

TRADITIONAL RESOURCE USES IN THE KNIK ARM AREA:  
HISTORICAL AND CONTEMPORARY PATTERNS

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ABSTRACT

This report is a summary of the historical and current uses of wild resources in the Knik Arm drainage area of Alaska. It focuses on the area's aboriginal inhabitants, the Knik Arm Tanaina (Dena'ina), whose principal communities today include Knik and Eklutna. The paper concludes with an overview of contemporary patterns of resource use within these Dena'ina communities. The data derive from several years (1978-1981) of ethnohistorical and ethnographic research on the Upper Cook Inlet region.

After a review of the geography and most important natural resources of the region, the report examines the subsistence activities of the Knik Arm Dena'ina within four historic periods: 1) Pre-contact (before 1800); 2) Fur Trade Era (1790's to 1890's); 3) Era of Commercial Activities (1890's to 1930's); and 4) Post-World War II (1940's to the present). It notes a basic continuity in resource uses throughout all four periods.

The round of subsistence pursuits in aboriginal times included the use of a wide variety of seasonally abundant wild resources. Salmon, especially kings, reds, and silvers, were the major staple of the diet. Waterfowl, eulachon, seal, fresh water fish, moose, caribou, sheep, small game, fur bearers, and numerous plant species were among the other important sources of food and raw materials which derived from the natural environment. Dena'ina place names demonstrate this range of resource use and the

importance of many diverse environments to Dena'ina survival. Foods, as well as other raw and prepared products, were shared within groups of kin.

With the arrival of Russian, and later American, fur traders, the Dena'ina gradually became participants in the Euro-American fur trade. The fur trade introduced new items of material culture, but brought no major changes to the Dena'ina subsistence economy. However, epidemic and endemic diseases of European origin took a heavy toll of Dena'ina lives.

By the mid 1890's, important demographic, economic, and social changes were occurring in the Cook Inlet region. Mining, commercial fishing, and homesteading led to the establishment of a permanent non-Native population in the Knik Arm area and the growth of the town of Knik. Construction of the Alaska Railroad commenced in the 1910's, resulting in the founding of Anchorage. These developments placed great pressures on local wild resources and their users. Nevertheless, a subsistence economy was practiced by the Knik Arm Dena'ina even as towns, railroads, and farms sprang up in their fishing, hunting, and trapping grounds. In the 1910's and 1920's, extended families established fish camps in the present-day Anchorage area. Urban growth and withdrawal of land for military bases forced them to relocate their camps on Fire Island and Point Possession. As in earlier times, the use of geese, moose, caribou, beaver, and other wild resources remained at the center of the Knik Arm Dena'ina way of life.

Since World War II, the area's population has continued to grow, and regulatory actions have increasingly constrained subsistence fishing in Knik Arm. In 1971 the subsistence fishery was closed. Commercial catches and sport fishing provide the communities with some salmon, but not enough to meet their needs. The closing of the subsistence fishery of Upper Cook Inlet

to all but the residents of Tyonek in 1981 has further restricted their access to this key resource.

Today, the communities of Knik and Eklutna extend through kin ties beyond the home villages into other towns and cities. Community membership is expressed through attendance at church services, participation in village corporation affairs, and, especially, the sharing of harvested wild resources. Salmon, moose, beaver, muskrat, and fresh water fish, as well as numerous other resources, continue to be utilized in these communities.

In conclusion, the members of the communities of Knik and Eklutna occupy a territory in the midst of one of Alaska's most dynamic regions. Despite the extraordinary pressures that have been placed upon local resources and the loss of hunting and fishing territories, the use of these resources has continued to be economically, nutritionally, and culturally significant to the Dena'ina communities of Knik Arm.



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## A. Introduction

This report is in part a brief summary of the history of traditional resource uses in the Knik Arm drainage area of Alaska. Because quantitative research has not been conducted on the current extent of such uses along Knik Arm, the focus here is on user groups of the past. The Knik Arm Tanaina (Dena'ina) are the area's aboriginal inhabitants, whose principal communities today include Knik and Eklutna. The report will discuss the range of wild resources utilized in the variety of environmental settings found in the Knik Arm drainage, and identify demographic, economic, political, and sociocultural factors which have affected the uses of these resources over time. It concludes with an overview of contemporary patterns of resource use within the Dena'ina communities of the area.

Unless otherwise indicated, the data contained in this paper derive from ethnographic and ethnohistorical research conducted by the author in 1978-79 and 1981. For a more comprehensive discussion of the ethnography and history of the Upper Cook Inlet region, the reader should consult Patterns of Upper Inlet Tanaina Leadership, 1741-1918 (Fall 1981), which incorporates the results of this research.

The reader should keep in mind that the use of the past tense in describing traditional culture and resource uses of the Knik Arm Dena'ina is not meant to indicate that such activities are no longer meaningful or no longer occur. In fact, an essential point of this historical review is that despite unusual pressures resulting especially from economic development and regional population growth, the use of wild resources, and much of the sociocultural complex which it supports, have persisted to the present day.

## B. Geographic Setting and Resource Inventory

Knik Arm, a narrow tidal estuary approximately 45 miles in length, is the northeastern-most branch of Cook Inlet. Two major tributaries, the Knik River (25 miles long) and the Matanuska River (75 miles long), as well as many lesser streams, discharge into Knik Arm. Both of these rivers are laden with glacial silt, which has contributed to the formation of the extensive tidal flats of the Arm. The heavy silt content of the water creates an unfavorable environment for the intertidal species (e.g. clams, mussels) and marine mammals (e.g. sea lions, sea otters) found in Lower Cook Inlet. However, harbor seals frequent the mouth of Knik Arm during salmon and eulachon runs.

Massive mountain ranges enclose Cook Inlet Basin on three sides. In the Knik Arm, the Chugach Range to the east rises to a height in excess of 6000 feet, while the rugged Talkeetna Mountains to the north and east reach 7000 feet. These mountains provide habitats for numerous large and small game, including caribou, mountain sheep, goat, brown and black bear, ground squirrel, marmot, and ptarmigan, as well as for fur bearers, such as wolf, wolverine, and fox.

The forested portions of the Upper Cook Inlet region are transitional between the heavy rain forest of southeastern Alaska and the treeless tundra of high elevations and more northerly latitudes. Several different assemblages of vegetation are characteristic of the Knik Arm area. Each has its own distinctive biotic community (Selkregg 1974:122-131). The most important game and fur bearing species of the forest zone include moose, black and brown bear, porcupine, snowshoe hare, spruce grouse, lynx, wolf, fox, and marten. Lakes, streams, and marshes provide habitat for waterfowl, muskrats, beaver, mink, and river otter. In addition, the forests and

marshes contain numerous plants which are valuable as food, medicines, and raw materials (P. Kari 1977).

Five species of salmon spawn in the drainage systems of Knik Arm. King Salmon (chinook) run in Ship Creek and Campbell Creek (in the present-day Anchorage area) and in the Matanuska River, predominately in May and June. Runs of reds (sockeye), chums (dog), pinks (humpback), and silvers (coho) follow during the summer. Silvers are the last to appear, arriving first in July but running well into September. Salmon have historically spawned in many drainage systems of Knik Arm, including those of the Eagle River, Eklutna River, Knik River, Matanuska River, Wasilla Creek, Cottonwood Creek, and Fish Creek. Runs of all five species were not found in each of these streams, however (McLean and Delaney 1978:Maps 58-1, 58-2, 58-3, 58-4).

Another important species of anadromous fish is eulachon (Thaleichthys pacificus), known as hooligan or candlefish. These small, oily fish arrive in fresh water in May and June. In addition, several species of fresh water fish inhabit the streams and lakes of the Knik Arm drainage. These include lake trout, grayling, Dolly Varden, and rainbow trout.

In summary, the Knik Arm area contains a variety of environments: estuarine, mountain, forest, marsh, and riverine. The Knik Arm Dena'ina have traditionally utilized all of these environments and the diverse products they contain.

#### C. Subsistence Activities in Pre-contact Times (Pre-1800)

The aboriginal inhabitants of the Knik Arm region, as well as much of the Cook Inlet Basin, the Lake Iliamna region, and the Stony River

drainage, are the Dena'ina Indians, speakers of an Athapaskan language. The Knik Arm Dena'ina (K'enaht'ana) belong to the Upper Cook Inlet subdivision of this group, which also includes the Native populations of the Susitna River Basin and the Tyonek area.

The Knik Arm Indians traditionally resided in permanent winter villages located along productive salmon streams, by the mouths of lakes, or on the high bluffs above the Arm (See Table 1, Map 1). Each village contained one or more multi-family dwellings, which were organized on the basis of kinship. In addition to the villages, temporary hunting camps and traditional fish camps comprised a complex of sedentary seasonal settlements with permanent bases. Rights to the use of fish camps, hunting grounds, and village sites were determined by membership in one of several matrilineal clans.

It is impossible to estimate the size of the pre-contact Dena'ina population with certainty. The earliest census data pertain to the early nineteenth century, which followed decades of European presence. The anthropologist Joan Townsend (1980:151) has recently suggested that the number of pre-contact Dena'ina speakers (including those of Knik Arm) might have reached 5000. (See Table 2 for population summaries.) As indicated by the many village sites along Knik Arm, this area evidently supported a large population prior to the spread of European-introduced diseases in the nineteenth and early twentieth centuries.

It has already been noted that a wide variety of seasonally abundant wild resources were available to the aboriginal inhabitants of the Knik Arm area. The general account of the typical "annual cycle" or "yearly round" of subsistence activities which follows illustrates the hunting and fishing economy of the K'enaht'ana as it existed before significant Euro-American influences occurred in the Cook Inlet region and when an aboriginal

Table 1: Historic Dena'ina Village Sites in Knik Arm Area

[NOTE: For geographic locations, please refer to Map 1]

- K-1 K'enakatnu: Fish Creek Village
- K-2 Nughay Bena: Knik Lake Village
- K-3 Modern Town of Knik
- K-4 Fisher-Hong Site
- K-5 Biłni Ts'unaghelqeni
- K-6 Htidaghitunt
- K-7 Ładzat: Cottonwood Creek Village
- K-8 Chuqilintnu: Wasilla Creek Village
- K-9 K'enaka Bena: Big Lake Village
- K-10 Benteħ
- K-11 Eydlugħet: Eklutna
- K-12 Hninayka
- K-13 Niteħ
- K-14 Skintu K'ełaha: Swan Lake Village
- K-15 Hutnaynut'i: Bodenberġ Butte Village
- K-16 Tuhnagħiłkits
- K-17 Nił'a Tsa'it'ut
- K-18 Qentsis T'ugh
- K-19 Nuk'din'itnu: Chickaloon

Sources: Kari 1978; Fall 1981.

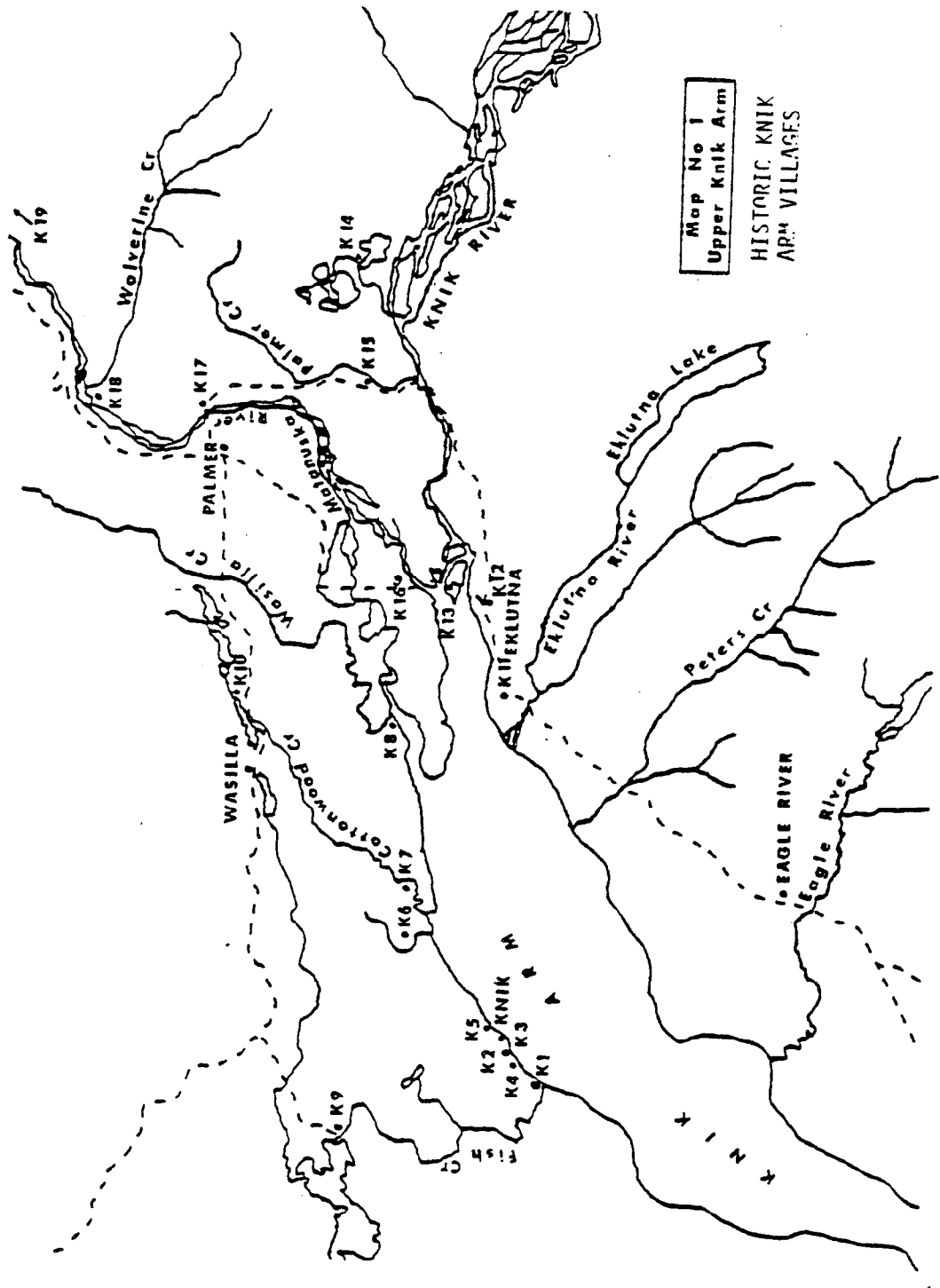


Table 2: Estimates of Dena'ina Population

All Dena'ina, including Knik Arm:

1805: 3000  
 1819: 1471  
 1830: 1537  
 1840: 1206  
 1845: 816  
 1849: 954  
 1860: 1099  
 1870: 709  
 1880: 1171  
 1890: 817  
 1899: 1170  
 1910: 672  
 1932: 650  
 1974: 900

Knik Arm Dena'ina:

1880: 254  
 1890: 200-300  
 1900: 250  
 1906: 150 (Knik Town only)  
 1974:<sup>1</sup> 155

<sup>1</sup> Knik Village Corporation: 29  
 Eklutna Village Corporation: 126  
 TOTAL: 155

The total number of Dena'ina living in the Knik Arm area, including Anchorage, was probably significantly higher in 1974, and is certainly much higher today.

Source: Fall 1981:106-131.

technology was employed. Therefore, survival in this abundant but variable environment demanded a great deal of flexibility and wise management of labor and time.

A new round of subsistence activities began for the Knik Arm Dena'ina in spring. April and May brought an end to a period of relative scarcity. Some people traveled to the mouth of the Susitna River to obtain seal and beluga. The Dena'ina name for Point MacKenzie, Dilhi Tunts'del'ust Beydegh ("hooligans are transported point") commemorates the significant trade in eulachon oil which occurred at this time of year (Kari 1978:11; Table 3, Map 2). Also, people snared geese and other migratory waterfowl in the marshy zone surrounding Knik Arm and at Susitna Flats. The Upper Inlet Dena'ina name for April is Nut'aq'i N'u or "geese month" (Kari 1977: 144). Another important resource, k'tl'ila ("Indian potatoes;" Hedysarum alpinum), grows in Eklutna Flats. They were stored in underground caches or in grease. After the ice had melted, young men harpooned beaver in local lakes or caught them in deadfalls. Beaver meat was smoked for long-term preservation.

Of all the diverse resources available to the Knik Arm Dena'ina, the most important has been salmon. June is known as liq'aka'a N'u ("king salmon month"). King salmon are especially significant because of their early arrival and large size. Since the best runs of this fish occurred in the present-day Anchorage area, Knik Arm Dena'ina from further up the Arm traveled to traditional fishing sites there in May and June (see Table 3). A major means for catching king salmon were tanik'edi, platforms made of wooden poles which extended into the water at the mouths of salmon streams. Individuals stood on these platforms and dipnetted fish (cf. Wrangell 1970: 12; Alexan 1965:59-60). During the remainder of the summer (June, July,



Table 3: Dena'ina Place Names in the Eklutna/Knik Arm Area Reflecting Resource Use.

Salmon Fishing Sites:

K'telah Bena ("spawning lake")--Twin Island Lake

K'enakatnu (?)--Fish Creek

Tsuqilintnu ("fermented fish creek")--Wasilla Creek

Skintu k'ełaha ("spawn over brush")--Swan Lake. NOTE: Also a hunting camp.

K'qiydulghakt ("where they put up fish")--point north of Eagle Bay.  
"Whitney"

Nuk'elehitnu ("spawn again creek")--Eagle River

Ts'ak'dinlen'at ("where it flows out")--small creek from Green Lake. NOTE:  
Alex family fishing site until 1918, after which they fished on Fire  
Island.

Dgheyaytnu ("needlefish creek")--Ship Creek. NOTE: This was an important  
fishing site well into the twentieth century.

Tak'at ("dipnet platform")--bank on beach at Ocean Dock, Anchorage

Nutuł'iy ("extends in water")--Fire Island

Tuyqunt ("calm water")--Point Possession

Other Sites:

Dilhi Tunts'del'ust Beydegh ("hooligans are transported point")--Point  
McKenzie

Łdik'eyust ("where animals descend")--Goat Creek Canyon

Bentułik'alasi ("dogs driven up")--ridge leading to Twin Peaks. NOTE: name  
refers to a hunting technique.

Huts'iydelq'uht ("where we build a fire")--creek from Bentułil'alasi, across  
Eklutna Lake Road.

Łatsq'a ("clay hole")--Twin Peaks. NOTE: the clay attracted sheep; this  
was a prime hunting area.

Bendilent ("lake it flows to")--head of Eklutna Lake. NOTE: this was the  
site of the hunting base camp for the Alex family.

Table 3:--continued.

Nuhałts'k'eldełt ("we carry packs")--start of east fork trail, head of Eklutna Lake. NOTE: This was a sheep hunting area.

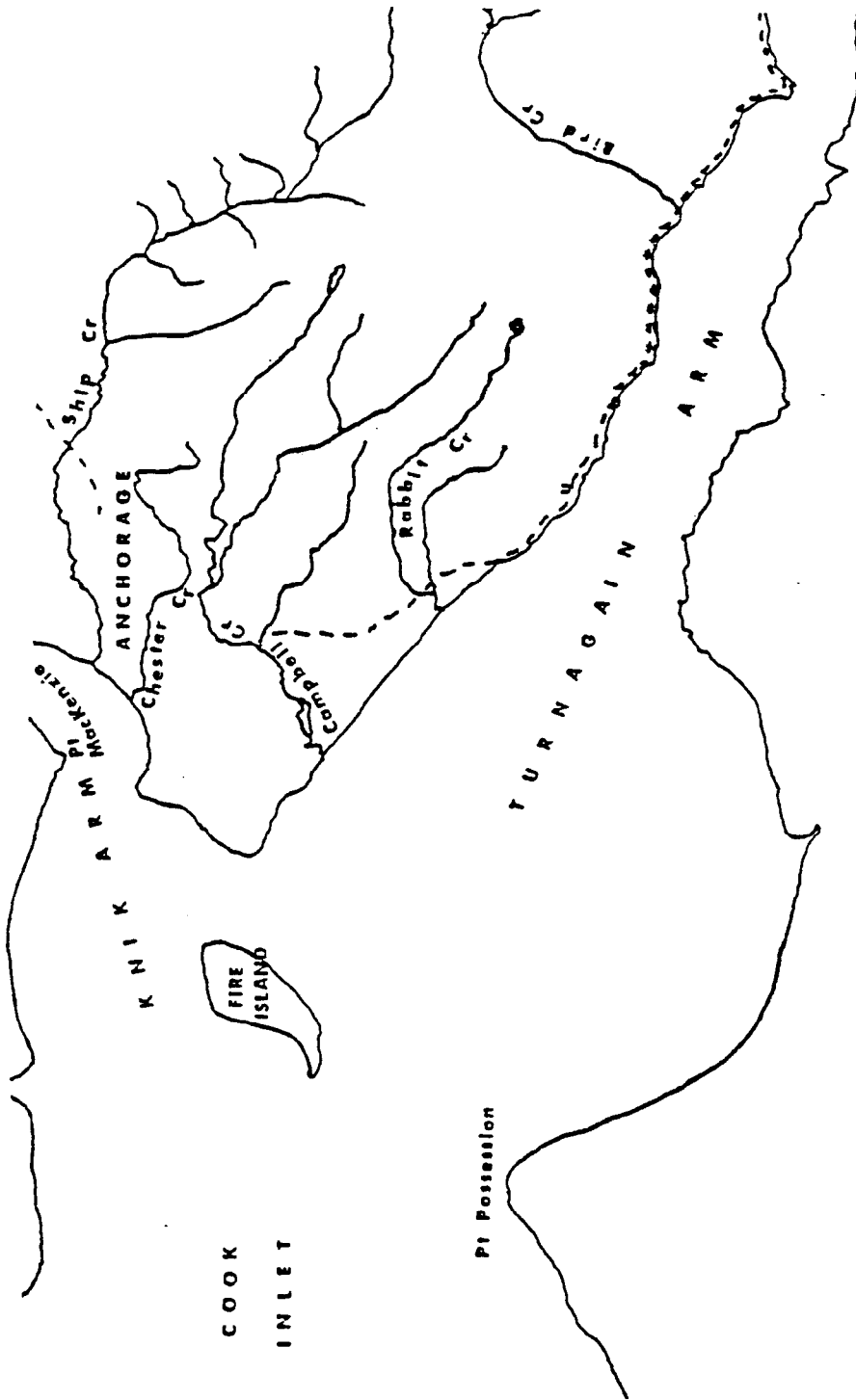
Nuhdaltunt ("extends between")--mountain, 6410', at head of Eklutna Lake SE. NOTE: This was a sheep hunting area.

Dkenyi Betnu ("underground cache creek")--creek from north entering into Peters Creek.

Esbaytnu ("mountain goat creek")--Bird Creek

NOTE: This list is only a small sample of a much larger collection.

Source: Kari 1978.



Map No 2  
Lower Knik Arm

KENAI PENINSULA

( August), runs of other salmon species, especially reds and silvers, were utilized. Fish traps and weirs (Osgood 1937:99-100) were constructed on such streams as Fish Creek, Wasilla Creek, and Cottonwood Creek, and at the mouths of many lakes, such as Big Lake and Lucille Lake. Village leaders (geshqa) supervised salmon harvests and regulated the distribution of the catch.

Most salmon were preserved by drying and smoking and stored in caches for use during the lean winter months. Baba (dry fish) and balik (smoked strips of salted salmon) are familiar products among the Dena'ina today. In addition, numerous other methods of putting up fish might be employed. For example, fish might be buried in the ground in birch bark baskets to make chuqilin ("fermented fish"). These supplies of food were shared among household members and their kin.

( The major hunting season of the Knik Arm Dena'ina began in late August and September. The residents of the lower Knik River region traveled upriver into the Chugach Mountains. For example, the people of Niteh, a village near the mouth of the Knik River, hunted from a camp near Swan Lake. Many Eklutna people have utilized the Eklutna Lake area for sheep hunting, as evidenced by numerous place names there (Kari 1978; see Table 3). Late silver salmon runs provided an additional harvestable resource during extended hunting trips. Before freeze-up, the hunters floated downstream in skin boats with their dry meat, dry fish, and skins to the winter villages.

Other Knik Arm people, especially those living on the west side of the Arm and up the Matanuska River, hunted primarily in the Talkeetna Mountains and in the Chugach Range south of the Matanuska Valley. They constructed caribou surrounds or "fences" by lashing horizontal poles between posts or trees, and setting snares at certain intervals along the

"fence." These surrounds could be four miles or more in length and require two years to build (Osgood 1937:33). One was formerly located near the head of Willow Creek.

During the remainder of the winter, people mostly stayed at their villages, subsisting on the stores of dry fish and dry meat. Visiting, trading, potlatching, and storytelling took place during these months. Hunters made short trips for moose and bear to supplement the diet. Small game, such as porcupine, hare, and ptarmigan, was also used. Besides bows and arrows, hunting gear included snares, clubs, deadfalls, and pitfalls (Osgood 1937:91-99). Men, women, and children obtained fresh fish, mostly trout, by ice fishing in local lakes.

Evidence in some old stories indicates that local scarcities and starvation could occur in late winter. If stored supplies did run low, village leaders organized more extensive hunting and trading expeditions. This relatively difficult season ended with the return of waterfowl, eulachon, and salmon in spring, when the annual cycle began anew.

#### D. The Fur Trade Era: 1790's to 1890's

The first known European contact with the Dena'ina occurred in 1778 when Captain James Cook's British expedition entered Cook Inlet in search of a northwest passage. A party under the command of William Bligh ascended Knik Arm, which Cook named "Queen Charlotte's River." While Cook traded with Dena'ina near present-day Tyonek and at Point Possession, Bligh encountered none during his brief exploration of Knik Arm.

Subsequently, the Russians established several trading posts on the Kenai Peninsula and at Tyonek. Following a decade of hostilities with the Russian traders in the 1790's, the Dena'ina gradually became participants

in the European fur trade. They utilized their aboriginal trading relationships to become middlemen between the Russians and interior Athapaskan groups. No permanent Russian presence was established along Knik Arm, but the K'enaht'ana brought beaver, otter, fox, marten, and other land furs to the Russian post at Kenai (Fort St. Nicholas). In return, the Indians received trade beads, copper and iron utensils, clothing, tea, and sugar. Because the Russians had a policy prohibiting the supplying of rifles to Alaska Natives, the aboriginal subsistence technology remained largely intact during the majority of the nineteenth century.

Throughout Alaska, the Russian traders, and later the Americans, encouraged Natives to become indebted to the trading posts. Trading companies assumed a paternalistic role towards the Natives as the desire for trade items grew (e.g. VanStone 1967:56, on Nushagak Eskimos; VanStone 1976:200, on Yukon River Ingalik; Townsend 1965:160, on Iliamna Dena'ina). Likewise, the Kenai Peninsula Dena'ina entered the direct employ of the Russians as trappers and hunters (Davydov 1977:196-197). However, the Knik Arm group remained largely independent of Russian control. Whereas participation in the fur trade brought the "luxury" items listed above into the Dena'ina economy and encouraged a more intensive trapping effort, no significant changes in Dena'ina subsistence activities resulted. However, sociocultural change did occur, accelerated by the demographic changes of the nineteenth century. Epidemic and endemic diseases (e.g. smallpox, influenza, measles, tuberculosis) took a heavy toll of Dena'ina lives. Consequently, some outlying villages were abandoned and Russian influences grew. Indeed, one of the most important legacies of the mid-nineteenth century is Dena'ina membership in the Russian Orthodox Church.

Following the sale of Alaska to the United States in 1867, the Alaska Commercial Company (ACC) and several rival firms operated trading posts along Knik Arm. In addition, the first Cook Inlet cannery was established in 1882 at Kasilof on the Kenai Peninsula. It was followed soon by others. Commercial fishing vessels appeared in the Upper Cook Inlet as a result. In addition, explorations for gold and other minerals also began in the 1870's and 1880's in the mountains surrounding the Cook Inlet Basin.

In the Knik Arm area, land fur bearers, especially beaver, continued to be the most important product of Native trappers during the late nineteenth century. There is good documentation of the activities of the Alaska Commercial Company (n.d.) during this era in the journals maintained by the company's agents. For example, the Knik agent, John Ballow, assumed an active role in organizing trapping parties. He outfitted hunters on credit, and admonished them to leave their villages during winter to trap even in years when fur prices were low. In the last two decades of the nineteenth century, in contrast to the Russian Era, the use of items of Western material culture, such as guns, steel traps, and wool clothing, began to take hold among all Dena'ina. As a consequence, fur trapping became a necessity in order to obtain cash for these purchases. At the same time, commercial fishing activities were depleting the Cook Inlet salmon fisheries. Purchased foodstuffs, such as flour, sugar, and beans, were increasingly prominent in Dena'ina diets as a result. Despite these changes, during the entire fur trade era the general round of subsistence activities of the Knik Arm people differed very little from that outlined above for pre-contact times. ACC logs contain substantial evidence of this for the 1870's, 1880's, and 1890's (e.g. ACC, Box 24, Folder 306).

E. Era of Commercial Activity: 1890's to 1930's

By the mid 1890's, important demographic, economic, and social changes were occurring in the Cook Inlet region, including Knik Arm. The discovery of gold at Bear and Palmer Creeks in 1894 created a minor "stampede" to Turnagain Arm. Several thousand people, mostly white males, flooded into the region. Although many of these newcomers departed for the Klondike when news of that strike reached the Inlet, mining in the Upper Inlet area did not cease. In 1897 another discovery occurred along Willow Creek. In the same year fur prices dropped drastically as commercial firms turned their attention away from fur trading to outfitting prospectors and supplying mining operations.

These developments brought an end to the Knik Arm Dena'ina's relative isolation from whites. The growth of the town of Knik, near several Indian villages and the site of George Palmer's store, was especially important. Knik first developed as a supply center for the miners of Turnagain Arm and the Willow Creek District. Most outlying Indian villages, except Eklutna and Niteh, were abandoned as permanent settlements as their inhabitants were attracted to the activity at Knik, but these former village sites remained important seasonal camps for subsistence pursuits. By 1906, 150 Indians and 40 whites were living in Knik. Knik's "Golden Year" of 1915 found 500 miners in town and an economy expanding as homesteaders began entering the region.

In the same decade, the Native population of the Upper Cook Inlet region declined greatly. Dena'ina elders today recall the devastating effects an influenza epidemic had upon their villages following the First World War. Despite such heavy losses, the Dena'ina have been an expanding population in the last several decades of the twentieth century.



When plans for the Alaska Railroad took shape in the 1910's, Knik declined in importance and Anchorage grew. With the founding of the Matanuska agricultural colony in the 1930's, additional towns appeared and large portions of land were cleared for farms. Knik Arm Indians engaged in seasonal wage labor in Anchorage and in the other settlements which sprang up along the railroad. They also found markets for their salmon catch at local canneries; as a result, many Dena'ina entered the commercial fishing industry.

Thus, by the 1920's and 1930's profound changes had taken place in the Knik Arm area. A permanent white population had been established and a railroad constructed. An economy based on mining, commercial fishing, and rudimentary agriculture was developing.

Nevertheless, a subsistence economy was practiced by the Knik Arm Dena'ina even as towns, cities, railroads, and homesteads sprang up in their fishing, hunting, and trapping grounds. Substantial evidence for the first four decades of the twentieth century is contained in the diary of O. G. Herning (n.d.), a Knik storekeeper. Also, many Dena'ina today recall the annual cycle of subsistence activities of that time. It should be compared to those of the aboriginal and fur trade eras described above.

As in earlier times, the Knik Arm Dena'ina hunted geese and ducks in April, following a spring hunt for fur bearers. Rifles were generally in use by this time. Many men supplemented their trapping income with wage labor, such as delivering mail or packing freight. Several Knik Indians owned sloops, with which they transported supplies from Knik to the mining communities of Turnagain Arm.

In June, when king salmon runs begin in the lower Knik Arm, camps were established along Chester Creek, Ship Creek, at Points Campbell and

Woronzof, and in the present-day Fort Richardson area. As the city of Anchorage grew, and as land was withdrawn for military bases, the people of Knik and Eklutna could no longer use these sites. The Indians relocated their camps on Fire Island and Point Possession, which are separated from the Anchorage area by stretches of dangerous water. Later in the summer Knik Indians fished at Fish Creek and other Knik Arm tributaries. Fish traps were still used early in this century; gill nets later replaced them. The Knik Arm Den'ina sold a portion of their catch to miners, city dwellers, and canneries.

In fall, the Knik Indians hunted sheep and especially moose. The latter had replaced caribou as the most important large game animal. Knik and Eklutna people traveled as far as the Oshetna River to hunt moose and caribou, and to trap fur bearers. These hunts involved small groups of kin. Game was widely shared within the community along lines of extended kinship. For example, in 1933 the late chief of Eklutna and his father killed 18 sheep at Eklutna Lake and distributed the meat to the community (Kari 1978: 5). Several Knik Arm Indians sold meat at mining settlements on Turnagain Arm.

#### F. Post World War II: 1940's to the Present

Since World War II, the non-Native population of the Knik Arm area has continued to increase rapidly. For example, Anchorage grew from a population of 2277 in 1940 to 102,994 in 1970. Military developments of the 1930's and 1940's, and oil and gas exploration and production in the 1950's, 1960's, and 1970's have contributed to this growth. Of course, for local resource users, this has meant increasing pressure on fish and wildlife populations, and the loss of fishing sites and hunting grounds (Davis 1965),

as well as the proliferation of regulatory controls on fish and game harvests. Resource uses have become more and more constrained by these factors.

In 1951 regulations closed Fish, Ship, Campbell, and Cottonwood Creeks to subsistence fishing. In the following year, gill net fishing was prohibited in all Knik Arm tributaries. However, this closure did not apply to fishing with rods, hooks, and lines for personal use. Snagging became illegal in 1953. Set gill net fishing along both shores of Knik Arm north of Point Woronzof was open before August 6 during commercial fishing hours until 1959, when subsistence fishing in the Knik Arm drainage was temporarily prohibited. From 1960 through 1970 the northwestern shore of Knik Arm was open to subsistence fishing, beginning August 1. As a result of the change in open season, the harvest effort shifted from kings and reds (traditionally very important to Knik Arm residents) to coho salmon. King salmon fishing has been illegal in Knik Arm since the early 1960's for all fishing interests. In 1962 a permit system was introduced to the Knik Arm fishery. A 50 salmon limit per permit was in force from 1964 to 1970. The annual catch averaged 3300 salmon during these seven years (Alaska Department of Fish and Game 1972, Braund n.d.).

Despite this reduction in available stocks and open seasons, as well as the loss of fishing sites, establishing fish camps in summer remained an important and meaningful activity for the Knik Arm Dena'ina throughout the 1960's. The members of the communities of Knik and Eklutna, young and old alike, spent most of the summer at the limited number of fishing sites when available to them along Knik Arm. In addition, several residents of Knik and Eklutna held commercial licenses, and fished at Fire Island and Point Possession. A portion of their catch was used for community consumption.

( At these camps, an entire group of kin, often an extended family, could participate in the fishing and in the preparation of preferred foods, such as smoked salmon. Thus, "going to fish camp" constituted both an important link with the past and an action symbolic of Dena'ina identity (Davis 1965: 27-28).

By 1970 the number of Knik Arm subsistence permit holders had risen to 290. In 1971 the declining red salmon escapement into Fish Creek led to the closure of the non-commercial set net fishery in Knik Arm, thereby eliminating the subsistence fishery there (ADF&G 1972, Braund n.d.). Some Knik people obtained subsistence permits and fished at other Cook Inlet sites until 1981, when the subsistence fishery was closed in Upper Cook Inlet for all but the residents of Tyonek. Another source of salmon for home consumption in Knik and Eklutna has been commercial catches. However, ( few individuals have commercial licenses. In addition, transportation to the fish camps on Fire Island and Point Possession is difficult, especially for the old people who are traditionally the leaders and teachers of the community. While some Knik and Eklutna residents participate in local sport fisheries, neither sport nor commercial fishing today provides the majority of the members of these communities with an opportunity to fish or to consume adequate amounts of economically, nutritionally, and culturally significant salmon products. Also, residents of Knik and Eklutna contend that moose and small game species (rabbit, spruce grouse) have decreased in numbers in recent years. They attribute this decline to a loss of habitat and and increase in hunting pressure as the human population of Anchorage has expanded northward.

( Although the author has not conducted a formal study of contemporary subsistence in the Dena'ina communities of Knik Arm, he has had first hand

experience, through interviewing and on site observation, with the people of Eklutna and Knik. Today, these communities extend through kinship ties beyond the home villages into Peters Creek, Eagle River, and Anchorage. Community membership is expressed in many ways; attendance at church services in Eklutna, "potlucks" at the Eklutna Community Center or a home in Knik, and participation in village corporation affairs are but a few. One of the most important means available to the Knik Arm Dena'ina for expression of their hertiage and identity remains the sharing of wild resources with their kin. For example, a woman at Knik sends salmon products to her sisters in Anchorage, who in turn share them with their own children and grandchildren. At Eklutna, a daughter of the late village chief and her husband obtain road-kill moose for other Eklutna residents. Moose meat is thus still a highly valued and nutritionally significant component of their diet. In addition, trout are obtained in local streams and lakes, waterfowl hunted along the Flats, "Indian potatoes" dug near Eklutna, and beaver, muskrat, and lynx trapped up the Knik River. Wood heats homes and sweatbaths. Thus, a variety of wild resources continues to be utilized today.

#### G. Conclusion

In conclusion, this report has drawn from a variety of ethnohistorical sources and several years of ethnographic fieldwork to outline the patterns of resource use of the Knik Arm Dena'ina from pre-contact times until the present. The members of the communities of Knik and Eklutna have traditionally and historically utilized a territory in the midst of one of Alaska's most dynamic regions. Extraordinary pressures have been placed on local fish and game populations and on the people whose group identity has depended upon the use of these resources. Despite economic change, human

population growth, loss of fishing sites and hunting territories, and, in recent years, governmental regulations, wild resources continue to be economically, nutritionally, and culturally valuable to the Dena'ina communities of Knik Arm.

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