dried fish
unglax̂	herring
yaarusax̂[R]	halibut hook
zapuurax̂[R]	salmon trap
Birds	
aagayuux̂	cormorant
aaglux̂	slender-billed shearwater
aaĝix̂	mallard
aaĝuliix	duck hawk
aĝdiikax̂	ptarmigan
aĝlaayax̂	red-breasted merganser
aĝlaayam quhmaa	American merganser
aĝligax̂	albatross
amayaqagnaĝix̂	grebe
amtatux̂	pintail duck
anglaax̂	oldsquaw
awayqix̂	young eagle (with black head)
azngux̂	a kind of mountain bird, snowbird (comes down in winter to the beach)
chaanux̂	rosy finch
chamdax̂	grebe

TABLE A-1 (Continued)

Atkan Aleut	English
chiixuyaakax̂	song sparrow
chilux̂	Alaska longspur
chuchiix	least auklet
chulikdax̂	Aleutian sandpiper
chuygix̂	a kind of sandpiper, red-backed sandpiper(?)
chyaalix̂	young sea gull
hiigix̂	oystercatcher
ingatux̂	red-faced cormorant
ingix̂	hoop net for catching birds
ihngitx̂ux̂	long line with bird snares hanging under it, stretched across channel and lifted when birds come
iluyaax	decoy, decoy bird
kaaxadgix̂	harlequin duck
kamalux̂	young rosy finch, all brown
kasamix̂	eider duck
kukutux̂	young eider duck
kiikitiknax̂	fork-tailed petrel
kiiyux	parasitic jaeger and maybe long-tailed jaeger
kuchutux̂	greater scaup
lagix̂	Canada goose and maybe cackling goose
laglax̂	Canada goose: Hutchin's goose
maadugaax̂	snow bunting
midimitx̂ix̂	bufflehead
hmaxchiidax	a kind of auklet, probably Cassin's auklet
qachiiyux̂	possibly American widgeon
qagidax̂	horned puffin
qagmang	emperor goose
qanglaax̂	raven
qaqax̂	Pacific loon
qatxayax̂	wren
qigux	common loon
qiix̂chiidax̂	teal
qiiqix̂	maybe Leach's petrel
qilitaqax̂	maybe immature pelagic cormorant
qihmuugdax̂	parakeet auklet
qitiqdax̂	arctic tern
qizangax̂	ancient murrelet
qugaangix̂	American scoter, "whistler"
qugulii	young of tufted puffin
qukinĝix̂	swan
saakux̂	king eider

TABLE A-1 (Continued)

Atkan Aleut	English
saahmlax̂	egg
saahmlas	gather eggs
sax̂	bird, duck
tanam sangis	land birds
alaĝum sangis	sea birds
hanim sangis	fresh water birds, ducks
sakuchas	small birds
sakitax̂, ulungtx̂ax̂	murre
siihmlux̂	pigeon guillemot
slukax̂	adult sea gull: glaucous-winged gull and glaucous gull
smiix̂	a kind of snipe
tamgaalux̂	white-winged scoter
tiglax̂	eagle
tiglaagamax	adult eagle
tiigilgaax̂	kittiwake
tuhmux̂	whiskered auklet
tutuutux̂	snowy owl
uxchux̂	tufted puffin
sam uĝaluu	bird dart
ux̂axsux̂	a kind of bird sling (handle with a notch for the rope)
Marine Invertebrates	
aanaqliitax̂	sea cucumber
aaqanax̂	octopus
adix̂	squid
agamgix̂	a kind of chiton (reddish)
aguĝnax̂	sea urchin
avrakataanax̂[R]	sea snail
chalax̂	clam
chiiknax̂	limpet
imuulux̂	a kind of round mussel
kasuqix̂	chiton, "bidarky"
qahmaqux̂	cardium (a kind of mussel)
qanglaaĝim chaxudaa	a kind of clam
qimgitax̂	king crab
taamusuudax̂	a kind of clam
utus	sea anemones
waygix̂	blue mussel
yas	reef
Fox	
uuquchiing	fox

TABLE A-1 (Continued)

Atkan Aleut	English
uuquchiingim uluudaa	red fox
uuquchiingim chidĝii	blue fox
uuquchiingim qaxchikdaa	black fox
uuquchiingim quhmaa	white fox
uuquchiingim siribraa	silver fox
kamchadax̂	fox trap consisting of a snare attached to a stick to which the fox is chocked, with a weight and a wooden ring in a half circle around it to lead the fox to the snare
kavkaanax̂	fox trap
klimchix̂	fox trap (torsion trap with a spiked peg)
kulumkix̂	fox trap (similar to a basket, with a deadfall)
Plants	
aangsux̂	berry
alaĝum achidan aahmaaĝa	beach pea
alix̂siisix̂	medical plant
alugax̂	root of black lily
alugam daax̂sxingis	white grains around root of black lily
chagitxax̂	white orchid
chikayaasix̂	a kind of plant (the leaves used for tea)
chikilĝux̂	hemlock parsley
chuhnusix̂	geranium erianthum (the leaves used for making gargle for sore throat)
huuĝdux̂	moss (several kinds)
iklux̂	leaf-thin seaweed, bright green or brownish
itim ulĝuu	salmonberry
kahngadgix̂	fucus -- seaweed with bladders
kahngadgim chuqii	stalk of fucus (edible)
kingdax̂	crowberry
kipriiyas[R]	fireweed
kulukuunchikax̂	monkey flower
lamsax̂	a kind of big-leafed kelp
maamanuuĝidax̂	monkshood
makaarsix̂	bistort
malaaĝis	inflorescence of wild parsnip; seeds
mukriichax̂	beach pea
pitruuskis[R]	wild parsley, beachgreens
qalamidas	a kind of fern

TABLE A-1 (Continued)

Atkan Aleut	English
qanglaaĝim aahmaaĝa	buttercup
qahngux̂	large seaweed, kelp
qixiichx̂is	rush
qiigax̂	grass
qimdixtix̂	deer fern
qugam chachx̂uu	devil's belt, clubmoss
qugam tutusii	devil's ear, toadstool
quganam aahmaaĝa	a kind of plant with yellow flowers
quganam huga	bright dark green moss on rocks
qugux̂	spring beauty
quniidas	cloudberry (grow on Amchitka)
saamalix̂	thin grass used inside boots
saahmikaadax̂	yarrow
saaqudax̂	wild parsnip
sixsiqax̂	medical plant [artemisia]
taagan'gix̂	lateral stalk of cow parsnip, "putchki"
taanamchiizax̂	cucumber plant
takdaadax̂	a kind of seaweed (oblong bladder, about 3 inches long, on a short stem); name of person in stories
tiĝlam aahmaaĝa	bistort
tiĝyux̂	wild rye
tmax	very long seaweed formerly used for fish line
tuutx̂ax̂	dry stem of cow parsnip or wild parsnip left over in winter
tuzaangus	strawberries
uxchuudax̂	ragwort
umsutuudax̂	iris; a kind of long grass growing in water
yaguuram kuufyaa[R]	wild geranium, "Gregor's coffee"

Miscellaneous

itx̂aygix̂	reindeer
kinugas	cache, food put away
mayaax̂s, mayaaĝil	to hunt, to trap
mayaaĝnax̂	hunter
qaxatix̂	sling shot (a round piece of leather with two string, the one with an eye for the middle finger, the other with a knot held between the thumb and forefinger) [sling]
qalgadax̂	food
qaqamiiĝul	to hunt, to fish

TABLE A-1 (Continued)

Atkan Aleut	English
tanasxa	summer camp for hunting and fishing
uskaanax̂[R]	rabbit
uguruudax̂[R]	vegetable garden
hyaagax̂	driftwood
uyaaĝul	to wait for a share of the catch
hudax̂	dried meat
ulux̂	meat
ix̂sum qagnangis	temporary shelter built by two hunters with four sticks and covered with skins

SOURCE: Derived from Bergsland (1980), except for material in brackets.

[R] Russian origin.

APPENDIX B

MONTHS OF THE YEAR

IN ATKAN ALEUT

TABLE B-1

MONTHS OF THE YEAR IN ATKAN ALEUT

Aleut Month	English Month	Translation
tugidaagamax	January	The main month
anulgilax̂	February	Hunting of the cormorants month
qisaguniх̂	March	People are hungry and cold month
lagim tugidaa	April	Month when Aleutian Canada geese come back west for nesting
agaagitim tugidaa	May	Month when it feels warm but sometimes there are snowsqualls
iguuĝum tugidaa	June	Month when certain birds are pulled out of their nests to be used for food and clothing
aniidam tugidaa	July	Month when young sea mammals are born

TABLE B-1 (Continued)

Aleut Month	English Month	Translation
sadignam tugidaa	August	Month when seal pups are left behind by their mother but are still fat from mother's milk
ugnam tugidaa	September	Month when sea mammals become skinny
chngulim tugidaa	October	Month when sea mammals and birds shed fur or feathers
kyum tugidaa	November	Month when brown mussels are available for food
agalĝalux̂	December	Month for starting harpoon hunting

SOURCE: Aleutian Region School District (1982b)

APPENDIX C

RESOURCE PLACE NAMES ON ATKA AND AMLIA ISLANDS

Table C-1 presents a list of location numbers and names pertaining to places on Atka and Amlia Islands in Figures C-1 to C-3. These numbers and locations are taken from Bergsland (1959:20-35), with orthographic changes in the Aleut provided by Moses Dirks, an Aleut language specialist from Atka. Of the approximately 665 place names given by Bergsland for these two islands, those 85 which have apparent relationship to resources, including resource procurement areas and resource items, are included in Table C-1 and the figures. Table C-2 itemizes these place names by major resource categories.

TABLE C-1

RESOURCE PLACE NAMES ON ATKA AND AMLIA ISLANDS

Location Number[1]	Aleut Name	English Translation and Additional Information[2]
Atka Island		
231	Qiix̂tas	"has petrels"
233	Saahmlam tanangis	"egg islands"
245	Asxitix̂	"getting hematite"
256	Kasamim chuguu	"eider duck sand"
257	Ixsxag̊ix̂	"has sea lion rock(s)"
263	Kuluuzas amilg̊a	"the fishing place at the minor pools"
264	Akayum hatxalan amilg̊a	"the fishing place outside the pass"
265	Kulux̂	"the pool" which about a hundred fathoms deep and has halibut
269	Chiidam udaa	"pup bay" where [an Atkan man] had his summer hut
280	Atxalam chuqii	two modern summer camps are here
284	Taag̊angisix̂	"collecting of lateral stalks of cow parsnip (Heracleum lanatum)"
287	Ignaachxag̊im changanaa	modern summer camp is below this spot
288	Qaangug̊iidax̂	"has small seal caves"
293	Tanasux̂ or Chunixsam tanasuu	modern camp near here
294	Chunixsam yaag̊a	salmon creek runs behind this
299	Niivudiilux̂	"seining place"
304	Kingdax̂sxa	"where there are crowberries (Empetrum nigrum)"
309	Chaliilux̂	"the place for throwing out the small fish line"
311	Igdaxchxalux̂	"place for finding flint"
337	Aag̊uliigag̊im tugimag̊a	"has hawks"
341	Gunas amilg̊a	"the fishing place gunas"
348	Chaxalux̂	"hollow"; the only place on the island where there are shrubs, about six feet high
365	Agdugalus	the sea lion rocks

TABLE C-1 (Continued)

Location Number[1]	Aleut Name	English Translation and Additional Information[2]
371	Tagalam angtan qalungis	"the hot springs of t.a." where some camping, cooking, and bathing occurs
396	Alamagzax̂	"used to provide humpback whales"
398	Kinugas	"food cache" of some sort
401	Saĝuuĝa-tatuu	"the seal cave of s."
418	Saamaliilux̂	might be "place for cutting soft grass for lining footwear"
423	Skuulnikas udaa	"the schoolchildren's bay"; root of the black lily, Fritillaria camtschatcensis, was collected here
451	Qanguxchilax̂	possible has seal caves
459	Gixsxaĝix̂	"has sea lion rocks"
467	Aaqanaĝix̂	"has octopuses"
469	Haanuĝix̂	"has red salmon"
471	Aaĝuliigaĝix̂	"has hawks"
491	Qiigaĝalux̂	"grass cutting"
509	Haanuĝix̂	"has red salmon"
518	Alaĝiniiĝux̂	"frequent occasion of cutting whale"
519	Hyaagaĝix̂	"has driftwood"
534	Sam hanii	"bird's lake"
572	Hyaagatum hidaluu	"the cape of much driftwood"
573 or 573b	Adgayuulgix̂	"provided with humback salmon"
575	Axsigis kiiĝuucha	"hematite mountain"
576 (a or b)	Axsigis qanguu	"the seal cave of a."
611	Adgayus gaavanaa	"humpback salmon harbor"
620	Alazigalix̂	"provides good whale meat"
621	Taangaa izanax̂	"where fresh water is undiscoverable"
627	Kingdax̂sxax̂	"provided with crowberry"
642	Kasamim chuguu	"eider duck sand"
654b or 654	Qagamaliilux̂	"place for removing cartilege or front ribs"
660	Siihmluĝis	"have pigeon guillemots"
Amlia Island		
29	Saĝuugadagis	"birds colonies along"

TABLE C-1 (Continued)

Location Number[1]	Aleut Name	English Translation and Additional Information[2]
34	Haniidax̂	"like a lake"; lagoon cut off at low tide so that seals cannot get out, and a salmon creek too
36	Agug̑nadigax̂	"fine sea urchin"
44	Kuuchaxsis	"gathering full sea urchins"
46	Amlagim sag̑uugaa	"the bird colony of Amlia"
48	Sax̂tusix̂	"birding place"
61	Saami-tatuu	"iron lagoon"
63	Haanug̑iidax̂	"adjoining the red salmon place"
64	Kalula-tatuu	"lots of shots lagoon"
66	Aguulux̂	"working place" where Russian period hunting party used to spend the summer
77	[no name given]	there is a modern cabin here
83	Aag̑umchiidalix	this was a bird island
85	Agug̑naaqudas	"constant sea urchin picking"
86	Ululax̂	"junks [?] of meat"
88	Qilg̑ix̂	"navel string" is a nice place for fishing halibut
97	Chumliisim tatuu	"whetstone lagoon"
99b	Chuliidga	"small animals like spiders that come on dry fish and make it moldy"; two lakes here with lots of salmon; in Russian period red salmon were caught here
101	Unaalug̑a	"its cooking place"
107	Chungluug̑ix̂	perhaps had something to do with frying-stones
114	Chag̑azudax̂	"nice fishing with charmed bait"
117	Qulx̂udam udaa	"bald head's bay," a trapping place
121	Igdaag̑utux̂	"has much flint chipping"
127	Aniidaliilug̑is	"places for killing pups"
130	Silagagis	there are many seal caves
136	Kaalax̂	"grass mat for covering a store house"
137	Kaala-qangungis	"the seal caves of k."
139	Qasiilasix̂	"getting to where one makes fish supplies"
150	Yasis	"have got reefs"; sea lion rocks

TABLE C-1 (Continued)

Location Number[1]	Aleut Name	English Translation and Additional Information[2]
152	Saganax̂	Russian period summer party used to grow potatoes here
163	Asxanung	there are lots of eider ducks and sea gull eggs here
165	Haanuĝix̂	"has red salmon"
177	Qalĝizax̂	"usually has got fish"; there are big halibuts
181	Iĝilam aaliicha	"umiak landing beach"
192	Ux̂ax̂sux̂	"bird sling," a high cliff
217	Amlagi-stuuluĝa	"Amlia's table," a fishing place

[1]Location numbers correspond to those in used in Figures C-1 to C-3.

[2]Material in quotation marks is the actual translation of the Aleut name. This and the additional information are taken from Bergsland (1959).

SOURCE: Bergsland (1959:20-35), with orthographic changes in the Aleut names provided by Moses Dirks, Atka.

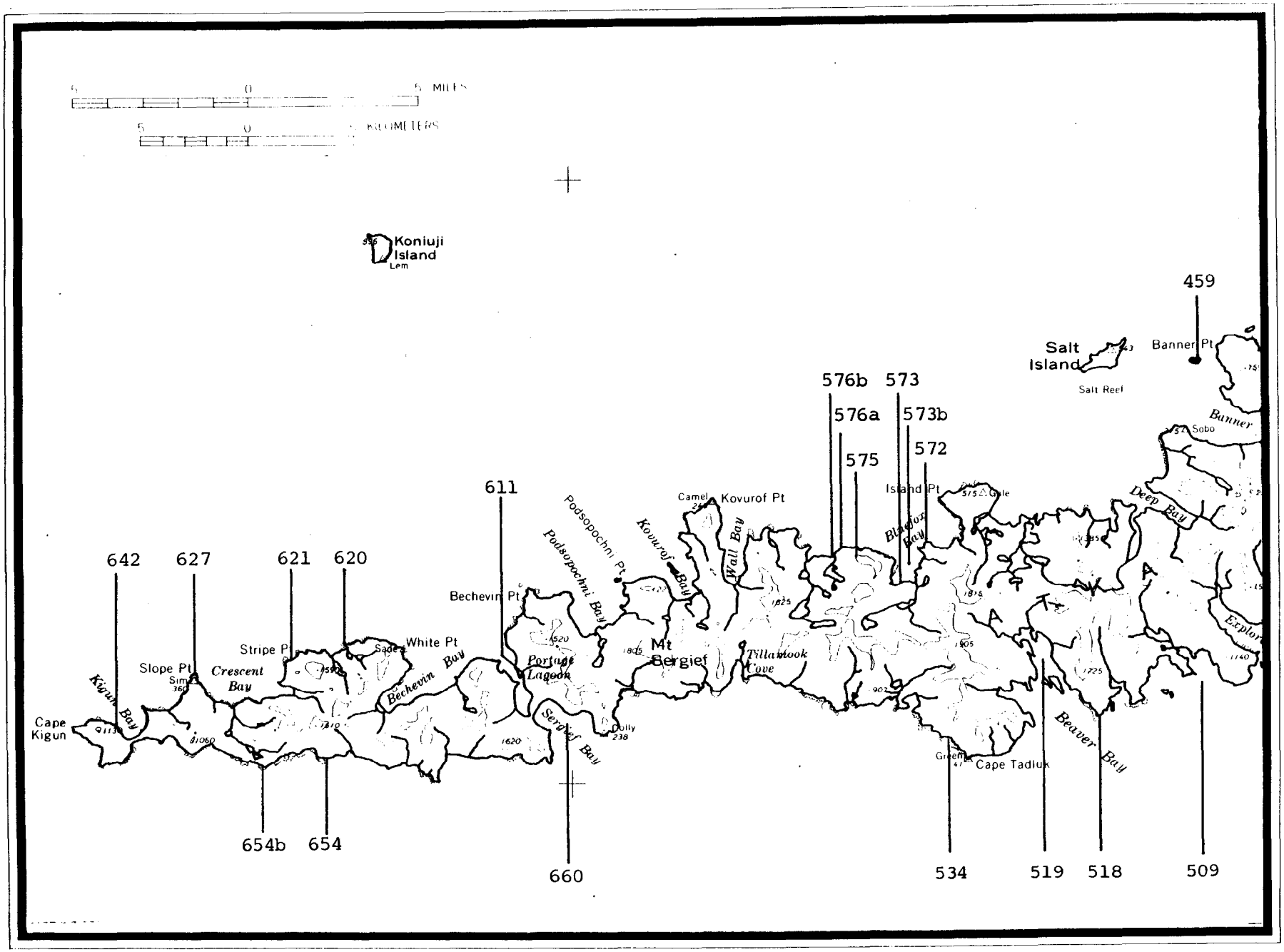

Figure C-1. Resource place name locations on western Atka Island.

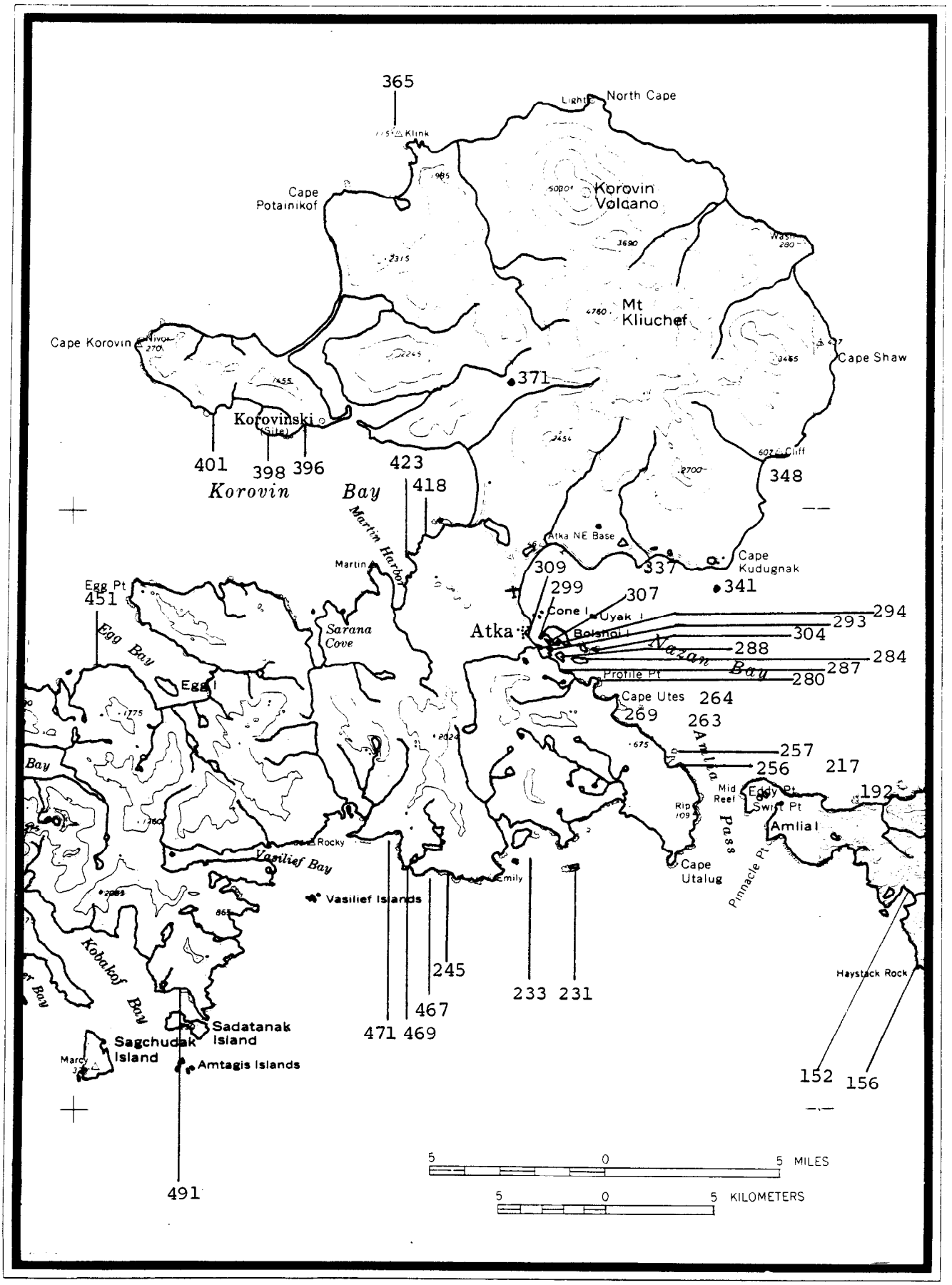

Figure C-2. Resource place name locations on eastern Atka Island and western Amlia Island.

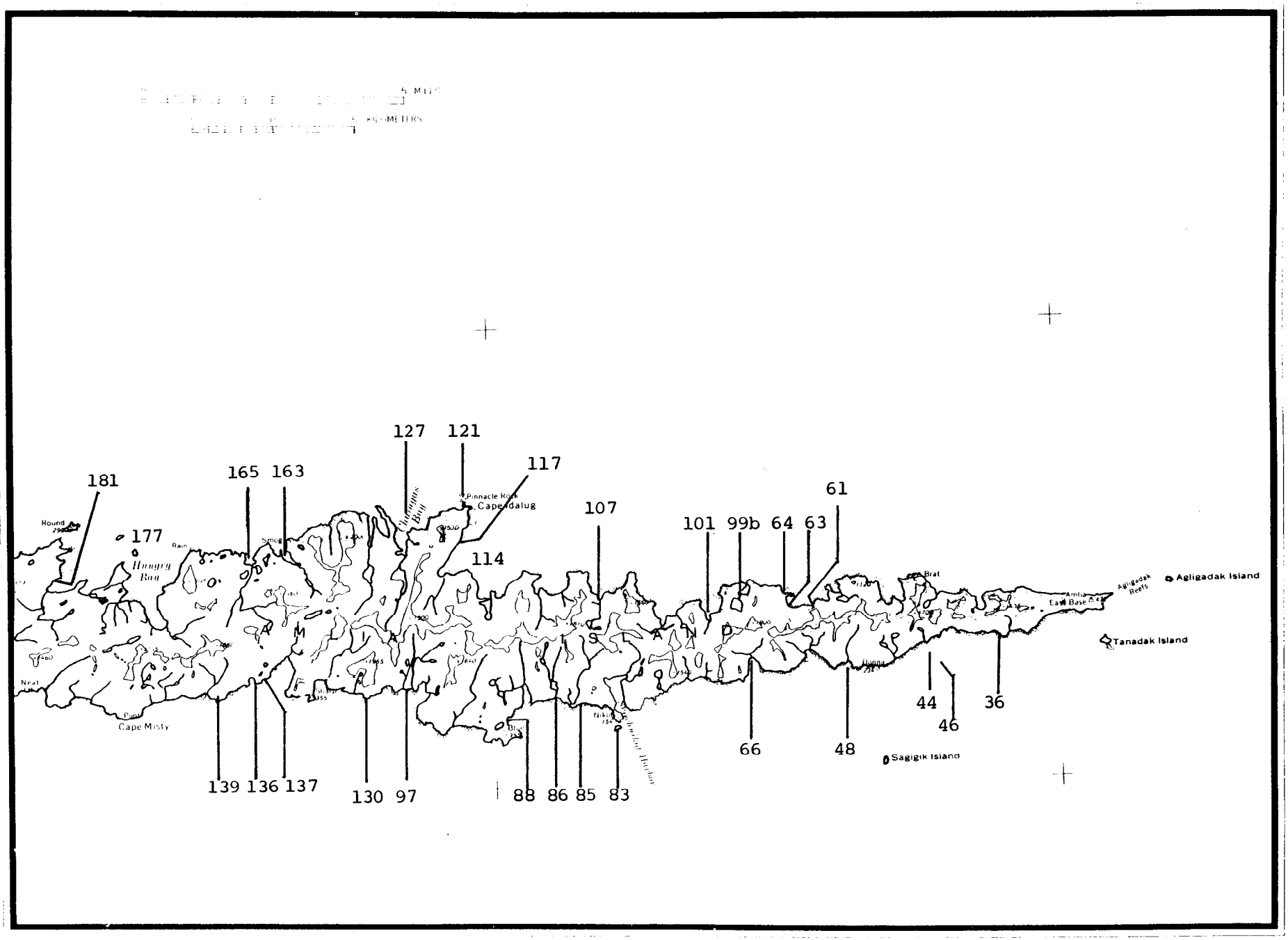

Figure C-3. Resource place name locations on eastern Amlia Island.

TABLE C-2

ATKA ISLAND AND AMLIA ISLAND PLACE NAME LOCATIONS
ON FIGURES C-1 TO C-3 BY RESOURCE

Resource	Place Name Locations on Figures C-1 to C-3
Sea mammals	34, 86, 127, 130, 137, 150, 257, 269, 288, 348, 365, 396, 401, 451, 459, 518, 576(a or b), 620, 654b or 654
Fish	34, 63, 88, 99b, 114, 139, 165, 177, 217, 263, 264, 265, 294, 299, 309, 341, 469, 509, 573 or 573b, 611
Birds and/or eggs	29, 46, 48, 83, 163, 192, 231, 233, 256, 337, 471, 534, 642, 660
Plants	136, 284, 304, 418, 423, 491, 627
Stone	61, 97, 107, 121, 245, 311, 575
Camps	66, 117, 280, 287, 293
Marine invertebrates	36, 44, 85, 467
Driftwood	519, 572
Miscellaneous hunting	64, 181
Gardening	152
Hotsprings	371
Food cache	398
Cooking	101
Absence of fresh water	621

NOTE: Locations 29-217 are on Amlia Island; 231-660 are on Atka Island.

SOURCE: Derived from Bergsland (1959).

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