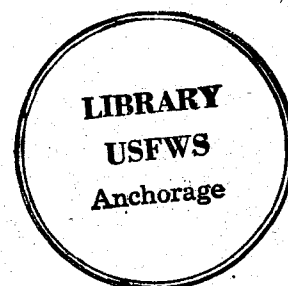


F
912
K87
B96d



ALASKA'S
KUSKOKWIM RIVER REGION:

A History

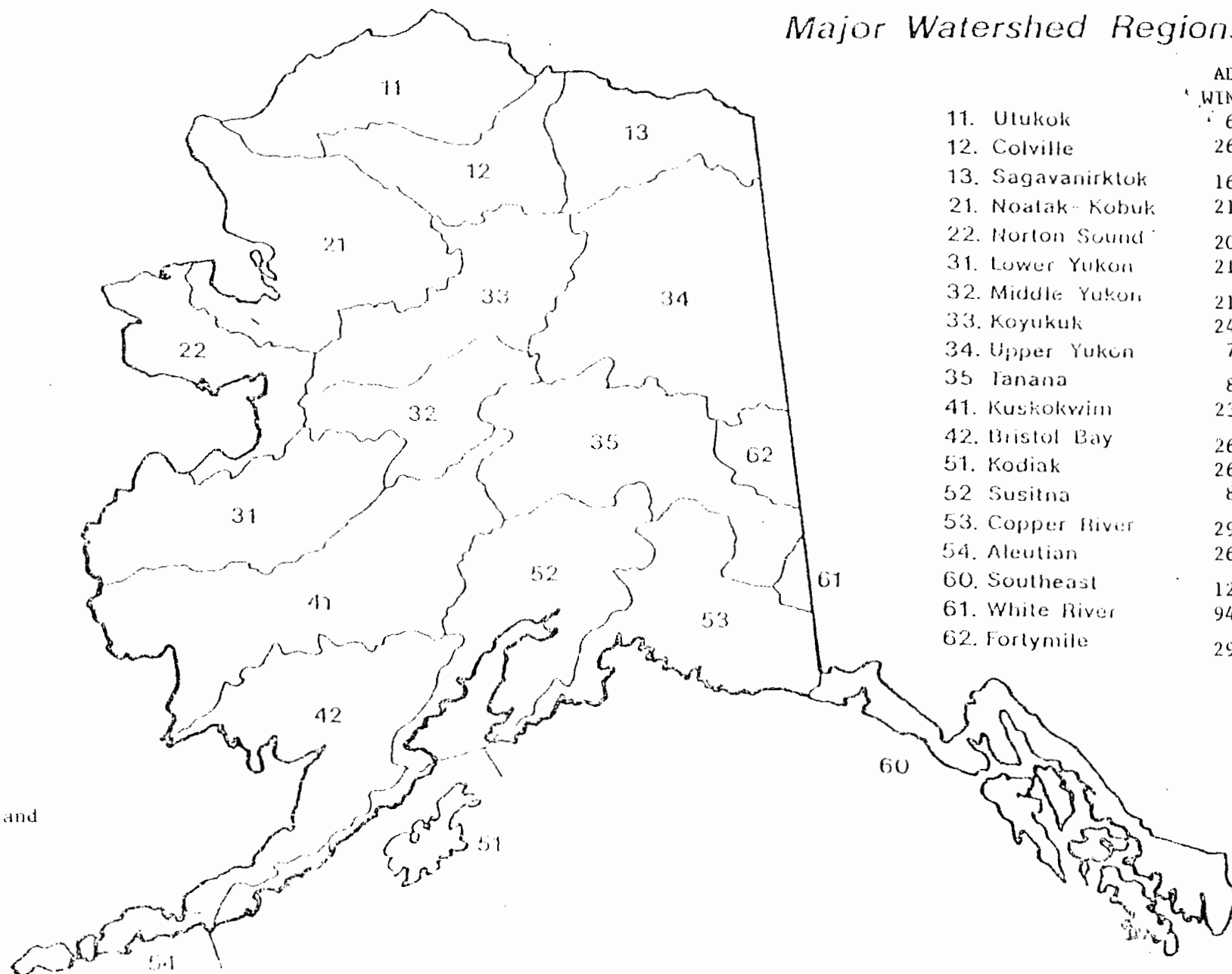
By

C. Michael Brown
Bureau of Land Management
State Office
Anchorage, Alaska

1985

BLM

Major Watershed Regions

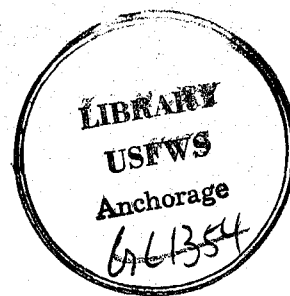


ADP
WINDOW

11. Utukok	66
12. Colville	261
13. Sagavanirktok	161
21. Noatak-Kobuk	210
22. Norton Sound	206
31. Lower Yukon	214
32. Middle Yukon	213
33. Koyukuk	245
34. Upper Yukon	77
35. Tanana	86
41. Kuskokwim	239
42. Bristol Bay	262
51. Kodiak	260
52. Susitna	89
53. Copper River	295
54. Aleutian	263
60. Southeast	126
61. White River	945
62. Fortymile	294

ADP Window

480 Pribilof Island
1161 St. George



CONTENTS

Editor's Introduction	iii
Introduction	1
I. The Kuskokwim River Region	4
II. Exploration	53
III. Mining	101
IV. Hunting, Fishing, and Trapping	142
V. Communities	156
VI. Water Transport	244
VII. Roads and Trails	692
Index	792

EDITOR'S INTRODUCTION

The U.S. Bureau of Land Management (BLM) is currently transferring title to about 145 million acres of land to the State of Alaska Native corporations in compliance with the Alaska Statehood Act of 1958 and the Alaska Native Claims Settlement Act of 1971, respectively. A serious impediment to the conveyance of land title is the unknown acreage and location of nontidal navigable waters in Alaska.

By authority of the Statehood Act of 1958 and the Submerged Lands Act of 1953, the State of Alaska owns the beds of tidal waters and nontidal navigable waters unreserved as of January 3, 1959, the date of Alaska Statehood.

Submerged land acreage of navigable waters unreserved as of this date may not be charged against the State's entitlement under the Statehood Act; and by virtue of the fact that ownership of these submerged lands passed to the State in 1959, may not be included in conveyances of land title. On the other hand, lands underlying nonnavigable waters as well as those submerged lands in a reserved status in 1959, remain in the public domain or in trust for the riparian owner.

During the 1960s the BLM made determinations of navigability for water bodies on lands to be conveyed to the State. After the passage of the Alaska Native Claims Settlement Act and the subsequent promulgation of regulations requiring, among other things, the BLM to make navigability determinations for waterways on lands to be conveyed to the Native corporations and to account for the submerged land acreage, the State quickly asserted its claim to potentially navigable waters on ANCSA-selected lands by two methods. First, the State

provided the BLM with its definition of navigable waterways and a set of maps known as Water Delineation Maps illustrating waterways on ANCSA-selected lands that the State considered to be navigable. Second, the State routinely notified Native corporations in the instance of a proposed conveyance that the BLM may be attempting to convey lands underlying navigable waters owned by the State since 1959. Well aware of the differences between the BLM and State definitions of navigability, and the State's position that these differences must one day be resolved by the courts, many corporations excluded in their selection applications most waterways identified by the State as navigable. Consequently, whenever the BLM made a determination of navigability contrary to the State's claim and charged the submerged land acreage to the corporation's land entitlement, the corporation appealed to the Alaska Native Claims Appeal Board for a ruling on the question whether the submerged lands were in fact Federal lands or State lands in 1959.

In the late 1970s, as the BLM prepared to resume land conveyances to the State and to accelerate conveyances to the Native corporations, the BLM and the State agreed that there was a need for more information about the physical character and history of waterways as routes of travel and transportation. This information would satisfy BLM's need to make timely determinations of navigability; and it would facilitate the BLM's and the State's need to develop test cases of navigability for the courts. Thus, in 1977, the BLM let a major contract to the University of Alaska to research pertinent information from the literature about Alaska waterways. Completing the project in early 1979, the contractor provided BLM with a great deal of valuable information about Alaskan water bodies, information that was and is used to support determinations of navigability in the land conveyance programs. However, the contractor provided insufficient information about many minor waterways, some of them located on

lands to be conveyed to the State or the Native corporations. The need for additional documentary research and possibly field investigations was apparent.

In 1979, representatives of the BLM and the State of Alaska met several times to discuss and decide upon methods by which: 1) the BLM could make timely determinations of navigability in connection with the land conveyance programs; 2) the BLM and the State could reach agreement on what waterways were clearly navigable and nonnavigable under BLM and State criteria; and 3) the BLM and the State could identify water bodies that best reflect differences in the BLM's and the State's criteria of navigability for the purpose of litigation. The decisions that were made then are still valid today, although some have been modified as necessary to take into account unexpected developments.

Three alternatives in establishing priorities for administrative determinations of navigability were identified: 1) make determinations only for water bodies on land to be conveyed to the Native corporations and the State on a township-by-township basis; 2) make determinations for all nontidal water bodies in Alaska on a regional or subregional basis; or 3) make determinations for nontidal water bodies on a township-by-township basis as well as on a regional or subregional basis.

It was decided to adopt the third alternative. This entailed the formation of three independent but interacting teams: one in the BLM State Office to make navigability recommendations in connection with the State and ANCSA land conveyance programs; the others in the BLM State Office and State Department of Natural Resources to prepare factual reports on waterways in a region or subregion. These highly detailed reports, based upon the best information

available, are useful to the BLM in making recommendations for waterways on land to be conveyed to the Native corporations and the State. Once the final draft of the report has the approval of the State and other parties as a technically adequate document, the BLM will have the means to make reliable and consistent determinations for entire waterways. This in turn will give the State the opportunity to identify waterways that best illustrate differences in BLM and State criteria of navigability for development of test cases. As these differences are settled by the courts, the BLM and State criteria will eventually be the same. Whatever decisions are reached by the courts, the BLM will have a source document on which to rely in reviewing the validity of previous determinations in light of the courts decisions.

While the first alternative would have met the immediate need for determinations in land conveyance programs, it would have in the long run generated many problems of an administrative and legal nature. With an accelerated land conveyance program, it would have been impossible to collect and analyze a great deal of information about water bodies, much less to prepare thoroughly documented and well-reasoned rationales for determinations. The high probability that incorrect and inconsistent determinations would be made, and that disputes over the fact relating to a waterway would be taken to the courts, was all too clear. In this eventuality, the BLM would have been repeatedly forced to research and write reports to defend (or change) determinations of navigability for the use of the Regional Solicitor. On the other hand, the second alternative, which would entail the preparation of reports on a watershed, subregional, or regional basis, would not have met the pressing need for navigability determinations on State- and ANCSA-selected lands. Without a much larger staff, the BLM would not have been able to research, analyze, and synthesize a great deal of information

into written reports needed to determine navigable and nonnavigable waters on these lands. These lands are scattered throughout Alaska, and involve many waterways--too many to be covered adequately in a short time frame. Yet it is clear that these reports will be needed more and more as questions of navigability are brought before the courts, and as land managers reviewing proposed actions on a waterway attempt to determine ownership of the submerged lands.

Alaska's Kuskokwim River Region is the third such report issued by the BLM. Researched and written by the lead historian in the BLM Alaska State Office with the assistance of Joan Antonson, the report summarizes geographic knowledge about the region and its water bodies; traces the history of explorations, mining, hunting, fishing, and trapping activities, as well as communities; describes in detail water and land transportation developments in the region; and finally describes the process by which the BLM reached a determination of navigability for water bodies on land conveyed or in the final stages of being conveyed to the State or Native village and regional corporations. The BLM has relied upon some of the information in this report in making navigability determinations for water bodies on land conveyed or to be conveyed; it will continue to consult the report as needed in future conveyances. Later, the report will be revised to take into account public comments and to include information from the BLM land records pertaining to those water bodies about which little or nothing is presently known.

C. Michael Brown
Lead Historian

INTRODUCTION

This report is designed to aid government land managers in the identification of navigable waters in the Kuskokwim River region. The report describes the geography and history of exploration in the area, presents an historical overview of the mining industry, identifies the principal settlements, and traces the history of water and land transportation developments in the region. In addition, the report summarizes the steps by which the U.S. Bureau of Land Management (BLM) reached navigability determinations for water bodies in the region.

Under the provisions of the Alaska Native Claims Settlement Act, Native village and regional corporations selected most of the land along the Kuskokwim River and Bay. Most of these lands have been conveyed or are in the last stages of being conveyed to the corporations. This means that the BLM has made navigability determinations for title purposes for most tributaries of the Kuskokwim River and rivers and creeks emptying into Kuskokwim Bay. This report identifies the navigable waters in the region; it does not include a discussion of every river, creek, or lake that the BLM considers or determined to be nonnavigable. Only those nonnavigable water bodies about which there is documentary information, is described in the report. Thus, if the water body is located on land selected by or conveyed to a Native village or regional corporation, and if it is not specifically mentioned in Chapter Six of this report, the reader is correct in assuming that the BLM considers the water body to be nonnavigable.

The report incorporates much of the information presented in a report on the upper Kuskokwim basin which the BLM released on May 6, 1980. Researched and written by the lead historian in the BLM Alaska State Office, the upper

Kuskokwim report was originally intended to include the entire Kuskokwim basin within its scope. However, following the BLM's decision to convey lands to MTNT, Incorporated and Doyon, Limited, the Native corporations appealed many of the BLM's determinations of navigability in the area to the Alaska Native Claims Appeal Board. This action, together with a recent decision of the Board on the navigability of the Nation and Kandik rivers in central Alaska, which significantly modified Departmental navigability criteria, spurred the BLM to reconsider its position on the navigability of water bodies in the area. Research on the lower Kuskokwim region was thus suspended and the report on the upper Kuskokwim basin written. This report was used to make additional navigability determinations for water bodies in lands selected by the Native corporations.

From early 1980 to mid-1981, Joan Antonson researched and wrote a draft report on the middle and lower Kuskokwim areas before terminating her employment with the BLM. The lead historian subsequently merged the upper Kuskokwim report with Antonson's report, and expanded the report with information obtained from BLM land records.

This report draws upon a wide variety of sources. Local newspapers, Geological Survey bulletins, records of the Coast and Geodetic Survey, Alaska Road Commission, Corps of Engineers, and the BLM, and the pioneering works of Wendell H. Oswalt, proved to be the most valuable sources of information. The papers of the Territorial governors, the Fish and Wildlife Service, and the Alaska Department of Fish and Game were examined but not researched to completion. These records, in addition to those of the BLM pertaining to

Native allotments, headquarters, and trade and manufacturing sites, and small tracts, may yield additional pertinent information about use of water bodies in the region for the purpose of travel.

Many people contributed their time and skills to the preparation of this report. The librarians of the Alaska Resources Library, the Z. J. Loussac Library, and the libraries of the University of Alaska at Anchorage and Fairbanks, aided the writer in locating rare books. Joan Antonson's research notes and draft report greatly facilitated the writer's task. Chapter Four is largely her work. James Ducker and Dwight Tuttle provided constructive criticisms and encouragement. Last, and most important, the secretarial staffs of the BLM Division of Resources and Division of ANCSA and State Conveyances gave exceptional service in typing the various drafts.

CHAPTER ONE

THE KUSKOKWIM RIVER REGION

Located in Southwest Alaska, the Kuskokwim River basin occupies an area of 50,000 square miles, or about 11 percent of the total area of Alaska. The basin is drained by the Kuskokwim River and its many tributaries, and includes the streams and lakes along the Bering Sea coast from Cape Newenham in the south to Ninglick River in the north.

The Kuskokwim River originates in a large crescent-shaped basin bordered by the precipitous mountains of the Alaska Range on the south and east, and the lower Kuskokwim Mountains on the north and west. The Alaska Range mountains--Mt. McKinley or Mt. Denali being the most spectacular--reach their highest elevations east of the upper Kuskokwim basin and tend to decrease in elevation in the southwest, where the Nushagak Hills bridge the gap between the Alaska Range and the Kuskokwim Mountains and form the southern border of the Kuskokwim region. The Ahklun Mountains, a subsystem of the Kuskokwim Mountains begin at Cape Newenham on the Bering Sea. They give way in the northeast to the Kilbuck Mountains and then to the Kuskokwim Mountains proper. Bisected by the Kuskokwim River near Sleetmute, the Kuskokwim Mountains extend northeast well into central Alaska. Sometimes described as smooth, rolling hills, the mountains have an average elevation of fifteen hundred feet, only a few exceeding three thousand feet in elevation.

North and west of the Ahklun and Kilbuck mountains is the Yukon-Kuskokwim delta, a vast lowland of countless landlocked and flowing lakes varying in size from less than an acre to thousands of acres, long meandering streams that head

in lakes or bog flats, and long interconnected and dead-end sloughs of the Kuskokwim River and its tributaries. Between 40 and 50 percent of this area is covered by water. Just where the Kuskokwim delta ends and the Yukon delta begins cannot easily be determined. 1/

The waters of innumerable lakes and ponds, swift glacial rivers draining the steep slopes of mountains in the Alaska Range, and clearwater streams draining the Kuskokwim Mountains and small lakes, collect to form the Kuskokwim River. The Kuskokwim River is the second longest river in Alaska, flowing 540 miles in a southwesterly direction to empty its heavily silt-laden waters into the Bering Sea. Much of its length is due to the meandering character of the river. McGrath and Bethel are located about 250 miles in an air line from one another. By river, the distance is about 433 miles.

From McGrath to the mouth of Holitna River, the river follows the base of the Kuskokwim Mountains in a southwesterly direction. In this section, the river current is slow and sluggish as far as the mouth of Swift River, and then tends to increase in strength and speed as it swings to the west. The largest tributaries of the river in this reach enter from the south with moderately swift currents. The Swift and Stony rivers head in glaciers in the Alaska Range; the Selatna, Katlitna, and Tatlawiksuk rivers rise in the foothills of the Alaska Range. The Holitna River, the largest tributary of the Kuskokwim River, rises in the Nushagak Hills and flows northerly in a wide valley to empty into the Kuskokwim River near Sleetmute. Northern tributaries in this stretch of the Kuskokwim River include the Black and Nunsatuk rivers, both of which head in low hills and meander in a southeasterly direction.

Near the village of Sleetmute, the Kuskokwim River bisects the Kuskokwim Mountains. The river heads northwesterly for forty-six miles before making what is called the "Great Bend" to flow about thirty-four miles in a southerly course. Generally confined to a single channel bounded by steep banks or bluffs, this stretch of the river has attracted attention as a potential dam site. In the 1950s, the U.S. Bureau of Reclamation and U.S. Army Corps of Engineers identified a possible site about eight miles above the village of Crooked Creek for a hydroelectric facility with a potential capacity of 850,000 kilowatts. 2/ Five important streams enter the Kuskokwim River in this reach. George River, Crooked Creek, and Owhat River head in the Kuskokwim Mountains and flow south in shallow valleys. The Holokuk and Aniak rivers enter the Kuskokwim River from the south shortly after the river emerges from the mountains. The former river heads in the Kuskokwim Mountains and flows northwesterly in a narrow valley; the latter river heads in the Kilbuck Mountains and flows northerly in a wide valley.

Upon leaving the mountains, the Kuskokwim River soon resumes its southwesterly course to meander across the Yukon-Kuskokwim delta, at one point near Kalskag Village approaching within twenty-five miles of the Yukon River. Silt and mud islands increase in number; the main channel of the river is less definite; the channel is two miles wide in places; and the current decreases to about four miles per hour. Numerous sloughs branch off the main river, some of them, like the Gweek River, meandering for many miles across the delta before returning to the Kuskokwim River. Most of the northern tributaries, the Johnson and Pikniktalik rivers being the principal ones, meander across the delta in sinuous channels with low banks, receiving in their course the waters of many lake-fed creeks. Some of these streams head in a series of interconnected lakes, and

some head in other streams that eventually flow into the Yukon River. Southern tributaries, including the Tuluksak, Kisaralik, and Kwethluk rivers, head in the Kilbuck Mountains and generally flow in a northwesterly direction. In the mountains the rivers tend to be swift. In the lowlands the rivers are similar in character to northern tributaries of the Kuskokwim River, flowing sluggishly between low banks in a sinuous course to empty into the Kuskokwim River or, as in the case of the Tuluksak, Kisaralik, and Kwethluk rivers, into large and deep sloughs of the Kuskokwim River. 3/

The Kuskokwim River empties into Kuskokwim Bay from the north through a number of channels dispersed among mud and sand bars extending six to eight miles out from shore. Beacon Point in Eek Channel on the east bank and Popokamiut site, an abandoned village on the west shore, generally mark the points where the river ends and the bay begins.

Extensive tidal flats border the coast of Kuskokwim Bay. Trending to the south, the coast line is occasionally indented by small bays, namely Jacksmith Bay and Carter Bay, both of which are open to the sea, and Goodnews Bay and Chagvan Bay, both nearly enclosed by spits. Extensive mud flats make much of the coast inaccessible to all but small boats. The water along the coast is generally shallow, averaging about eight feet in depth. Deeper channels lead to a number of rivers emptying into Kuskokwim Bay and other smaller bays. Many of the rivers in this area head in the lower limits of the Kuskokwim Mountains. The principal rivers--Kanektok, Eek, Arolik, and Goodnews--head in the Ahklun Mountains, most of them in small lakes, and tend to flow westerly to the sea. Upon reaching the lake-studded lowlands, the rivers meander considerably, sometimes nearly doubling back upon themselves. Eek River empties into Eek Channel in Kuskokwim Bay. Both

Kanektok River and Arolik River empty directly into Kuskokwim Bay. Goodnews River empties into Goodnews Bay. 4/

From the mouth of the Kuskokwim River to the mouth of Ninglick River, the Bering Sea coast trends westerly as far as Kinak Bay and then northerly. Tidal flats six or more miles wide border the coast from Kinak Bay to the mouth of Kolavinarak River. Numerous rivers and creeks empty into Kuskokwim Bay and Etolin Strait in this area, the principal ones being Ishkowik, Kongnignanohk, Anohwahk, Kuguklik, Kinia, and Kinak rivers. All of these streams head in lakes of widely varying size, meander in an extremely sinuous course, and are shallow at their mouths. All are fed by numerous lake-fed creeks or rivers.

Nunivak Island is separated from the mainland by Etolin Strait. A series of volcanic benches cover the island; the highest mountains, almost seventeen hundred feet in elevation, are in the center. Etolin Strait is affected by powerful ocean currents and rarely freezes over. Nelson Island, another large island, is cut off from the mainland by Kolavinarak and Ninglick rivers, both of which drain Baird Inlet northeast of the island.

All rivers and creeks emptying into the Bering Sea are tidally affected. The Kuskokwim River itself is reported to be tidally influenced as far as the mouth of Tuluksak River. Tides in the mouth of the river vary from +14.3 feet to -0.7 feet with an average range of 5.2 feet. 5/

Tributaries of the lower reaches of the Kuskokwim River are also tidally affected. The extent of tidal influence in the case of most streams in this

area is presently unknown. Because of the tides and ocean currents, the channels in the bay and river can change yearly.

Cold and dry winters and moderately warm and wet summers are characteristic of the Kuskokwim River region. In the delta more precipitation occurs, the summers are somewhat cooler, and the winters are warmer. Summer precipitation in the entire area is low, averaging nineteen inches annually, most of it falling in July, August, and September. Annual snowfall averages fifty-five inches. At Bethel, an average of 244 days a year are cloudy, 66 partly cloudy, and only 55 clear. The growing season for the central and lower Kuskokwim River areas is about ninety days. 6/

The major portion of the annual run-off from streams in the lower and central Kuskokwim River areas occurs in late May and early June when the ice on the Kuskokwim River breaks up. Ice jams are a major problem and flooding of the lowlands is almost an annual event. On several occasions floodwaters threatened Bethel to the extent that airplanes were used to drop bombs on the ice jams. After this period, stream run-off diminishes dramatically. The Kuskokwim River usually freezes in late October. 7/

Permafrost, or permanently frozen ground, is extensive in the lowlands. Because of permafrost, low gradients, and poor drainage, the Kuskokwim lowlands are waterlogged, making overland travel in these areas during the summer extremely difficult if not impossible.

In the central Kuskokwim River area, river bottomlands and adjacent slopes to an altitude of one thousand feet are forested by white spruce and birch trees.

The largest stands of timber along the Kuskokwim River are in this area. Dense willow and alder thickets, and a thick undergrowth of ferns, mosses, and lichens are also found. Lichens and mosses grow on mountain slopes above one thousand feet. High mountain peaks are usually barren of vegetation. 8/

Between Kalskag and Bethel, stands of spruce and birch trees are limited to the banks of the Kuskokwim River. Below Bethel, willow and alder thickets occur sporadically along the river. River islands below Kalskag occasionally support stands of poplars. Grasses, sedges, mosses, lichens, and small scrub willow and alder thickets prevail in the Yukon-Kuskokwim delta. Grasses often grow in the lakes and streams. 9/

Moose, caribou, black bears, wolves, and wolverines are found in the uplands and mountains, rarely on the lowlands. Small animals include beaver, red and Arctic fox, marten, land otter, muskrat, mink, lynx, short-tailed weasel, and snowshoe and Arctic hares. Mink, in particular, are prevalent in the delta. Arctic birds, such as ptarmigan and grouse, are found in the Kuskokwim River region, seasonally joined by large numbers of ducks, geese, and shorebirds. The Yukon-Kuskokwim delta is one of the most important waterfowl habitats on the North American continent. Rivers and lakes in the area teem with fish. All five species of Pacific salmon annually ascend the Kuskokwim River. Blackfish, whitefish, sheefish, rainbow trout, Arctic char, and Dolly Varden are numerous. 10/

Mineral resources in the region include platinum, mercury, gold, antimony, coal, arsenic, lead, silver, copper, zinc, tin, and tungsten. The only significant source of platinum in the United States is found in the Goodnews Bay area.

The only significant source of mercury in Alaska is located in the central Kuskokwim River area. Gravel is found on the Kanektok, Goodnews, Kwethluk, Kisaralik, Tuluksak, Holitna, Stony, Swift, and Eek rivers. 11/

Several reserves in the lower Kuskokwim basin have been created to protect wildlife and waterfowl habitats. Executive Order 5095, signed on April 15, 1929, reserved all of Nunivak Island for the protection of waterfowl and fur-bearing animals for the use of the U.S. Department of Agriculture in conducting reindeer, caribou, and musk ox experiments. Two small islands, Nunivachak and Krigigak near the mouth of Ninglick River in Hazen Bay, were reserved on December 14, 1937 as a migratory waterfowl refuge. On December 6, 1960, the Kuskokwim National Wildlife Refuge--renamed the Clarence Rhode National Wildlife Refuge in 1961--was established to preserve one of the major migratory bird nesting areas in North America. The refuges, encompassing 1.8 million acres, included the area along the Bering Sea coast from Cape Romanzof south to Ninglick River. In 1969, the refuge was enlarged by 1,017,000 acres, including most of Nelson Island and land west of Dall Lake in the Kuskokwim delta. In 1980, the Nunivak Island, Clarence Rhode, and Hazen Bay refuges were combined into the Yukon Delta National Wildlife Refuge encompassing over 13.4 million acres. This large reservation is for the conservation of fish and wildlife populations including whistling swans, emperor, white-fronted, and Canadian geese, black brant, seabirds, shorebirds, salmon, musk ox, and marine mammals.

One other refuge in the Kuskokwim region is the Cape Newenham National Wildlife Refuge. Created on January 20, 1969, this 265,000-acre reserve is, like the others, to conserve fish and wildlife populations and habitats. The refuge includes Cape Newenham and land adjacent to Chagvan Bay. High cliffs

provide nesting sites for one of the largest colonies of seabirds in the North Pacific. In 1980, this refuge was incorporated into the Togiak National Wildlife Refuge, which encompasses 4,105,000 acres of land. 12/

SOUTH FORK KUSKOKWIM RIVER

Draining an area of 3,070 square miles, the South Fork heads in a glacier on the northeast slope of Snowcap Mountain in the Alaska Range. The river flows in a north-northwest direction for 150 miles to the Kuskokwim River at river-mile 540. The stream is swift in its upper reaches, the slope above rivermile 58 being about 29.7 feet per mile. Below that point, the river gradually becomes a meandering stream with a slope of 2.6 feet per mile. Above the mouth of Little Tonzona River, the South Fork is a maze of silty channels, and the flow is dispersed and irregular. A well-defined channel of flow begins to develop near the Little Tonzona River.

Little Tonzona River

A glacial river, the Little Tonzona River is about seventy miles long. The river flows westward in a piedmont area in a narrow channel until near the confluence of Big Salmon Fork, Clear Creek, and Deepbank Creek, it becomes wider. The river empties into the South Fork at rivermile 40.

NORTH FORK KUSKOKWIM RIVER

The North Fork drains an area of 2,071 square miles. About 260 miles in length, the river heads in the Kuskokwim Mountains. Following the base of the mountains,

at one point coming within ten to twelve miles of Lake Minchumina, the river meanders through a lake-dotted country in a southerly direction. The channel of flow is well-defined. The banks consist of gravel bars and cut banks, some several feet high. The slope of the river is about 1.2 feet per mile.

Swift Fork

The Swift Fork enters the North Fork at its rivermile 108. Draining an area of fourteen hundred square miles, the river heads in Chedotlothna Glacier in the Alaska Range, and flows about seventy-five miles in a northwest direction. The slope of the river is about 8.4 feet per mile. The river exhibits a braided character in its upper reaches, becoming a meandering stream as it enters the lowlands near the Telida lakes. The river is reportedly very shallow and narrow above the mouth of Highpower Creek. 13/

East Fork

About 145 miles long, the East Fork drains an area of 940 square miles. Formed by two glacial rivers, Tonzona River and Slow Fork, the East Fork flows southwest, and then west in a well-defined channel to enter the North Fork about fifteen miles above its mouth. The river slope averages 1.7 feet per mile. The stream has a sluggish current and high gravel banks, in some places twenty feet high. The river becomes shallow and narrow in Section 33, T. 27 S., R. 26 E., Kateel River Meridian. 14/

Slow Fork

The Slow Fork joins the East Fork at its rivermile 75. Originating in a piedmont area, the river flows sluggishly through an extensive lake-dotted country. Cut banks are as high as twenty feet. The river is reportedly shallow and narrow above Section 26, T. 25 S., R. 30 E., Kateel River Meridian. 15/

Tonzona River

Tributary to the East Fork at rivermile 72, the Tonzona River drains an area of 870 square miles. The river heads in several glaciers in the Alaska Range. For much of its sixty-seven mile length, the river exhibits a braided character. Upon reaching the lowlands near Lake Hoyle, stream flow is dispersed into numerous single channels. The stream banks support growths of timber. Sweepers and sand bars occur in the river. From the mouth to rivermile 20, the stream gradient is about nineteen feet per mile. 16/

BIG RIVER

Originating in glaciers in the Revelation Mountains in the Alaska Range, Big River flows 126 miles in a north-northwest direction to empty into the Kuskokwim River at rivermile 512. The average slope of the river is about eight feet per mile.

The Big River is one of the few streams in the upper Kuskokwim basin which has been investigated by the U.S. Geological Survey. In 1949 or 1950, A T. Fernald of the USGS descended the river in a canoe, having gained access to

its headwaters by landing an airplane on a nearby lake. He described the river as being a braided stream from its glacial source to a point about halfway down its alluvial fan. In the braided stretch, the floodplain ranges in width from one-half mile to three miles. The river constantly alternates between a concentrated flow in a few channels and a dispersed flow in numerous channels. The change in the flow character is the result of repeated branching or "peeling" of the main channel at points where the bordering low natural levees have been breached. At these point shallow gravel bars underlie the breaches, and log jams are frequent. The main flow of the river swings irregularly from one side of the river to the other.

In the lower half of the alluvial fan, the river changes from a braided to a single-channel meandering stream within a stretch of nine miles. As the river approaches the Kuskokwim River, the meanders make large complex loops, frequently doubling back on themselves for over a mile. Numerous oxbow lakes, former channels of the river, exist along the lower reaches of the river.

17/

Middle Fork

Emptying into Big River at its rivermile 7, the Middle Fork originates in a glacier in the Alaska Range, and flows in a north-northwest direction for a distance of about 119 miles. The slope of the river averages 7.7 feet per mile. The river exhibits a braided character in its upper reaches, and becomes a meandering stream just north of Lone Mountain. From this point the stream flow is concentrated in a single channel, which twists through extensive silt-covered flats. For many miles the banks in the lower reaches are at floodwater

level, as one observer noted driftwood on top of banks of ordinary height. Descending the lower reaches in 1914, a civil engineer described the river as deep, sluggish, and about 330 feet wide. 18/

Windy Fork

Draining an area of 345 square miles, the Windy Fork is a glacial stream which flows northwest for a distance of sixty-one miles to empty into the Middle Fork at its rivermile 38. The slope of the river is estimated to be eleven feet per mile.

Pitka Fork

A non-glacial stream, Pitka Fork drains an area of about seven hundred square miles. Heading in a piedmont area, the river meanders in a northwest direction for a distance of sixty-five miles to empty into the Middle Fork at its rivermile 17. The river below the mouth of Salmon River has been described as deep and sluggish with an average velocity of two second-feet. The river is about 230 feet wide in this reach. 19/

Salmon River

Heading in a piedmont area, this river empties into the Pitka Fork at its rivermile 21. The stream flows in a northwest direction in a well-defined channel.

TAKOTNA RIVER

Formed by Moore Creek and Little Waldren Fork, the Takotna River flows in a northeasterly direction before swinging southeasterly near the small community of Takotna to empty into the Kuskokwim River at its rivermile 445. The river is about one hundred miles in length, and drains an area of 2,180 square miles. From its head to Takotna, the river is shallow and winding. Beyond Takotna, the river gradually becomes deeper, especially after it is joined by Nixon Fork. According to one report, the water depth at the mouth of Nixon Fork was thirteen feet in 1910. The river has a sluggish current and averages four hundred to five hundred feet in width. 20/ The river slope is about 4.7 feet per mile.

Nixon Fork

Heading in the Mystery Mountains and Von Frank Mountain, the Nixon Fork flows about seventy-five miles in a southwesterly direction to join the Takotna River at its rivermile 15. The river exhibits a meandering character throughout its course. Extensive bog flats are located along the middle and lower stretches of the river.

Tatalina River

From the Candle Hills, the Tatalina River meanders fifty-five miles northeast down a shallow valley and into a swampy lowland to empty into the Takotna River at its rivermile 3. The shallow river has a winding and narrow channel. The stream banks are low and brush-covered. 21/

KATLITNA RIVER

About sixty-five miles in length, the Katlitna River is a clearwater stream heading in the low foothills of the Alaska Range, about four miles west of Big River. The head of the river is located about eight hundred feet above sea level. Flowing in a general northwest direction, the river receives the waters of many small creeks, some heading in 1,000- to 1,600-foot high hills, and some draining small lakes. The river empties into the Kuskokwim River at river-mile 432.

WILSON LAKE

Located near the left bank of the Kuskokwim River, this lake is a cutoff meander of the river. Circular in shape, the lake is occupied mostly by a large island named Harrell Island, which is about 1.9 miles across, giving the lake the appearance of a race track. The lake is drained by a small creek which empties into the Kuskokwim River at rivermile 425.

UNNAMED LAKE

Below Vinasale Mountain and near the left bank of the Kuskokwim River, there is an unnamed lake with a shape like that of a fishhook. USGS maps show the former settlement of Vinasale as being located on the north bank of the lake. Oriented northwest-southeast, the lake is about five miles long and one mile wide; it is drained by a small creek which empties into the Kuskokwim River at rivermile 409.

BLACK RIVER

Black River heads in low mountains, twelve to seventeen hundred feet in elevation, southeast of Black Mountain, not far from the heads of Big Waldren Fork and Big Creek of the Takotna River. The river flows in a northeast direction a distance of about fifty miles to empty into the Kuskokwim River at rivermile 406.

LITTLE SELATNA RIVER

Heading in low hills east of Selatna Mountain, this river flows about sixteen miles in a westerly direction to enter the Kuskokwim River at rivermile 401.

SELATNA RIVER

About fifty miles long, Selatna River is located south of Selatna Mountain on the left bank of the Kuskokwim River. Its headwaters are not far from those of the Katlitna and Tatlawiksuk rivers. The river flows from an elevation of about one thousand feet in a northwest direction to empty into the Kuskokwim River at rivermile 396. In its lower reaches, the river exhibits a highly sinuous character as it crosses the lowlands. Bars and sweepers are frequently found along the river. Near rivermile six, it receives the waters of the First Fork, a stream about thirty miles long which flows north from low hills.

NUNSATUK RIVER

Like the Black River, the Nunsatuk River heads in the Black Mountains, its drainage approaching that of the East Fork George River. Exhibiting a

meandering character for much of its length, the river flows northeast for about thirty-five miles to join the Kuskokwim River at rivermile 370.

ROHN RIVER

Rising in the foothills of the Alaska Range, Rohn River flows northwest about fifteen miles in a broad valley bordered by low hills to enter the Kuskokwim River at rivermile 365. In its lower reaches the river follows the base of the hills, and enters the Kuskokwim River from the northeast.

TATLAWIKSUK RIVER

The Tatlawiksuk River drains an area of 813 square miles. Heading in the foothills of the Alaska Range not far from Big River, it flows southwesterly seventy miles to enter the Kuskokwim River at its rivermile 338. Through most of its course the Tatlawiksuk meanders across a wide and flat valley. Large lake-fed streams from the southeast and northeast join the Tatlawiksuk River in its lower reaches.

SWIFT RIVER

Originating in a glacier in the Revelation Mountains of the Alaska Range, Swift River is a silt-laden braided stream that flows northwest about 105 miles to empty into the Kuskokwim River in three channels between rivermiles 335 and 336. Leaving the mountains in a narrow valley, the river enters a wide lake-studded valley where it receives the waters of small lake-fed creeks and the North Fork, a large stream that heads in the mountains and is fed mainly by the

nonglacial Babel River. Near the confluence of the North Fork, the Swift River swings northwest to cross a small valley between Lime Hills and Lyman Hills. Here the river is joined by northward-flowing creeks draining North Lime Lake and Why Lake. At its rivermile 38, Swift River receives Gagaryah River, a large stream heading in small valley between Big River and Babel River. Continuing on its northwest course, Swift River captures the drainage of Cheeneetnuk River at rivermile 16.5. This shallow and clearwater river heads in the Lyman Hills and flows about seventy miles in a southeast direction. A permanent log jam is said to be located in the river about eight miles above its mouth. 22/ Upon reaching lower elevations, Swift River exhibits a meandering character and a well-defined channel. In its lower reaches the river has a slow current; in the middle and upper reaches the current is swift.

STONY RIVER

Heading in a small glacier near the foot of Sled Pass, Stony River flows south in a braided channel for a considerable distance to enter a wide valley at the base of the southern limit of the Revelation Mountains. In a ten-mile stretch in this valley, the river is characterized by meanders, a sluggish current, and a two-hundred-yard-wide channel. It receives two major clearwater tributaries in this stretch. Emptying into Stony River at rivermile 138, Necons River heads in a large lake called Two Lakes, which is fed mainly by Merrill River, a swift-flowing river that originates in Merrill Pass, ten miles distant. Approximately twenty miles below the mouth of Necons River, Stony River is joined by Telaquana River, a large river which drains a large lake of the same name thirty miles upstream.

Below the mouth of Telaquana River, the Stony River flows through a series of canyons in a channel about one hundred yards wide. Short stretches of rapids are formed as the river makes its way through the canyons. Leaving the canyons about twenty-two miles upstream from Lime Village, the Stony continues northward through the Kuskokwim lowlands, a broad area of low relief broken by groups of isolated hills. The river meanders across the lowlands with a strong current, estimated to be about five miles per hour. Near Lime Village, at rivermile 67, the river receives the waters of Hungry Creek, a small stream draining Trout Lake, one of several small lakes in the low hills southwest of the settlement. Joining the Stony River at rivermile 37, Stink River heads in Tundra Lake and flows northeast about thirty-three miles, receiving in its course numerous lake-fed creeks. From the confluence of Stink River, Stony River flows in multiple channels to empty into the Kuskokwim River at river-mile 320. The Stony River cutoff joins the Kuskokwim River at rivermile 315. The total length of the river is about 195 miles. 23/

HOLITNA RIVER

Comprising 4,180 square miles, the Holitna River watershed is the largest in the lower Kuskokwim basin. The Holitna River crosses a broad, low and flat valley, with gentle slopes rising to altitudes of about one thousand feet at the edges of the basin. High, smoothly rounded hills, much like the Nushagak Hills in appearance, are located in the southwestern part of the Holitna basin, northeast and southwest of the Chukowan River and lower Oksotalik Creek. Kazik Hill, an isolated sharp pinnacle about eight miles northwest of Kashegelok Village, is one of the well-known landmarks in the southern part of the basin. In its middle course, northeast of the mouth of the Chuilnuk River, the Holitna River

passes through a belt of hills whose elevation is about one thousand feet and which form the northwest border of the basin. The Kulukbuk Hills at the northeastern edge of this belt are somewhat higher.

The convergence of Kogrukluk River and Shotgun Creek forms the 123-mile long Holitna River, a sluggish, clearwater stream with low banks. These two headwaters along with a pair of others--Chukowan River and Kiknik Creek--drain the Kuskokwim Mountains, Shotgun Hills, and the Nushagak Hills. The Holitna meanders freely on the valley bottom throughout much of its course. At Kashegelok and Nogamut villages, the river impinges for short distances against the hills to the southeast. Near the mouth of the Chuilnuk River, it flows against the foot of limestone hills that overlook it from the northwest. Near the mouth of the Hoholitna River, the Holitna swings to the west for a short distance, makes several loops, then resumes its northward course. At several places below the village of Itulilik, the river nearly doubles upon itself. The river swings northwest in its last ten miles to empty into the Kuskokwim River at rivermile 291. At this point the main channel of the Holitna River is wider than that of the Kuskokwim River.

The principal headwater tributaries of the Holitna River are Kogrukluk River, Shotgun Creek, and Chukowan River. The Kogrukluk River is a clearwater stream that finds its source in a number of small lakes in the Shotgun Hills. From the lakes, at an elevation of about one thousand feet, the Kogrukluk River flows northeast in a wide valley, receiving in its meandering course the waters of Kashioli, Maka, and other creeks from the west, as well as creeks draining the Shotgun Hills in the east. Shotgun Creek heads in the Shotgun Hills at an elevation of about one thousand feet, and descends to an elevation

of about four hundred feet in its lower reaches. Like Kogruklu River, Shotgun Creek meanders considerably throughout its length. Chukowan River is formed by Gemuk River and Chikululnuk Creek. Heading in a small lake of the same name near Gemuk Mountain, Gemuk River flows northeast until it falls to an elevation of one thousand feet. The river then swings to the south and receives the waters of Beaver Creek and other unnamed streams. In its lower reaches Gemuk River flows in many anastomosing channels which are filled with tree stumps and log jams. Water depths may exceed four feet. 24/ Chikululnuk Creek heads in a low divide south of Oksotalik Creek in the Kuskokwim Mountains and flows southerly in a meandering channel to join Gemuk River. From the confluence of Gemuk River and Chikululnuk Creek, Chukowan River flows south a short distance before rounding a low isolated hill to flow in a northeast channel. In this reach the river receives the northwestern-flowing Oksotalik and Bairo creeks. From the mouth of Bairo Creek to that of Oksotalik Creek, the river flows easterly in a fairly deep gorge. Then entering a wide, low valley, the river meanders freely to empty into the Holitna River near the village of Kashegelok.

Farther downstream the Holitna River receives numerous tributaries. From the west the river receives Mukslulik Creek, Bakbuk Creek, Portage Creek, Chuilnuk Creek, and Itulilik Creek, all clearwater streams draining the slopes of the Kiokluk Mountains or the Chuilnuk Mountains. From the east the river receives Kilnuk Creek, Taylor Creek, Titnuk Creek, and Little Titnuk Creek. Draining the Nushagak Hills and Taylor Mountains, these creeks meander considerably in the valley bottom. Titnuk Creek, for example, parallels Holitna River for an air line distance of about twelve miles before joining the main river.

At rivermile 33, the Holitna River receives its principal tributary, the Hoholitna River. About 150 miles in length, the Hoholitna River drains Whitefish Lake, a large lake 1,165 feet in elevation located in the eastern Nushagak Hills not far from the drainages of Telaquana River and Mulchatna River. From the clearwater lake the river flows westward in a wide valley, and then turns southwest to skirt a belt of low hills. Joined by the South Fork from the southeast at rivermile 81, the river flows north-northwest in anastomosing channels to empty into the Holitna River.

In its lower reach the river receives several lake-fed creeks from the east. One of them, Basket Creek, drains many lakes, Big Lake being the largest, and flows in a highly sinuous channel. 25/ In its final approach to the Kuskokwim River, the river turns northwest. The westernmost channel is the main channel.

GEORGE RIVER

Draining an area of fourteen hundred square miles, George River flows southwesterly for a distance of seventy-five miles to empty into the Kuskokwim River at rivermile 263. One of the larger northern tributaries of the Kuskokwim River, the George heads in a small group of low hills only a mile or two from the headwater tributaries of the Iditarod and Takotna rivers. For much of its course the river flows in multiple channels across a relatively broad, flat, and marshy valley. At rivermile 13 the river is joined by the East Fork. Heading near Granite Mountain, the East Fork meanders southwesterly in a narrow, lake-studded valley. Cutting through a canyon, the East Fork is joined by the South Fork at rivermile 7. Below the confluence of the East Fork, George

River passes through a series of canyons to empty into the Kuskokwim River. Except at its mouth, the river is very swift with numerous small rapids. 26/

CROOKED CREEK

Draining an area of about 343 square miles, Crooked Creek heads in the low hills north of the Kuskokwim River. A low divide ranging from eight hundred to one thousand feet in elevation separates the head of the creek from the Iditarod River. The creek flows eighteen miles through a narrow valley first southwest then southeast to enter the Kuskokwim River at rivermile 245. It exhibits a meandering character for most of its length. Getmuna Creek and Bell Creek are the principal tributaries.

OSKAWALIK RIVER

Formed by three streams draining the northeastern slopes of the Chuilnuk Mountains, the Oskawalik River flows fifty-five miles to empty into the Kuskokwim River at rivermile 233. From an elevation in excess of two thousand feet, the river flows north in a narrow valley until joined by an unnamed eastern tributary in T. 18 N., R. 47 W., Seward Meridian, where it turns northwest to follow the northeastern side of a three-mile-wide valley. Just south of Canoe Mountain the river turns southwest for a short distance before resuming a northwesterly course to the Kuskokwim.

HOLOKUK RIVER

From its source in the Buckstock Mountains at an elevation of about one thousand feet, Holokuk River flows northeast to enter a wide valley drained by a number

of small creeks, including Egozuk and Chineekluk creeks. Some of these creeks head in small lakes in the Kiokluk and Chuilnuk mountains. After passing to the west of Holokuk Mountain, the river flows northwest in a gorge through a belt of low hills to enter the Kuskokwim lowlands. The river maintains a well-defined channel across the lowlands but empties into the Kuskokwim River in rivermile 211 in two channels. The river is about forty-five miles in length.

KOLMAKOF RIVER

About fifty miles in length, Kolmakof River drains the low, rolling hills north of the Kuskokwim River and west of the Horn Mountains. Flowing in a southerly course, the river follows the western limit of a narrow valley in its upper reaches. In its lower reaches it cuts through a belt of low hills and then flows across lowlands in a highly sinuous course to empty into the Kuskokwim River in two channels at rivermile 200.

OWHAT RIVER

Heading in low hills north of the Russian Mountains, Owhat River flows southerly in a wide, open valley. The river tends to follow the western side of the valley, and receives the waters of numerous creeks draining the western slopes of the Russian Mountains. At rivermile 33.9 the river receives its principal tributary, Cobalt Creek. About forty miles in length, the river empties into the Kuskokwim River at rivermile 181.

ANIAK RIVER

Only eighty-nine miles long, the Aniak River drains an area of 2,230 square miles. Aniak River empties into the Kuskokwim River from the south at river-mile 177 near the western end of the Kuskokwim River gorge. The river heads in Aniak Lake, a small lake in a valley bordered by high mountains, not far from a low pass to the head of the Kisaralik River. The river flows north in a wide valley, and passes to the west of Gemuk Mountain. Upon leaving the mountainous section, the river is joined by Salmon River and Kipchuk River from the southwest. Both of these rivers head in the Kilbuck Mountains and enter the Aniak River at rivermile 56. From the confluence of the Salmon and Kipchuk rivers, the Aniak River gradually shifts its course from north to northwest. At rivermile 32, the river receives the Buckstock River from the east. This river heads in the Buckstock Mountains and descends from elevations of one thousand to six hundred feet in a few miles. The river then meanders to the Aniak River. From the confluence of the Buckstock River, the Aniak meanders across a low, swampy bottomland with numerous small lakes. According to one report, the Aniak River flows in several shifting channels that cross back and forth in a braided pattern. 27/

WHITEFISH LAKE

Located south of the Kuskokwim River, Whitefish Lake is the largest of many lakes in the lowlands flanking the Kilbuck Mountains. The lake is fed by creeks which drain a number of small lakes as well as by creeks draining the Kilbuck Mountains. Ophir Creek drains Mount Hamilton and enters the lake from the southeast. Whitefish Lake itself is about seven and one-half miles

wide, and is drained by a small stream that flows sinuously in a westerly course to empty into sloughs of the Kuskokwim River between the villages of Lower Kalskag and Ogavik. The creek receives a number of lake-fed streams in its long course to the Kuskokwim River.

BOGUS CREEK

This creek heads in the lake-dotted lowlands southeast of the Kuskokwim River. Formed by a number of creeks draining the foothills of the Kilbuck Mountains and small lakes in the Kuskokwim lowlands, Bogus Creek flows westerly in a highly sinuous channel, receiving along its course the waters of other lake-fed creeks. The creek enters a slough of the Kuskowkwim River at rivermile 3. The slough itself enters the Kuskokwim River at river-mile 108.

TULUKSAK RIVER

From the Kilbuck Mountains the Tuluksak River flows south and then west to enter the Kuskokwim lowlands. Once in the lowlands, about twenty miles wide in this area, the river meanders about sixty miles to empty into a slough about four miles above the slough's mouth. The slough joins the Kuskokwim River at rivermile 97. In its course in the lowlands, the river receives a number of creeks which head in small lakes or in the foothills of the Kilbuck Mountains. At rivermile 19, the river receives Fog River, a northwesterly flowing river which originates in the mountains. In its lower reaches Tuluksak River is approximately two hundred feet wide and ten feet deep. 28/

KISARALIK RIVER

Flowing into Kuskokuak Slough at mile 22, the Kisaralik River drains an area of 1,470 square miles. Kuskokuak Slough, an interconnected slough, empties into the Kuskokwim River at rivermile 58. The river is reported to be tidally influenced to Sections 20 and 29, T. 9 N., R. 67 W., Seward Meridian. 29/

About one hundred miles long, the river heads in Kisaralik Lake, a small lake bordered by the high Kuskokwim Mountains. From the lake the river flows west to receive the lake-fed waters of Gold Creek. The river then trends northwest to the North Fork which heads in the North Fork Lakes. A short distance below the confluence of the North Fork, the river swings southwest, then south, and finally sharply to the west to cut across the Kilbuck Mountains.

From its headwaters to where the Kisaralik enters the Kilbuck Mountains at the Upper Falls (rivermile 83), the river flows in a series of rapids through a relatively broad, flat valley which is bordered by precipitous mountains. A number of tributaries, some larger than the main river in this stretch, join Kisaralik River. Between the Upper Falls and Golden Gate Falls at rivermile 67, the current is rapid and large boulders in the river bed form deep pools. The river several times alternates direction between north and west in this reach.

From the Kilbuck Mountains' western foothills above Nukluk Creek to the lowlands in T. 8 N., R. 66 W., Seward Meridian, the Kisaralik exhibits a braided character. Across the lowland plain, where it is joined by numerous lake-fed creeks, the Kisaralik River slowly meanders northwest in a single channel to Kuskokuak Slough. In its lower reaches, the river is said to be one hundred feet wide and ten feet deep. 30/

KASIGLUK RIVER

Heading in the foothills of the Kilbuck Mountains at an elevation of one thousand feet, Kasigluk River flows northwest to empty into Kuskokuak Slough of the Kuskokwim River. For much of its length the river course parallels that of the Kisaralik River. From its source the river flows northwest, passes west of Shining Dome, and then receives the waters of Little Kasigluk River. This river heads in a belt of low hills and flows north. Below the confluence of Little Kasigluk River, the main river meanders freely across the lowlands and receives the waters of numerous lake-fed creeks. About ninety-five miles in length, the river empties into Kuskokuak Slough twenty-one miles above its mouth.

KWETHLUK RIVER

Draining an area of thirteen hundred square miles, Kwethluk River heads in the foothills of the Kilbuck Mountains. From its headwaters at an elevation of one thousand feet, the river flows northwest for a short distance and receives several creeks draining the mountains, some of them like Crooked Creek originating in small lakes. At the five hundred foot contour line the river meanders west to Elbow Mountain, where it turns sharply to the northwest to enter the Kuskokwim lowlands. At rivermile 13, the river is joined by the Kushluk River. The 138-mile-long Kwethluk River empties into Kuskokuak Slough four miles above its mouth. The river is reported to be tidally influenced to Sections 25 and 26, T. 8 N., R. 69 W., Seward Meridian. 31/

GWEEK RIVER

An anabranch of the Kuskokwim River, Gweek River meanders approximately seventy miles through a low, lake-studded plain north of the Kuskokwim River in the vicinity of Akiachak Village. The river empties into the Kuskokwim River at rivermile 54. Gweek River leaves the Kuskokwim River in T. 13 N., R. 69 W., Seward Meridian, to flow north, and then west and south to return to the Kuskokwim River in T. 9 N., R. 69 W., Seward Meridian. According to Rae Baxter of the Alaska Department of Fish and Game, the river is tidally influenced to Section 23, T. 10 N., R. 69 W., Seward Meridian. The BLM considers the river to be tidally influenced in its lower reaches to Section 14, T. 11 N., R. 68 W., Seward Meridian. 32/

JOHNSON RIVER

About 215 miles long, Johnson River or Tundra River drains an area of one thousand square miles. The river has its source in large tundra lakes, including Nunavakanukakslak Lake and Kayigyalik Lake, in the Yukon-Kuskokwim delta. Johnson River flows sluggishly in a single channel to the southwest before turning to the southeast about forty miles east of Baird Inlet to join the Kuskokwim River at rivermile 22. The lower twenty miles of the river, to Section 22, T. 9 N., R. 74 W., Seward Meridian, are said to be tidally influenced. 33/

The principal tributaries of Johnson River are Crooked Creek and Pikmiktalik and Kongeruk rivers. Crooked Creek is narrow, and as its name implies, a very crooked creek. The Pikmiktalik River meanders southwest 180 miles to empty into the lower reaches of the Johnson River at rivermile 11. According

to Rae Baxter of the Alaska Department of Fish and Game, the river is tidally affected to Section 7, T. 9 N., R. 73 W., Seward Meridian. In 1976, the BLM considered the river to be tidally influenced to Section 14, T. 11 N., R. 68 W., Seward Meridian. 34/ At rivermile 6, the Johnson River receives the Kongeruk River. This river is said to be tidally affected as far as Section 32, T. 8 N., R. 73 W., Seward Meridian. 35/

KIALIK RIVER

Emptying into the Kuskokwim River at rivermile 2, Kialik River flows southeasterly fifteen miles in a meandering channel across the Kuskokwim lowlands. The river and its two headwater streams, the Kutukhun and Meroyuk rivers, receive the waters of numerous creeks which drain many small lakes in the area. Mud and sand flats are located at the mouth of the river. According to Rae Baxter of the Alaska Department of Fish and Game, Kutukhun River is tidally influenced to Section 10, T. 6 N., R. 76 W., Seward Meridian. 36/

NINGLICK RIVER

This river flows forty-four miles in a westerly direction from Baird Inlet to the Bering Sea. The river's wide, sinuous channel is frequently choked with mud. The south bank of the river is part of Nelson Island; the north bank, Kigigak Peninsula. The river is tidally affected. 37/

KOLAVINARAK RIVER

Heading in Baird Inlet, the Kolavinarak River flows forty miles south into Etolin Strait, draining many lake-fed creeks on its way. Midway in course

the river is very shallow as it flows over sand and mud bars. At the mouth the channel is flanked on both sides by extensive tidal flats. The river itself is tidally influenced. 38/

KINIA RIVER

The largest stream draining Dall Lake, Kinia River meanders in a westerly course to empty into Etolin Strait. The river is wider in its upper stretches than in the lower reaches. The entire river is said to be tidally influenced. 39/

KINAK RIVER

One of several streams in the lower Yukon-Kuskokwim delta that drain Dall Lake, Kinak River meanders twenty miles in a southwesterly direction to Kuskokwim Bay. The river is said to be tidally influenced to some point in T. 1 S., R. 85 W., Seward Meridian. 40/

DALL LAKE

Dall Lake, the largest in the Yukon-Kuskokwim delta, is oriented southwest. It is fed by numerous creeks and small lakes. The principal tributary is Chukwugwalilik River, which heads in many lakes northeast of Baird Inlet. The river flows southerly in multiple channels and receives numerous lake-fed creeks. Dall Lake is considered by the BLM to be tidally affected. 41/

KUGUKLIK RIVER

This river heads in large lakes west of Kolekfikpuk Lake. The river meanders across the delta in a westerly direction to empty into Kinak Bay. The BLM considers the river to be tidally influenced to the west boundary of the E $\frac{1}{2}$ E $\frac{1}{2}$, Section 26, T. 2 N., R. 86 W., Seward Meridian. 42/

ANOHWAHK RIVER

Fed by many lakes and creeks in the Yukon-Kuskokwim delta, this river meanders southwest to empty into the Bering Sea. A large tributary enters the river from the northeast.

BOW LAKE OUTLET

A large lake oriented southwest primarily in Tps. 3 and 4 S., R. 83 W., Seward Meridian, Bow Lake is drained by an unnamed creek. The creek leaves the southwest end of the lake.

KWIGILLINGOK RIVER

From the southern end of Kolekfikpuk Lake, Kwigillingok River flows southeast for two miles, then makes long meanders to the southwest and finally to the south to empty into Kuskokwim Bay. From the lake to Section 32, T. 2 S., R. 80 W., Seward Meridian, a distance of about a mile, the river is said to be in a "deteriorated condition." In places the river is reported to be only four to six feet wide and shallow. According to local residents, the river is tidally influenced to and including Kolekfikpuk Lake. 43/

KONGNIGNANOHK RIVER

This river meanders across the southern reaches of the Yukon-Kuskokwim delta to empty into Kuskokwim Bay. The river is said to be extremely shallow--"less than knee deep"--in several places. Local residents recently cut a channel from a dead-end slough of the river to Kwigillingok River. The river receives numerous lake-fed creeks, some of which apparently head in Kolefikpuk Lake. The BLM considers the river to be tidally influenced to Section 1, T. 3 S., R. 80 W., Seward Meridian. 44/

ISHKOWIK RIVER

Ishkowik River flows south twenty-eight miles across the lower Yukon-Kuskokwim delta to Kuskokwim Bay. The river receives numerous lake-fed creeks, some of which are connected to Tagayarak River below the site of Tagayarak Village. The BLM considers the river to be tidally affected in the area selected by Kongiganak Village. The unnamed slough which joins the river in Section 28, T. 1 N., R. 78 W., Seward Meridian, is considered to be tidally influenced to Section 26, T. 1 N., R. 79 W., Seward Meridian. 45/

TAGAYARAK RIVER

This river flows twenty-five miles in a southeasterly direction to Kuskokwim Bay. The river is said to be tidally influenced to the west boundary of Section 2, T. 2 N., R. 78 W., Seward Meridian. 46/

An anabranch of Tagayarak River, Jewn River enters Tagayarak River about five miles above its mouth. This meandering river flows eight miles in a southeast

direction. It is reportedly tidally influenced to the eastern boundary of Section 6, T. 2 N., R. 77 W., Seward Meridian. 47/

EENAYARAK RIVER

This river heads in numerous lakes, principally Eek Lake, in the lowlands southeast of the Kuskokwim River. Receiving numerous lake-fed creeks in its course, the river meanders southwest to empty into Eek Channel in Kuskokwim Bay. The deep and muddy river is about thirty feet wide in its lower reaches. The banks are low and brush-covered. According to Rae Baxter of the Alaska Department of Fish and Game, the river is affected by tidal action to Section 1, T. 3 N., R. 73 W., Seward Meridian; the lake system northwest of the river is tidally influenced to Section 32, T. 6 N., R. 72 W., Seward Meridian. 48/

EEK RIVER

Heading in Eek Lake (a second Eek Lake approximately fifty miles east-southeast of that which drains to Eenayarak River), Eek River flows west 108 miles to Eek Channel, an anabranch of the Kuskokwim River. The river is joined by the Middle Fork at rivermile 60. The Middle Fork heads in an open valley bordered by the Eek Mountains and the Great Ridge and flows northwest to Eek River. About two miles below the confluence of Middle Fork, Eek River receives the Ugaklik River from the southeast. This river drains the Eek Mountains. From the confluence of the Ugaklik River, Eek River meanders northwest for a distance of about fifteen miles in air line, then swings west to flow into Kuskokwim Bay. For most of its course the river flows across a lowland of moist tundra. The lower course of the river meanders a great deal, sometimes making sharp turns.

Small sweepers are found along the river. In 1977, Rae Baxter of the Alaska Department of Fish and Game reported the river to be tidally influenced to Section 25, T. 2 N., R. 73 W., Seward Meridian. 49/

APOKAK SLOUGH

Located south of the mouth of Eek River, this slough is fed by a number of creeks draining small lakes in the lowlands. Several of the creeks that enter the slough from the south head in lakes which in turn are drained by tributaries of Kuskokwak Creek.

KUSKOKWAK CREEK

Heading in small lakes southwest of Ugaklik River, this creek flows northwest and thence southwest to enter Kuskokwak Channel in Kuskokwim Bay. The creek receives many creeks which drain small lakes in the lowlands.

WAREHOUSE CREEK

Emptying into Warehouse Slough in Kuskokwim Bay from the east, this four-mile-long creek is formed by two streams called the North and South Branches. Both streams head in small lakes. Warehouse Creek meanders westerly in a wide channel. The greatest range of tides in Kuskokwim Bay occurs near the mouth of Warehouse Creek. 50/

KANEKTOK RIVER

The Kanektok River, about seventy-five miles long, flows in a westerly direction from Kagati Lake in the Ahklun Mountains to Kuskokwim Bay.

Draining an area of 752 square miles, the river has an average width of two hundred feet and a gradient of fifteen feet per mile. From the lake, which is fed by small creeks draining small lakes, the river flows west to receive Kanuktik Creek which drains a lake of the same name. Approaching the Eek Mountains the river turns southwest and, near the confluence of Nukluk Creek, northwest to leave the Ahklun Mountains. In its lower course the river exhibits a braided character as it flows westerly across the broad floodplain. Sweepers are found on most river bends.

AROLIK RIVER

Formed by the East Fork and the South Fork, both of which drain small lakes in the Ahklun Mountains, Arolik River meanders northwesterly in a braided channel before splitting into two distributaries to empty into Kuskokwim Bay. The South Mouth meanders westerly; the North Mouth flows to the northwest until joined by several creeks that drain the lowlands and Thumb Mountain. At this point the North Mouth turns westerly to empty into the bay.

INDIAN RIVER

Indian River is formed by the confluence of its North and South forks. The North Fork heads in a valley between Cot and Kiuglugtulit Mountains. It flows southwest until it reaches the lowlands and the mouth of Nautilus Creek where

it swings west. The South Fork draining Explorer Mountain, trends west and then northwest in a marshy valley. The Indian River proper is 3.6 miles long and runs westward to tidal flats in Carter Bay.

BIG LAKE

This landlocked lake, also known as Nanvakpak Lake, is located a short distance from the coast northwest of Goodnews Bay. The lake is circular in shape with the exception of a northern arm. The lake is approximately two miles in diameter. The BLM considers it to be tidally influenced. 51/

TUNULIK RIVER

Draining the southern slopes of Explorer Mountain north of Goodnews Bay, this river flows southwest in a low, open valley to Goodnews Bay. Small lakes border the lower reaches of the river.

GOODNEWS RIVER

Goodnews River, which drains 1,018 square miles, heads in a small lake in T. 6 S., R. 65 W., Seward Meridian. It flows about fifteen miles to Goodnews Lake and then fifty-seven miles farther to empty into Goodnews Bay. From its source the river runs south-southwest between mountains 2,500 feet high to Goodnews Lake, a four-mile-long southwest-oriented lake. From Goodnews Lake the river flows southwesterly through a wide, open valley. Receiving the small Isurik Creek from the north at rivermile 30.5, the river turns west for about ten miles in an air line, and then resumes a southwesterly course to the coast.

At rivermile 4, the river receives the Middle Fork, a forty-four-mile-long river that heads in Middle Fork Lake in the Ahklun Mountains. At rivermile 3, the South Fork joins Goodnews River; this river also is fed by a small lake. Goodnews River is tidally affected for an unknown distance.

SMALLS RIVER

Draining a mountain in the Cape Newenham National Wildlife Refuge at an elevation of eight hundred feet, this river flows southwesterly until reaching the lowlands, where it turns northwest. At the confluence of Tundra Creek, which heads in a small lake in the northeast, the river meanders westerly to empty into the southwest corner of Goodnews Bay, near the settlement of Platinum.

SALMON RIVER

From a small valley between Red Mountain and Susie Mountain, Salmon River flows south-southwest to enter Kuskokwim Bay. The lower one mile of the river is located in the Cape Newenham National Wildlife Refuge.

KINEGNAK RIVER

This river heads in a valley east of Pyramid Mountain. The river flows southwest as far as the confluence of Wind and Fog creeks where it meanders south in a wide valley. Upon reaching the lowlands, the river winds southwest and empties into the northeast corner of Chagvan Bay. Most of the river is located in the Cape Newenham National Wildlife Refuge.

The principal tributary of the Kinegnak River is the Unaluk River. Draining a low, timbered mountain, Unaluk River flows across a wide, low valley in a westerly course, and receives a number of lake-fed creeks in its course. The river enters the Kinegnak River about a mile above its mouth, although a slough of the river empties directly into Chagvan Bay. The entire river is located in the Cape Newenham National Wildlife Refuge.

TABLE No. I. IMPORTANT TRIBUTARIES OF THE KUSKOKWIM RIVER

<u>Name of Tributary</u>	<u>Location (rivermile)</u>
South Fork	540
North Fork	540
Big River	512
Takotna River	455
Katlitna River	432
Black River	406
Little Selatna River	401
Selatna River	396
Nunsatuk River	370
Rohn River	365
Tatlawiksuk River	338
Swift River	335-336
Stony River	320
Holitna River	291
George River	263
Crooked Creek	245
Oskawalik River	233
Holokuk River	211
Kolmakof River	200
Owhat River	181
Aniak River	177
Tuluksak River	97
Kisaralik River	58
Kasigluk River	58
Kwethluk River	58
Gweek River	54
Johnson River	22
Kialik River	2

TABLE No. 2. IMPORTANT COASTAL RIVERS IN THE KUSKOKWIM SUBREGION

Name of Waterway

Ninglick River
Kolavinarak River
Kinia River
Kinak River
Kuguklik River
Anohwahk River
Kwigillingnok River
Kongnignanohk River
Ishkowik River
Tagayarak River
Eenayarak River
Eek River
Apokak Slough
Kuskokwak Creek
Warehouse Creek
Kanektok River
Arolik River
Indian River
Tunulik River
Goodnews River
Smalls River
Salmon River
Kinegnak River

Chapter One -- The Kuskokwim River Region

1. Joint Federal-State Land Use Planning Commission, Alaska Regional Profiles: Southwest Region, ed. Lydia L. Selkregg (Anchorage: University of Alaska, Arctic Environmental Information and Data Center, 1976), pp. 37, 106, 109. Lakes in the Yukon-Kuskokwim delta with an area equal to or greater than ten square miles include Kulik Lake, ten square miles; Kayigyalik Lake, nineteen square miles; Nunavakpak Lake, fifty-three square miles; Takslesluk Lake, thirty-one square miles; and Whitefish Lake, thirty-three square miles. Much of the information on the physical characteristics of the Kuskokwim River Region conveyed in the following pages is derived from the U.S. Geological Survey maps issued since the 1950s. River drainage area data come from the above cited Land Use Planning Commission publication.
2. U.S. Army, Corps of Engineers, Alaska District, Interim Report No. 7: Yukon and Kuskokwim River Basins, Alaska, 88th Cong., 2d sess., H. Doc. 218 (Washington, D.C.: Government Printing Office, 1964), p. 18.
3. Joint Federal-State Land Use Planning Commission, Alaska Regional Profiles: Southwest Region, p. 105.
4. Ibid.; John B. Mertie, Jr., The Goodnews Platinum Deposits, U.S. Geological Survey Bulletin 918 (Washington, D.C.: GPO, 1940), pp. 4-5; U.S. Department of Commerce, United States Coast Pilot 9, Pacific and Arctic Coasts, Alaska: Cape Spencer to Beaufort Sea, Ninth Ed. (Washington, D.C.: National Ocean Survey, 1979), pp. 311-313.

5. Joint Federal-State Land Use Planning Commission, Alaska Regional Profiles: Southwest Region, p. 31; Richard A. Berg, "The Economic Base and Development of Alaska's Kuskokwim Basin with Particular Emphasis upon the Period 1950 to 1964" (M A. Thesis, University of Alaska, Fairbanks, 1965), p. 26.
6. Francis S. L. Williamson, "Ecological Distribution of Birds in Napaskiak Area of the Kuskokwim River Delta, Alaska," Condor, 59 (September-October 1957): 319-320; Joint Federal-State Land Use Planning Commission, Alaska Regional Profiles: Southwest Region, pp. 13, 23, 109; U.S. Department of Commerce, United States Coast Pilot 9, pp. 313-15.
7. U.S. Army, Corps of Engineers, Interim Report No. 7, p. 88; Joint Federal-State Land Use Planning Commission, Alaska Regional Profiles: Southwest Region, p. 143.
8. Ibid., pp. 154-155, 165; Wallace M. Cady, et al., The Central Kuskokwim Region, Alaska: An Account of Its Geography, Geology, Geomorphology, and Mineral Resources Including the Occurrence and Mining of Quicksilver, U.S. Geological Survey Professional Paper 268 (Washington, D.C.: GPO, 1955), pp. 9, 11-12.
9. Alaska Geographic Society, The Yukon-Kuskokwim Delta, Robert A. Henning, et al., eds. (Anchorage: Alaska Northwest Publishing Co., 1979), p. 9; Lado A. Kozely, Over-all Economic Development Plan Relating to the Yukon-Kuskokwim River Basins within the Jurisdiction of the Bureau of Indian Affairs, Bethel District Office (Bethel: Bureau

- of Indian Affairs, 1964), p. 27; John J. Burns, "Pingos in the Yukon-Kuskokwim Delta, Alaska: Their Plant Succession and Use by Mink," Arctic, 17 (September 1964): 203; Joint Federal-State Land Use Planning Commission, Alaska Regional Profiles: Southwest Region, pp. 154-155.
10. Ibid., pp. 170-171.
 11. Ibid., pp. 92-93; Alaska Geographic Society, The Yukon-Kuskokwim Delta, p. 18.
 12. Executive Order 5095, April 15, 1929; Executive Order 7770, December 14, 1977; Public Land Order 2213, December 6, 1960; Public Land Order 4583, January 20, 1969; Public Land Order 4584, January 20, 1969.
 13. Diane Gudgel-Holmes, Ethnohistory of Four Interior Alaskan Waterbodies (Boulder, Colorado: Western Interstate Commission for Higher Education, 1980), pp. 44-45.
 14. Joe Labay, "Navigability Field Report," June 6, 1977, file F-14906-EE, Alaska Native Village Selection Applications, Bureau of Land Management, Alaska State Office, Anchorage (hereafter cited as ANCSA file).
 15. Joe Labay, "Navigability Field Report," June 6, 1977, file F-14945-EE, ANCSA file.
 16. Cliff Ells, "Navigability Field Report," June 6, 1977, file F-14945-EE, ANCSA file.

17. A. T. Fernald, Geomorphology of the Upper Kuskokwim Region, U.S. Geological Survey Bulletin 1071-G (Washington, D.C.: GPO, 1960), pp. 252-253.
18. J. L. McPherson, "Report of Kuskokwim Reconnaissance," in "Report of Alaskan Engineering Commission," February 11, 1915, pp. 205-206, Box 146492, Records of the Alaska Railroad, Record Group 322, Federal Records Center, Seattle, Washington. Microfilm copy of report available in Navigability Section, Division of ANCSA and State Conveyances, Alaska State Office, Bureau of Land Management, Anchorage. The report of the Alaska Engineering Commission was published as House Document No. 610 in 1916.
19. Ibid.
20. Anton Eide to Alaska Road Commission, August 18, 1910, Historical Documents Geological File, U.S. Geological Survey, Menlo Park, California.
21. Cliff Ells, "Navigability Field Report", June 7, 1977, file F-14942-EE, ANCSA file.
22. See Chapter Six, p. 348.
23. Philip S. Smith, The Lake Clark - Central Kuskokwim Region, Alaska. U.S. Geological Bulletin 655 (Washington, D.C.: GPO, 1917), p. 31; U.S. Heritage Conservation and Recreation Service, Alaska Office,

- "Stony, Telaquana, Necons River: A Wild and Scenic River Analysis," October 1979, Anchorage, pp. 8-12, 40.
24. Cady, et al., The Central Kuskokwim Region, p. 10.
 25. Clyde Wahrhaftig, Physiographic Divisions of Alaska, U.S. Geological Survey Professional Paper 482 (Washington, D.C.: GPO, 1965), p. 30; Alfred G. Maddren, Fieldbook No. 408, U.S. Geological Survey, Menlo Park, California; Philip S. Smith, The Lake Clark - Central Kuskokwim Region (Bull. 655), pp. 32-33; Stephen R. Capps, The Southern Alaska Range, U.S. Geological Survey Bulletin No. 862 (Washington, D.C.: GPO, 1935), p. 11; Raymond P. Maloney, Sampling for Gold in River Bars, Kuskokwim River Basin, Alaska, U.S. Bureau of Mines Open File Report 16-69 (Washington, D.C.: GPO, 1969), p. 6; Richard A. Dotson and David P. Mindell, Raptor Surveys and River Profiles in the Kuskokwim, Unalakleet and Yukon River Drainages, Alaska (Anchorage: Bureau of Land Management, 1979), p. 11.
 26. Alfred G. Maddren, "Gold Placers of the Lower Kuskokwim, with a Note on Copper in the Russian Mountains," in A. H. Brooks, et al., Mineral Resources of Alaska, Report on Progress of Investigations in 1914, U.S. Geological Survey Bulletin 622 (Washington, D.C.: GPO, 1915), p. 308; Capps, The Southern Alaska Range (Bull. 862), p. 11; Cady, The Central Kuskokwim Region, p. 11.
 27. Curtis V. McVee, "Notice of Proposed Easement Recommendations for the Village of Akiachak," October 13, 1976, file F-14823-EE, ANCSA file.

28. Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), pp. 307-308.
29. Frank A. Stefanich to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.
30. Ross Kavanagh, "Kisaralik River Trip Report - Fisheries Resources," March 8, 1977, pp. 8-11.
31. Frank A. Stefanich to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.
32. Ibid.; Patrick C. Beckley to Files, December 12, 1975, file F-14823-EE, ANCSA file.
33. Frank A. Stefanich to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.
34. Ibid.; Curtis V. McVee, "Notice of Proposed Easement . . . Akiachak," October 13, 1976, file F-14823-EE, ANCSA file.
35. Horace F. Sanders to Files, May 27, 1976, file F-14901-EE, ANCSA file.
36. Frank A. Stefanich to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.

37. Patrick C. Beckley to Files, November 4, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Newtok," January 27, 1977, file F-14904-EE, ANCSA file.
38. Patrick C. Beckley to Files, December 8, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Nightmute," July 18, 1976, file F-14905-EE, ANCSA file.
39. Patrick C. Beckley, "Notes," October 16, 1975, Joe J. Labay, "Note to Easement Files," May 4, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Chefnak," June 10, 1976, file F-14848-EE, ANCSA file.
40. Patrick C. Beckley to Files, December 19, 1975, file F-14875-EE, ANCSA file.
41. Joe J. Labay, "Note to Easement Files," May 4, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Chefnak," June 10, 1976, file F-14848-EE, ANCSA file.
42. Fred E. Wolf, "Final Easements for the Village of Kipnuk," 1980, file F-14875-EE, ANCSA file.
43. Martin L. Karstetter to Files, May 2, 1980, file F-14884-EE, ANCSA file.
44. Martin L. Karstetter to Files, September 11, 1980, "Draft Final Easements for the Village of Kongiganak," March 26, 1981, file F-14878-EE, ANCSA file.

45. Ibid.
46. Patrick C. Beckley to Files, January 2, 1976, Decision to Issue Conveyance, July 15, 1980, file F-14950-EE, ANCSA file.
47. Ibid.
48. Frank A. Stefanich to Horace Sanders, May 9, 1977, to Federal-State Land Use Planning Commission, May 5, 1977, file F-14854-EE, ANCSA file.
49. Frank A. Stefanich to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.
50. U.S. Department of Commerce, United States Coast Pilot 9, p. 313.
51. Stanley H. Bronczyk to Files, January 31, 1977, Curtis V. McVee, "Notice of Proposed Easement . . . Platinum," March 25, 1977, "Draft Final Easements for the Village of Platinum," 1979, file F-14920-EE, ANCSA file.

CHAPTER TWO

EXPLORATIONS

Like many of the major rivers of Alaska, the Kuskokwim River was discovered and explored by the Russians in the eighteenth and nineteenth centuries. In the fur rush following the discovery of Alaska in 1741 by Vitus Bering and Aleksei Chirikov, Russian promyshlenniki sailed from Siberia in succeeding waves farther and farther east, following the Aleutian Islands to the south coast of Alaska, and thence along the coast to Kodiak Island, Cook Inlet, and Prince William Sound. The Russians formed loosely organized companies to finance the long voyages and to establish trading posts along the southern coast of Alaska. Although interested primarily in sea otter pelts, the Russians also traded with the Aleuts, Eskimos, and Indians for lesser-valued furs. This trade, combined with intense competition for additional commercial contacts, led some companies to penetrate inland Alaska. As a result, one post was established on Lake Iliamna, the largest lake in Alaska and easily accessible by way of the Kvichak River and by several portages from Cook Inlet. The earliest Russian expeditions into the Kuskokwim basin were launched from this post.

Later Russian traders credited the discovery of the Kuskokwim River to an obscure hunter named Aleksei or Vasili Ivanov. Sometime in the early 1790s, while an employee of the Lebedev-Lastochkin Company at the Lake Iliamna post, Ivanov and a small party of men skied from Lake Iliamna to the Nushagak River, ascended that river to its head, and crossed a low divide to a northeast-flowing river, probably the Holitna River or its tributary, the

Hoholitna River. They followed this stream to the Kuskokwim River, which Ivanov called the Tutna, and then made their way to the Yukon River by way of one of the portages. After descending the Yukon to explore the western coast of Alaska for a short distance, the Russians returned to Lake Iliamna over their former route after an absence of some three months. Upon his return to Lake Iliamna, Ivanov enthusiastically reported his discovery of a region rich in furs and fish. He found many Native settlements during his journey, and many more were said to be located elsewhere on the Yukon and Kuskokwim rivers. On the Kuskokwim River alone, he wrote with some exaggeration, there were forty-four villages with a total population of up to seven thousand people. 1/

Several decades were to pass before the Russians attempted to extend the fur trade into the Kuskokwim basin. It was only after the highly competitive trading companies were replaced by the Russian-American Company, which obtained a charter granting it a monopoly over the fur trade in Alaska, after the successful expansion of the Russian settlements from Kodiak to southeast Alaska under the direction of Alexander Baranov, and after the decline of the sea-otter trade, the company's main source of revenue, that the Russians prepared to develop trade in lesser-valued furs in new territories. And it was not until two decades after the Russians began fur trading in the Kuskokwim that they decided to establish a post on the Kuskokwim River.

In line with its new policy to explore and occupy new regions, the Russian-American Company in 1818 sent an expedition under the command of Petr Korsakovskiy to the Bristol Bay area with instructions to establish a trading post. In early August, Korsakovskiy with Fedor Kolmakov, Petr Gorokov,

Gavril Patykov, Andrei Klimovski, and twenty Aleuts sailed from Kodiak to the southwestern coast of Alaska. After exploring the coast as far north as Cape Newenham, Korsakovskiy selected a site for a redoubt or fortified trading post, later called Aleksandrovsk Redoubt, near the mouth of Nushagak River. Leaving Kolmakov and a few men to clear the land and begin construction of the post, Korsakovskiy went to Lake Iliamna by way of Kvichak River to visit Eremy Rodionov, who was in charge of the small post there. Together the two men went to Lake Clark, where they separated, Korsakovskiy to explore the lake and the country to the north, Rodionov and seven men to cross one of the divides to the Kuskokwim drainage. Descending either the Holitna River or the Hoholitna River in skin boats to the Kuskokwim River, the small party proceeded to a village called Ohagamiut. Subsequently, Rodionov made his way to the upper Mulchatna River where in early September he met Korsakovskiy's party. The combined parties then returned to Lake Iliamna, crossed one of the portages to lower Cook Inlet, and proceeded to Kodiak. 2/

Rodionov's report on his journey to the Kuskokwim River intrigued Korsakovskiy. In the following summer he arranged to have the cutter Constantine meet him in Togiak Bay, where he planned to replenish his supplies for a journey up the Kuskokwim River from its mouth. With a large party of about twenty-five men, Korsakovskiy returned to Bristol Bay by way of Lake Iliamna and Kvichak River in baidarkas. They then followed the coast to the mouth of Togiak River where they found the cutter Constantine awaiting their arrival. The journey to Togiak River had taken longer than expected. The late season, the report of an Eskimo that many hardships would meet the Russians if they attempted the journey, and doubtlessly the awesome size of Kuskokwim Bay, persuaded Korsakovskiy to abandon the journey after having proceeded no farther than Goodnews Bay. 3/

Despite his failure, Korsakovskiy apparently reported favorably on the possibilities of extending the fur trade to the Kuskokwim basin. In 1820, S. I. Ianovski, the chief manager of the Russian-American Company in Sitka, sent two letters to St. Petersburg recommending that Aleksandrovska Redoubt be moved to the Kuskokwim River. The board of directors in St. Petersburg, replying in early 1821, refused to approve the recommendation, observing that little was known about conditions on the river, the number of inhabitants along the river, and whether they were peaceful and interested in trade. Besides, rumors had it that timber necessary for the construction of a post was not available on the lower Kuskokwim River. 4/

In subsequent years, a number of Russian voyages of exploration were sent to western Alaska, and several attempts were made to enter the Kuskokwim River from the sea. In 1820, Captain Benzeman on the brig Golovnin made the attempt without success. In the following year, captains Vasili S. Khromchenko and Adolf K. Etholin, sent to explore the Bering sea coast, were more successful. After assisting Khromchenko in a survey of Hagemeister Island and Strait, Etholin on the cutter Baranov explored Goodnews Bay and then proceeded north to Kuskokwim Bay. Etholin succeeded in entering Kuskokwim River in a small boat, and ascended the river a considerable distance. He met many Eskimos, with some of whom he engaged in trade, and learned that the interior contained many lakes teeming with beaver. Leaving the river and bay with great caution, Etholin subsequently sailed to Nunivak Island and thence to Cape Vancouver, which he named, before turning south to Aleksandrovska Redoubt to meet Khromchenko. 5/

Perhaps because of Etholin's report that the muddy water and shifting channels in Kuskokwim Bay presented a hazard to navigation, subsequent Russian

expeditions to the Kuskokwim River were sent overland. In 1829, the company directed Ensign Ivan Y. Vasil'ev to explore a vast region between Aleksandrovsk Redoubt and Norton Sound and to establish trade relations with the Natives. In the summer of that year, Vasil'ev ascended Nushagak River to its head, intending to cross the mountains to the Kuskokwim drainage. To his dismay, his Native guides deserted him out of fear of the Kuskokwim Eskimos, and he was compelled to return to Aleksandrovsk Redoubt. 6/ In June of the following year, he again set out for the Kuskokwim River, this time with Kuskokwim Eskimos serving as his guides. With ten men in his party, including the chief factor's son, Petr Kolmakov, and the interpreter, Semen I. Lukin, Vasil'ev ascended the Nushagak River and one of its tributaries in baidarkas, portaged to the head of the Holitna River, and descended that river to the Kuskokwim. Visiting many villages on the river, Vasil'ev intended to ascend the Kuskokwim to its source. Upon meeting hostile Eskimos, however, he abandoned his plans and returned to Aleksandrovsk Redoubt. He may have followed his former route to the redoubt, or may have descended the Kuskokwim River to its mouth to follow the coast and various portages to Nushagak Bay. 7/

Impressed by Vasil'ev's report of great fur resources in the Kuskokwim basin, chief manager Baron Ferdinand P. von Wrangell, a strong and ardent advocate of Russian expansion in Alaska, ordered Fedor Kolmakov to lead a trading expedition to the Kuskokwim and to locate a suitable site for an odinochka, a small trading post usually maintained by one to three men. Following Vasil'ev's route of 1830, Kolmakov with Lukin, Vasil'ev, and six company employees left Aleksandrovsk Redoubt on foot sometime during the winter of 1832-33. Constructing a small cabin known as Kolmakov's Townlet at the mouth of the Holitna River,

Kolmakov then led his men upriver about one hundred miles to explore and establish trade contacts with the Natives. When he returned to Aleksandrovsk Redoubt in the spring, he brought with him 1,150 beaver pelts. This was a remarkable number, considering that the Russians throughout Alaska were then taking about five thousand beaver in a single year. Lukin also returned to the redoubt later in the summer with a large number of beaver pelts. 8/

Late in the summer of 1833, Kolmakov, Lukin, and several others made another journey to the Kuskokwim River, this time to construct Lukin's Odinochka near the easternmost mouth of Kolmakof River. That the Russians had struck a bonanza is apparent in that Kolmakov returned to the redoubt in February 1834 with 1,469 beaver pelts. 9/

In the same years that Kolmakov was busily extending Russian influence in the Kuskokwim basin, other Russian explorers were doing the same in the Yukon basin. Following Etholin's voyage to Norton Sound in 1830, chief manager Wrangell approved plans for the construction of a redoubt on St. Michael Island, a small island in Norton Sound commanding the entrance to the Yukon River. The establishment of this redoubt in 1833 allowed the Russians to extend the trade far up the Yukon River and incidentally to discover an alternative route of travel to the Kuskokwim River.

This discovery is credited to Andrei Glazunov. Instructed to locate an overland route to Cook Inlet, Glazunov with Vasilii Donskoi, Vasilii Deriabin, Ivan Balashev, Iakov Knagge, and several Native guides left St. Michael Island in late December 1833 to journey southeast to the Anvik River and thence down that river to the Yukon River. Crossing Paimiut portage to the Kuskokwim River, the Russians

then made their way to Lukin's Odinochka, arriving there in mid-February. From that place Glazunov followed the Kuskokwim River upriver to the mouth of Stony River, and then ascended that river about fifty miles or to the vicinity of Lime Hills, where in mid-March, his Native guides having abandoned him and his supplies nearly exhausted, he gave up the attempt to reach Cook Inlet. By mid-April 1834, Glazunov and his men had reached Mikhailevosk Redoubt on St. Michaels by some unknown route. 10/

The Russians apparently became convinced of the futility of locating a practicable overland route from the upper reaches of Kuskokwim River to Cook Inlet, for in subsequent years they devoted their efforts to extending their influence to the headwaters of the Kuskokwim and in the area between the Kuskokwim and Yukon rivers. This expansion was executed swiftly. Following the construction of the odinochka, Petr Kolmakov on his own initiative led an expedition to the head of the Kuskokwim River and established additional trade contacts with the Natives. In 1839, Kolmakov and a small party in five kayaks ascended the Kuskokwim to the mouth of the Takotna River, proceeded up that river and Nixon Fork to cross a low divide to the Innoko River, a major tributary of the Yukon River. Kolmakov intended to descend the Innoko River to the Yukon, but upon learning that a Russian post on the Yukon River had just been razed by Indians, he decided to return to Lukin's Odinochka. Ascending the Innoko River, Kolmakov came upon a large tributary, probably the Iditarod River, and proceeded up that stream to a point near its head. He then crossed a Native portage to the Takotna River, and descended that river to the Kuskokwim River, thereby completing a journey that put much of the Kuskokwim, Takotna, and Innoko Rivers on maps and brought many Native villages into the Russian fold. That the Russian traders on the Kuskokwim River obtained more than

four thousand beaver pelts annually in succeeding years, is a strong measure of Kolmakov's success. 11/

Two years after Kolmakov's expedition, the small post on the Kuskokwim River was elevated to the status of a redoubt. Named in honor of Fedor Kolmakov, who died in 1839, Kolmakov Redoubt was managed by Semen Lukin for a number of years. Until the sale of Alaska in 1867, the redoubt was the chief base of Russian operations on the Kuskokwim River. Every summer, the Russian traders traveled to small posts along the river where they met and traded with the Natives. At present the location of only four of these posts is known: one at the mouth of the Holitna River; one at a Native summer camp known as Vinasale below the mouth of the Takotna River; one at Ogavik or Uknavik downstream from the redoubt; and one at Kikhtagamiut near present-day Akiachak. 12/ In view of the paucity of documents relating to Russian activities on the Kuskokwim River, there may have been other trading posts in the Kuskokwim basin.

By 1840, the Russian-American Company had accumulated considerable information about the geography and inhabitants of the Kuskokwim, lower Yukon, and Nushagak rivers. Reading the somewhat vague reports of the traders at the three redoubts in western Alaska, and confident that the trading system in the occupied areas could be improved and at the same time extended into new areas, company officials resolved in 1842 to send an officer to western Alaska on a fact-finding tour. The man chosen for the task, Lieutenant Lavrenti A. Zagoskin, was instructed to explore the Yukon and Kuskokwim rivers to their sources, and to locate practicable routes of travel between these drainage systems. In addition, he was to explore Innoko River and Buckland River, both of which were said to be rich in beaver. Finally, and most important,

Zagoskin was directed to make recommendations on how the trading system could be improved, what supply routes to the existing stations should be adopted, and where new posts might be established. 13/

Zagoskin's investigations required nearly two years. In this time he visited much of western Alaska, and recorded a great deal of reliable information about the fur trade, inhabitants, natural resources, travel routes, and geography of western Alaska. In the course of his travels, Zagoskin visited the Kuskokwim basin on two separate occasions: once in the winter of 1843-44 and again in the summer of 1844. On November 23, 1843, Zagoskin left Russian Mission on the Yukon River to investigate the Paimiut portage, the longer of the two best known winter routes of travel between the Yukon and Kuskokwim rivers. This trail was the one preferred by the Natives during the early winter months as the forest provided some protection from the snow and the wind. For the most part, Zagoskin's trip by dogsled and snowshoe was slow and uneventful. About four miles from the Kuskokwim River, however, he was caught in a snow blizzard, which caused his Native guides to lose the trail. Using a compass, Zagoskin led his guides across the Portage Mountains and on November 29, reached Crow Village on the Kuskokwim River. He later learned that he had come out only a quarter of a mile off the trail. 14/

From Crow Village, Zagoskin had no difficulty in following the frozen Kuskokwim River to Kolmakov Redoubt, where he arrived on December 3. Here he remained for nearly two months, a time that he described as monotonous: "Life followed its usual course; in the morning charcoal fumes, in the evening charcoal suffocation; inspection of the traps, standing guard for foxes, hard frosts, now and then a trader, and every day a visit from the manager, an employee, or a few

guests with the news of the day before." 15/ Instead of recounting these insignificant events, Zagoskin described in great detail and color the local Natives and their customs. Of particular interest to anthropologists are his observations on the hunting, fishing, and trapping methods of the Kuskokwim Eskimos.

Zagoskin finally left Kolmakov Redoubt in early February 1844 to explore the lower reaches of the Innoko River. His journal is unclear as to the exact route followed, but it is not improbable that his route skirted either the Portage Mountains or the Russian Mountains. In any case, the route was easy to travel. Within a day's travel from Kolmakov Redoubt, Zagoskin reached a low, easy pass which led him through a narrow valley two miles in distance to the Innoko drainage. Once over the pass, Zagoskin needed only three days to cross the flats to the lower Innoko River. Evidently he followed a well-known trail, for he occasionally met Native travelers and small villages on the trail. Wanting to return to the redoubt via Russian Mission before the spring break-up made overland travel impracticable, Zagoskin spent little time on the Innoko River. Following a well-beaten trail from the river, he reached Russian Mission on the Yukon River on March 10--exactly one month after his departure from Kolmakov Redoubt. 16/

After spending little more than three weeks at Russian Mission, Zagoskin again departed for the Kuskokwim River, this time taking the shorter Yukon-Kuskokwim portage so as to reach Kolmakov Redoubt in time to accompany the station manager on his annual expedition upriver. Crossing the portage in less than three days, Zagoskin reached the redoubt on April 10, just before the warm spring weather made overland travel impossible. Zagoskin remained at the

redoubt for the next month, taking copious notes on local conditions and patiently awaiting the spring break-up of the Kuskokwim River ice. 17/

In May 1844, after the river was free of ice, Zagoskin accompanied Lukin, the manager of the Kolmakov station, on his annual journey to Vinasale in two three-place baidarkas and one open skin boat. While the manager traded with the Indians at Vinasale, Zagoskin with an interpreter and a guide, who had been with Kolmakov's expedition in 1839, ascended the Kuskokwim to the Takotna River, and up that river for an estimated distance of five miles. In the course of the journey, Zagoskin made careful notes of his observations, as well as his discussions with Kolmakov's former guide, who proved to be a valuable source of information about the portage to the Iditarod River. Upon reaching the Takotna River, Zagoskin sent one guide up the tributary to contact the Indians. A day later the guide returned with three men and two women with children. Several of the men had just returned from a trading journey to Kolmakov. Zagoskin learned much about the geography of the upper Kuskokwim basin from these Indians on Takotna River, including the names of six rivers in the basin and the existence of an inland lake or sea (probably Lake Minchumina) which could be reached from the Yukon and Nowitna rivers. Indians on the Yukon, Innoko, and Takotna rivers were quite familiar with the lake. Zagoskin doubtless learned much more about the basin, but unfortunately recorded only that information which could be verified by alternative sources. He wanted to ascend the Kuskokwim River to its source, but decided against it as his guides were needed at Kolmakov. Consequently, he returned to the redoubt, arriving there on June 5. 18/

Three days after his return, Zagoskin and his party left the redoubt in three baidarkas to cross what he termed the "inland water route" to the Yukon River. After an arduous two-day trip across the portage, the party reached Russian Mission on June 10. Shortly thereafter, Zagoskin continued his journey to Mikhailevosk Redoubt, where he boarded the brig Okhotsk for the voyage to Sitka. 19/

In his report to the Russian-American Company, Zagoskin provided a great deal of information about western Alaska in support of his recommendations for the improvement of the Russian fur trade in the regions. As concerns Kolmakov Redoubt, Zagoskin made two recommendations. First, and most important, he wrote, Kolmakov Redoubt needed better communications with a tidewater port. At the time of his visit the redoubt was supplied principally from Aleksandrovsk Redoubt at the mouth of the Nushagak River. Each winter the traders set out on a long expedition up the Holokuk River to the head of the Holitna River, and thence over a low pass to the headwaters of the Nushagak River. During the summer the traders relied upon the same general route for supplies, except that the trip was made in kayaks on the Holitna River and its tributary, the Hoholitna River. These lines of communications had served Kolmakov Redoubt well in the early days of the fur trade; but with the establishment of Mikhailevosk Redoubt near the mouth of the Yukon River and the consequent drain of Kuskokwim furs to that post, Kolmakov Redoubt needed greater quantities of trade goods and easier access to the goods if it was to maintain, much less expand, its position in the Kuskokwim basin. Zagoskin therefore recommended that in the future Kolmakov Redoubt be supplied from Mikhailevosk Redoubt; and that the administration of the Kolmakov Redoubt be transferred to that redoubt. 20/

Related to this proposed shift in administration, Zagoskin also believed it necessary to restore the former trading system with the upper Kuskokwim Indians. In 1842, the Russian traders permitted Tanaina Indians on Cook Inlet to cross the mountains and trade with the upper Kuskokwim Indians at a place called Itstsynno, believed to be located near present-day Medfra. This resulted in a significant reduction in the number of beaver pelts traded at Kolmakov Redoubt; and as the Tanaina Indians dealt harshly with the upper Kuskokwim Indians, opened the door for possible Indian reprisals upon the Russian traders. Zagoskin thus recommended that the trade between the Indians be prohibited, thereby allowing the upper Kuskokwim Indians to conduct their trade at Kolmakov Redoubt as in earlier years. 21/

Following Zagoskin's recommendations on the Russian-American Company in 1846, transferred Kolmakov Redoubt to the St. Michael District and began supplying the post from that Norton Sound settlement. Aleksandrovsk Redoubt was reduced to a mere odinochka. 22/ As Zagoskin predicted, the administrative change resulted in increased efficiency in the supplying of Kolmakov Redoubt which in turn gave the Russian traders greater incentives to extend their influence to previously untapped areas. The traders constructed small cabins along the Kuskokwim, some as far upriver as Vinasale (and possibly on Takotna River), where they spent part or most of the summer trading with the Indians or Eskimos. If Petr A. Tikhmenev, the official historian of the Russian-American Company, can be trusted, the expansion of the Russian trade in the Kuskokwim basin was not entirely successful. During the period 1842 to 1861, Kolmakov Redoubt exported 32,396 beaver pelts and 6,836 pairs of beaver castors. In other words, little more than 1,700 beaver pelts were exported on the average each year. This was considerably less than the two thousand beaver pelts that the post exported in the early 1840s. The station also exported otter,

fox, bear, lynx, and marten skins, as well as walrus ivory, but never in sufficient numbers to offset the loss of revenue caused by the dwindling supply of beaver peltry. 23/

In 1866, anticipating the sale of Alaska to the United States, the Russian-American Company abandoned its various posts in western Alaska. Not all of the Russian traders left the region, however. Only three years after the closure of the posts, the Alaska Commercial Company, then known as Hutchinson, Kohl and Company, hired Reinhold Separe to represent the firm at Kolmakov. From the available records, it appears that the company sent each year a vessel to Kuskokwim Bay where it met and traded with Separe for the pelts of marten, mink, bear, and other lesser-valued animals. This trade was, from the company's point of view, very profitable, representing about \$10,000 in 1887. 24/ The same might be said as well for Separe, who beginning in the 1870s maintained summer trading posts at Vinasale and Mumtrekhlagamute (near present-day Bethel). Both posts were operated well into the 1890s. 25/

Until the famous Klondike Gold Rush of 1897-98, few Americans entered the Kuskokwim basin. With the notable exception of Edward W. Nelson's journey in the Yukon-Kuskokwim delta in the winter of 1878-79, no systematic explorations were undertaken in the basin for thirty years after the purchase of Alaska. However, missionaries, prospectors, and trappers ventured into the basin, and as a result a great deal of information about the geography and inhabitants of the basin was collected.

Edward W. Nelson's journey across the Yukon-Kuskokwim delta resulted in the first relatively accurate map of that area. 26/ Sent to St. Michael to make

meteorological observations in 1877, Nelson found little time in his first year at the Alaska Commercial Company station to make anything more than short excursions. In the following year, however, he made a long winter exploration of the Yukon - Kuskokwim delta. Leaving the station with trader Charles Peterson and two sleds, Nelson ascended the Yukon River to Andreafsky, and then headed southwest across the upper end of the Yukon delta to the coast just south of Cape Romanzof. The two men then followed the coast southward to Cape Vancouver on Nelson Island. In this section of his journey, Nelson named Hooper Bay and Hazen Bay.

Two days south of Cape Vancouver, Peterson left Nelson to return to the Yukon River. Continuing the journey with an Eskimo and the crude maps of fur traders to guide him, Nelson soon reached the Kolavinarak River, where he turned inland for a short distance to visit two villages. Returning to the coast at the village of Chichinagamiut (probably present-day Chefornek) on Kinia River, he followed the coast to the mouth of Kinak River which, he learned, headed in a large lake. This lake he named after William H. Dall of the Smithsonian Institution. Upon reaching the mouth of the Kuguklik River, Nelson followed that river a few miles to the village of Chalitmiut (possibly present-day Kipnuk) with a population of sixty. He then returned to the coast and continued the journey to the coastal villages of Anogok (75 people), Kongiganak (175 people), and Kulvagavik (10 people), which was located a short distance up Ishkowik River. From this village Nelson traveled overland in a northeasterly direction to strike the coast of Kuskokwim Bay about ten miles above a village called Kuskavakh, apparently located at the mouth of Tagayarak River. He then followed the coastline northward to the village of Kinagamiut near the mouth of the Kinak River which empties into the Kuskokwim.

From the mouth of the Kinak River, Nelson struck overland to cross the "Big Lake Country" as the fur traders called it. According to Nelson, numerous lakes of widely varying size were "connected by a network of sluggish streams which unite into one main channel and flow into the Kuskokwim above Kinagamiut." The "main stream" is doubtlessly present-day Johnson River. Nelson ascended Kinak River, traveled overland to Nunavakpak Lake and Kayigyalik Lake, and then headed northeasterly along Johnson River, known to the Russians as Kvichavak River and described by Nelson as a "narrow, sluggish stream." Following the river a considerable distance, Nelson then headed north to strike the Yukon River near Ohogamiut. The "Big Lake Country," Nelson wrote, was heavily populated by Natives who thrived on fish during the winter. On his reconnaissance map he illustrated the location of six villages near the lakes, but recorded the names of only three villages. 27/

Nelson's statistics on village populations in the Yukon-Kuskokwim delta were incorporated in the first census of Alaska, compiled by Ivan Petroff in 1880. In the course of his work, Petroff ascended the Yukon River in the summer of 1880 as far as the mouth of Nowitna River in a kayak. Returning to a post on the lower reaches of the Yukon River, perhaps Russian Mission, he crossed the Yukon-Kuskokwim portage and ascended the Kuskokwim River as far as Kolmakof, where he met two white traders. He then descended the Kuskokwim River to its mouth, and made his way to Bristol Bay by an unknown route. By his estimate, more than 3,500 Eskimos occupied villages from Goodnews Bay to Kolmakof, and as many as 147 Indians lived along the banks of the Kuskokwim River above Kolmakof. Only two white men, both at Kolmakof, were known to be present in the entire Kuskokwim basin. 28/

The first census of Alaska, published in 1884, confirmed what Sheldon Jackson, the activist Presbyterian appointed General Agent for Education in the new U.S. Bureau of Education, had suspected all along through personal observations and random interviews with traders, whalers, and government officials. Petroff's report demonstrated a large Native population in Alaska, most of them living in an "uncivilized" state. Himself instrumental in founding several Presbyterian missions in southeast Alaska, Jackson had for several years been appealing to various religious organizations to extend missionary activities to Alaska. Not a few responded to the call. The Moravians were the first to enter the Kuskokwim basin.

The decision of the Moravians to establish a mission on the Kuskokwim River was the result of an exploring expedition undertaken by two young missionaries named J. Adolph H. Hartmann and William H. Weinland. In May 1884, the two men sailed from San Francisco to Unalaska, where they obtained passage on the steamer Dora, the Alaska Commercial Company's supply ship, to Nushagak (formerly Aleksandrovsk Redoubt) in Nushagak Bay. The missionaries hoped to find Nushagak a vacant field for a church and school; but upon their arrival, they found a Greek Orthodox priest presiding over the area. Informed by the priest that the Kuskokwim River was an unoccupied field, Hartmann and Weinland determined to go to the river and ascend it as far as possible with a view to locating a mission site.

In the early morning hours of June 12, steamer Dora with the two Moravian missionaries on board rounded Cape Newenham. The steamer followed the coast to a point near the village of Quinchachamute. The uncharted and shallow waters prevented further progress. In a short while, traders Reinhold Separe,

Edward Lind, Nicolai Dormentoff, and Nicolai Komolkoshen in four three-hole bidarkas paddled out to the steamer to obtain their annual supply of trade goods. The two missionaries were to accompany the traders on the return trip to their various posts.

Concluding their business on the steamer, the traders went to the former Eskimo village of Ishingackmute, located near the mouth of a small and deep coastal river (probably present-day Warehouse Creek). Here the traders had a frame house which they used to store trade goods for shipment up the Kuskokwim River. "A dreary, dreary country," Hartmann wrote; the lower Kuskokwim River "is a flat waste, entirely destitute of trees and even of shrubs, covered only with a damp, spongy bed of moss or 'tundra' from six inches to a foot in depth." 29/ As the traders ascended the river, Hartmann took pains to record the names of the villages which they passed. These included Kuskokwagamute, Apokachamute (Apokak), Togiartzoriamute (Togiaratsorik), Lomiavigamute (Lomavik), Napahaiagamute (Napakiak), and Napaskiagamute (Napaskiak). Near the village of Lomavik, Hartmann observed that the Kuskokwim River "had hitherto been a broad unbroken stream, [but] was now divided by numerous islands into many channels" with "a higher growth of underwood and thickets of small birch trees alternated with grassy or mossy banks." 30/ Three days after leaving the storehouse, the missionaries arrived at Mumtreklklagamute (Bethel), where Komolkoshen operated a trading post. According to Hartmann, the post was located on a high bank ten or twelve feet above water at a bend on the river. With the incoming tide, the water rose about four feet at this place. 31/

After spending six days at the trading post, Hartmann and Weinland left on June 26 with the traders for Kolmakof. Again, Hartmann recorded the names of

the villages which they passed or visited. These included Kikkhtagamute (Kikhtak), Akiagamute (Akiak), Iulukiak (Tuluksak), Kivigalogamute, Ugavik (Uknavik), Iookhlagamute, Kalkhagamute (Kalskag), and Ookhogamute (Oknagamut). At Kikhtak, located on a deep and narrow slough, Hartmann counted about fifty birchbark canoes on the bank. 32/ The village of Uknavik, noted Hartmann, was located near the foot of a sixty-mile portage to the Yukon River. 33/

In the evening of July 3, the two missionaries reached Kolmakof, the home of trader Edward Lind. Hartmann and Weinland remained at the post for nearly a week, leaving only once to make a trip about ten miles upriver to the village of Napaimiut, where they found a few dilapidated houses and as many Natives. A day after their return to Kolmakov, the two missionaries decided to go to Nushagak rather than accompany the traders on the twenty-day journey to Vinasale. Stopping at many of the same villages that they had visited earlier, the two men reached the storehouse on Kuskokwim Bay on July 16.

With four Native oarsmen, the two missionaries made a long and difficult voyage to Goodnews Bay. When the tide receded, immense mudflats stretching for miles were exposed, thus forcing the men to pole the two baidarkas along the flats and against the wind and rain. Early in the morning of July 19, the small party, drenched by the rain and exhausted by many hours of poling and paddling, finally entered Goodnews Bay--or as the Natives called it, "the little sea." Bad weather forced them to stay in camp for several days before traveling the ten miles to Mumtrachagamute (Mumtrak or Goodnews Bay Village), the only village in the bay.

Not wanting to risk their lives to the turbulent sea off Cape Newenham, the two missionaries left Mumtrak on July 23 to follow the inland route to Togiak Bay and Nushagak Bay. Hartmann neglected to describe their route to Togiak Bay in great detail. It is probable, nevertheless, that they ascended the South Fork of Goodnews River, crossed a low divide to Osviak River, and descended that river to Togiak Bay. According to Hartmann, they were led up a clear, rapid, winding stream by a local Native in a kayak. Pushing the boats through shallow places with poles, and paddling in deep water, the men reached a large plain bordered by timberless, low, rounded mountains after a day's travel. Across this plain, Hartmann wrote, the river meandered in a narrow and deep channel. As he described it:

Presently, however, it became more like a deep rut than anything else, and it would have been impossible to travel up the stream in any kind of boat but a bidarka. The rivulet gradually decreased in width till there was scarcely room for the boat, which it must be remembered is only 2 feet wide. It also became shallow, and there were occasionally such abrupt turns that the boat, 27 feet in length, could with difficulty be got through. All getting out, the natives pulled the boats over the shallows Nothing but the occasional appearance of the men's heads above the high grass lining the water's edge, seemed to indicate the vicinity of a water-course. 34/

On the night of July 24, the exhausted men reached the foot of the portage trail to Togiak Bay. Hartmann was convinced that he would not have found the trail without a local guide, as it was marked only by a few sticks placed in the

ground. Hartmann supposed that the sticks had been put there by the prospector George Langtry. 35/

The next morning the small party crossed a low divide to a series of four small lakes filled with red salmon. The missionaries walked around the lakes, while their guides used the boats to transport their supplies across. At the last lake, the men portaged to the head of a river, and descended that river in the boats to Hagemeister Strait. The missionaries then proceeded to the head of Togiak Bay, explored Togiak River for a short distance, and finally took the well-known portage route to Nushagak Bay via the Amanka and Ualik lakes and Igushik River. They arrived at Nushagak on August 8.

In the following year, 1885, Weinland returned to the Kuskokwim River, this time with his wife, John Henry Kilbuck and his wife, and Hans Torgersen. Chartering a schooner at San Francisco, they sailed to Kuskokwim Bay where, not far from the Alaska Commercial Company storehouse, they unloaded a thirty-five-foot sailboat called the Bethel Star. With this they began hauling lumber and supplies up the Kuskokwim River to the present site of Bethel. 36/ In a short while, they completed construction of the first Moravian mission building on the Kuskokwim River.

The Moravian missionaries subsequently established small chapels along the lower Kuskokwim River and the southern coast of Kuskokwim Bay. These activities did not go unnoticed in the Orthodox Church or the Roman Catholic Church, both of which soon sent missionaries into the Kuskokwim basin. Since the days of the Russian fur trader, Orthodox missionaries had attempted to

serve the Kuskokwim Natives from Russian Mission on the Yukon River. Each winter, according to Hartmann, an Orthodox priest traveled by dogsled to Kolmakof, where he conducted marriage ceremonies for many Natives from distant villages. Upon learning of the Moravian's work at Bethel, the church sent a deacon at Nushagak named Vasilii Orlov to the Kuskokwim River with instructions to locate a suitable mission site.

In the winter of 1885-86, Orlov left Nushagak on a three-month dogsled journey that took him to Bethel and Kolmakof. In traveling from Nushagak to Goodnews Bay, Orlov apparently followed Hartmann's general route of 1884. Following the coast from Mumtrak on Goodnews Bay to Bethel, he recorded the names of the villages on the trail. A day after his arrival at Bethel, on January 24, he left with a fresh set of dogs, following the Kuskokwim River to reach Kolmakof in less than a week. Unimpressed by Kolmakof as a mission site, Orlov started out on the trail for Bethel when he was intercepted by Natives from Russian Mission with instructions to guide him to the Yukon River station. Arriving there on February 13, Orlov stayed at the mission only three days before returning to the Kuskokwim River by way of one of the winter portages. He then followed his former route to Nushagak. 37/

By Orlov's own account, more than thirty-six villages with a total population of 2,883 people were located on his trail from Nushagak to Kolmakof. Some Natives claimed that there were more than six or seven thousand people living in this region, but Orlov doubted the reliability of these figures. Nevertheless, he found the Natives receptive to the idea of having an Orthodox missionary in their midst, and thus recommended that a mission be established in timbered country at Kwethluk, which was closer to the bay and more populated than Kolmakof. 38/

For some reason, church officials chose Chuathbaluk ten miles east of Aniak rather than Kwethluk as the site for the mission. In 1891, an Orthodox priest was permanently assigned to this village, which subsequently was called Russian Mission or Little Russian Mission so as to distinguish it from Russian Mission on the Yukon River. 39/ Like the Moravians, the Orthodox missionaries established a number of chapels along the Kuskokwim River, principally in its middle and upper reaches.

The Roman Catholic Church also considered establishing a mission on the Kuskokwim River in the 1880s. In 1889, Joseph M. Treca established a mission at Tanunak on Nelson Island. 40/ Four years later the mission was moved north to Akulurak. While the Catholic priests at Holy Cross on the Yukon River traveled to the Kuskokwim River each winter by way of the Yukon-Kuskokwim portage or the Paimiut portage beginning in the early 1890s and in fact maintained a mission at Oknagamut until 1907, they devoted most of their missionary activities to the delta settlements. 41/ For more than thirty years each winter, the priest at Akulurak made a trip across the delta, visiting such villages as Scammon Bay, Hooper Bay, Kashunak, Chevak, Kaialuvik, Tanunak, Nightmute, Nunivak Island, Loyola (a mission at Kokaklercheraramiut at the mouth of the Kuskokwim River established in 1935), and Bethel.

While the missionaries began their work with the Kuskokwim Natives, prospectors and miners also entered the region. More than any other group, the prospectors and miners were to set off a train of events that changed the face of Alaska and the Kuskokwim region. Perhaps the first American prospecting expedition to the Kuskokwim basin occurred in 1881. Following their discovery of the Omilak silver deposits in Golovin Bay, George C. King and a party of miners

ascended the Kuskokwim River to investigate rumors of cinnabar deposits near Kolmakof. They found deposits of cinnabar, but nothing in paying quantities. 42/ Increasing numbers of prospectors spread through interior Alaska after the opening of the Chilkoot Pass to white men in 1880. Three years later George Marks and three men crossed the pass to the Yukon River and after prospecting on Stewart River in Canada made their way to the mouth of the Tanana River. According to Alfred H. Brooks, Marks and Benjamin Beach continued down the river, crossed the Yukon-Kuskokwim portage, and ascended the Kuskokwim River in a two-hole baidarka for some 250 miles above Kolmakof before the loss of their outfits forced their return to Kolmakof. 43/ In 1884, another prospector, George G. Langtry, one of the first white men to cross Chilkoot Pass, was reported on the Kuskokwim River by the Moravian missionaries Hartmann and Weinland, who met the man a short distance below Akiak. According to Hartmann, Langtry had been working on the upper reaches of the river, and was then headed for Nushagak by way of the Cape Newenham portage, the same route that the two missionaries were to take later in the fall. 44/

Other prospectors entering the Kuskokwim Basin in the late 1880s and early 1890s include Frank Densmore, Al King, Joe Goldsmith, James Cleghorn, and Henry Mellish. Crossing the Yukon-Kuskokwim portage, Cleghorn and Mellish reportedly ascended the Kuskokwim River to Kolmakof and spent a winter there. Goldsmith also crossed the portage and ascended the river for several hundred miles. One of the more remarkable journeys was made by Frank Densmore and party in 1889. Densmore traveled up one of the southern tributaries of the Tanana River, perhaps the Cosna River or the Kantishna River, to the head of the Kuskokwim River, and descended that river to the Yukon-Kuskokwim portage, which he crossed to the Yukon River. This was probably the first time that

white men penetrated the upper Kuskokwim basin, a feat that was to be repeated by Al King shortly thereafter. 45/

As news of gold discoveries in Alaska reached the newspapers, a few popular writers and adventurers journeyed to Alaska in search of copy. One of the few to enter the Kuskokwim basin was Warburton Pike, who published an account of the journey in 1896. 46/ In 1888, Pike crossed Chilkoot Pass, and descended the Yukon River to the Yukon-Kuskokwim portage. Crossing the portage, he then descended the Kuskokwim River to Bethel where he met a Moravian missionary who described the route to Nushagak. Leaving Bethel on August 23, Pike followed the coast to Warehouse Creek where he met two Natives named Moses and Aaron who agreed to guide Pike to Nushagak, although both claimed that they had never been there. Following the coast, the small party soon reached Goodnews River. Pike described the journey up Goodnews River as follows:

For two days we pushed up this river, poling, towing, and wading. . . through a dry rolling country with mountains of some elevation, till it became merely a deep little ditch, in some places too narrow for the canoe. When we could follow it no longer we began to abuse Moses for bringing us the wrong way, but he was quite equal to the occasion, and taking his kayak on his shoulders stalked off towards a grassy ridge that lay right ahead, making signs for us to do the same. About a mile away we found a little lake, but we had to cross the portage twice to bring everything over.... We made altogether five portages in passing through a chain of lakes, and finally dropped on to another little ditch draining towards the southwest. 47/

Three days after leaving Goodnews Bay, the party finally reached a large river that emptied into the sea. From a village at the river's mouth, Pike and the guides made their way to Togiak River. Pike later advised anyone wanting to make the trip to have the services of a guide, for "it would be impossible for a stranger to follow the inland route by himself even if he knew of its existence."

48/

More important was the journey made by Alfred B. Schanz and E. Hazard Wells under the auspices of Frank Leslie's Illustrated Newspaper. 49/ In 1890, Schanz, Wells, and party crossed Chilkoot Pass and took the usual route to Fortymile River. Here Wells left the main party to ascend the Fortymile River and cross a low divide to the Tanana River. Schanz continued down the Yukon River to follow Pike's route to Nushagak, where he arrived in October. Following the same route from the mouth of the Tanana River, Wells and party reached Nushagak a month later.

With a talent for keen observation, Schanz and Wells recorded much about the regions which they visited, although their accounts published in the newspaper bordered upon sensationalism. Fortunately, much of their information was included in the 1890 census of Alaska. Schanz in fact was the main contributor to the census for the Nushagak district and appears to have worked closely with the enumerators of the Yukon and Kuskokwim districts.

The census enumerators for the Kuskokwim district were the Moravian missionaries from Bethel, John H. Kilbuck and his assistant Charles Weber. During the summer of 1890, Kilbuck visited most of the permanent settlements from Bethel to Vinasale, and may have personally enumerated the villages along the

coast from Bethel to Cape Newenham as well. Weber was responsible for the enumeration of villages along the coast from Bethel to Hooper Bay. Traveling in winter, Weber visited Chalit, Anogok, Cheeching, Sfaganuk, and Aguikchuk, before continuing his journey to Cape Vancouver on Nelson Island, and thence to Ninglick River, Kashunuk River, and finally Hooper Bay. 50/

In the following year, 1891, William C. Greenfield, an employee of the Alaska Commercial Company contributed a report on the Holitna and Nushagak rivers to the census. Schanz quoted much from Greenfield's account of the journey in his own report on the Nushagak district. For the first few miles, wrote Greenfield, the Holitna River "flows with a very sluggish current and remarkably crooked course through a very flat country, a narrow belt of timber just fringing the stream; the banks are low and it is evident that in spring and early summer the country is overflowed." 51/ This fact, he supposed, explained the absence of settlements on the lower stretch of the river. On the third day on the river, however, he encountered Natives, and a day later, arrived at the last and largest village called Nohchamute (Nochak) located a few miles below a tributary flowing from the southeast called the Kitquik. From this village of twenty-eight people in three families, Greenfield ascended with great difficulty the crooked and shallow Kitquik. After a day and a half on the river, he reached the foot of the trail to the upper reaches of the Nushagak River. According to Greenfield, the trail headed in a generally southern direction, crossing low, rolling hills not more than five hundred or six hundred feet high which trended northeast and southwest. Once across the portage, Greenfield descended the Nushagak River and within three days reached the confluence of the Nuyakuk and Nushagak rivers.

By the early 1890s, then, much of the Kuskokwim basin had been explored by traders, prospectors, and missionaries. The general course of the Kuskokwim River at least as far as the Takotna River, and most if not all of the Native settlements along the Kuskokwim River had been visited by white men. The principal routes from the Kuskokwim River to the Yukon, Tanana, Nushagak, and Susitna rivers were generally known, although some had not been traversed by white men. Most of the tributaries of the Kuskokwim River were not yet illustrated on maps, but their existence and Native names were known to the traders and missionaries. With the exception of the Holitna River and the North Fork of the Kuskokwim, none had been explored by white Americans.

The Klondike Gold Rush of 1897-98 radically changed this state of affairs. Tens of thousands of people rushed to Alaska and western Canada to seek their fortunes. Confronted by extremely primitive conditions and the absence of reliable published information about Alaska, many people demanded geologic and hydrologic surveys, the preparation of topographic maps and marine charts, and the extension of homestead and mining laws. Many government expeditions were sent to Alaska in subsequent years to collect information about the natural and human resources, to identify and map navigable streams and prospective trail, road, and railroad routes, and to locate potential mineralized zones. An important objective of these expeditions was to locate a practicable "all-American" route of travel from the ice-free waters of southern Alaska to the major navigable streams of Interior Alaska. At the time the only practicable year-round route to the Yukon River was the White Pass & Yukon Railway, a narrow-gauge railroad extending from Skagway in Alaska to Whitehorse in Canada. For more than a decade, the government would search for a means to reduce, if not eliminate, Alaska's dependence upon the railroad.

Both the Geological Survey and the War Department were given the task of locating "all-American" routes in Alaska. The work of the Spurr expedition in 1898, the Herron expedition in 1899, and the Brooks expedition in 1902, was invaluable in producing the first official maps of the region. Both Herron and Brooks worked primarily in the upper Kuskokwim basin. Only Spurr was to cover the entire Kuskokwim River.

Led by Josiah Edward Spurr, a geologist who had successfully accomplished a traverse of the Yukon two years earlier, the U.S. Geological Survey (USGS) expedition of 1898 to the Kuskokwim included Oscar Rohn, George Hartman, A. E. Harrell, F. C. Hinckley, and an obscure trapper named Madison. Outfitted with three light cedar Peterborough canoes ranging in length from eighteen to nineteen feet, all specially designed and built for the expedition, Spurr's party was to ascend the Yentna River, a major tributary of the Susitna River, to its headwaters, locate and cross a pass over the mountains to the Kuskokwim River, and if possible descend the river to the Yukon-Kuskokwim portage. If they reached the portage, the party was to continue to the Yukon River, and then make their way to St. Michael where they could obtain passage on a steamboat for Seattle or San Francisco.

Leaving the small village of Tyonek on Cook Inlet in late April, the six explorers endured nearly two and one-half months of extreme hardship in the effort to reach the headwaters of Yentna River and find a pass to the Kuskokwim drainage. Ultimately they located and crossed a pass to the headwaters of the South Fork of the Kuskokwim River. Facing a critical shortage of supplies and having encountered little game, the men descended the South Fork in great haste so as to reach the trading post at Vinasale, the existence of which they had learned

from a trader on Susitna River. They arrived at Vinasale on August 1, only to find the place deserted and the storehouses empty. Immediately the men returned to their canoes, and began the long journey down the Kuskokwim River. Their immediate destination was Kolmakof, where they knew a trading post was located.

Where before Spurr had taken detailed notes, he now made only brief and general observations about the region. The explorers soon reached the limit of the broad flats of the upper Kuskokwim to "enter a definite valley lying between picturesque timbered mountains, in appearance suggesting the lower Ramparts of the Yukon." The mountain peaks, some bearing patches of snow, grew higher and higher as the men descended the river between perpendicular, rocky bluffs. Soon after passing the Holitna, which Spurr described as a wide stream with dark-colored water "alive with leaping salmon," the men made their way through the Great Bend of the Kuskokwim River to make camp a few miles above the village of Napaimiut. Meeting a few Eskimos on the river, Spurr learned by means of signs that a steamboat was soon coming up the river. The men stood a vain, anxious watch through the night in hopes of intercepting the boat.

On August 6, the explorers sighted Kolmakov. There they found some Natives and trader Ivan Andreanoff, who provided the white men with a small amount of tea, the only article of trade available at the post as supplies for the year had not yet arrived. Near Kolmakof, Spurr wrote, "the river rapidly left the mountains and flowed through a perfectly level country, very sparsely timbered and always growing broader." In some places the river was "a veritable sea," and large islands were numerous. The land on both sides of the river became more and more swampy "until it developed into the typical dreary tundra."

Reaching the village of Oknagamut on August 7, they found a Native trader who provided them with twenty pounds of flour, which he had recently brought from the Yukon River. From this point on, the explorers were never in want of food, as they daily passed numerous villages whose inhabitants willingly parted with fish and such delicacies as bear meat. On August 8, they stopped briefly at Uknavik and saw the first "welcome signs of civilized man," a vacant mission building.

Two days later, Spurr and his men reached Memtrelegamiut (Bethel) and met the Moravian missionaries John H. Kilbuck and Dr. John Romig. Spending a week at Bethel to recuperate from their journey, Spurr and his men undoubtedly obtained a great deal of information from the missionaries about the Kuskokwim region. Many of the village and river names that subsequently appeared on Spurr's map of the Kuskokwim River were probably provided by the missionaries. Such features as the winter sled trail extending south from Kolmakof to the mountains, the trail bearing northwesterly across the delta to three villages, and the villages located on the Yukon-Kuskokwim portage and on the river called Oknakluk north of Kalskag, were certainly provided by local residents.

52/

Discussions with the missionaries apparently contributed to Spurr's decision to change the expedition plans. Deciding to follow the Native route to Togiak and Nushagak, a journey that promised to be difficult for a large party, Spurr thought it best to reduce the size of the party by sending Harrell, Hinckley, and Madison to St. Michael with Dr. Romig by way of the Yukon-Kuskokwim portage. Inasmuch as the portage was unexplored by anyone who had left records, and believing that it might one day be improved as a canal for the

transportation of supplies by steamboat from Kuskokwim Bay to the Yukon River, Spurr instructed Hinckley to map the route and take other notes of interest.

From Bethel, this party ascended the Kuskokwim River to Kalchagamut (Kalskag), a distance of about eighty-five miles. On August 23, they began the portage crossing by ascending Mud Creek, a tributary of the Kuskokwim River, in a northwestern direction. At that time the water flow in the creek was virtually dead, the waters of the Kuskokwim River backing up into the creek. "Its mouth is 70 feet wide and 30 feet deep; 1 mile of it is 100 feet wide and 7 to 12 feet deep, and it gradually narrows to 30 or 40 feet in width in its upper course," wrote Hinckley. 53/ The river channel was "remarkably straight" and water depths were uniform. The banks were four to six feet in height. Hinckley described the journey across the portage as follows:

After ascending this stream 4 miles we dragged the boats over a well-worn track of mud into a little lake, and crossing this lake we reached another similar rut of mud which led to a 30-foot incline, up which the loaded canoes were dragged. At the head of this incline the mud track was covered with 2 or 3 inches of water, so that the canoes could be hauled more easily. A quarter of a mile beyond we reached another shallow lake, at the farther end of which the party pushed through a field of water grass and emerged on a narrow winding stream leading southwest. This stream was surprisingly deep for so narrow a waterway, having a depth of 10 and a width of less than 30 feet. A peculiar feature along its course was the great number of little lakes similar to those we had crossed.

There was nothing to separate the stream from the lake but the thick

fields of water grass mentioned above. These lakes seem to have been formed by the sweeping away of the banks in the time of freshets, and they must now act as excellent reservoirs in holding back the spring floods. The view over the tundra was impressive--a great rolling bog stretching far away to dimly outlined mountains. We descended the stream for about 15 miles till we reached a tributary, which we ascended in a northerly direction till we came to a large lake. Shortly before arriving at the lake we passed a large area of tundra which had burned over during the summer--evidently in the rainless season of June and July the surface of the tundra had become quite dry. About a mile before we entered this lake the stream spread out in wide shallows filled with grass, which we traversed with difficulty. A jolly rivalry sprang up here between the canoes, each striving to get ahead of the other by some short passage through the grass. Sometimes a canoe which had forged ahead found itself in a cul-de-sac and was thus obliged to come back and to follow, amid shouts of laughter, in the wake of the others. At last, on pushing out of a growth of willows, we saw before us a wall of muck about 2 feet high, which proved to be the border of a lake. Owing to the low shore across the lake and a slight refraction we were unable to see the other side, so that it almost seemed as if we were looking out on the open sea. In reality the lake was about 3 miles across; it had a uniform depth of 4 to 5 feet, and was completely surrounded by shores of muck. Crossing this lake we ascended a short stream to a still larger lake. Owing to the soft muck bottom the waters of the first were dark and dirty, but those of the second were clearer and of a whitish tinge, as the bottom was a hard sandy clay. At the end of the second lake our boats were again dragged along a mud track into a brook which led to and through a smaller lake,

and this in turn led to a fourth, the separation between the two being again only a field of water grass. Here we met a Russian missionary, who was traveling from his mission on the Yukon to the scene of his winter labors on the Kuskokwim. He was accompanied by a picturesque band of natives--men women and children--with a fleet of native canoes. At the end of the fourth lake our canoes were unloaded and carried for a quarter of a mile over a hill into another rut of mud and water which in a few hundred yards led to a large stream. This stream had a sluggish current and winding course, with monotonously wooded shores and high flood banks. Forty miles of paddling down this stream took the party to the Yukon at a point 6 miles below the Russian mission, the whole trip from Bethel to the Yukon having occupied between five and six days. 54/

Upon reaching the Yukon River, where they met "a great tide of incoming and outgoing miners," they had little trouble in finding a river steamboat to take them to St. Michael. From that place they obtained passage on a ship to Seattle.

By this time, Spurr and Rohn were well on their way to Nushagak. On August 19, the men left Bethel with Kilbuck on a small sloop for Quinhagak mission at the mouth of Kanektok River, which empties into Kuskokwim Bay. The voyage was slow on account of difficulties in finding the proper channel. Sometimes, when they were not in the deepest channel, the receding tide left the boat high and dry, forcing them to wait for the flood tide to lift them "upon a broad sea out of sight of the shore."

Upon reaching Quinhagak, Spurr decided to ascend the Kanektok River and locate a divide at its head to Togiak River or Nushagak River. Kilbuck persuaded two reluctant Natives to accompany Spurr. The two Eskimos "did their

utmost to dissuade us from the trip, saying that the river was extremely rapid, which we did not believe at the time, but afterwards found to be quite true," wrote Spurr. 55/ On August 26, the Spurr party including two Quinhagak Eskimos and one Bethel Eskimo, who agreed to accompany the white men as far as Nushagak, began the arduous journey up the uncharted river.

More than two weeks of hard work in rain was required to reach the small horseshoe-shaped lake called Kagati, a word meaning "the source" in the Native language. The lower part of the river, teeming with fish, flowed swiftly in several channels between low banks bordered by sparse, low growths of willows and poplars. Small deserted Eskimo camps, sometimes consisting of a single habitation, were passed. Spurr noted that these camps may have been abandoned only for the fishing season.

As they continued up the river to a range of low, bare mountains, travel became more difficult since the current was swifter and high water made lining a complicated exercise. In the mountains, the simple matter of making a fire was difficult as wood was scarce. Only willow brush was found along the river and lakes. The surrounding country was characterized by tundra with abundant berries. As they passed through the mountain section, they mapped the lower reaches and recorded the names of tributaries, including Nukluk, Otumgwilut, Klak, Kanuktik, and Baikron creeks. Here again they saw small, deserted Eskimo camps along the river. One of the camps seen on September 4 was called Chwarlitigamiut. The whole mountain range, Spurr wrote, was the winter and spring hunting ground for adventurous Natives on the lower Kuskokwim River. It was "a fairly good game country," the Eskimos hunting caribou and bear in the mountains and waterfowl along the river.

Arriving at Kagati Lake on September 8, the explorers mapped Atmugiak Creek before continuing the journey up an unnamed creek flowing into the easternmost arm of the lake. They ascended this narrow, shallow, and extremely crooked creek for eight or nine miles until it was too shallow for even a canoe or kayak. On the following day, they made a series of short portages from one lake to another until reaching Nenevok Lake. "Across this lake, a distance of about five miles, is the real portage," Spurr wrote, for they had to walk between fifteen and twenty miles and cross a steep pass before reaching a creek emptying into Togiak Lake. Once this portage was accomplished, the most difficult part of the journey was over. 56/ Making rapid progress across the lake and down Togiak River, Spurr's party reached the village of Togiak on September 19. Remaining at the village for only a short while, the explorers then continued to Nushagak by way of Kulukak River, Ualik and Amanka lakes, and Igushik River.

The Spurr expedition of 1898 was a remarkable journey, considering the distances traveled and the obstacles overcome. Moreover, maps made by these explorers of the South Fork and the upper Kuskokwim River, the Yukon-Kuskokwim portage, and the coast of Kuskokwim Bay improved on and corrected Russian cartography. Spurr's expedition contributed little to knowledge about the Kuskokwim's tributaries and the numerous villages along the river. Nevertheless, subsequent government expeditions were sent to the region and, using Spurr's map as a base, filled in the large blank spaces.

One of the primary missions of the War Department during the years of the Klondike Gold Rush was the investigation of possible land routes from tidewater to the navigable waters of the Tanana and Yukon rivers. The Army concentrated

its attention on routes in the Copper River and Susitna River valleys, but it did send one small expedition to the upper Kuskokwim area. Under the command of First Lieutenant Joseph S. Herron, Eighth Cavalry, the expedition was to locate a practicable route of travel from Cook Inlet to the confluence of the Yukon and Tanana rivers, where the Army in 1899 was constructing Fort Gibbon.

Early that year, Lieutenant Herron and seven other men including two Indian guides went up the Susitna and Yentna rivers in the steamboat Duchesnoy. Landed on the Kichatna River about three miles above its mouth in late June, the party struggled for the next several weeks to reach the passes to the Kuskokwim River with pack horses. On July 22, they discovered Simpson Pass, which Herron considered to be suitable for a trail, road, or railroad.

After crossing the divide, the expedition made camp on Tatina River. For the next two weeks, the party followed the ridges on the right limit of the Echeatnu (South Fork). Their Indian guides having since abandoned them, Herron's men left the valley of the South Fork on August 8, about ten miles south of the Tonzona River (Little Tonzona River), and headed northeast to the East Fork Hills. On August 18, after passing west of Lake Hoyle, which Herron named, the party made camp at a deserted Indian village on the left limit of the Chedotlothna (East Fork), about ten miles below the mouth of the Tonzona River.

By this time, Herron's men were becoming desperate as their supplies were dwindling and signs of an early winter were upon them. Their only hope was to find an Indian village where food and guides could be obtained. Heading for higher ground and following the right limit of the Slow Fork, the men on September 4 reached a point where they cached some provisions, and set out to explore

a large river, the Tatlathno (Swift Fork). Finding fresh signs of Indians on the river, and the horses no longer of use, Herron established camp on September 8, and built rafts with which to descend the river. The horses were abandoned. The river was "crooked, swift, full of snags and sweepers, and dangerous for rafting," wrote Herron. 57/ At one point, one of the rafts was upset, and additional rations were lost. After traveling a distance of eight miles, they encountered a series of log jams which completely blocked the river. Extremely disappointed, Herron decided on September 12 to abandon the rafts. For the next several days, the party followed the Swift Fork to its confluence with the North Fork of the Kuskokwim River. Again building rafts, the men descended the North Fork for two days. Leaving the river on September 16, Herron, who by this time had virtually given up hope on finding an Indian village, decided to return to the September 4 cache. For the next three days, Herron's men walked nearly forty miles along the North Fork and Swift Fork, a notable feat considering the fact that both Herron and Jones had sprained ankles and that snow was already on the ground. Then, on September 19, the exhausted men met an Indian on the trail.

As Herron tells the story, the Indian named Shesoie from Telida Village had been searching for the white men for some time. Having recently killed a bear in the area, and upon finding that the bear had eaten bacon, he realized that white men were somewhere nearby. He followed the bear's trail and found the cache into which the bear had broken and obtained the bacon. He then followed Herron's trail, and met the white men en route to their cache.

For the next week Herron and his men feasted on Shesoie's bear meat and what little supplies they had left, and through means of signs learned all they could of the area from the Indian. On September 27, the Indian led Herron's men to

his village on the Swift Fork, some twenty-five miles distant. The men remained there for two months, resting from their ordeal and awaiting proper snow conditions for sled travel. On November 25, with four Indians as guides, the Herron expedition set out for Fort Gibbon via the Cosna River. They arrived at the military station with few mishaps on December 11, 1899. 58/

Completed in March 1901 and published as a Senate Document in 1909, Herron's report was the first detailed description of the geography of the upper Kuskokwim basin. The map which Herron prepared for inclusion in the report, illustrates the proper location of the principal streams and lakes, identifies their Indian names, and shows the location of Indian settlements and trails.

In the matter of a land route of travel from tidewater to the Tanana River, Herron believed that the route of his expedition was feasible for travel, stating the the terrain from the place where he abandoned the horses to the Yukon River was the most favorable for travel he had encountered on the trip. 59/ But, in the final analysis, he favored a route from Kustatan in Redoubt Bay to Vinasale on the Kuskokwim River, and recommended its investigation. Unlike Cook Inlet, Redoubt Bay was free of ice throughout the year. And heavily-used winter trails extended from Vinasale to a village on the South Fork and to Nulato on the Yukon River where one could make connections with trails to St. Michael and Nome. 60/

All in all, the Herron expedition failed to locate a practicable route of travel from the Susitna River to the Tanana River along the base of the Alaska Range on the Kuskokwim side of the range. And so in 1902, the USGS sent Alfred Hulse Brooks to make a reconnaissance of the route, as well as to investigate

reports of gold strikes on the Kuskokwim River, and to study the geology of the Mount McKinley area. From Cook Inlet, the Brooks expedition crossed the Beluga Mountains to the Skwentna River, and then made its way over the hills to the Kichatna River. Following Kichatna River to its head, the men descended Moose Creek to Happy River and proceeded up that river to Pass Creek to discover the important Rainy Pass in the Alaska Range. They then followed Dalzell Creek and Tatina River to the South Fork of the Kuskokwim River before turning northeasterly to follow the foothills of the Alaska Range to the Tanana River valley. 61/

The Brooks expedition was the last of the great expeditions in the basin. As a result of the work of Spurr, Herron, and Brooks, much of the basin was mapped, and the various land and water routes connecting the Kuskokwim River with the Susitna, Tanana, and Yukon Rivers were generally known. The Geological Survey, the War Department, and the Coast and Geodetic Survey would in subsequent years send expeditions into the basin, but their purpose was less of an exploring nature than to aid in the development of mining industries and transportation facilities.

Chapter Two -- Explorations

1. G. I. Davydov, Two Voyages to Russian America, 1802-1807, Richard A. Pierce, ed., Colin Bearne, trans. (Kingston, Ontario: The Limestone Press, 1977), pp. 200-202; Wendell H. Oswalt, "Kolmakovskiy Redoubt: The Ethnoarchaeology of a Russian Fort in Alaska," (unpublished manuscript, 1980), p. 31; Lavrentiy A. Zagoskin, Lieutenant Zagoskin's Travels in Russian America, 1842-1844, Henry N. Michael, ed. (Toronto: Arctic Institute of North America, 1967), pp. 9-10, 29-30.
2. Ibid., p. 10; Oswalt, "Kolmakovskiy Redoubt," p. 32; Svetlana G. Federova, The Russian Population in Alaska and California: Late Eighteenth Century - 1867, Richard A. Pierce, ed., Alton S. Donnelly, trans. (Kingston, Ontario: The Limestone Press, 1973), pp. 64-68, 308-311; James W. VanStone, ed., and David H. Krans, trans., V. S. Khromchenko's Coastal Explorations in Southwestern Alaska, 1822, Fieldiana Anthropology, Vol. 64 (Chicago: Field Museum of Natural History, 1973), pp. 7-8.
3. Ibid., p. 8; Federova, The Russian Population, pp. 68-70, 311; James W. VanStone, Eskimos of the Nushagak River (Seattle: University of Washington Press, 1967), p. 6.
4. VanStone, Eskimos of the Nushagak River, p. 7. Robert P. Porter, Report on Population and Resources of Alaska at the Eleventh Census, 1890 (Washington, D.C.: Government Printing Office, 1893), p. 100, mentions a report dated 1818 that recommended transfer of the Nushagak station to Hagemeister Island.

5. Federova, The Russian Population, pp. 70-71; VanStone, Eskimos of the Nushagak River, pp. 7-8; VanStone and Kraus, Khromchenko's Coastal Explorations, pp. 15-16; Petr A. Tikhmenev, A History of the Russian-American Company, Richard A. Pierce, ed., Alton S. Donnelly, trans. (Seattle: University of Washington Press, 1978), p. 176; Oswalt, "Kolmakovskiy Redoubt," pp. 159-160. Little is known about Lieutenant A. P. Avinov's expedition during the summer of 1821. Avinov reportedly investigated the Alaska coast between Cape Newenham and Norton Sound. See Federova, The Russian Population, pp. 72-75.
6. James W. VanStone, "Russian Exploration in Interior Alaska: An Extract from the Journal of Andrei Glazunov," Pacific Northwest Quarterly, 50 (April 1959): 39; Oswalt, "Kolmakovskiy's Redoubt," pp. 33-34; Ferdinand P. Wrangell and Karl-Ernst Baer, Russian America Statistical and Ethnographic Information, Richard A. Pierce, ed., Mary Sadouskii, trans. (Kingston, Ontario: The Limestone Press, 1980), p. 69.
7. Oswalt, "Kolmakovskiy Redoubt," pp. 33-34; Tikhmenev, History of the Russian-American Company, p. 181; Federova, The Russian Population, pp. 139, 256; Zagoskin, Travels in Russian America, p. 80; VanStone, Eskimos of the Nushagak River, p. 10.
8. Oswalt, "Kolmakovskiy's Redoubt," pp. 159-161; Wrangell and Baer, Russian America Statistical and Ethnographic Information, p. 69; Zagoskin, Travels in Russian America, pp. 80-81; Wendell H. Oswalt,

Historic Settlements along the Kuskokwim River, Alaska, Alaska State Library, Historical Monograph No. 7 (Juneau: Alaska Division of State Libraries and Museums, 1980), p. 10, 34-35.

9. Oswalt, "Kolmakovskiy Redoubt," pp. 35-36, 160-161; VanStone, Eskimos of the Nushagak River, pp. 50-51.
10. Tikhmenev, History of the Russian-American Company, p. 184; Wrangell and Baer, Russian America Statistical and Ethnographic Information, pp. 69-70, 77-78; James W. VanStone, E. W. Nelson's Notes on the Indians of the Yukon and Innoko Rivers, Alaska, Fieldiana Anthropology, Vol. 70 (Chicago: Field Museum of Natural History, 1978), p. 3.
See also VanStone, "Russian Exploration in Interior Alaska: An Extract from the Journal of Andrei Glazunov."
11. Zagoskin, Travels in Russian America, pp. 81, 237-238, n. 93; VanStone, E. W. Nelson's Notes, p. 4.
12. Oswalt, "Kolmakovskiy Redoubt," pp. 36-37, 163-164; Oswalt, Historic Settlements, pp. 45, 47.
13. Zagoskin, Travels in Russian America, pp. 81-82.
14. Ibid., pp. 200-201, 203-206.
15. Ibid., pp. 208.
16. Ibid., pp. 233-240.

17. Ibid., pp. 249-251.
18. Ibid., pp. 263-273.
19. Ibid., pp. 273-274, 282.
20. Ibid., pp. 253-254.
21. Ibid., p. 254, 272, 350.
22. Oswalt, "Kolmakovskiy Redoubt," p. 86; VanStone, Eskimos of the Nushagak River, p. 11.
23. Tikhmenev, History of the Russian-American Company, pp. 427-428.
24. Oswalt, "Kolmakovskiy Redoubt," p. 60; U.S. Congress, House of Representatives, Committee on Merchant Marine, Investigation of the Fur-Seal and Other Fisheries of Alaska, 50th Cong., 2d sess., H. Rept. No. 3883 (Washington, D.C.: GPO, 1889), p. 381.
25. Oswalt, "Kolmakovskiy Redoubt," p. 61; Oswalt, Historic Settlements, pp. 12, 26; Josiah Edward Spurr, "A Reconnaissance in Southwestern Alaska in 1898," in U.S. Geological Survey, Twentieth Annual Report . . . 1898-1899, Part VII (Washington, D.C.: GPO, 1900), pp. 94-95.
26. Edward W. Nelson, Report Upon Natural History Collections Made In Alaska Between the Years 1877 and 1881, Henry W. Henshaw, ed.,

U.S. Army, Signal Service, Arctic Series No. III (Washington, D.C.: GPO, 1887), p. 13; Edward W. Nelson, "A Sledge Journey in the Delta of the Yukon, Northern Alaska," Proceedings of the Royal Geographic Society and Monthly Record of Geography, 4 (1882): 660-670; Morgan B. Sherwood, Exploration of Alaska, 1865-1900 (New Haven: Yale University Press, 1965), p. 96; Margaret Lantis, "Edward William Nelson," Anthropological Papers of the University of Alaska, 3 (December, 1954): 7.

27. The named villages were Kvigathlogamute, Nunochogmute, and Nanvogalokhlagamute. See Nelson's reconnaissance map in the Proceedings of the Royal Geographic Society, cited above.
28. Ivan Petroff, Report on the Population, Industries, and Resources of Alaska (Washington, D.C.: GPO, 1884).
29. J. A. H. Hartmann, "Exploration in Western Alaska by the Moravians, Rev. J. A. H. Hartmann and W. H. Weinland, 1884," in U.S. Bureau of Education, Report on Education in Alaska, 1886, Sheldon Jackson, ed., Appendix I (Washington, D.C.: GPO, 1887) p. 61.
30. Ibid., p. 62.
31. Ibid., p. 63.
32. Ibid., pp. 63-64.

33. Ibid., p. 64.
34. Ibid., p. 71.
35. Ibid., pp. 64, 71.
36. Oswalt, Historic Settlements, p. 28.
37. Antoinette Shalkop, "The Travel Journal of Vasili Orlov," Pacific Northwest Quarterly, 68 (July 1977): 131-140.
38. Ibid., pp. 137-138.
39. Oswalt, Historic Settlements, p. 36.
40. Donald F. Orth, Dictionary of Alaska Place Names, U.S. Geological Survey Professional Paper 567 (Washington, D.C.: GPO, 1967), p. 948, cites the year 1891.
41. Oswalt, Historic Settlements, p. 69.
42. U.S. Congress, House of Representatives, Investigation of the Fur-Seal and Other Fisheries of Alaska, pp. 399-400.
43. Alfred Hulos Brooks, Blazing Alaska's Trails, 2d Ed. (Fairbanks: University of Alaska Press, 1973), pp. 326, 328.

44. Ibid., p. 323; J. A. H. Hartmann, "Explorations in Western Alaska," p. 64.
45. Josiah Edward Spurr, "Reconnaissance in Southwestern Alaska," p. 95.
46. Warburton Pike, Through the Subarctic Forest: A Record of a Canoe Journey from Port Wrangell to the Pelly Lakes and Down the Yukon River to the Bering Sea (New York: Edward Arnold, 1896).
47. Ibid., pp. 266-267.
48. Ibid., p. 269.
49. Sherwood, Exploration of Alaska, 1865-1900, pp. 140-142.
50. Porter, Report on Population and Resources of Alaska, 1890, pp. 99 ff.
51. Ibid., p. 97.
52. Spurr, "Reconnaissance in Southwestern Alaska," pp. 43-54, plate.
53. Ibid., p. 98.
54. Ibid., pp. 97-98.

55. Ibid., p. 55.
56. Ibid., pp. 55-56, 133-136, plate.
57. Joseph S. Herron, Explorations in Alaska, 1899, For An All-American Overland Route from Cook Inlet, Pacific Ocean, to the Yukon, U.S. War Department, Adjutant General's Office, No. 31, 60th Cong., 2d sess., S. Doc. No. 689 (Washington, D.C.: GPO, 1909), p. 41.
58. Ibid, pp. 22-44.
59. Ibid., p. 51.
60. Ibid., p. 54.
61. Alfred Hulse Brooks, The Mount McKinley Region, Alaska, U.S. Geological Survey Professional Paper 70 (Washington, D.C.: GPO, 1911); Alfred Hulse Brooks, "An Exploration to Mount McKinley, America's Highest Mountain," The Journal of Geography, 2 (November 1903): 440-469.

CHAPTER THREE

MINING

Gold, mercury, and platinum were known to exist in the Kuskokwim region long before they were actually developed. The Russian fur traders knew of the existence of cinnabar near Kolmakof as early as 1838, and may have discovered gold as well. Later American prospectors believed that Russian traders had discovered gold in 1832 in a stream known as the Yellow River, perhaps present-day Aniak River or Ophir Creek. In 1914, George A. Fredericks, a trader at Georgetown, said that an old blind Native once told him that the Russians had found gold in both New York Creek and Black River about 1844. 1/ If the Russians in fact discovered gold on any of the streams in the Kuskokwim basin, they did not seriously develop the finds partly because of the official proscription against mining and partly because of the lack of proper mining equipment.

After the purchase of Alaska in 1867, American prospectors investigated Russian reports of cinnabar in the Kuskokwim basin and made desultory tests of potential gold-bearing streams. In the summer of 1881, George C. King with two partners ascended the Kuskokwim River in a small boat to Kolmakof. They found cinnabar deposits, but not in paying quantities. Reinhold Sefare, the first Alaska Commercial Company agent at Kolmakof, subsequently mined the deposit, and reportedly shipped several tons of the ore to a smelter in California. The ore assayed at \$11 of mercury per ton--not enough to warrant the high cost of mining the deposit. A later trader at Kolmakof, Edward Lind, also attempted to mine the deposit, but soon gave it up as an unprofitable venture. 2/

Of the numerous prospecting parties that crossed Chilkoot Pass in the 1880s, only a few ventured into the Kuskokwim basin. Sometime early in the decade, partners George Marks and Benjamin Beach crossed the Yukon-Kuskokwim portage and ascended the Kuskokwim River approximately 250 miles above Kolmakof in a two-place bidarka before the loss of their outfit forced their return to Separe's post. About the same time, George G. Langtry, a member of the first party of prospectors to cross Chilkoot Pass in 1880, left Nushagak for the Kuskokwim basin, and prospected several southern tributaries of the river, particularly the Holitna River. In 1889, Frank Densmore, a veteran prospector of the upper Yukon River area, led a party of gold seekers from the Tanana River to the upper Kuskokwim and thence downriver to the Yukon-Kuskokwim portage. Percy Walker, Henry Mellish, and Al King later reached the Kuskokwim River by the same route. They descended the river to its mouth, followed the coast to the Nushagak River, and then ascended that river to the Mulchatna River. 3/

Doubtlessly there were other men who explored the basin for precious metals. Their names are now long forgotten, and their experiences unrecorded. These early prospectors had to travel great distances in a region where trading posts were few and distant, and supplies essential for prospecting were seldom available. Unless they were prepared to spend years in the region, isolated from other white men and subject to many dangers, these prospectors devoted little time to panning the gravels of the numerous streams in the region. Most preferred to work the newly-discovered streams of the Fortymile River and Birch Creek in the Yukon valley, and Turnagain Arm in Cook Inlet where the social amenities of mining camps were available.

The Klondike Gold Rush of 1897-98, more than any other event, set the stage for the development of mining in the Kuskokwim basin. Tens of thousands of men, women, and children rushed to Alaska upon learning of the famous strike on the Klondike River in Canada. While the majority were bound for the Klondike district, and in fact reached their destination, many people simply went to Alaska with the belief that Eldorado was just over the mountain pass. They congregated primarily in the Copper River, Yukon River, and Seward Peninsula regions and with time and much luck discovered rich deposits of gold, copper, coal, and oil. These discoveries sparked a number of stampedes, notably the Nome rush of 1899-1900 and the Fairbanks rush of 1902-03.

There were many gold rushes in Alaska during these years and not all of them were warranted. Oftentimes the appearance of a solitary prospector with a poke of gold in a new mining camp was enough to set off a minor rush. Sometimes it took only a rumor. The first gold rush to the Kuskokwim River basin originated with such a rumor. This gold rush, known variously as the "Yellow River," "Pete McDonald," or "Jack Burke" stampede, began late in the summer of 1900. Upon hearing rumors that someone had found the legendary Yellow River, a number of prospectors left Nome for the Kuskokwim River. News of the rush spread rapidly, and soon men along the Yukon River as far as Rampart were heading for the Kuskokwim basin. It mattered little that the location of Yellow River was unknown. In their search for gold, the prospectors traveled far and wide in the Kuskokwim valley, some ascending the river as far as Stony River. Experiencing great hardships during the winter of 1900-01, many men returned to Nome with the first signs of spring. An unknown number remained in the region to continue the search for gold. 4/

This rush to the Kuskokwim resulted in a number of gold discoveries. Prospectors found favorable prospects in the foothills of Mount McKinley reportedly not far from the North Fork, on Arolik River in Kuskokwim Bay, and on Ophir Creek on the lower Kuskokwim River. The Holitna River also attracted a number of prospectors. In 1903, William R. Buckman reported his discovery of placer gold on the Holitna to the U.S. Geological Survey (USGS), including with his letter a hand-drawn map of the area. 5/ With the organization of at least one trading firm at Bethel about 1901, the prospectors were able to acquire needed supplies and equipment in return for their winter catch of furs, and thus better equipped, begin the systematic testing of local streams for placer gold.

Not all prospectors confined their search to gold. Some prospected for cinnabar. In 1901, Duncan McDonnell located the cinnabar deposit near Kolmakof that had been mined in earlier years by the fur traders. He sent samples of the ore to Stanford University, which assayed it at \$341 per ton. Samples from an old dump assayed between \$20 and \$720 per ton. In 1904, McDonnell's claims were reportedly bonded to a "well known Milwaukee company," but so far as is known, the property was never developed. 6/

More significant was the discovery of a large cinnabar deposit on the north bank of the Kuskokwim River, not far from the mouth of the Holitna River. In 1905 or 1906, Eugene W. Parks located the deposit, and sent five tons of ore for testing. According to the USGS, the deposit was "of significant value." 7/ Over the next thirty years, prospectors discovered other cinnabar deposits, the majority in the vicinity of Parks' claims. Although some cinnabar was mined after 1906, large-scale mining of the deposits did not occur until the price of mercury rose during World War II.

It was not until 1906 that prospectors finally found a bonanza---not on the tributaries of the Kuskokwim River but on the head of the Innoko River. In the summer of that year, a prospecting party consisting of Thomas Gane, F. C. H. Spencer, Mike Roke, and John Maki went into the headwaters of the Innoko River, probably by way of Takotna River, and found colors a short distance below the mouth of Ganes Creek. In August or September, they located the discovery claim on the creek, and returned to a trading post on the Kuskokwim River at the mouth of Takotna River in order to replenish their supplies. Finding a shortage of supplies on the river, the party returned to the Innoko River and followed that stream to the Yukon River. Sometime during the winter of 1906-07, they returned to Ganes Creek with a sled of supplies.

During the trip, the discoverers of the Ganes Creek placers must have encountered a number of other prospectors, for news of the gold strike spread rapidly. The result was a gold rush to the Innoko River in 1907. During the months of February and March 1907, prospectors in the Kuskokwim River basin stampeded to Ganes Creek, followed by a number of men from Nulato on the Yukon River. In the spring of 1907, A. Balke reported the strike to Nome, and the news was quickly telegraphed to Fairbanks. About one thousand people from Nome and Fairbanks, most of them from the latter place, rushed to the new diggings. Ophir, Spruce, and Little creeks, all tributaries of the Innoko River, were staked in the summer of 1907. 8/

The discovery of gold on Ophir Creek in February 1908 sparked a second stampede to the Innoko River basin. In the spring, the Kuskokwim Commercial Company (incorporated about 1909) established two stores on the Takotna River, both at the foot of trails to the head of Innoko River. With the opening of navigation

on the Yukon River, half a dozen steamboats left Fairbanks with some five hundred people and several hundred tons of cargo. The steamboats ascended the Innoko River a considerable distance before low water halted their progress. The prospectors then used poling boats and horse-drawn scows to reach Ophir. Several stores were subsequently established at points on the Innoko River where the steamboats were forced by shallow water to discharge passengers and cargo. 9/

With the establishment of various trading posts and riverboat service on the Kuskokwim, Takotna, and Innoko rivers, prospectors were assured a source of supplies and equipment, and thus were able to prospect more intensively than had been possible in earlier years. According to Alfred G. Maddren, a USGS official who made a hurried trip up the Innoko River in the summer of 1908, about 150 people remained at Ophir during the winter of 1908-09, and many more were scattered throughout the Kuskokwim and Innoko basins. 10/ These prospectors were to make numerous gold discoveries, some of them causing relatively large stampedes. The stampedes to Iditarod River in 1909, George River in 1910, and Tolstoi River in 1916, are among the most notable of the Alaska gold rush era.

The first significant gold discovery in the Kuskokwim basin was made in 1907 by a party headed for the Innoko River. Credited with the actual discovery, William Fisher found gold on Bear Creek, a tributary of the upper Tuluksak River, and with several others staked claims along Bear Creek and at the mouths of nearby Bonanza and Spruce creeks. 11/ When news of these discoveries reached the Innoko area, a number of prospectors rushed to the area, and staked claims on the headwaters of the Tuluksak, Kwethluk, and Kisaralik rivers, and on Ophir Creek.

During the Iditarod gold rush of 1909-10, many stampeders crossed the low divides at the head of the Iditarod to the Kuskokwim basin, and discovered gold on Crooked Creek and George River in 1909, New York Creek in 1910, and Aniak River in 1911. The strike on George River occasioned a stampede from Iditarod. During the summer of 1910, three to five hundred men in the Innoko and Iditarod districts headed for the Kuskokwim River. From the new settlement called Georgetown at the mouth of George River, men set out to discover placer gold on nearby Kolmakof, Black, Oskawalik, and Holokuk rivers, and on Mission, California, Central, Fuller, and Eightmile creeks. The rush was unwarranted and short-lived. By 1912, the population around Georgetown was less than fifteen. 12/

With World War I many men left Alaska, never to return. The gold rush era came to an end, to be replaced by the corporate mining era. The small panning and sluicing operations were gradually replaced by large hydraulic and dredging operations. In 1918, the Kuskokwim Dredging Company began operations on Candle Creek, a tributary of Takotna River. When, in 1919, hard-rock mining began on Nixon Fork near McGrath, gold production statistics for the Kuskokwim basin surged upward. In 1925, the New York-Alaska Gold Dredging Company introduced a dredge on Bear Creek, a tributary of Tuluksak River, and soon became the leading producer of placer gold in the Kuskokwim basin.

Compared with other mining districts in Alaska, the Kuskokwim basin made a rather minor contribution to Alaska's over-all production of gold. Between 1908 and 1960, placer gold output from the Kuskokwim basin totaled 650,000 ounces, only 3.2 percent of all placer gold produced in Alaska. 13/ Gold mining, however, was very significant to the local economy. Although far less productive

than the U.S. Smelting, Refining and Mining Company in Fairbanks and Nome, the New York-Alaska Gold Dredging Company ranked third in placer gold production in Alaska from 1945 to 1965. 14/

Gold formed the foundation of its mining industry, but the Kuskokwim region is best known for its production of platinum and mercury. In the early 1900s, platinum was found on tributaries of the Salmon and Arolik rivers in the Goodnews Bay area. By the early 1930s ordinary sluicing methods had extracted an estimated three thousand ounces of platinum. 15/ In 1933, the Goodnews Bay Mining Company acquired more than thirty platinum claims in the Salmon River area, and began dragline operations. Eventually leasing or purchasing 150 or more claims, the company expanded operations in 1937 when it introduced a dredge on Salmon River. By 1960, over half a million ounces of platinum had been produced. When, in 1963, gold dredging operations in the Fairbanks area shut down, platinum became the major precious metal mined in Alaska. Since the 1930s, the company has been the only significant extractor of platinum in the United States. 16/

The production of mercury in the Kuskokwim basin was sporadic between 1906 and 1940. Mining was expensive, the price of mercury was usually low, and the market was limited to miners in the immediate area. By 1943, about eight hundred flasks of mercury (one flask equals seventy-six pounds of ore) had been produced. With the rise in demand and prices in World War II, mining for mercury was greatly stimulated, and discoveries of cinnabar deposits were made. In 1943 alone, mercury production in Alaska totaled 783 flasks, the majority of it coming from the Red Devil Mine near Sleetmute. By the mid-1950s, Alaskans were producing 13 percent of the mercury mined in the United States.

By 1965, Alaskan mines had produced 34,602 flasks of mercury. Of this total, the Red Devil Mine had yielded 29,950 flasks. In 1972, the mining of mercury again proved unprofitable, and most of the mines in the Kuskokwim basin ceased operations. 17/

SOUTH FORK KUSKOKWIM RIVER

Hartman River, a headwater tributary of the South Fork, was the scene of several minor gold rushes in the late 1900s and 1910s. Traveling through the area in 1898, Josiah Edward Spurr found gold near the mouth of Styx River, another tributary of the South Fork. 18/ Not many years thereafter, various prospectors began to investigate the tributaries of the South Fork in the Alaskan Range, some traveling from Cook Inlet and others from the Kuskokwim River.

C. Edward Cone, the reputed discoverer of gold on Hartman River and a well-known poet of the area, crossed one of the passes from Susitna River on two occasions to prospect the river. In the winter of 1914, he made another trip to the river, this time going in by way of the Kuskokwim and Big rivers with John O. Strand and a two-year outfit. 19/

It is not known precisely when Cone discovered gold on the river. When W. E. Priestley traveled from McGrath to Cook Inlet via Rainy Pass in the winter of 1908-09, he learned that a party of prospectors had found favorable prospects on the Hartman River earlier that winter. 20/ Evidently reports of the prospects attracted some attention, for in the summer of 1909 Gordon Bettles and M. W. Sinclair made a long journey from the Kantishna River to the South Fork, following the eastern foothills of the Alaska Range. They spent two months on the South Fork before rushing to Iditarod in October 1909. 21/

In 1911 and 1912, additional strikes were made on Hartman River, resulting in several small rushes during the winter months. Apparently the ground proved to be disappointing, for in 1915 there were only eleven men prospecting on the South Fork. 22/ The South Fork continued to attract prospectors, however. As late as 1922, Joe I. Wills, George Daykin, and several other prospectors were reported en route to the head of the South Fork. 23/

BIG RIVER

The headwaters of Big River also attracted some prospectors. In early 1908, Walter L. Goodwin of the Alaska Road Commission noted that some prospecting was being done on the river, and met one man breaking a winter trail about ten miles east of McGrath to quartz prospects. 24/ In the winter of 1908-09, W. E. Priestley and an Indian guide named Esi ascended the river for a distance of seventy-five miles, and discovered coal of fairly good grade. Priestley sent samples of the coal with a report to Alfred Hulse Brooks of the USGS, who subsequently acknowledged Priestley's discovery in his book, The Mount McKinley Region. Priestley was told that there were white men on the river, but he did not meet anyone. 25/

The quartz prospects reportedly located on Big River, may have actually been on Windy Fork, a tributary of Big River. A local newspaper reported in March 1928 that Tom Conley had quartz prospects on Windy Fork, and that he had just left McGrath on snowshoes for this property. Nearly ten years later, he was again reported in McGrath, preparing to return to his property with a load of winter supplies. 26/

TAKOTNA RIVER

Of all the rivers in the upper Kuskokwim basin, Takotna River has received the greatest attention by prospectors. Successful mining operations in the McKinley district have occurred on Moore Creek, Candle Creek, and Nixon Fork. The only hard-rock mines in the entire Kuskokwim basin are located on Nixon Fork.

Moore Creek

Placer gold was discovered on Moore Creek by A. A. "Tony" Zimmerman in 1908. For many years the claims were worked by only three or four men with the crudest methods. In the early 1920s USGS officials John B. Mertie, Jr., and George L. Harrington visited the diggings located on the upper part of the creek, about ten miles below its source. The miners, numbering about eight men, used pick and shovels to obtain gold, and hydraulic methods to strip the overburden. The water was brought from Willow Creek. According to one of the miners, Cecil Barlow, Moore Creek had produced about \$100,000 in gold by 1922, and promised to produce a great deal more. 27/

Barlow's optimism was not unfounded. From 1935 to 1940, Moore Creek was the largest individual producer of placer gold in the McKinley district. In 1935, Waino Kaskinen with five employees began hydraulic mining operations on the creek. Two years later, the Moore Creek Mining Company installed a dragline, formerly used on Slate Creek in the Iditarod district. Using the dragline and bulldozers, the company enjoyed very successful seasons. The Fairbanks Exploration Department did extensive drilling on the creek in 1937, but the

results of the tests were not made public. As U.S. Bureau of Mines records do not reveal subsequent development work, mining on Moore Creek apparently ceased in 1940. 28/

Candle Creek

The Candle Creek placers were discovered in 1913, and mining began on a four-claim association in the following year. In the winter of 1915-16, Dan McDonnell and Billy Bevans discovered favorable prospects in an ancient channel of the creek on ground leased from miners Thomas P. Aitken and Tom McKinnon. Forming the Kuskokwim Dredging Company, Aitken, McKinnon, and Henry Riley constructed a sled road from McGrath to Candle Creek, and transported dredge equipment to the creek. In 1918, the dredge began operating, but was not very successful due to mechanical problems and large boulders in the creek. The dredge finally became a producer in 1919, and continued to operate until the fall of 1926. 29/

For the next ten years, placer mining continued on Candle Creek on a small scale. Then, in 1937, Dave Strandberg and his sons began extensive development work on the creek. For a short while, thirty men were employed in constructing a road from Candle Landing (Sterling Landing) on the Kuskokwim River to the creek, stripping the creek's overburden, and installing mining machinery, including a dragline. Beginning production in September 1937, Standberg & Sons, Inc., mined the creek until 1941. The company resumed operations in 1946, only to suspend work in the years 1947 to 1949. From 1950 to 1952, Strandberg & Sons operated a floating bucket-line dredge on the creek. Unable to compete for labor with military contractors working on the Tatalina

Air Force station, the company finally halted work on Candle Creek in 1953, and shifted its attention to exploration and development work on the Nixon Fork lode mines. 30/

Nixon Fork

Placer gold was discovered in the headwaters of Nixon Fork during the summer of 1907, and a small rush to the strike occurred. Another strike was made by a prospector named Theodore Von Frank in the winter of 1909-10 on Von Frank Creek. As Von Frank had written a letter to a friend in Fairbanks about his discovery, news of the strike spread rapidly, and more than a hundred people from Fairbanks rushed in March 1910 to Nixon Fork. They staked several hundred claims near Von Frank's cabin on the Nixon Fork before leaving the section. Unknown to them, Von Frank's discovery was located some twenty miles upriver from his cabin. Thus, in April, when the stampeder had left, Von Frank with his friends ascended to the site of the discovery, and staked the creek. No major finds were subsequently made, however. Various reports in 1910 and 1911 indicate that only twenty to twenty-five men were on Nixon Fork, most of them on Flat Creek, and some on Bonita, Hunker, Falls, Alder, Von Frank, Canyon, and Whirlwind Creeks. According to Wilbur F. Green, the U.S. commissioner at Takotna, the prospects were disappointing. 31/

Then, in June 1917, a prospector named F. E. "Dick" Matthews discovered gold placers on Hidden Creek. Determining that the gold was more plentiful as it was followed up Hidden Creek, but that above certain points it was no longer found, J. O. Pearson and John O. Strand sank several shafts at the limits of the placer gold in the fall of 1918. They discovered several high-grade lodes,

including the Crystal lode at the head of Ruby creek. Taking an option on the Pearson and Strand claims, Thomas P. Aitken, a well-known miner heavily interested in dredging operations near Iditarod, mined several hundred tons of high-grade ore during the winter of 1919-20. The ore was transported over a newly-constructed sled road to the Kuskokwim River, and with the opening of navigation shipped to Bethel on small boats, and thence to the smelter at Tacoma, Washington.

The Pearson and Strand claims, as well as neighboring claims, were subsequently taken over by the Treadwell Yukon Company, Ltd., a subsidiary of the Alaska Treadwell Gold Mining Company of Juneau. During the summer of 1920, the company prospected the claims and constructed a wagon road to Berry's Landing, now known as Medfra, on the Kuskokwim River. In the following year, Livingston Wernecke, a geologist and mining engineer, supervised the installation of a ten-stamp mill and the construction of several buildings. The mill began operating in 1921, reportedly producing \$114,024 in gold in the first months of operation. Most of the ore came from the Whalen and Griffen property.

Upon finding the ore supply less than expected, the Treadwell Company halted work on the various mines in 1923, except for the Whalen mine from which most of the high-grade ore was obtained. In 1924, the company leased this mine and the mill to an association consisting of E. M. Whalen, Clint Wynan and two others, who then milled the ore which had been mined during the winter. After the clean-up operations, the various mines reverted to the original owners. The total output from the mines was estimated to have been \$235,000 in gold. The Treadwell venture was generally admitted to have been a loss. 32/

Subsequently, miners continued working on the Nixon Fork lodes and placers on a small-scale basis. In 1946, the Nixon Fork Mining Company mined the property owned by Mespelt & Company under a purchase contract, and recovered 561 ounces of gold and 169 ounces of silver. 33/ Strandberg & Sons, Inc. attempted limited operations in the 1950s and 1960s. In 1961, hard-rock mining on Nixon Fork was almost at a standstill. According to one report, the total production from the several lodes through 1942 was estimated to have a value of about \$1.3 million. 34/

SWIFT RIVER

In 1958, Jack Egnaty of Sleetmute discovered mercury deposits on Cheeneetnuk River in the White Mountain area, about sixty miles southeast of McGrath. The Cordero Mining Company took an option on the claims, and attempted to develop the prospects. In 1961, the U.S. Bureau of Mines developed the property with a bulldozer, and in 1964 produced the first concentrate. The concentrate was flown out of the area in a small private airplane. At that time, Robert F. Lyman was mining the property under a leasing agreement. 35/ It is presently unknown whether the mercury deposit is being developed.

HOLITNA RIVER

One of the first rivers in the Kuskokwim basin to be prospected for gold, the Holitna River was long a disappointing field to prospectors. In the winter of 1907, for example, sixteen prospectors reportedly worked in the basin but found nothing. In its annual reports of mining conditions in Alaska, the USGS often noted rumors of encouraging finds in the basin. In 1910, the USGS

heard rumors that gold had been found on the Hoholitna River. Late in the decade, it reported that prospecting on the Holitna River was "yielding encouraging results" despite a lack of "adequate means of transportation" in the area. Finally, in 1920, the USGS learned of a report that prospectors were drilling on prospective dredging ground somewhere in the river valley. Apparently the results of the tests did not warrant the installation of a dredge, for no record of a dredge operating in the basin has been found. 36/

Prospecting activities in the basin during the 1920s, 1930s, and early 1940s met with little success. The USGS reported that in the winter of 1932-1933 some gold was found in the basin and that prospectors were planning to go into the country late in 1934 and spend at least several months scouting the area. In 1936, however, the USGS noted that many of the potential mineral areas were too wet to be prospected by ordinary hand methods. It supposed that the availability of light prospecting drills and airplanes could result in more thorough prospecting in the basin. The assumption proved to be correct, for in 1937 the local newspaper reported two groups of prospectors bound for the Holitna River. One group of three men moved a drill to Taylor Creek and another group planned to travel to the head of the river by airplane. In the following year, the USGS learned that the Strandberg Mining Company intended to send a party into the area to drill at some of the more promising places. 37/

Taylor Creek

In the late 1940s, prospectors finally found paying ground on Taylor and Fortyseven creeks. Taylor Creek, heading in the Taylor Mountains, flows north thirty miles to the Holitna River. In 1949 and 1950 the Moore Creek

Mining Company of Fairbanks employed eight men in a bulldozer-hydraulic operation on the headwaters of the creek. The Taylor Creek Placers may have operated a dragline on the creek in 1951 and 1952. In 1955, the USGS reported the total production to be about \$90,000, most of which was recovered in 1950 and 1951. By 1973, more than two thousand ounces of placer gold had been produced from the creek. 38/

Fortyseven Creek

Fortyseven Creek flows into Mukslulik Creek, which in turn flows southeastward to the Holitna River about three miles north-northeast of Kashegelo. In 1947, Russell Schaeffer of Crooked Creek discovered placer ground and a lode deposit on the creek after a USGS party traveled through the area and noted mineralized hardrock. Schaeffer worked the property for several years before shifting his attention to the development of a mercury lode on Cinnabar Creek. 39/

Cinnabar Creek

Cinnabar deposits were located on the divide between the Aniak and Holitna rivers during the summer of 1941. Partners Russell Schaeffer and Harvey Winchell staked claims on Cinnabar Gulch, Cinnabar Run, and Cinnabar Creek, and the Lucky Day Lode claim in Canary Gulch. Herschel Landru of Fairbanks located the Broken Shovel Lode in a gulch of the same name. The next year, Schaeffer took 2,320 pounds of ore from the Lucky Day deposit to Sleetmute. Fifteen flasks of mercury were retorted from the ore. Before his death in 1960, Schaeffer had mined over five hundred flasks of mercury from his claims. In 1967, the Diamond Alkali Company of Cleveland, Ohio leased the property from Schaeffer's heirs. Mining on Cinnabar Creek continued until 1971. 40/

SLEETMUTE AREA MERCURY MINES

Eugene W. Parks discovered mercury on the north bank of the Kuskokwim River fifteen miles above Georgetown in 1905 or 1906. From his two claims, Alice and Bessie, Parks had mined about 120 flasks of mercury by 1923. In 1943, Parks was still mining at the property. He died shortly thereafter. Little mining has since been done on the property. 41/

A former employee of Parks, Hans Halvorsen discovered mercury in 1933 at the mouth of McCally Creek on the southwest bank of the Kuskokwim River five miles upriver from Parks' claims. In 1939, Halvorsen began mining at the site. The mine, named Red Devil, became Alaska's largest and most productive mercury mine. The New Idria Quicksilver Mining Company of California bought the Red Devil claims in 1943 and began operations the same year. In 1944, 1,092 flasks of mercury were retorted from 3,652 tons of cinnabar ore. Operations at the mine were suspended in 1945 when the wartime price for mercury plummeted. Aided by a loan from the Defense Minerals Exploration Administration, the DeCourcy Mountain Mining Company reopened the mine in 1952. Until it shut down in 1963, the mine annually employed fifty people. Between 1939 and 1963 the Red Devil Mine produced an estimated 29,950 flasks of mercury. The mine reopened in 1969, but closed again two years later when the price of mercury fell from \$350 to \$216 per flask. 42/

A number of other mercury deposits are located in the Sleetmute vicinity. The mineralized area extends from Sleetmute down the Kuskokwim approximately ten miles and inland two miles on both sides of the river. In 1909, Oswald Willis, Jack Fuller, J. Cicely, and others located the Willis Mine, one and a half miles

west of Parks. Two miles south of Parks, Halvorsen discovered the Barometer mine in 1921. Other claims include Fairview, Vermillion and Mercury near McCally Creek, the Two Genevieves near Cribby Creek, the Ammiline Prospect near Parks Creek, and the Egnaty Mine about twenty-five miles down the Kuskokwim River from Red Devil. Very small amounts of mercury have been mined from these deposits. 43/

GEORGE RIVER

Two prospectors named Anderson and Kleland discovered placer gold on Julian Creek in July 1909. Strikes were subsequently made on other tributaries of George River, including Michigan, Spruce, Dorothy, and Beaver creeks. These strikes sparked a minor gold rush, and prospectors staked claims along the George River itself. More than thirty men were said to be working the creeks during the winter of 1911. In 1914, USGS geologist Philip S. Smith reported that few miners were working in the George River basin. No one in fact was mining on Julian Creek, site of the original strike. A few men worked the gravels of Julian Creek during the late 1910s and 1920s, however. In the 1930s, two miners named Miscovich and Rodman annually employed seven men on an open-cut hydraulic mine on Julian Creek. Harry Steen and Steve Stenberg operated this mine at least from 1950 to 1953. According to the Alaska Division of Mines and Minerals, Jack Egnaty and John Murphy mined on the river during the years 1966 to 1971. 44/

CROOKED CREEK

In the rush to George River in 1909, gold was discovered on Donlin Creek, a tributary of Crooked Creek. One or two mines providing employment to about

ten men were in operation on Crooked Creek well into the 1920s. Despite periodic water shortages, hydraulic mining methods were used during the 1920s and 1930s. Barney and Al Walsh owned an hydraulic mining operation on Donlin Creek, which in 1935 produced \$125,000 in gold. After World War II, Robert F. Lyman of Donlin Placers resumed sluice mining on Donlin Creek. This operation became the second largest producer of placer gold along the Kuskokwim River. The company ceased operations in 1956. In 1975, the claims along Donlin Creek were held by an heir, W. T. Lyman. 45/

Some mining for mercury has also occurred in the area. During the winter of 1910-11, M. H. "Matt" D'Courcy discovered cinnabar on the divide between Crooked Creek and the Iditarod River, about fifteen miles northwest of Crooked Creek Village. Staking claims in 1919 under the Thrift Mining Company, D'Courcy extracted forty-five flasks of mercury in the following year. The DeCourcy Mountain deposit, as it was known, produced a total of 1,200 flasks of mercury between 1920 and 1949. The DeCourcy Mountain Mining Company operated the mine during the early 1950s. 46/

NEW YORK CREEK

In 1910, prospectors A. Perledo, John Bittewith, and Nick Miljevic discovered coarse placer gold about four miles above the mouth of New York Creek. A hydraulic plant was installed on the creek in 1915. During the 1920s and 1930s, mining along the creek and its tributaries, including Mary Creek and Murray Gulch, continued. In 1937, Jack Brink took a drill to his mining claims seven miles from the mouth of New York Creek. He had purchased the claims

in 1930 and, according to one report, took out \$80,000 in placer gold in one season. However, a USGS team that visited the creek in 1943 reported that only a few thousand dollars had been taken from the creek to that year. 47/

ANIAK RIVER

In 1910, three prospectors named Harry Buhro, E. W. "Kid" Fisher, and Fred Labelle, grubstaked by the well-known miner Luther C. Hess of Fairbanks, joined the rush to George River. Meeting with little success on that river, they headed for Goodnews Bay in the spring of 1911. As they were returning to Georgetown, they decided to prospect the Aniak River basin, having learned that a lone prospector named Old Man Keeler had discovered gold in that area the previous summer. In August 1911, Buhro made a strike in the gravels of Marvel Creek. A short while later, the three men also found gold on Fisher and Dome creeks. 48/

Although they discovered gold on several other tributaries of Salmon River, including Cripple, Loco, Porcupine, Timber, and Eagle creeks, and Fox Gulch, miners focused their attention on Marvel Creek. A hydraulic plant was installed on the creek in 1913. In 1926, Chris Dahl and August Wilson operated a hydraulic mine for Luther Hess on Marvel Creek. In 1931, they allegedly recovered gold valued at \$27,000. This operation, annually employing six to eight men, continued until 1938 when the claims were leased to a new company, Marvel Creek Mining Company. Partners in the company included Hess, Henry DuRand and Fritz Awe. During the winter of 1938-1939, the new company installed a dragline and bulldozer on the property; and in 1966, moved a dredge from Nyac to the creek. The dredge operated until the 1970s. Another company, the Canyon

Creek Mining Company, owned by Jens Kvamme and sons, moved from the Kwethluk River to Marvel Creek where they operated between 1959 and 1971 with draglines and sluice boxes. 49/

TULUKSAK RIVER

In 1907, William Fisher and partners made the first major discovery of placer gold in the lower Kuskokwim River basin on Bear Creek, an upper tributary of the Tuluksak River. News of this discovery triggered a stampede to the area. According to an Iditarod newspaper, one thousand people rushed to Bear Creek. Two years later only seventy-five people remained, and most of them left that year upon learning of the George River strikes. The Kuskokwim Development Company began to buy claims on Bear Creek, reportedly planning to install a dredge. The plans were not fulfilled, although steam-powered scraping and hoisting equipment was used. 50/

By 1914, production from Bear Creek totaled \$30,000. At that time only twelve men were working along the stream. The largest outfit was at the mouth of Spruce Creek, where six men worked. Most mining was by open-cut, pick and shovel methods with small sluice boxes. The low gradient of the streams prevented use of hydraulic mining methods. 51/

In 1921, Captain L. B. Walbridge, Ralph T. Hirsh, and Ben Gallatin, representing New York City investors in the New York-Alaska Gold Dredging Company, investigated the area and acquired a number of claims. In 1925, the company shipped a five-hundred-ton dredge and a sixty-ton Best tractor to Tuluksak Landing, thirty-five miles above the mouth of the river. During the winter of

1925-26, the dredge was hauled overland in sections from the landing to a site along Bear Creek selected for a company town called Nyac. A screen flume type with bucket capacity of four feet and capable of digging eighteen feet, the dredge began operating late in 1926. 52/

The company enjoyed success through the years. In 1935, a smaller pontoon dredge with bucket capacity of one and a half cubic feet was installed on Bear Creek. Plans to install a third dredge were announced. The company constructed an airstrip near the camp in 1936; and a hydroelectric plant in 1939. In 1955, the company had three gold dredges, an electric plant, two draglines, and seven tractors, all valued at \$2 million, on Tuluksak River. 53/

Employing about eighty people on a seasonal basis, the company worked Bear, California, and Rock creeks, as well as the Tuluksak River itself. The company held options to claims on nearby Ophir Creek and tributaries of the Aniak River. Between 1925 and 1965, the company recovered about 460,000 ounces of gold. After a fire destroyed the power-house, the company ceased operations in 1965. Under new ownership, dredge mining in the basin resumed in 1972. A dredge was operating on Bear Creek in 1979. 54/

Although overshadowed by the New York-Alaska Gold Dredging Company, several other companies actively mined the tributaries of Tuluksak River. In 1937, Brink and Associates installed a small hydraulic plant near the head of Bear Creek. In the same year, the Bering Alaska Placers, employing four men, worked a tributary of Bear Creek, and reported a very successful season to the USGS. On California Creek, a man named Clarence March mined with

dragline equipment. In 1938, Alex Liske and Associates mined on Granite Creek, and from 1939 to 1942 the USGS reported the Garrison Company operating in the area. 55/

KWETHLUK RIVER

Placer gold was discovered on Canyon Creek in 1913 by a Laplander named Jans who herded reindeer in the area. By 1916, five mines were operating along the creek. One of the more profitable mines was run by Alfred and Ole K. Anderson, who began hydraulic mining operations in 1914 for Kvamme and Company. The Anderson brothers managed open-cut hydraulic operations until the mine was closed in 1940. 56/

EEK RIVER

Gold and cinnabar were discovered on Rainy Creek in the headwaters of Eek River in the early 1910s. According to the U.S. Bureau of Mines, Ed McCann of Bethel was the probable discoverer of the cinnabar deposit. Placer ground on Rainy Creek was probably exploited by a small number of men during the 1920s and 1930s. Neal Corrigan of Bethel worked the creek in the 1920s, and staked and explored the cinnabar deposit. In 1940, Al Jones of the Eek River Mining Company and owner of Al Jones Airways of Bethel began developing the placer ground with two bulldozers. He enjoyed considerable success, recovering nearly two thousand pounds of high-grade cinnabar concentrates during the gold-mining operation. In the summer of 1947, the Bureau of Mines excavated much of the cinnabar deposit with a bulldozer. 57/

KANEKTOK RIVER

During the late 1950s, some development work was done on a cinnabar deposit located about six miles northeast of Kagati Lake. In 1956, Noah Jackson and John Long of Bethel staked twelve cinnabar claims. Owned by the Bethel Exploration Company in 1957, the claims were subsequently taken over under an option agreement by the Sunshine Mining Company. Under the management of Pat DeWilliams and John Magura, this company used a bulldozer to develop the claims.

The USGS and the U.S. Bureau of Mines inspected the property in 1957. According to the USGS, the prospects were accessible by floatplanes landing on Kagati Lake or, in good weather, on a small lake about one mile from the prospects. Apparently most floatplanes landed on Kagati Lake, for a tractor road extended eight miles from the lake to the prospects. The prospects were also accessible by winter tractor trails from Bethel. 58/

AROLIK RIVER

Miners searching for the legendary Yellow River during the winter of 1900-01 discovered gold along the Arolik River. Only a few prospectors worked in the area until 1910 when prospectors from the Innoko River area made additional discoveries of gold in tributaries of Arolik River and on nearby Eek River. One man named Banks from San Francisco staked twenty-six claims at the head of Arolik River. The ore he sent out for testing assayed \$8 a ton. Another named Gabrielson reportedly found dirt on Butte Creek that paid \$35 a day.

Discovery claim on the creek was sold for \$20,000 in 1911 to five men, who are said to have removed gold worth \$2,050 in twelve days. Four claims on Butte Creek produced \$12,000 in 1911. 59/

From the 1910s into the late 1930s, several small mining operations were located on Butte and Kowkow creeks. In 1938, the Kow Kow Mining Company used a dragline on Kowkow Creek, John B. Huff and six employees operated a hydraulic plant on Butte Creek, and Peter Mosness worked along Snow Gulch. In the following year the Goodnews Bay Mining Company operated both hydraulic and dragline equipment in the area. Gold mining continued on the creeks and the main stem of the Arolik River into the 1940s. 60/

GOODNEWS RIVER

In 1915, an Eskimo named Wattamus visited a camp of six prospectors near the Goodnews River area and showed the men some gold he had found in a nearby stream. One of the prospectors, Butch Smith, accompanied Wattamus to the site and confirmed the discovery. Smith and his partners then moved to Wattamuse Creek and in less than a month mined \$16,000 in gold. The gravel in the creek bed was said to be four feet deep and yielded up to \$4 a square foot. For the next few years, Smith and his friends reportedly removed a quarter of a million dollars worth of gold. In 1919, two companies, the Discovery Mining Company and Ryan and Wickert Company, worked the creek. Gold was also discovered on three other tributaries of Goodnews River--Bear, Slate, and Olympia creeks.

In 1938, the Bristol Bay Mining Company moved a dredge with a bucket capacity of three feet to Wattamuse Creek. The dredge was operated until 1942. Some gold mining activity at Wattamuse Creek continued until 1961, however. In

1953, Mumtrak Mines used a dragline and a set of sluice boxes to mine gold along Wattamuse Creek. The success of this company is unknown. The Wattamus Mining Company mined gold on Slate Creek with a dragline from 1959 to 1961.

61/

SALMON RIVER

In 1926, an Eskimo named Walter Smith reportedly discovered "white gold" at the mouth of Fox Gulch along Platinum Creek, a tributary of Salmon River. Subsequently, prospectors discovered platinum on other tributaries of Salmon River draining the eastern slopes of Red Mountain. In 1928, Charles Thorsen discovered platinum on Clara Creek, and Edward St. Clair made the first discovery on Squirrel Creek. The value of platinum (\$24 an ounce in 1931) was too low to warrant mining.

Andrew Olsen of Iditarod and his partners purchased most of the claims on Platinum Creek in 1933 and organized the Goodnews Bay Mining Company in 1935. They mined with a dragline scraper until 1937 when, receiving a grant from the Reconstruction Finance Corporation, they constructed a dredge with a bucket capacity of eight cubic feet. At that time, the company held or leased over 150 claims in the area, and annually employed forty-five people. A second dredge was added in 1941. Because platinum was classified as a strategic mineral during World War II, the federal government permitted the Goodnews Bay Mining Company to continue mining. By the 1940s, the company had the largest producing platinum mine in the United States. The company discontinued operations in 1976, but under the new ownership of the R. A. Hanson Company of Spokane a dredge operated again in 1979. 62/

During the late 1930s and early 1940s, the Clara Creek Mining Company mined Salmon River with a dragline, while Strandberg and Sons operated a hydraulic mine. Between 1936 and 1940 the Clara Creek Company held or leased twenty claims and annually employed twenty-five people. 63/

From 1926 to 1933, miners removed three thousand ounces of platinum from the area. For the next four years, when the Goodnews Bay Company operated the dragline, 18,000 ounces of platinum were recovered. Production jumped to 34,000 ounces in 1938 when the dredge began operating. During its years of operation, the Goodnews Bay Mining Company mined a total of 641,000 ounces of platinum. 64/

Chapter Three -- Mining

1. Alfred G. Maddren, Fieldbook No. 408, U.S. Geological Survey, Menlo Park, California (hereafter USGS records). Also see The Kusko Times, September 11, 1926 and Wendell H. Oswalt, Historic Settlements along the Kuskokwim River, Alaska, Alaska State Library, Historical Monograph No. 7 (Juneau: Alaska Division of State Libraries and Museums, 1980), p. 25.
2. U.S. Congress, House of Representatives, Committee on Merchant Marine and Fisheries, Investigation of the Fur-Seal and Other Fisheries of Alaska, 50th Cong., 2d sess., H. Rept. No. 3883 (Washington, D.C.: Government Printing Office, 1889), pp. 399-400; Josiah Edward Spurr, "A Reconnaissance in Southwestern Alaska in 1898," in U.S. Geological Survey, Twentieth Annual Report . . . 1898-1899, Part VII (Washington, D.C.: GPO, 1900), p. 129; Central Alaska Company brochure, 1906, University of Alaska Archives, Fairbanks.
3. Spurr, "A Reconnaissance in Southwestern Alaska," p. 95.
4. Alfred G. Maddren, "Gold Placers of the Lower Kuskokwim, with a Note on Copper in the Russian Mountains," in Philip S. Smith, The Lake Clark - Iditarod and Kuskokwim Regions, Alaska, U.S. Geological Survey Bulletin 622 (Washington, D.C.: GPO, 1915), pp. 299-300.

5. Ibid., pp. 261-262; Alfred G. Maddren, The Innoko Gold Placer District, Alaska, with Accounts of the Central Kuskokwim Valley and the Ruby Creek and Gold Hill Placers, U.S. Geological Survey, Bulletin 410 (Washington, D.C.: GPO, 1910), p. 11.
6. Iditarod Nugget, August 9, 1911; Central Alaska Company brochure; Nome Semi-Weekly Nugget, December 24, 1904.
7. Alaska Prospector, January 5, 1905; Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), pp. 274-275.
8. Maddren, The Innoko Gold Placer District (Bull. 410), pp. 21-22.
9. Ibid., p. 23.
10. Ibid., p. 21.
11. Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), p. 300; Fairbanks Weekly Times, January 9, 1908.
12. Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), p. 301.
13. Edward H. Cobb, Placer Deposits of Alaska, U.S. Geological Survey Bulletin 1374 (Washington, D.C.: GPO, 1973), p. 42.
14. U.S. Bureau of Mines, Minerals Yearbook, 1945-1965 (Washington, D.C.: GPO).

15. John B. Mertie, Jr., Platinum Deposits of the Goodnews Bay District, Alaska, U.S. Geological Survey Bulletin 910-B (Washington, D.C.: GPO, 1939), p. 120.
16. Ibid., pp. 119-120; Cobb, Placer Deposits of Alaska (Bull. 1374), p. 42.
17. Burr S. Webber, et al., Mercury Deposits of Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4065 (Washington, D.C.: GPO, 1947), p. 9; Wallace M. Cady, et al., The Central Kuskokwim Region, Alaska: An Account of Its Geography, Geology, Geomorphology, and Mineral Resources Including the Occurrence and Mining of Quicksilver, U.S. Geological Survey Professional Paper 268 (Washington, D.C.: GPO, 1955), p. 2; John D. Abrahamson, Westward Alaska: The Native Economy and Its Resource Base (Anchorage: Federal Field Committee for Development Planning in Alaska, 1968), p. 144; U.S. Bureau of Mines, Minerals Yearbook, 1960 (Washington, D.C.: GPO, 1961), p. 92; U.S. Bureau of Mines, Minerals Yearbook, 1975 (Washington, D.C.: GPO, 1976), p. 97.
18. Spurr, "A Reconnaissance in Southwestern Alaska," p. 118.
19. Iditarod Pioneer, December 19, 1914.
20. W. E. Priestley, "The Kuskokwim River - Alaska's Neglected Highway," Alaska - Yukon Magazine, 8 (July 1909): 282.

21. Iditarod Pioneer, July 10, 1910.
22. Iditarod Pioneer, January 22, 1911, November 2, 1912, August 7, 1915.
23. Kusko Times, October 18, 1922.
24. Walter L. Goodwin to Alaska Road Commission, April 16, 1908, USGS Records; Alfred Hulse Brooks, The Mount McKinley Region, Alaska, U.S. Geological Survey Professional Paper 70 (Washington, D.C.: GPO, 1911), p. 169.
25. Ibid., pp. 131, 188; W. E. Priestley, "The Kuskokwim River," p. 282.
26. Kusko Times, March 24, 1928, October 15, 1932. Apparently Conley sometimes contracted with local residents to transport supplies for him. In March 1921, it was reported that Woodrow T. Vanderpool transported a load of freight for Conley to someplace near Peluk Roadhouse. See Kusko Times, March 16, 1921.
27. Iditarod Nugget, October 12, 1910; John B. Mertie, Jr. and George L. Harrington, The Ruby - Kuskokwim Region, Alaska, U.S. Geological Survey Bulletin 754 (Washington, D.C.: GPO, 1924), p. 108; Alfred G. Maddren, Fieldbook No. 275, and John B. Mertie, Jr., Fieldbook No. 425, USGS Records; Cecil Barlow to Col. James G. Steese, June 30, 1922, File 13/58-10, Box 65479, Records of the Federal Highway Administration, Record Group 30, Federal Records Center, Seattle, Washington.

28. P. S. Smith, et al., Mineral Resources of Alaska . . . 1935, U.S. Geological Survey Bulletin 880 (Washington, D.C.: GPO, 1939), pp. 48-49; P. S. Smith, et al., Mineral Resources of Alaska . . . 1936, U.S. Geological Survey Bulletin 897 (Washington, D.C.: GPO, 1938), p. 57; P. S. Smith, et al., Mineral Resources of Alaska . . . 1937, U.S. Geological Survey Bulletin 910 (Washington, D.C.: GPO, 1939), p. 59; P. S. Smith, et al., Mineral Resources of Alaska . . . 1940, U.S. Geological Survey Bulletin 933 (Washington, D.C.: GPO, 1942), pp. 51-52.

29. Iditarod Pioneer, February 5, June 10, September 30, 1916; Mertie and Harrington, The Ruby-Kuskokwim Region, Alaska (Bull. 754), pp. 107-108; P. S. Smith, et al., Mineral Resources of Alaska . . . 1927, U.S. Geological Survey Bulletin 810 (Washington, D.C.: GPO, 1930), p. 31.

30. P. S. Smith, et al., Mineral Resources of Alaska . . . 1940, pp. 51-52; U.S. Bureau of Mines, Minerals Yearbook for the years 1939 (p. 192), 1941 (p. 184), 1946 (p. 1304), 1950 (p. 1377), 1951 (p. 1397), 1952 (p. 83), and 1953 (p. 87).

31. Iditarod Nugget, November 30, 1910, March 15, April 19, 1911; Iditarod Pioneer, May 20, 1911; Kusko Times, June 25, 1932; Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records; D. H. Sleem, "Great Kuskokwim, A New Land of Promise," Alaska-Yukon Magazine, 10 (November 1910): 299; Tom Odale, "Some Alaskan Adventures," The Alaska Journal, 4 (Winter, 1974): 45.

32. John S. Brown, "The Nixon Fork Country," in Philip S. Smith, et al., Mineral Resources of Alaska . . . 1924, U.S. Geological Survey Bulletin 783 (Washington, D.C.: GPO, 1926), pp. 97-144; John B. Mertie, Jr. and George L. Harrington, Mineral Deposits of the Ruby -Kuskokwim Region, U.S. Geological Survey Bulletin 864-C (Washington, D.C.: GPO, 1936), passim; The Pathfinder of Alaska, 2 (July, 1921), p. 22.
33. U.S. Bureau of Mines, Minerals Yearbook, 1946 (Washington, D.C.: GPO, 1947), p. 1304.
34. U.S. Bureau of Mines, Minerals Yearbook, 1961 (Washington, D.C.: GPO, 1962), p. 96; Lennart A. Anderson, Bruce L. Reed, and Gordon R. Johnson, "Geologic Interpretation of a Residual Aeromagnetic Map of the Nixon Fork District, Alaska," in Geological Survey Research 1970, U.S. Geological Professional Paper 700-D (Washington, D.C.: GPO, 1970), p. D129.
35. U.S. Bureau of Mines, Minerals Yearbook 1961 (Washington, D.C.: GPO, 1962), p. 96; U.S. Bureau of Mines, Minerals Yearbook 1964 (Washington, D.C.: GPO, 1965), pp. 102-103; C. L. Sainsbury and E. M. MacKevett, Jr., Quicksilver Deposits of Southwestern Alaska, U.S. Geological Survey Bulletin 1187 (Washington, D.C.: GPO, 1965), pp. 21-22.
36. Fairbanks Sunday Times, August 30, 1908; Alfred H. Brooks, The Mining Industry in 1910, U.S. Geological Survey Bulletin 480-B

(Washington, GPO, 1911), pp. 39-40; G. C. Martin, The Alaskan Mining Industry in 1917, U.S. Geological Survey Bulletin 692-A (Washington, D.C.: GPO, 1922), p. 60.

37. Philip S. Smith, Mineral Industry of Alaska in 1933, U.S. Geological Survey Bulletin 864-A (Washington, D.C.: GPO, 1934), p. 45;
Philip S. Smith, Mineral Industry of Alaska in 1934, U.S. Geological Survey Bulletin 868-A (Washington, D.C.: GPO, 1936), p. 46;
Philip S. Smith, Mineral Industry of Alaska in 1935, U.S. Geological Survey Bulletin 880-A (Washington, D.C.: GPO, 1937), p. 49;
Philip S. Smith, Mineral Industry of Alaska in 1936, U.S. Geological Survey Bulletin 897-A (Washington, D.C.: GPO, 1938), p. 58;
Philip S. Smith, Mineral Industry of Alaska in 1938, U.S. Geological Survey Bulletin 917-A (Washington, D.C.: GPO, 1939), pp. 59-60;
Kusko Times, February 19, April 9, 1937.
38. Cady, The Central Kuskokwim Region, p. 119; Territory of Alaska, Department of Mines, Report of the Commissioner of Mines for the Biennium Ended December 31, 1950, p. 49; Territory of Alaska, Department of Mines, Report of the Commissioner of Mines for the Biennium Ended December 31, 1952, p. 27.
39. Cady, The Central Kuskokwim Region, pp. 120-121; Territory of Alaska, Department of Mines, Report of the Commissioner of Mines for the Biennium Ended December 31, 1952, p. 27; Territory of Alaska, Department of Mines, Report of the Commissioner of Mines for the Biennium Ended December 31, 1954, pp. 41, 51.

40. Webber, Mercury Deposits of Southwestern Alaska, p. 44; Cady, The Central Kuskokwim Region, pp. 113-114; F. A. Rutledge, Investigation of Mercury Deposits, Cinnabar Creek Area, Georgetown and Akiak District, Kuskokwim Region, Southwestern Alaska, U.S. Bureau of Mines, Report of Investigations 4719 (Washington, D.C.: GPO, 1950), pp. 3-4; Henry R. Joesting, Strategic Mineral Occurrences in Interior Alaska, Territorial Department of Mines Pamphlet No. 1 (College, Alaska: Territorial Department of Mines, 1942), p. 23; Alaska Division of Mines and Minerals, Report for the Year 1961 (College: Alaska Department of Natural Resources, 1961), p. 78; Alaska Division of Mines and Minerals, Report for the Year 1967 (College: Alaska Department of Natural Resources, 1967), p. 12; and U.S. Bureau of Mines, Minerals Yearbook 1970 (Washington, D.C.: GPO, 1971), p. 83.
41. Cady, The Central Kuskokwim Region, p. 109; Webber, Mercury Deposits of Southwestern Alaska, pp. 19-20.
42. Ibid., pp. 9-10; Berg, "Economic Base and Development of Alaska's Kuskokwim Basin," p. 19; U.S. Bureau of Mines, Minerals Yearbook, 1955 (Washington, D.C.: GPO, 1956), p. 93; Abrahamson, Westward Alaska, p. 144; U.S. Bureau of Mines, Minerals Yearbook, 1971 (Washington, D.C.: GPO, 1972), p. 81. In 1955 the DeCoursey Mountain Mining Company merged with Brewis Red Lake Mines, Inc., to become DeCoursey - Brewis Minerals, Ltd., of Toronto, Canada. In 1957 the firm was reorganized and the name changed to Alaska Mines and Minerals Company.

43. Webber, Mercury Deposits of Southwestern Alaska, pp. 24-28; Cady, The Central Kuskokwim Region, pp. 110-111.
44. Sleem, "Great Kuskokwim," p. 298; Fairbanks Weekly Times, January 11, 1911; Iditarod Nugget, March 29, 1911; Philip S. Smith, Mineral Resources of the Lake Clark - Iditarod Region, U.S. Geological Survey Bulletin 622 (Washington, D.C.: GPO, 1915), pp. 261-262; Philip S. Smith, The Mineral Industry of Alaska in 1937, U.S. Geological Survey Bulletin 910-A (Washington, D.C.: GPO, 1939), p. 60; Max G. White and P. L. Killeen, Reconnaissance for Radioactive Deposits in the Lower Yukon - Kuskokwim Highlands Region, Alaska, 1947, U.S. Geological Survey Circular 255 (Washington, D.C.: GPO, 1953), p. 16; and Alaska Division of Mines and Minerals, Annual Reports, 1959-1975 (College: Alaska Department of Natural Resources).
45. The area called Donlin Creek by prospectors and in U.S. Geological Survey reports includes all of the southern and eastern gulches along Crooked Creek from Omega Gulch to the head of Donlin Creek. Placer gold was discovered in a number of the gulches including Snow, Ruby, Quartz, Queen, and Lewis gulches. Fairbanks Weekly Times, January 4, 1911; John B. Mertie, Jr., Mineral Deposits of the Ruby - Kuskokwim Region, Alaska, U.S. Geological Survey Bulletin 864-C (Washington, D.C.: GPO, 1936), p. 224; Cady, The Central Kuskokwim Region, pp. 116-118; Cobb, Placer Deposits of Alaska (Bull. 1374), p. 43; U.S. Bureau of Mines, Minerals Yearbook 1954 (Washington, D.C.: GPO, 1955), p. 100.

46. "Quicksilver from the Kuskokwim," The Pathfinder of Alaska, 2 (September, 1921): 9; Kusko Times, September 27, 1924; Webber, Mercury Deposits of Southwestern Alaska, pp. 29-30; Cady, The Central Kuskokwim Region, p. 111.
47. Iditarod Nugget, December 21, 1910, February 15, 1911; Maddren, Fieldbook No. 408, USGS Records; Kusko Times, February 19, 1937; Cady, The Central Kuskokwim Region, p. 119.
48. Iditarod Pioneer, October 21, 1911; Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), p. 301; Maddren, Fieldbook No. 408-A, USGS Records. For grubstaking the men, Hess received one-third ownership in the claims.
49. Kusko Times, January 2, 1926; Smith, The Mineral Industry of Alaska in 1938 (Bull. 917-A), p. 61; Alaska Division of Mines and Minerals, Report for the Year 1966 (College: Alaska Department of Natural Resources, 1966), p. 10.
50. Iditarod Pioneer, July 10, 1910, February 10, 1912; Maddren, Fieldbook No. 408-A, USGS Records.
51. Maddren, The Innoko Gold Placer District (Bull. 410), p. 63; Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), pp. 328-330; Smith, Mineral Resources of the Lake Clark - Iditarod Region (Bull. 622-H), p. 252.

52. Kusko Times, September 27, 1924, April 11, September 19, 1925, January 2, March 13, 1926.
53. Kusko Times, April 25, 1931, February 19, 26, 1937; Smith, The Mineral Industry of Alaska in 1937 (Bull. 910-A), p. 61; Smith, The Mineral Industry of Alaska in 1940 (Bull. 933), p. 53; Economic Exhibits before the Civil Aeronautics Board, Washington, D.C., on the Intra-Alaska Air Serving Case, Docket No. 6093, Northern Consolidated Airlines, Inc., p. 29, University of Alaska, Anchorage.
54. Rudy Firm and Joe Ann Firm, "Nyac--Now Another Dead Gold Camp," Alaska Magazine, 36 (September, 1970): 17; Alaska Geographic Society, Yukon - Kuskokwim Delta, Robert Henning, et al., eds. (Anchorage: Alaska Northwest Publishing Co., 1979), p. 18.
55. Smith, The Mineral Industry of Alaska in 1937 (Bull. 910-A), pp. 61-62; Smith, The Mineral Industry of Alaska in 1938 (Bull. 917-A), p. 61; Smith, The Mineral Industry of Alaska in 1940 (Bull. 933), pp. 53-54.
56. Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), pp. 301-302; Alfred H. Brooks, Mineral Resources of Alaska: Report on Progress of Investigations in 1920, U.S. Geological Survey Bulletin 722 (Washington, D.C.: GPO, 1922), p. 60; Kusko Times, July 10, 1926, February 26, 1937; Fred J. Spach to Ike P. Taylor, July 24, 1937, Box 65637, File 13/150-2, RG 30; Alaska Division of Geological Survey, Annual Report 1971 (College, Alaska: Department of Natural Resources, 1972), p. 73.

57. Alfred H. Brooks, "The Mining Industry in 1911," in A. H. Brooks, et al., Mineral Resources of Alaska, U.S. Geological Survey Bulletin 520 (Washington, D.C.: GPO, 1912), p. 41; Alfred H. Brooks, "The Alaskan Mining Industry in 1913," in A. H. Brooks, et al., Mineral Resources of Alaska, U.S. Geological Survey Bulletin 592 (Washington, D.C.: GPO, 1914), p. 71; Smith, Mineral Industry of Alaska in 1940 (Bull. 933-A), pp. 54-55; F. A. Rutledge, Investigation of the Rainy Creek Mercury Prospect, Bethel District, Kuskokwim Region, Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4361 (Washington, D.C.: GPO, 1948), pp. 2-3.
58. Sainsbury and Mackevett, Quicksilver Deposits of Southwestern Alaska, (Bull. 1187), p. 53.
59. Nome Nugget, March 31, 1906; John B. Mertie, Jr., Fieldbook No. 425, USGS Records; Iditarod Nugget, January 11, 1911; Fairbanks Daily News-Miner, September 8, 1911; Brooks, Mineral Resources of Alaska in 1912 (Bull. 542), p. 41.
60. Smith, The Mineral Industry of Alaska in 1938 (Bull. 917-A), p. 62.
61. G. C. Martin, Mineral Resources of Alaska: Report on Progress of Investigations in 1917, U.S. Geological Survey Bulletin 692 (Washington, D.C.: GPO, 1919), p. 40; Kay Kennedy, Stampede, Platinum Stampede Scrapbooks, University of Alaska Archives, Fairbanks; Smith, The Mineral Industry of Alaska in 1938 (Bull. 917-A), p. 62; Smith, The Mineral Industry of Alaska in 1940 (Bull. 933-A),

pp. 54-55; U.S. Bureau of Mines, Minerals Yearbook 1946 (Washington, D.C.: GPO, 1947), p. 1304; Cobb, Placer Deposits of Alaska (Bull. 1374), p. 49; Alaska Division of Mines and Minerals, Report for the Year 1961 (Juneau: Alaska Department of Natural Resources, 1961), p. 109.

62. Kusko Times, May 26, 1928, April 25, 1931 ; Mertie, Platinum Deposits of the Goodnews Bay District (Bull. 910-B), pp. 118-120; Philip S. Smith, The Mineral Industry of Alaska in 1936, U.S. Geological Survey Bulletin 897-A (Washington, D.C.: GPO, 1938), p. 83; Mertie, The Goodnews Platinum Deposits (Bull. 918), p. 57; U.S. Bureau of Mines, Minerals Yearbook 1945 (Washington, D.C.: GPO, 1946), p. 220; U.S. Bureau of Mines, Minerals Yearbook 1976 (Washington, D.C.: GPO, 1977), p. 74; Alaska Geographic Society, Yukon-Kuskokwim Delta, p. 18.
63. Mertie, Platinum Deposits of the Goodnews Bay District (Bull. 910-B), p. 120; Smith, The Mineral Industry of Alaska in 1940 (Bull. 933), pp. 73-74.
64. Mertie, The Goodnews Platinum Deposits (Bull. 918), pp. 58-59.

CHAPTER FOUR

HUNTING, FISHING AND TRAPPING

When Europeans first entered the Kuskokwim region, they found a Native people who seasonally occupied different sites in pursuit of fish and game. The Eskimos and Ingalik Athapaskans, occupying different parts of the region, engaged in similar subsistence cycles of hunting, fishing, and trapping. Fish, particularly salmon, was their primary source of food. Fur-bearing animals were second in importance, providing furs for clothing and trade as well as food to supplement the diet of fish. Large game animals in the uplands were also hunted, particularly by the central and upper river inhabitants. Subsistence activities were usually pursued on a family basis. 1/

Around the end of April, before the break-up of river ice, the Natives left their winter villages for small tundra camps to fish for whitefish and blackfish, and to hunt muskrat, beaver, land otter, rabbit, and ptarmigan. A family moved to its camp with sleds, hauling canoes to use both for hunting and for the return journey to the Kuskokwim River. Upon arrival at the camps the Natives set traps beneath the ice to catch whitefish and blackfish ascending the rivers to tundra lakes. Later in the spring the fish were caught with gill nets. Ducks and geese were also hunted. Alone or in small groups, men in search of small game travelled across the flooded lowlands in kayaks or small canoes and hunted with bows and arrows. 2/

In May, before the annual spring floods and the smelt runs, the families traveled to the Kuskokwim River by boat through the intricate system of lakes, sloughs, and streams that characterize the tundra lowland. Instead of returning to their winter villages, the people moved to fish camps, usually temporary

one-family settlements located along the low banks of the Kuskokwim River. Smelt usually ascend the Kuskokwim River as far as Tuluksak Village, and sometimes as far as Kalskag Village. The lower river people harvested these small fish with dip nets. 3/

The smelt runs were followed by salmon runs, first the king salmon in early June and then the chum, coho, and finally the red salmon. Near the mouth of the Kuskokwim River salmon were caught in set nets placed at river eddies or in large wooden fish traps set in openings of pole and bush weirs. Other shore-based fishing methods, such as dip-netting and spearing, were also employed. The river in the lower stretch is too wide for drift nets. Above Bethel, where the river is narrower, birchbark canoes or kayaks and drift nets were commonly used to catch salmon. Set nets were placed at the mouths of large tributaries. 4/

In early September, after caching dried salmon at their winter village sites, area residents returned to the tundra camps, this time to catch whitefish and blackfish migrating from the lakes to the Kuskokwim River. Natives in the Yukon-Kuskokwim delta also hunted ducks and geese and set traps in the streams to catch mink.

By mid-October the people were back at their winter villages. Small bands of men headed up the Kuskokwim River and large tributaries, in particular the Aniak, Holitna, and Stony rivers, to the foothills of the Kuskokwim Mountains and the Alaska Range to hunt caribou, moose, and bear. Until the late 1800s these large animals were killed with bows and arrows. If the hunt was successful the men built bullboats to return downriver. 5/

During the winter months, families trapped small game and maintained one or two fish traps in streams near their villages to catch whitefish and blackfish. Beaver, mink, muskrat, and land otter were caught for fur and food; wolverine, wolf, fox, and marten for their fur only. The men usually set their traplines on the same route every winter. Beaver were customarily trapped in nets placed near the entrances to their lodges or killed with arrows or sticks. Natives snared rabbits and took fox and marten in baited nets set in deadfalls. Trapping continued until the end of December, and then resumed in late February until April. By late February, winter food supplies were likely to be low, and the small animals and fish caught at this time tended to be lean. The people looked forward to the start of another subsistence cycle. 6/

The boats used by Kuskokwim Natives were framed with spruce or birch and covered with seal or walrus skins or birchbark. In general, the lower river people used skin-covered kayaks and canoes while the central and upper river inhabitants relied on birchbark canoes. The boats averaged fifteen to twenty feet in length and most of them carried one person. Used well into the 1950s, kayaks were favored when travel required portages, traversing shallow streams, or crossing swift water. Ill-suited for long voyages, canoes were used for tending fish traps, hunting muskrats, crossing rivers, and for traveling short distances. The bullboat was often used by hunters to transport their game from the mountains and hills. The hides of their kill were used to cover the boat's frame, usually of spruce saplings. Some of these boats measured twenty feet in length and eight feet in beam. 7/

Although their numbers were few, Russian and American traders, missionaries, and prospectors entering the Kuskokwim River basin before 1900 effected many changes in the lifestyles of the Eskimo and Athapaskan inhabitants. The early traders encouraged the Native people to trap and hunt as many animals as possible for trade rather than just those needed for fur and clothing. Many of the pelts desired by the Russian and American traders, such as beaver, land otter, fox, and mink, had not been greatly valued by the Natives. On occasion, the Russians organized and led Native hunting parties. Some Natives found employment with the white traders, and provided them with food, usually fish. Increasingly, non-Natives became the intermediaries in the trade between Native groups. Central locations such as the mouth of the Holitna River, Vinasale, and Uknavik became rendezvous sites. Later, Kolmakov Redoubt became the center of trade. 8/

Trade items introduced by the Russians, such as guns, steel traps, and knives, served to make hunting and trapping activities more efficient. Although the traps were not accepted immediately by the Natives and attempts were made to restrict the sale of guns, these items were eventually incorporated into the Native's way of life. 9/

Judging from incomplete records, it appears that the Russians considered the Kuskokwim basin to be a profitable if not a lucrative field. In 1832 the Russian-American Company instructed Fedor Kolmakov to barter goods valued at one and a half rubles for large beaver pelts and two rubles for dark brown or black fox pelts. These prices were significantly lower than those at Kodiak and Sitka. From 1833 to 1841 one thousand beaver and land otter pelts were taken annually from the Kuskokwim basin. Between 1842 and 1861 Kolmakov Redoubt

exported a total of 32,396 beaver, 1,165 land otter, 3,590 fox, 320 white (Arctic) fox, 93 bear, 327 lynx, and 2,098 marten pelts. 10/

In the American period, the fur trade in the Kuskokwim basin increased dramatically. In 1884 the Alaska Commercial Company obtained about nine thousand pelts from the region. About four thousand pelts (mostly muskrat, mink, marten, beaver, and fox) came from the Bethel station; the others from Kolmakof and Vinasale. This increase in the volume of trade may be due to the fact that American traders bought a greater variety of pelts and offered more desirable and diverse trade items.

Attracted to the business by increasing prices for furs, both whites and Natives competed peacefully in commercial trapping. A mink pelt worth twenty-five cents in 1900 was worth four dollars in 1906. Described as a well-known trapper, George A. Fredericks arrived in Nome from the Kuskokwim in July 1906 "after a most successful winter's hunting" with 100 beaver, 700 marten, 150 mink, 150 fox, 25 otter, 100 lynx, and some ermine and bear skins for a total value of about \$15,000. In 1909, it was reported that eight trappers, apparently non-Natives, had \$30,000 worth of furs in their possession. Three years later, however, the effects of over-trapping were being felt. Naturalist L. R. Dice reported that the average annual fur catch that year was less than \$500, just enough to cover the cost of supplies necessary for another winter of trapping. In conversations with traders at Bethel, Dice learned of their concern over the quality of furs which they obtained in trade. The number of "unprime" skins offered for trade appeared to be increasing. 11/

As the population of fur-bearing animals declined due to intensive trapping, steps were taken to lessen the impact upon the Natives' economy. Acquiring a herd of 176 reindeer in 1901, Movarian missionaries encouraged the Eskimos on the lower Kuskokwim River to become herders. By 1936, about 176,000 reindeer grazed in the area. During the 1940s, however, the herd declined and the project was discontinued. 12/

The introduction of the fish wheel to the region about 1910 also impacted the Natives' lifestyle. Fish wheels became popular above Kalskag Village where the river current is swift. Not requiring constant attention, the fish wheel allowed the Natives to spend their summers in Bristol Bay canneries, in the local mines and on the steamboats. As many as fifty-seven wheels were operated on the Kuskokwim in 1925. More than twenty wheels were operated in the 1950s. 13/

As the influx of whites to the region had severely impacted the game population, so it was with the fish, particularly salmon. The first commercial fishery on the Kuskokwim River was established in 1913 by J. E. Shields, captain of the marine vessel Bender Brothers, who salted 150 tierces of king salmon, most of which came from Kuskokwim Bay. By 1922 four salteries were operating near the mouth of the river. 14/ In response to outcries that commercial fishing was threatening the Natives' food supply, the U.S. Department of Commerce banned commercial fishing in the Kuskokwim basin in 1920. Two years later, a special investigation of the fishery resources and residents' subsistence needs was conducted in the region. The new U.S. Bureau of Fisheries stationed a stream guard on the Kuskokwim River during the summer months in 1924, and on October 1, 1925 closed the entire river and the bay within five hundred feet of the river mouth to commercial fishing. In 1925, the Alaska Game Commission

in the U.S. Biological Survey was created with authority to protect birds and fur-bearing and game animals. In the following year, a game warden was stationed at Bethel. Both the Bureau of Fisheries and the Alaska Game Commission formulated regulations to restrict hunting, fishing, and trapping to certain times and places. 15/

By the late 1920s, the population of small and large game animals in the Kuskokwim basin was increasing. One proponent of relaxed hunting and trapping regulations wrote in February 1928 that 1,500 red fox skins had been exported from the lower Kuskokwim River country and that some "Indian trappers" caught at least one fox a day. In 1929 moose had been spotted ranging as far west as the Holitna River. 16/ In 1932 warden Oddie Hallson reported: "Moose are increasing and ranging farther every year. They are quite numerous and are ranging down as far as the Aniak River on the south side of the Kuskokwim and west of the head of Crooked Creek on the north side. . . . There were moose on the winter portage a couple of miles below the village of Napamute last winter, something unheard of before." 17/

The Game Commission was not as successful in maintaining the beaver population. Angered by the prohibition on beaver trapping during 1929 and 1930, trappers and traders pressured the Game Commission to change the rules. C. M. Link, a trader at Bethel, argued that beaver was the only fur-bearing animal of value in the basin, and wanted the ban on beaver hunting lifted. This would check many violations of game regulations by both trappers and traders. The appeal was successful. By 1934, however, beaver populations on the Tatlawiksuk, Stony, Holitna, Aniak, and George rivers were seriously depleted. In his

annual report for that year, warden T. Eugene Tibbs, repeatedly said "nearly everyone agrees" that the beaver situation was serious. Beaver trapping in the district was again prohibited in 1934. 18/

Despite a two-year ban on beaver trapping and a limit of ten pelts per trapper in 1936, the beaver population continued its decline. Of particular concern was the "decided decrease" in the number of beaver on the Holitna River. In 1936 the Game Commission noted that the Holitna River drainage had the highest average beaver catch--9.9 animals per trapper--for the Territory. Two years later, it reported that the beaver population in the basin was declining: "The Holitna drainage offers a more serious problem. The hundreds of miles of water-ways in this drainage allow easy hunting and trapping throughout the area and attracts beaver trappers from as far as Bethel." 19/

The advent of air travel in the 1930s allowed white trappers to reach remote areas and contributed to the decline of fur resources. In 1942, the beaver catch for the entire Kuskokwim River region totaled 3,190. The populations of other game animals in the area were similarly marked by a decline in numbers. 20/

The beaver market revived briefly after World War II. In 1949, 352 trappers in western Alaska, including both the Holitna and Innoko river basins, took 3,010 beaver. Although definitely in decline, trapping continued to be an important economic activity in the area, particularly for the Natives. During the 1950s prices for mink pelts rose significantly. In 1956, a top mink was worth forty-five dollars. The average income per trapper from mink pelts in 1956 was between \$250 and \$375. 21/

The availability of air travel affected another market, that of chum salmon, the staple food of dog teams. This local market was very important, particularly to the lower river Natives. In an effort to offset the loss of this market, the U.S. Bureau of Fisheries revised commercial fishing regulations in 1930, allowing for the capture of up to 250,000 king and red salmon in Kuskokwim Bay. Commercial fishing on the river itself (excluding tributary streams) was not permitted until 1951 and did not begin until 1959, when two operations at Aniak and Bethel processed 3,760 king salmon. 22/

In 1960 the management of fish and game in Alaska became the responsibility of the new State of Alaska. Adopting more lenient regulations, the State permitted commercial fishing for king salmon and, for the first time, silver salmon in the Kuskokwim River below the mouth of Aniak River. Three thousand king salmon and 1,500 silver salmon could be taken from the river below Akiachak Village, and 1,500 king salmon and 1,500 silver salmon could be taken from the river between Akiachak and the Aniak River. Three commercial operations harvested 5,969 king salmon in 1960. The next year, five commercial operations harvested salmon valued at \$91,607. In the early 1960s the small Kuskokwim fisheries industry reached new markets by flying fresh frozen salmon to urban centers. A sport fishing industry also began to develop. In 1965 Aniak, Sleetmute, and McGrath each had sport fishing businesses. 23/

Although the Kuskokwim fisheries industry was significant by local standards, it accounted for less than 1 percent of the total statewide salmon catch for the period 1960 to 1974. In 1970 commercial fisheries processed 80,000 fish from the Kuskokwim River adding an estimated \$250,000 to the local economy. In 1971 the first commercial chum salmon fishery started. During 1977 the Kuskokwim River fishing industry employed 530 area residents. 24/

Chapter Four--Hunting, Fishing and Trapping

1. Wendell H. Oswald, "Kolmakovskiy Redoubt: The Ethnoarchaeology of a Russian Fort in Alaska" (unpublished manuscript, 1980), pp. 26-27, 29; Wendell H. Oswald, Mission of Change in Alaska: Eskimos and Moravians on the Kuskokwim (San Marine, California: Huntington Library, 1963), p. 116.
2. Ibid., pp. 119-120.
3. Ibid., p. 121; Box 2, Wendell H. Oswald Collection, University of Alaska Archives, Fairbanks.
4. Oswald, "Kolmakovskiy Redoubt," pp. 26, 93; Wendell H. Oswald, Napaskiak: An Eskimo Village in Western Alaska (Ann Arbor, Michigan: University Microfilms, 1977), p. 134; Ward T. Bower, Alaska Fisheries and Fur-Seal Industry in 1938, Administrative Report No. 36 (Washington, D.C.: Government Printing Office, 1940), pp. 101-102; Ross Kavanagh, "Kisaralik River Trip Report - Fisheries Resources," March 8, 1977; copy on file in Navigability Section, BLM Alaska State Office, Anchorage.
5. Oswald, Mission of Change in Alaska, pp. 125-127; Oswald, "Kolmakovskiy Redoubt," pp. 26-27.
6. Oswald, Mission of Change in Alaska, pp. 127-129.

7. Oswalt, "Kolmakovskiy Redoubt, pp. 24-25, 97-98; Oswalt, Napaskiak, p. 141.
8. Oswalt, "Kolmakovskiy Redoubt," pp. 33, 39, 169; Robert P. Porter, Report on Population and Resources of Alaska at the Eleventh Census 1890 (Washington, D.C.: GPO, 1893), p. 253; and John J. Burns, "The Ecology, Economics, and Management of Mink in the Yukon-Kuskokwim Delta, Alaska" (M.S. Thesis, University of Alaska, 1964), p. 24.
9. Oswalt, "Kolmakovskiy Redoubt," pp. 93-94.
10. Petr A. Tikhmenev, A History of the Russian-American Company, Richard A. Pierce, ed., Alton S. Donnelly, trans. (Seattle, University of Washington Press, 1978), pp. 427-428; Petroff, Report on the Population, pp. 62-65; and Oswalt, "Kolmakovskiy Redoubt," pp. 170, 172-173.
11. Fairbanks Evening News, July 17, 1906; C. D. Scott, "Opportunities of the Kuskokwim," Alaska - Yukon Magazine, 8 (September - October, 1909), p. 475; Diary, August 20, 1912, Lee Raymond Dice Collection, University of Alaska Archives, Fairbanks; Oswalt, Mission of Change in Alaska, p. 114. Fur market prices fluctuated dramatically during these years. During World War I, for example, prices dropped as much as 75 percent. Oswalt, "Kolmakovskiy Redoubt," pp. 186-187.
12. Oswalt, "Kolmakovskiy Redoubt," p. 186.

13. Oswalt, Mission of Change in Alaska, pp. 43-44; "Interior Alaska in 1911 and 1912," p. 108, Lee Raymond Dice Collection; Ward T. Bower, Alaska Fishery and Fur-Seal Industries in 1926, U.S. Bureau of Fisheries Document 1023 (Washington, D.C.: GPO, 1927), p. 8.
14. A tierce equals forty-two gallons. Shields took roughly 7,800 fish. The processing of the fish was done aboard the ship. Shore-based canneries and salteries, common to the commercial fisheries of the North Pacific Ocean were not established in Kuskokwim Bay. Steven Pennoyer, Kenneth Middleton, and Melvin Morris, Jr., Arctic-Yukon-Kuskokwim Area Salmon Fishing History, Information Leaflet No. 70 (Juneau: Alaska Department of Fish and Game, 1965), p. 38.
15. Ward T. Bower, Alaska Fishery and Fur-Seal Industries in 1920, U.S. Bureau of Fisheries Document 909 (Washington, D.C.: GPO, 1921), pp. 9-11.
16. Report of the Bethel Mission, Proceedings of the General Meeting of the Society of the United Brethren for Propagating the Gospel Among the Heathen, 1927 (Bethlehem, Pennsylvania: The Moravian Press, 1927), p. 44; Governor to E. P. Walker, Alaska Game Commission, November 21, 1925, General Correspondence of the Alaskan Territorial Governors, National Archives Microfilm Publication M939, Reel 120; Alaska Game Commission, "Sixth Annual Report of the Executive Officer . . . for the Period November 1, 1929 to October 31, 1930," Alaska Resources Library, Anchorage, pp. 67, 81; Alaska Game Commission, "Fifth Annual Report . . . November 1, 1928 to October 31, 1929," pp. 26, 40; Kusko Times, March 24, 1928.

17. Alaska Game Commission, "Eighth Annual Report . . . November 1, 1931 to October 31, 1932," p. 71.
18. Alaska Game Commission, "Sixth Annual Report"; Alaska Game Commission, "Ninth Annual Report . . . November 1, 1932 to October 31, 1934," p. 109.
19. Alaska Game Commission, "Eleventh Annual Report . . . December 1, 1935 to October 31, 1936," p. 119; Alaska Game Commission, "The Executive Officer's Report to the Alaska Game Commission for the Period January 1, 1938 to November 30, 1938," p. 81; Alaska Game Commission, "The Executive Officer's Report . . . December 1, 1938 to December 31, 1939," p. 89.
20. Alaska Game Commission, "The Executive Officer's Report . . . January 1, 1942 to November 30, 1942," pp. 6-21.
21. Oswalt, Napaskiak, pp. 186-187, 192-193; Box 2, Wendell H. Oswalt Collection; Richard H. Bishop, Beaver Report (Juneau: Alaska Division of Fish and Game, 1970-1973), p. 12.
22. Pennoyer, Arctic-Yukon-Kuskokwim Area Salmon Fishing History, pp. 40, 42.
23. Ibid., pp. 42, 46; Richard A. Berg, "The Economic Base and Development of Alaska's Kuskokwim Basin With Particular Emphasis on the Period

1950 to 1964" (M. A. Thesis, University of Alaska, 1965), pp. 66, 70; Ted Almasy, "Back Country," Alaska Sportsman, 23 (June, 1966): 12-13.

24. Rae E. Baxter, Effects of Explosives Detonated in Ice on Northern Pike, Kuskokwim River, 1970, Information Leaflet No. 154 (Juneau: Alaska Department of Fish and Game, 1970), p. 2; Alaska Geographic Society, Yukon-Kuskokwim Delta, Robert A. Henning, et al., eds. (Anchorage: Alaska Northwest Publishing Co., 1979), pp. 85-86; Kavanagh, "Kisaralik River Trip Report."

CHAPTER FIVE

COMMUNITIES

The Eskimo people lived along the west coast of Alaska for thousands of years. Sometime late in the prehistoric period, the Kuskokwagamiut Eskimos moved inland along the Kuskokwim River, reaching the mouth of the Holitna River by 1830. In 1844, Zagoskin, the first to define the boundary between Eskimos and Athapaskans, wrote that Kwigiumpainukamiut, located on the Kuskokwim River opposite Kolmakov Redoubt, and several nearby villages were jointly--and amicably--occupied by the two peoples. 1/

Two distinct groups of Athapaskan Indians inhabited the central and upper portions of the river. Tanaina Athapaskans from Cook Inlet occupied the upper Stony River area in the 1790s. 2/ The Ingalik, consisting of two linguistically different subgroups, inhabited the Kuskokwim basin above Kolmakov Redoubt. The McGrath Ingalik lived around the community of the same name in the upper Kuskokwim basin. The Georgetown Ingalik occupied the area between Vinasale and Kolmakov. Close relatives of the Holy Cross Ingalik on the Yukon River, the Georgetown Ingalik evidently moved from the Yukon River to the Kuskokwim River sometime in the early 1800s. 3/

Both the Eskimos and Athapaskans maintained winter villages, which were usually located on high banks along the Kuskokwim River and near a source of water and good winter fishing sites. Compared by modern standards, the villages were small. A typical village had seven semi-subterranean houses and one large kashgee or community house. These structures were substantial and were usually occupied for many years. The Natives also maintained spring and

summer camps for hunting and fishing purposes. The fish camps were generally located along the Kuskokwim River, or near lake outlets in the delta. One or two families usually used the campsite for many years. 4/

During the Russian and early American periods, few new settlements were established. The traders tended to establish posts in the Native villages. Each year they traveled to the mouth of the Holitna River, and the villages of Ogavik, Kihktagamiut, and Vinasale, where Natives gathered as in earlier times to trade.

Hutchinson, Kohl and Company (later the Alaska Commercial Company) employed Reinhold Separe in 1869 to be their trader on the Kuskokwim River. Separe reopened the post at Kolmakof and hired men to establish and maintain trading stations at Vinasale and Mumtrekhlagamiut (present-day Bethel). In 1875, when Separe became an independent trader, the Alaska Commercial Company did not station another trader on the Kuskokwim, but continued to send a vessel once a year from Unalaska to the Kuskokwim River to trade with Separe. 5/

At this time, the Western Fur and Trading Company (first known as Faulkner, Bell and Company) attempted to enter the trading business along the Kuskokwim River. Organized in 1875, the firm opened a station at Kwigiumpainukamiut, the former site of Lukins Odinochka, but closed it five years later when the agent named Johnson died. In 1883 the company went bankrupt. 6/

Choosing the Kuskokwim River for their Alaska missionary field, the Moravian Church in 1885 established their first station, Bethel, near Mumtrekhlagamiut. Over the years the Moravians established other missions along the lower river

and Kuskokwim Bay. With the exception of Nunapitsinghak, the stations were located in Native villages. The Orthodox and Catholic Churches also established missions and chapels along the river, all of them located in Native villages.

According to the 1890 census, the Kuskokwim district ranked second in Native population and last in non-Native population in Alaska. Only four villages had non-Native inhabitants. The total population was 5,681. 7/ In 1898, Josiah Edward Spurr of the U.S. Geological Survey (USGS) reported that the only whites living in the basin were the Moravian missionaries and two traders. Bethel was the main settlement with a trading station and the Moravian mission. In addition, there were trading posts at Vinasale and Kolmakof and missions at Ogavik and Quinhagak. 8/

During the gold rush period in the 1900s and 1910s, a number of white settlements were established in the basin. About 1904, Frank Joaquin, Charles A. Fowler, and Adams H. Twitchell bought Edward Lind's trading post at Bethel and in 1909 incorporated themselves as the Kuskokwim Commercial Company. The company subsequently established stores at Georgetown, Parks, Takotna, and McGrath. Several independent traders, such as George Hoffman at Napaimiut and George Fredericks at Georgetown, also opened trading posts along the river during the early 1900s. Several large companies, namely the Northern Commercial Company and the U. S. Mercantile Company of Nome, also established stores in the area. 9/

Few settlements in the Kuskokwim basin were located at mining sites until the large mining companies replaced the smaller operations after World War I. Mining towns were established at Nyac on Bear Creek during the 1920s, Goodnews Bay during the 1930s, and Red Devil on the Kuskokwim River during the 1940s.

Prior to the 1940s, when mining and trapping were the major economic activities in the lower Kuskokwim area, fewer than two hundred non-Natives lived along the lower and central river. These included miners, trappers, traders, missionaries, and government personnel. During World War II, military construction projects and the mining of mercury deposits brought more non-Natives to the Kuskokwim basin.

NIKOLAI VILLAGE

The earliest winter villages in the upper Kuskokwim basin were located on the Swift Fork, the Slow Fork, the East Fork, and the South Fork of the Kuskokwim River, as well as on the Big and Takotna rivers. Located on the South Fork, Nikolai Village was the first to be visited by white men. Today, it is the largest Indian community in the basin.

Recent anthropological investigations reveal that the village of Nikolai was relocated at least twice since the early 1880s. "First Old Nikolai" (NE $\frac{1}{4}$, T. 33 N., R. 26 W., S.M.), occupied throughout the year, was located near the mouth of the Little Tonzona River, a salmon-spawning stream. Its location permitted ready access to hunting grounds in the foothills, and occasional trips by groups of ten or more to the trading post at Susitna Station. Contemporary with this village were others near Farewell Lake and on an unnamed tributary of Little Tonzona River. The former village was occupied during the fall and winter hunting excursions; the latter may have been a fish camp.

According to Elizabeth F. Andrews, an anthropologist at the University of Alaska, traders ascended the South Fork in a steamboat sometime in the late

1880s. The steamboat ran aground some distance below the winter village. The Nikolai band thus moved their village to the steamboat landing to found "Second Old Nikolai" (SW $\frac{1}{4}$, T. 28 S., R. 24 E., K.R.M.), the same village reported by Herron in 1899 with a population of six adult males. The site was continually subject to floods and so, following an influenza epidemic which decimated their numbers, the Nikolai band relocated their village to higher ground a short distance downstream in 1918. 10/

Andrews' account differs substantially with that of Edward H. Hosley, another anthropologist who spent two summers in the basin in the early 1960s collecting information for a dissertation on the McGrath Ingalik. According to Hosley, winter villages were located on Farewell Lake, the middle South Fork, and near the mouth of Little Tonzona River. By 1900, the village near the Little Tonzona River was evidently the established village. In early 1901, the first Orthodox priest visited the area, and held services at the village. In the fall of that year, six prospectors on a small steamboat ascended the South Fork as far as the mouth of the Little Tonzona River, and spent the winter at the village, trading for furs and prospecting for gold. The steamboat returned to the Kuskokwim River in the following summer.

For reasons not given by Hosley, the Nikolai band moved to "Old Nikolai Village," located about eight miles upriver from the present village site, about 1910. In 1914, a church was built at the village. Due to floods and subsidence, the village was relocated to its present site in 1924. A few years later a new church was constructed. 11/

Another version of the early history of Nikolai Village comes from Wendell H. Oswalt, also an anthropologist. According to Oswalt, there were at least two

villages on the South Fork in 1900. The oldest village, occupied by the Petruska and Dennis families, was located somewhere on the South Fork, probably above the Little Tonzona River; it was abandoned sometime in the years 1900 to 1905. In addition, there was a village near the mouth of the Little Tonzona River. Apparently this was the village visited by Spurr in 1898 and seen from afar by Herron in 1899. In 1892 or 1902, a Russian Orthodox priest visited the village, and advised the Indians to move to a place where a John Holton and four traders were wintering on a steamboat. The Indians heeded the advice, and a chapel was built in the new village.

The village was repeatedly flooded, and so about 1916 the Indians began to move the village to its present site. Visiting the place in 1919, John H. Kilbuck, a Moravian missionary on the lower Kuskokwim River, described the village as a "potlatch center" with a population of nine, and reported that a white man named V. Van Pelt had been living there for at least five years. 12/

The historical record bears out much of the substance of these accounts, although there are considerable discrepancies in the details. There is, for example, no available record that a steamboat ascended the South Fork in the 1880s. It is extremely doubtful that a steamboat even reached the South Fork, considering the state of economic developments in the region at that time. Moreover, no record has been found that the steamboat which reached the South Fork in 1901 actually ascended the South Fork a considerable distance, although it is quite possible that it did. Late in the first decade of this century, traders did in fact ascend the South Fork in a steamboat. Interestingly enough, the name of the captain of the steamboat was Holtman or Holten.

The first known contact with the Nikolai band was made by the Spurr expedition of 1898. Descending the South Fork in canoes, the Spurr party sighted a camp of Indians on July 27. The Indians were "badly frightened" by the appearance of the white men, and it took some effort on Spurr's part to calm them before negotiating by means of signs--the Indians understanding neither Russian nor English--for an exchange of tobacco for fish. These were the only Indians that Spurr encountered on the South Fork, although he found many old hunting camps in the headwaters of the South Fork, and saw the remains of villages on the lower reaches of the South Fork. Having observed only one or two Indian families living together in small temporary camps in the basin, Spurr concluded that they were "a poor and scattered folk, wandering continually from place to place, and possessing no villages of any kind, not even such wretched ones as do the Eskimos of the lower river." 13/

On his reconnaissance map of the South Fork, Spurr indicated only one village on the river, probably the camp which he visited on July 27. Since Spurr did not illustrate the course of the Little Tonzona River, it is difficult to say whether the village was in fact Old Nikolai. It is known, however, that the village was located on the right bank of the river some distance from the foothills, for Spurr wrote on the day that he saw the camp that "the water suddenly grew slacker till it entirely changed its aspect and was a slow placid current flowing through silt banks." 14/ In the early 1910s, Alfred G. Maddren of the USGS used Spurr's map to prepare a new map of the upper Kuskokwim basin which showed one village on the left limit of the South Fork about eight miles above the mouth of the Little Tonzona River and another near the mouth of the Little Tonzona River. 15/

When in 1899 Herron traveled through the area, he observed two Indian villages, both deserted, on the Little Tonzona River. He later learned from the Indians at Telida that about twenty Indians occupied the winter village on Little Tonzona River, and even obtained the names of the adult males, one of them named "Nikoli" being the chief. On his map of the area, Herron located one village on the right bank of the South Fork at the mouth of Little Tonzona River. The other village was situated some distance upstream on an unnamed tributary of the Little Tonzona River. 16/ This village may have been a fish camp occupied annually by the Indians of First Old Nikolai. In more recent years, the families of Miska Alexia and Phillip Esai maintained a fish camp on the Itzulkashno, a tributary of the Little Tonzona River, located some twenty miles upstream from Nikolai. According to Hosley, the Itzulkashno is narrow and deep, permitting the use of traditional fishing structures, such as weirs. 17/

During the gold rushes to the Innoko River and later to Hartman River, Nikolai became an important station for travelers on the Rainy Pass trail. Crossing Rainy Pass from the Susitna side in early 1908, Walter L. Goodwin of the Alaska Road Commission found Chief "Nicholi" and two women at "Nicholis," which Goodwin supposed was at the mouth of Little Tonzona River, although he did not actually see the river. Nicholi guided the Goodwin party to "Nicholomas," a village on the Kuskokwim River opposite the mouth of Big River, about twenty miles distant by trail. Goodwin may have underestimated the distance between the two villages, for in March 1909 W. E. Priestley went over the trail from Big River to Nikolai on his way to Rainy Pass, and estimated the distance at thirty miles. Priestley met and photographed the chief known as Old Nikolai, who was part Russian and had spent several years at one of the Russian missions on the Bering Sea coast. According to Priestley, the chief stated that he had once gone to Susitna River by way of the winter trail. 18/

As the volume of traffic on the Rainy Pass trail increased, white traders apparently established a trading post and perhaps a roadhouse near Nikolai Village. In 1909 and again in 1910, traders ascended the South Fork a distance of thirty-five miles in the small steamboat May D. About the same time, Hudson Stuck learned that there was a roadhouse at Nikolai, located about forty miles above the junction of the North and South Forks. 19/ In early 1911, the Alaska Road Commission cut a new trail from Big River to Rainy Pass which bypassed Nikolai Village. Despite the loss of traffic, the trading post continued to be operated by a George VanPelt, who was in charge of the post in 1914. The post may have been operated until the early 1920s, for in 1922 a Leonie Nohl VanPelt was attempting to obtain compensation for services as a teacher at Nikolai from the U.S. Bureau of Indian Education. 20/

Beginning in the winter of 1921-22, Nikolai Village again became a station on a winter trail, this time the Nenana-McGrath trail. A roadhouse owned by Theodore Pitki, was located in the village, which was twenty-one miles by trail from the Big River roadhouse, nine miles from the East Fork cabin, and twelve miles from Medfra. 21/ In the winter of 1923-24, the Alaska Road Commission constructed a trail from the East Fork cabin directly to Medfra, thereby diverting most traffic away from Nikolai. Some travelers continued to take the old Nenana-McGrath trail via Nikolai as late as 1926. 22/

Present-day Nikolai is located about fourteen miles by winter trail from Medfra, or thirty-five miles by river. In the late 1940s, a Territorial school was constructed at the village; and in the early 1960s, an aviation field for small airplanes. The field was built at a site several hundred yards north of the village. The village itself is located mostly on high ground, rising about twenty feet above

the bed of the South Fork and sloping to a bank, eight feet high, which drops into a shallow slough. The slough is separated from the main channel of the South Fork by an island, which is flooded at times of high water. In 1960, the village consisted of about twenty families in about eighteen log cabins. 23/

TELIDA VILLAGE

According to several anthropologists, the village of Telida was relocated at least twice. The earliest winter village, known as the "1899 village" which Herron visited that year, was located about one mile by trail, or three miles by river, downstream from Carl Seseui's fish camp on the Swift Fork of the Kuskokwim River. In 1900, the Swift Fork changed its course, and so the Indians relocated to "Old Telida," which was about one-half mile upstream from Seseui's fish camp or about one mile above Telida Creek. Sometime in the late 1910s, the Indians moved their village to its present location, which became known as "New Telida." However, Old Telida continued to be occupied by the Seseui family until about 1935 when floods forced the family to move to New Telida. 24/

Anthropologist Edward H. Hosley writes that the Indians of Telida encountered white men long before the Herron expedition of 1899 visited the village. Carl Seseui informed him in the early 1960s that sometime in the mid-1800s his grandfather traveled to Russian Mission on the Yukon River and returned with the first samples of tea known in the upper Kuskokwim basin. 25/ Nevertheless, it is fairly certain that Lieutenant Herron's party were the first white men to visit the village. Herron and his men remained at the village for most of November 1899 before traveling by dogsled to Fort Gibbon at the mouth of the Tanana River. Herron recorded that the village consisted of seventeen people in four families and a cemetery with one grave. 26/

In subsequent years, few white men visited the village since it was not on an established route of summer travel. Prospectors and trappers on the North Fork, however, sometimes encountered Telida Indians on the river. More than one white man reported meeting "Chief Soo Suey," "Sheshuey," "Shesuie," or "Karl Sesouie" near the mouth of the Swift Fork. Lee R. Dice, a game warden, met Seseui near the mouth of Swift Fork in June 1912, and learned that his village of Telida was located about ten miles overland or twenty-five miles by river up the Swift Fork. Taking the winter trail from Lake Minchumina to Takotna and Iditarod in the winter of 1913-14, Hudson Stuck may have visited the village. In Iditarod, he reported that many Indians in the upper Kuskokwim basin had been struck hard by disease. In 1913, the adults were ill with measles; and in 1914 the children suffered from diptheria. In one village, he said, fourteen children died in one night. 27/

Beginning in the late 1910s, the village received increasing numbers of visitors. In 1918, an Orthodox chapel was constructed at Old Telida, and a priest frequently traveled to the village for services. A group of Indians generally accompanied the priest on the journey up the North Fork and Swift Fork. 28/ When in the winter of 1920-21 the Nenana-McGrath trail became the popular route of winter travel between the government railroad and the Kuskokwim drainage, several hundred travelers were to visit the village each year. A roadhouse was established at New Telida; it was operated by a Sergio and the daughter of old Wassalei, who charged visitors \$1.50 for each meal. The roadhouse may have been operated as late as 1930. 29/

In June 1949, several archaeologists of the University of Alaska visited Telida village, having been informed by B. A. Stone, a local trapper, of old village

sites in the vicinity of Lake Telida. The archaeologists flew from Fairbanks to Lake Telida but found no one at New Telida upon their arrival. In early July, however, Carl Seseui arrived in a motor boat from the lower Swift Fork. About sixty years old in 1949, Carl Seseui was born near Lake Telida and had spent his life in the area. Besides his wife, mother, and a young girl, Seseui was the only permanent resident at New Telida. Each summer the family lived at a fish camp near the mouth of a stream draining Lake Telida where they netted and trapped whitefish. In July or early August, the Seseui family would sometimes be joined by another family of three persons, who also fished. During the winter, the Seseui family resided at New Telida, which consisted of cabins, a steambath, caches, doghouses, a church building, and a cemetery. The archaeologists described Old Telida as a small winter village consisting of two cabins, a church building, fish racks, and a cemetery. They reported no structural remains at "1899 Telida." 30/

Anthropologist Edward H. Hosley spent two weeks with Carl Seseui at Telida during the summer of 1962. New Telida was then occupied by three families. The Indians customarily spent the summer fishing with gill nets at Seseui's fish camp. A school was operated at the village from 1976 to 1979. 31/

BIG RIVER VILLAGE

Located on the Kuskokwim River opposite the mouth of Big River, this village was occupied, according to one anthropologist, as early as 1901. When George B. Gordon passed through the area in the summer of 1907, he found a small Indian camp at the mouth of the river, which the Indians called Keklone. In early

1908, Walter L. Goodwin was guided by Chief Nikolai of Nikolai Village to "Nicholomas," which was then occupied by only one family, although there were Indians on several branches of Big River. In the following year, it was reported that the family of Esi occupied the village. 32/

From the early 1910s to about 1935, the village was occupied by the extended family of Esai. During these same years, a roadhouse and trading post was located near the village. The Esai family subsequently moved to Nikolai Village, but anthropologist Wendell H. Oswalt writes that two or three Indian families continued to live year-round at the place until the early 1960s. 33/

SALMON RIVER VILLAGE

For many years a small band of Indians occupied a fish camp at the mouth of Salmon River. After a roadhouse was established near the camp in 1910, the Nick Pitka family evidently occupied the site throughout the year. Sometime in the 1920s, the Indian family moved to Old Nikolai. The census records of 1920 indicate a population of seventeen Indians, or a total population of twenty people, on the Salmon River. Today, an Indian named Miska Deaphon maintains a fish camp near the mouth of the river. 34/

BIG CREEK VILLAGE

This small village was located on the upper Takotna River, near the mouth of Fourth of July Creek. First reported in 1908 by Alfred G. Maddren, the village was, according to oral tradition, abandoned following an epidemic in the early 1900s, some of the Indians moving to Vinasale, some to Telida, and others to villages on the middle and lower Kuskokwim River. The census records of 1920

indicate, however, a population of five Indians on the Takotna River, possibly at the village. Later, the family of Wasillia moved to some point on the Nixon Fork and remained there until all the adults died in the 1930s. 35/

SLOW FORK VILLAGE

This village was located on the Slow Fork near the mouth of Tonzona River. According to anthropologist Elizabeth Andrews, the village was once located on the Slow Fork opposite the mouth of a branch of the Tonzona River in Sec. 10, T. 26 S., R. 27 E., Kateel River Meridian. The Slow Fork Roadhouse was also located at this site. After the mail trail was abandoned and after repeated flooding of the site, "Elufa Ivan" and his family moved a short distance west to a site on the west bank of the Slow Fork in Sec. 9, T. 26 S., R. 27 E., Kateel River Meridian. Current USGS maps depict a cabin and an airplane landing strip at this site.

Andrews' account conflicts with that of Hosley. According to Hosley, a village on the Slow Fork was abandoned shortly after 1910, and the Evans family moved to Old Nikolai. However, there are records indicating that the village or one near it was occupied until the early 1930s. During the 1920s, travelers on the Nenana-McGrath trail noted the existence of a village and roadhouse on the Slow Fork, located about seventy-six miles from McGrath on the McGrath-Nikolai-Slow Fork trail. U.S. Geological Survey maps place the roadhouse and village northwest of Dennis Creek Village. In 1933, a government official learned from A W. Berry at Medra that eight Natives, including "Elufa Evan," lived on the Slow Fork. 36/

DENNIS CREEK VILLAGE

The exact location of this village is unknown. In 1899, Herron found a winter village consisting of a cache and a graveyard a short distance beyond Lake Hoyle, near the confluence of Dennis Creek and Tonzona River. He later learned that the cabins belonged to the Telida Indians. According to Hosley, the family of Old Man Dennis moved from Tanana on the Yukon River to the East Fork of the Kuskokwim River about 1905 and established a small village on the Shisnona River. Inasmuch as the Slow Fork was known as the Shisnona River in the 1910s, it is possible that the Dennis family located their village near what anthropologists refer to as the Dennis Creek village. Hosley wrote that the Dennis family moved to Old Nikolai in 1918. In March 1919, however, Stephen Foster noted that an Indian named Dennis resided on the East Fork, about eighty-four miles from McGrath. The village was reportedly abandoned in 1937. 37/

McGRATH

Located on the left bank of Takotna River near its confluence with the Kuskokwim River, McGrath was founded during the height of the gold rush to the Innoko River in 1907 when two traders named Peter McGrath and Abraham Apple established separate stores at the place. McGrath was a former deputy Marshal at Nome; he was subsequently appointed the U.S commissioner for the Innoko district in which capacity he served for several years. He was succeeded by Wilbur F. Green, a dentist, who held the position for many years. "Abe" Apple, after whom Appel Mountain was probably named, remained in McGrath as a storekeeper as late as 1912, and probably later. 38/

Until the late 1910s, McGrath was a small settlement even by local standards. Trappers, hunters, and prospectors customarily gathered at the place during the holidays to celebrate and in the spring to trade. In 1908, one writer described the settlement as a rendezvous point for about twelve men who devoted most of their time to hunting and fishing. 39/ Visiting the place in the summer of 1910, Anton Eide found "a couple of small stores, a number of log cabins, a roadhouse and half a dozen inhabitants, although when [he] passed through there were some 20 or 30 campers there temporarily." 40/ In 1912, Lee R. Dice, a game warden, found only three or four cabins in the settlement, which he noted was sometimes called "Appel." 41/ Notwithstanding its size, McGrath was a thriving settlement during these years. About 1911, the Northern Commercial Company located a store at the place, and in the following year local residents attempted to obtain a school. In 1913, the settlement obtained a post office. While the town was primarily dominated by mercantile businesses, there was some effort to develop agriculture. One of the more successful farmers, D. W. Sprague, had a small farm on the left bank of the Kuskokwim River, opposite the McGrath post office. His crop consisted mainly of potatoes, which he sold to the mining camps at a net profit of ten cents a pound. In the summer of 1914, he produced more than six tons of potatoes. 42/

With the development of dredge mining on Candle Creek and the upper Innoko River and hard-rock mining on Nixon Fork, resulting in the shipment of large amounts of freight to the upper Kuskokwim River, McGrath soon became the major supplier of goods to local miners and prospectors. Large steamboats operating on the Kuskokwim River discharged freight at McGrath for shipment in small steamboats and launches to Takotna. Not long after the Alaska Wireless Telegraph Company established a radio station at McGrath in 1917, a telephone

line was erected from McGrath to Candle Creek, where connection was made with the line of the Kuskokwim Dredging Company to Takotna. In 1921, a newspaper called The Kusko Times began publication at McGrath. Following the disastrous spring floods of 1921 and 1922, the Signal Corps decided in 1923 to remove the radio station to Takotna. The press of The Kusko Times was moved to Takotna at the same time. 43/

Following several damaging floods in the late 1930s, the town began to move to its present site in the winter of 1938-39. Four years were required before the move was completed. The bulk of the local population resided in the new town, although Old McGrath continued to be occupied by some people for many years, some as late as the 1960s. Writing in 1941, a local school teacher described the town as consisting of two roadhouses and three general stores, with a population of about 120 people, the majority being Natives. 44/

During the 1930s, the economy of McGrath lagged significantly with the gradual decline of mining in the area. During World War II, however, the military constructed facilities and roads in the area, thus offering plentiful employment opportunities to local residents and insuring McGrath's future as the transportation center in the upper Kuskokwim basin. In 1942 and 1943, the military constructed housing for thirty-three officers and 148 enlisted men, motor repair shops, and a hospital unit at a site about one-quarter mile from the townsite. Also, the Civil Aeronautics Administration constructed a modern aviation field, consisting of two paved cross-runways suitable for landings by cargo airplanes such as DC-4s. 45/

By the late 1950s McGrath was the supply center for all mining and construction activity in the area. The village consisted of two grocery and general supply

stores owned by the Northern Commercial Company and managed by Einar Urgan and Margaret Maspelt; the McGrath Trading Post owned and operated by Peter Egrass and T. Eugene Tibbs; a roadhouse; the Harris Inn; two churches; two lumber mills owned and operated by Tibbs and Albert Ivey; a Territorial Health Center; and the offices of the U.S. Bureau of Land Management, Fish and Wildlife Service, and Weather Bureau. An Air Force radar control site, constructed in the early 1950s, was located on nearby Tatalina River. Northern Consolidated Airlines and Alaska Airlines made daily stops at the village. 46/

TAKOTNA

Also known as Berry Landing and Portage City in the late 1900s, Takotna was founded in the summer of 1908 by the Kuskokwim Commercial Company at the head of navigation for small steamboats and launches on the Takotna River. There freight was discharged, and taken to Ganes Creek and Ophir by packhorse. When in early 1908 Walter L. Goodwin visited the place, he found "about a dozen new cabins and many caches." 47/ Several months later, the Kuskokwim Commercial Company established a store at Takotna, and proceeded to improve the trail to Ophir for sled travel. In the summer of 1910, D. H. Sleem, a surgeon with the Alaska Northern Railway, found twenty cabins, two roadhouses, and the store of the Kuskokwim Commercial Company at the place. Visiting "Tocotna City" about the same time, Anton Eide wrote that the settlement was located on a high bank on the north side of Takotna River. The settlement was the chief station of the Kuskokwim Commercial Company, and besides the company store consisted of two roadhouses, and "12 or 14 other substantial log houses." By 1919, the town boasted about fifty houses, including a post office, several roadhouses, and a Northern Commercial Company store. 48/

The fortunes of the settlement were linked to those of the mining camps in the Innoko district. During the 1910s and 1920s, the town enjoyed prosperity. In 1923, a radio station was established in the town, and the presses of The Kusko Times were moved from McGrath to Takotna at the same time. In 1921, the Alaska Road Commission established its district headquarters there, and subsequently improved the Takotna-Ophir road and constructed an aviation field near the settlement.

During the late 1920s, Takotna was seriously challenged by McGrath as the major supplier of the upper Innoko mining camps. Whenever the water in the Takotna River was low, steamboats were unable to reach the town. As a result, local residents appealed for the construction of a road from the settlement to deep water at the Forks or to the Kuskokwim River. In 1928, the Northern Commercial Company quit Takotna, selling most of its property there to F. C. H. Spencer. Ten years later, the Alaska Road Commission completed construction of the Sterling Landing-Takotna road, which became the principal route of travel to mining camps on the upper Innoko River.

In the late 1950s, the place consisted of a post office, the headquarters of the U.S. Bureau of Public Roads, and the Igloo roadhouse. No other commercial establishments were located there. Local children attended the McGrath school. Alaska Airlines served the community three times a week, transporting mail and supplies in a Cessna 180 (capacity 750 pounds). 49/

FORKS

Located near the confluence of Nixon Fork and Takotna River, Forks was an intermediate point on the steamboat run between McGrath and Takotna. Large

steamboats operating on the Kuskokwim River usually ascended the Takotna River to Forks, where freight was then unloaded for shipment to Takotna in smaller boats during the summer or in sleds during the winter. Passing the place in the summer of 1910, Anton Eide found "large warehouses of the Kuskokwim Commercial Company, a store, roadhouse and [a] dozen other cabins." Two years later, however, Lee R. Dice counted only six cabins at the place. For many years "Gasoline Nick" Nystrom lived at the place. Sometime in the late 1920s or early 1930s, the place was abandoned. The buildings were later destroyed in a fire. 50/

BOERNER

In 1910, the Northern Commercial Company constructed a warehouse on the Takotna River, about two miles below Forks. The place was named after Clifford "Kippy" A. Boerner, the master of the steamboat Lavelle Young who with his wife and several assistants managed the post. The place was abandoned a short while later. 51/

MEDFRA

Originally known as Berry's Landing, Medfra was a landing for steamboats hauling freight to and from the Nixon Fork mines. The settlement was linked to the mines by a wagon road. In the late 1910s, F. C. H. Spencer established a store at the place. Then, in the winter of 1920-21, Arthur W. Berry relocated his roadhouse business from Big River to the place, and subsequently acquired the business of Spencer. Berry remained at Medfra, operating a roadhouse, store, and mink farm until 1931. At that time, he sold his business to C. M.

Winans, a miner with hydraulic mining interests on Hidden Creek. After moving the store buildings and warehouses to higher ground, because the Kuskokwim River was rapidly cutting the banks away, Winans operated the business until his death. His wife Bertha continued to manage the business until 1964, when she sold the property to Jack Smith and retired to Fairbanks. Only one or two families presently reside at Medfra throughout the year. 52/

ROADHOUSES ON THE RAINY PASS TRAIL

In the winter of 1909-10, a number of roadhouses were constructed on what may be called the "old" Rainy Pass trail. This trail extended from Tatina River to Nikolai Village, and thence to Takotna by way of Big River, McGrath, and Candle Creek, before continuing up the valley of Takotna River to Moore Creek. Nothing is known about the roadhouses called "Guggenheim" and "Snug" on the trail between Tatina River and Nikolai Village, other than they were located approximately twenty-five and forty miles, respectively, from Nikolai. In the winter of 1910-11, the Alaska Road Commission relocated certain stretches of the trail, and roadhouses were constructed on the relocated trail. The "new" Rainy Pass trail extended from Tatina River to Farewell Mountain, and thence directly to the mouth of Salmon River before continuing to the Kuskokwim River opposite the mouth of Big River. From that point the trail went to the mouth of Crooked Creek, crossed the divide to Nixon Fork, generally followed that river to Boerner near the mouth of Nixon Fork. The trail then followed the Takotna River valley to Takotna and Moore Creek. Roadhouses on the "old" trail between Big River and Tatina River were abandoned. The roadhouses described below were located on the "new" Rainy Pass trail.

Rohn River Roadhouse

Located near the mouth of Tatina River, this roadhouse was one of several constructed along Tatina River in the fall of 1910. The first proprietor was "Big John" O. Strand, who spent his summers prospecting on Otter Creek in the Iditarod district. In the winter of 1914-15, he joined C. Edward Cone in a prospecting venture on Hartman River. Evidently Strand sold his roadhouse business, for it was reported that a Joe Vogler was the proprietor during the winter of 1913-14. 53/ In subsequent years, the roadhouse changed hands frequently. In 1917, the proprietors were the "Richards Brothers," and in 1920, Joe Blanchell, who was also the proprietor of Pioneer Roadhouse. In 1918 or 1921, Robert R. Jones and W. James Davidson assumed ownership.

During the summer of 1923, Davidson and Jones performed contract work for the Alaska Road Commission, cutting the right-of-way and grading the trail in Dalzell Canyon. A few weeks later Jones left the area to establish a roadhouse on the East Fork of the Kuskokwim River. Davidson and Einar Carlson operated the roadhouse in the winter of 1923-24. In May 1924, the roadhouse was destroyed by fire. 54/

Both Davidson and Carlson remained in the vicinity of Tatina River as trappers. Davidson may have left the place in the late 1920s, the local newspaper last mentioning his name in 1928. Carlson remained until the late 1930s and possibly later. In 1937, he announced plans to abandon a cabin near the old Farewell Roadhouse, and to build a new one on Farewell Lake in the fall. One year later, M. C. Edmunds noted the existence of a trapper's cabin near the mouth

of Tatina River. He stated that it was used by people in emergencies. The Civilian Conservation Corps later built a shelter cabin in the timber on the west end of the emergency aviation field near Tatina River. According to Margaret Mespelt, a long-time resident of McGrath, Carlson periodically used the Tatina River cabin until the late 1940s. 55/

Pioneer Roadhouse

Located about nineteen miles from Rohn River Roadhouse, this roadhouse was constructed during the winter of 1910-11. The roadhouse was originally known as Farewell Mountain Roadhouse and later as French Joe's Roadhouse, after the builder and proprietor Joe Blanchell, a French-Canadian. One of the more popular of the roadhouse keepers on the trail, Blanchell was the first man to carry the mail across Rainy Pass in November 1914. He frequently advertised his roadhouse in the Iditarod, McGrath, and Takotna newspapers, offering mountain sheep, moose, and bear when in season to his clients and "dog bacon" and fish for the sled-dogs. About 1914, he renamed his establishment as "Pioneer Roadhouse," which Harry Brink, who purchased the business in 1923, continued to use. When the trail was abandoned as a mail route, the roadhouse was closed for business. Local trappers W. J. Davidson and Einar Carlson occupied the place during the 1920s, and Carlson alone during the 1930s. The old roadhouse site is presently occupied by four log buildings, about one mile southeast of Farewell Lake Lodge, a resort for hunters, photographers, and tourists. 56/

Peluk Roadhouse

While encamped near Farewell Mountain in January 1911, Walter L. Goodwin wrote a letter to a friend in Iditarod describing the work of the Alaska Road Commission

on the Rainy Pass trail from Salmon River to the mountain. He mentioned in passing that two men named Ben Anderson and "Billy-the-Horse" Elliott had followed his crew, selecting roadhouse sites and were at the time building roadhouses at Salmon River and Radiator Creek. The latter roadhouse, known as Radiator Creek Roadhouse, Peluck Creek Roadhouse, and finally Peluk Roadhouse, was located approximately nineteen miles from Pioneer Roadhouse and twenty-one miles from Salmon River Roadhouse. 57/

During the winter of 1913-14, Joe I. Wills, who first entered the upper Kuskokwim basin in 1910, occupied the place apparently on a temporary basis, even though local newspapers reported the cabin to be vacant. Sometime after 1915, the roadhouse was taken over by Frank R. Cioli, who remained at the place until 1928 or 1929. In 1928, Cioli solicited a contract from the Alaska Road Commission, proposing to grade the winter trail for one and one-half miles on both sides of Sullivan Creek. Joe I. Wills may have returned to the place in the mid-1930s, and used the former roadhouse as his headquarters for trapping. The roadhouse buildings were destroyed in a forest fire in August 1976. 58/

Sullivan Creek Roadhouse

Located approximately nine miles from Peluk Roadhouse and twelve miles from Salmon River Roadhouse, this roadhouse was constructed sometime during the winter of 1910-11, probably by "Billy-the-Horse" Elliott and Ben Anderson. 59/ Anderson was the proprietor in the winter of 1913-14. The roadhouse was subsequently abandoned, probably due to lack of business. It was possible to travel between Peluk and Salmon River in a day's time. The abandoned roadhouse may have been used sometimes by prospectors and trappers. In November 1914,

for example, John O. Strand and C. Edward Cone established their headquarters at the approximate location of the roadhouse. 60/

Bear Creek Roadhouse

Little is known about this roadhouse. According to Miska Deaphon of Nikolai, the roadhouse was operated in the years 1914 to 1916, when it closed due to poor business. The placename appears on Alaska Road Commission maps dated 1913 and 1916. 61/

Salmon River Roadhouse

Constructed in the winter of 1910-11, this roadhouse was located near the mouth of Salmon River, approximately seventeen miles from Berry's Roadhouse and twenty miles from Peluk Roadhouse. Percy Bodey and a certain Ainge were the proprietors in the winter of 1911-12. One or two years later, Frank Fox, popularly known as "the Turk," took over the business in partnership with "White Dog" Smith, who operated a roadhouse at Takotna. In the fall of 1914, Fox and William E. Geiger, a steamboat captain associated with the Northern Commercial Company, constructed a trail from Salmon River to McGrath, thereby putting the latter town on line with the principal winter route of travel in the basin. 62/

Fox is known to have operated the roadhouse as late as 1919. Thereafter the place changed ownership frequently. A Charlie White may have occupied the place in the mid-1920s, and Peter Snow's name was mentioned in connection with the place in 1921 and again in 1935. The roadhouse buildings were destroyed in a fire in 1977. 63/

Big River Roadhouse

About 1908 a small trading post called "Kempton" was constructed on the Kuskokwim River, opposite the mouth of Big River. Two years later it was reported that "Berry's Post," presumably named after Arthur Berry, was located near the mouth of Big River. Beginning in the winter of 1910-11, the post was a popular stop for travelers bound to Seward or Hartman River via Nikolai Village, located about thirty miles by trail from the post. With the construction of the Farewell Mountain-Salmon River trail, and the subsequent adoption of the trail as a mail route, the post became an important stop for travelers, and a post office was operated there in 1917-18. A roadhouse was constructed at the place, probably by Berry, who hired someone to oversee the roadhouse business while he remained in charge of the trading post. The roadhouse was reportedly operated by a Sherwood in 1917. It was located about seventeen and one-half miles from the Salmon River Roadhouse. 64/

In the winter of 1920-21, Berry moved to Medfra and established a roadhouse and trading post there. The Big River Roadhouse was sold to "Diamond Dick" Rhodes; and the trading post, to Louis Gorman. During the remainder of the 1920s, the roadhouse was an important stop on the Nenana-McGrath trail. In 1923, it was reported that the roadhouse was 24.7 miles by trail from McGrath and 21.3 miles by trail from Nikolai. One traveler reported that it took only five and one-half hours to drive from Medfra to the roadhouse, and less than a day from the roadhouse to Nikolai. The roadhouse could accomodate as many as eleven people for the night. In 1928, the roadhouse was reported to be eighteen and one-half miles by trail from Medfra, or twenty-two miles from McGrath. 65/

In 1927, Rhodes sold the roadhouse to Joe Condry. Condry and his wife operated the roadhouse and trading post as late as 1935. 66/

Grayling Creek Roadhouse

Located on the Kuskokwim River near the mouth of Grayling Creek, approximately ten miles from Berry's Roadhouse and thirteen miles from Boerner, this roadhouse was owned and operated by Sam Nesvoog in the early 1920s. The census records of 1920 indicate a population of three white people and five Indians at the place. Precisely when the roadhouse was founded is unknown. The local newspaper indicated the existence of a cabin near the creek as early as 1911. 67/

Big Creek Roadhouse

In the summer of 1908, the Kuskokwim Commercial Company established two stores on the Takotna River. Once the store at Takotna was established, Arthur Berry, Archie Higgins, Louis Blackburn, and John Felder ascended Takotna River in two poling boats, each loaded with three tons of merchandise, to a point near the mouth of Big Creek or Portage Creek, where they established a second store. Known as Joaquin in 1908 and Berry's Station in 1909, the store served prospectors and miners in the vicinity of Moore City, a mining camp on Ganes Creek. 68/

Sometime in the winter of 1910-11, the trading post became "Whalen's Roadhouse" or the "Big Creek Roadhouse." It was located about fourteen miles by trail from Takotna or thirty-six miles from Moore Creek. In 1914, the proprietor was Benjamin Newman, the chief of the steamboat Quickstep; he advertised the

roadhouse in the local newspapers, offering dog kennels, horse barns, and fish for dogs. Evidently the roadhouse was operated until 1915 when travel on the Takotna-Iditarod trail practically ceased. In 1916, Archie Higgins was in the section, attempting to construct a wagon road up Big Creek to Ganes Creek for the Kuskokwim Dredging Company. 69/

Murray and Legin's Roadhouse

Located about twelve miles from Whalen's Roadhouse at the mouth of Big Creek, or twenty-three and one-half miles from Moore Creek, this roadhouse was established sometime in the winter of 1910-11. The roadhouse may have been renamed the "Halfway Roadhouse" in the winter of 1913-14. Operated by two men named Smith and Snow, the Halfway Roadhouse was reportedly located about twenty-two miles from Moore Creek. 70/

Stanford's Roadhouse

Established in the winter of 1910-11, this roadhouse was located about eighteen miles from Moore Creek. The first proprietor may have been a Mrs. Stanford, who in 1913-14 operated the Moore Creek Roadhouse. In the same winter, there was a "Lincoln Creek Roadhouse" on the trail at the approximate location of Stanford's Roadhouse. The Lincoln Creek Roadhouse was operated by a Jack Lovell. 71/

Mrs. Perry's Roadhouse

First reported in March 1911, this roadhouse was located about 1.63 miles from Moore Creek. Considering the fact that local newspapers failed to include the

roadhouse in tables of distances on the trail, it is likely that the roadhouse ceased business in 1911 due to its propinquity with the Moore Creek camp. 72/

Moore Creek Roadhouse

Also known as the Moore Creek Inn, this roadhouse was located less than fifty miles by trail from Iditarod and Takotna. A Japanese named Joe was the proprietor in 1910. Mrs. Stanford was the proprietor in 1914. 73/

ROADHOUSES ON THE NENANA-McGRATH TRAIL

Lone Star Roadhouse

This roadhouse was located approximately thirty-four miles from the Lake Minchumina Roadhouse or eighteen miles from the New Telida Roadhouse. It was established in the fall of 1923, the mail carrier Fred Milligan first noting the roadhouse in November of that year. In 1926, Lars Nelson was reportedly the proprietor. The roadhouse may have been operated as late as 1930, for in that year the Takotna newspaper noted the arrival of Herman Olson, Matt Bellin, and three women from the place. 74/

New Telida Roadhouse

Located approximately sixteen miles from the Slow Fork Roadhouse, or one-half mile southeast of the village of New Telida, this roadhouse was opened in the winter of 1922-23. According to E. Coke Hill, the mail contractor, the roadhouse was operated by Indians. He said that the roadhouse was "kept very clean and

the meals are better than in many roadhouses run by whites." 75/ The rates were \$1.50 per meal. In April 1923, one traveler reported that Sergio and old Wassalei's daughter operated a two-cabin roadhouse at New Telida. It was about a day's drive from the East Fork Roadhouse. 76/

Tent Roadhouse

In the winter of 1923-24, two unidentified white men operated a roadhouse business in a tent at a place about ten miles from New Telida or six miles from Slow Fork. They planned to construct a frame structure at the place, but failed to do so. The roadhouse was abandoned, doubtless due to lack of business. 77/

Slow Fork Roadhouse

This roadhouse was located approximately sixteen miles from New Telida and twenty miles from the East Fork Roadhouse. According to one traveler, it was a "fairly good roadhouse" operated by an Indian. Elizabeth F. Andrews, an anthropologist, reports that the roadhouse was located near Slow Fork village in SW $\frac{1}{4}$, Section 10, T. 26 S., R. 27 E., Kateel River Meridian. The roadhouse and village were relocated a short distance to the southwest when the original site was inundated by floodwaters. The roadhouse was operated by Ilufa Ivon, whose widow resided at Nikolai in 1977. 78/

East Fork Roadhouse

The East Fork Roadhouse was located approximately twenty-two miles from the Slow Fork Roadhouse, ten miles from Nikolai Roadhouse, and twenty-one and

one-half miles from Medfra. During the winter of 1922-23, travelers reported only a cabin at the site. In the summer of 1923, however, Robert R. Jones and Carl Forsberg constructed a roadhouse at the place. Forsberg died at the roadhouse in April 1925, and was buried nearby. In November 1928, an Indian found Jones dead at the place. The roadhouse was subsequently taken over by Joe Oates, who in 1930 sold the property to "Diamond Dick" Rhodes. Rhodes operated the roadhouse and trading post in the winter of 1930-31, closing it in June 1931 for the summer. According to Andrews, the roadhouse and cabin were destroyed by fire. 79/

Nikolai Roadhouse

During the winters of 1909-10 and 1910-11, Nikolai Village was an important stop for travelers on the Rainy Pass trail. A roadhouse was located near the village; it may have been operated by George VanPelt, who is known to have had a trading post in the village from 1914 to 1919, and possibly later. The location of the roadhouse was reported by various travelers to be twenty miles, thirty miles, and thirty-five miles from the Big River Roadhouse. 80/ The roadhouse probably ceased operation when the Rainy Pass trail was relocated in the winter of 1910-11.

In 1922, Nikolai again became an important station for travelers, this time on the Nenana-McGrath trail. An Indian opened a roadhouse with dog kennels for business. The roadhouse was located about twenty-one miles by trail from the Big River Roadhouse and ten miles from the East Fork cabin. The place was operated as late as 1926. 81/

VINASALE

In late May 1844, Zagoskin and Lukin ascended the Kuskokwim River in baidarkas from Kolmakov Redoubt to Vinasale where Russian traders annually met upriver Natives to trade. According to Zagoskin, nine people in two families lived at the site during the summer. One of the Natives, he observed, had traded with the Russians for some years. The Russians continued to trade at Vinasale until 1866. After Separe reopened the Kolmakof post in 1870, he hired Nicholas Dementoff and later Evan I. Andreanoff to conduct trade at Vinasale. By 1890, a cabin and store stood at the site. Eight years later, USGS explorer J. E. Spurr stopped at Vinasale and reported that it was temporarily abandoned. Shortly after 1898 the post was closed. 82/

GREGORYS

This site is located on a dead-end slough about five miles south of Vinasale Mountain. U. S. Geological Survey maps indicate this site to be that of Vinasale. Anthropologist Wendell H. Oswalt reports, however, that local residents believe Vinasale site to be located directly below the base of Vinasale Mountain, and that the site identified by the USGS as Vinasale was the home of the Gregory family before they moved to Nikolai Village about 1935. Structures at the site today include two cabins, two caches, and the remains of numerous dog barns. 83/

STONY RIVER VILLAGE

Sometime in the 1920s, Ora Barnhardt opened a trading post on the north bank of the Kuskokwim River opposite the mouth of Stony River. The post became

the outfitting station for trappers and hunters on Stony River. After Barnhardt's death in 1933, the post continued to be operated at the site. In 1960 and 1961, several Native families from Lime Village built cabins around the trading station. In 1978, the population of the village was fifty-five, including ten non-Natives.

84/

LIME VILLAGE

Lime Village, also known as Hungry Village, is located on the south bank of Stony River near the mouth of a small unnamed canyon, about fifty miles from the river's mouth. According to anthropologists, in the late 1700s, Tanaina Athapascans from the Lake Clark area established a village on the river about three miles from the present settlement. In 1907, several families reportedly lived at the present site. In 1925, more than twenty-five families from Sleetmute moved into the lower Stony River country, perhaps to settle at Lime Village where a large number of caribou was located. The village was first listed in the 1939 census with a population of thirty-eight. In 1979, about forty people resided in the village. 85/

KONGOLLON

The exact location of Kongollon is unknown. According to Philip S. Smith of the USGS in 1914, the trading post was located on Stony River, nearly north of Whitefish Lake. The half-breed trader obtained most of his supplies from Sleetmute, and catered mostly to Natives, some of them from the Lake Clark area. Smith noted that in 1914 supplies at the post were nearly exhausted "and probably could not be replenished until very late in the season, so that some of the natives planned to migrate from Kongollon to Lake Clark." 86/

MOOSE CREEK

Located a mile and a half downriver from Stony River Village, a trading station and riverboat landing called Moose Creek was known to exist in 1923. Anthropologist Ales Hrdlicka stated that Sergie Andreanoff, a Russian, lived at the site in 1930. Another anthropologist, Wendell H. Oswalt, learned from several informants that a Moose Creek camp existed in the 1880s and 1890s and again in the late 1970s. 87/

SLEETMUTE

One of the major communities on the Kuskokwim River, Sleetmute is situated on the right bank of the Kuskokwim River opposite the mouth of Holitna River.

Occupied by both Kuskowagamiut Eskimo and Ingalik Athapaskan peoples, the village was long the supply center for trappers and miners operating on Holitna River. In 1906, Frederick Bishop opened the first trading post in the village. Several other stores have since operated there. One post, known as Mellick's, is located on the left bank of the Kuskokwim River, a short distance above Sleetmute. From a population of nine in 1900, the village grew to 157 people, including forty-one non-Natives, in 1978. 88/

WHITEFISH VILLAGE

Whitefish Village was located on a lake of the same name on the headwaters of the Hoholitna River. Little is known about the village other than that in the winter of 1928-29 George Hoffman, the U.S. commissioner at Napaimiut, and a jury traveled to the village to investigate a murder and hold an inquest. 89/

ITULILIK

Located on the east bank of the Holitna River, about twenty-two miles from its mouth, this village was listed in the census of 1900 with a population of eight. From at least 1900 to the 1950s, three or four Ingalik Athapaskan families periodically resided at the site. The village has been deserted since 1967. 90/

KASHEGELOK

This Athapaskan village is located on the east bank of the Holitna River just below the mouth of the Chukowan River. Appearing on W. R. Buckman's 1902 map of the Holitna River, the village was visited in the 1940s by Wallace R. Cady of the USGS who described it as "at least seasonally" occupied by Natives. The population of the village in 1967 was five. In 1979, two families permanently resided there. 91/

NOGAMIUT

Nogamiut Village is situated on the east bank of the Holitna River about fifty miles from Sleetmute. According to one Native informant, four families or eighteen people lived there in 1900. In the 1940s, Wallace R. Cady of the USGS visited the place, and found it occupied on a seasonal basis. Citing a local resident, anthropologist Wendell H. Oswalt stated that the village was abandoned sometime in the 1950s. There is, however, evidence that the place was seasonally occupied at least until 1965. 92/

RED DEVIL

Red Devil is located on the south bank of the Kuskokwim River at the mouth of a small creek also named Red Devil. The Red Devil mercury deposits were discovered in 1933. From 1939 to 1972, the Red Devil Mine was the most productive mercury mine in Alaska. During the years of operation, a number of mine employees and their families resided year-round in the village. About five miles of road linked the mine, airfield, and adjacent area. In the late 1950s, Northern Consolidated Airlines made two scheduled stops at the place. In 1960, the population of the village was 152; in 1978, six years after the mine closed, the population declined to thirty-two, roughly half of whom were non-Native. 93/

PARKS

Parks is located on the north bank of the Kuskokwim River about nine miles downriver from Sleetmute Village. The settlement is named after Eugene W. Parks who discovered mercury near the site in 1906 and lived there into the 1940s. By 1910, Parks maintained a trading post and a post office there. One family reportedly lived at the site in 1979. 94/

KINGAHGAMIUT

Kingahgamiut, also known as Eightmile Village or Nose Village, is situated on the north bank of the Kuskokwim River opposite the mouth of Eightmile Creek. Two small villages with similar names are listed in the 1890 census in this vicinity: Kinegnagamiut with a population of ninety-two and Kinegnagmiut with a population of seventy-six. It is reported that a number of people left the

village as a result of an epidemic (presumably the influenza-measles epidemic of 1900) for Crooked Creek and Sleetmute. In the early 1940s, Wallace R. Cady of the USGS reported only one family living at the former village. 95/

GEORGETOWN

The Russian explorer Zagoskin described this village in 1844 as a summer fishing camp used by families from Kwigiumpainukamiut. In 1907, a trading post was founded at the mouth of George River. 96/ Two years later, three to five hundred people rushed to George River and Crooked Creek and a boom town called Georgetown was founded. By 1911, the Kuskokwim Commercial Company and the Northern Commercial Company had built warehouses and stores at Georgetown. In January 1911, a Fairbanks newspaper said of the community: "Georgetown has a fine townsite. Three hundred or more cabins stand and the present population is about 200. The town has its streets and avenues laid out with great regularity and every man owns his own lot and cabin. Sites have been reserved for a courthouse, hospital." In July 1911, a fire destroyed most of the town. Georgetown never revived. In August 1912, naturalist Lee R. Dice wrote that ten to fifteen people lived at the place. In 1914, the Northern Commercial Company store closed, and some time prior to 1917 the Kuskokwim Commercial Company closed its store. 97/ Today several Native families live about a mile west of the old village in a settlement also called Georgetown.

CROOKED CREEK

In 1906, a number of stampeder to the Innoko gold fields set up a small camp called Portage Village near the former summer fish camp of the people of Kwigiumpainukamiut. As gold was discovered on nearby tributaries of the Kuskokwim

River, the tent camp became a supply camp and was renamed Crooked Creek. In 1914, Dennis Parent opened a trading post and roadhouse there. This station operated until 1963. During the 1910s and 1920s, the town was an important stop on the winter mail trail to Flat on the Iditarod River. In 1979, the population was 109. 98/

OSKAWALIK

Located on the west bank of the Kuskokwim River opposite the mouth of Oskawalik River, this village was described by Zagoskin in May 1844 as a fish camp used by residents of Kwigiumpainukamiut. Several families began to permanently reside at the site about 1900. In a report published in 1955, Wallace R. Cady of the USGS stated that the village was occupied by only one family. In 1979 two cabins, graves, and a recently used smokehouse were reported at the site. 99/

KEKATMAKIAHKAMIUT

According to local tradition, this village was located at the mouth of the Oskawalik River. Inhabited in the first decade of this century by four families, the place was abandoned by the early 1920s. 100/

LITTLE MOUNTAIN VILLAGE

Little Mountain Village, located on the north bank of the Kuskokwim River thirty-two miles east of Aniak, was one of the summer camps used by Eskimos

and Indians from Kwigiumpainukamiut during the Russian period. The census of 1890 listed the population of the settlement as eighty-one. It was last occupied during the early 1920s. 101/

HOFSETHS

This site, located at the mouth of the Holokuk River, was the home of Ole Andreas Hofseth and family during the 1920s. The settlement was later abandoned. In the early 1970s, a member of the Hofseth family reoccupied the place. 102/

NAPAIMIUT

Napaimiut is located on the north bank of the Kuskokwim River three miles below the mouth of the Holokuk River. An Eskimo camp was once located a short distance below the village; it was reported by Zagoskin to be unoccupied in 1844. Evidently the village was not abandoned. Census records for the years 1880, 1890, and 1900 indicate a population of sixty, twenty-three, and thirteen, respectively. George W. Hoffman and George Fredericks established a trading post at the village in the fall of 1907. Hoffman operated the post until his death in 1932. The station, also a roadhouse, became a well-known landmark in the area. A number of white miners and trappers seasonally resided nearby. A territorial school was established in the village in the 1920s. In 1937, the population was 110, and of that number about one-fourth were listed as non-Natives. By the early 1950s, however, most residents had moved. In 1979, only one family lived at the site year-round. Others camp at the site during the summer fishing season. 103/

KWIGIUMPAINUKAMIUT

Located at the mouth of the Kolmakof River, Kwigumpainukamiut was probably one of the winter villages in the central Kuskokwim area occupied by both Eskimos and Ingalik Athapaskans during the Russian period. Kolmakov Redoubt was located on the other side of the Kuskokwim River. Prior to the establishment of the redoubt, however, the Russians had constructed two posts nearby, one of which was built in 1833 at the village. It was known as Lukins Odinochka. In 1844, Zagoskin reported a population of 160 at the village; of this number, eighty-one were Eskimos and seventy-nine were Indians. The Western Fur and Trading Company, a short-lived rival of the Alaska Commercial Company, operated a trading station at the village in the late 1870s. The village was listed in the 1890 and 1900 censuses with a population of twenty-five and seventeen, respectively. A few Native families reportedly lived at the site into the 1920s. 104/

KOLMAKOF

Interested in expanding trade with the Natives for beaver pelts, the Russian-American Company sent exploring and trading parties to the Kuskokwim River as early as 1819. In 1832, Fedor Kolmakov, manager of Aleksandrovsk Redoubt, led a trading party overland from Nushagak River to the Kuskokwim River. At the mouth of the Holitna River, the party erected a single building. This structure, referred to in historic records as Kolmakov's Townlet, was replaced the next year by an odinochka built farther down the Kuskokwim River. The Russians, however, continued to use Kolmakov's Townlet occasionally. On the north bank of the Kuskokwim River at the mouth of the Kolmakov River, the Russians constructed a second post known as Lukin's Odinochka at the Native village of Kwigumpainukamiut.

Kolmakov Redoubt, a fortified post built on the other side of the Kuskokwim River, replaced Lukins Odinochka in 1841. The station had a store, two barracks, a community house, and a bathhouse, and was enclosed by pallisades and two blockhouses. Outside the walls stood an Orthodox chapel. A church and a residence for the churchman later replaced the chapel. The redoubt was the major Russian trading station along the Kuskokwim River. The Russians closed the post in 1866.

After 1867 the Hutchinson, Kohl and Company purchased many of the Russian American Company stations. Seeking to re-establish trade on the Kuskokwim River, the company hired Reinhold Separe in 1869 to be their Kuskokwim agent. Separe reopened the Kolmakof post in 1870. At some date prior to 1891, the company, then known as the Alaska Commercial Company, sold the posts at Kolmakof, Bethel, and Vinasale to Separe. Separe in turn sold his holdings to Edward Lind in 1891. A Roman Catholic missionary wrote of Kolmakof in 1892 that "the whole place is as dreary and isolated as only Alaskan settlements can be." At the site stood two log houses, a store, and one of the Russian blockhouses. The trader, a Russian named Nicholas Dementov, was the only non-Native. A few Natives lived around the post. In 1902, the District Governor reported Duncan McDonnell, a miner, as the U.S. commissioner at the place.

The Northern Commercial Company, successor to the Alaska Commercial Company, opened a store at Kolmakof about 1910 to supply miners working claims along the Aniak and Tuluksak rivers. The company purchased Lind's property at Kolmakof in 1912. Two years later, however, the Northern Commercial Company closed its store. In 1917, the company sold the station to an unnamed buyer.

KUKUKTUK

This village was located a short distance upriver from Little Russian Mission and on the opposite bank of the Kuskokwim River. Zagoskin described the village in 1843 as a summer camp used by people of Kwigiumpainukamiut. Forty years later, W. H. Weinland wrote that the village marked the boundary between Eskimos and Indians. The population, recorded as fifty-one in 1880 and twenty in 1890, reportedly moved to Little Russian Mission during the 1890s. 106/

LITTLE RUSSIAN MISSION

Little Russian Mission or Chuathbaluk is located on the north bank of the Kuskokwim River about ten miles east of Aniak. In the winter of 1833-34, Andrei Glazunov visited the place, and described it as an Ingalik summer camp. The Russian Orthodox Church, seeking to re-establish its influence among the Natives on the Kuskokwim River, selected the village for the center of its operations. In 1891, a church was built and a permanent missionary assigned. After the mission closed in 1922, services were held infrequently at the church. In the late 1950s, a number of families from Aniak and Crooked Creek moved to the place. The population of the village increased through the years from a low of 16 in 1900 to a high of 123 in 1978. 107/

ORRAT

Anthropologists recently discovered this village site at the mouth of the Owhat River. Most of the villagers reportedly moved to Aniak. 108/

ANIAK

Located at the mouth of the Aniak River, this village was founded in 1912 as a supply camp for miners working on the headwaters of the river. The founders optimistically staked ten blocks of lots. That year the settlement consisted of three or four cabins. Commenting on a rumor that the Northern Commercial Company planned to open a store at Aniak City, the Iditarod Pioneer in May 1912 observed that there was no building activity at the village and that the manager of the Northern Commercial Company store in Iditarod had not heard the rumor through company channels. The Northern Commercial store was never built. In 1913 or 1914, Tom Johnson opened a store and roadhouse at Aniak which he operated until the Northern Commercial Company purchased the operation in 1938. The company operated this store into the 1960s. At least one other store operated in Aniak during the 1940s. In addition to supplying area miners, Aniak was an important fur trading station because of its geographic proximity to the rich trapping area around the Yukon-Kuskokwim portage.

The Civil Aeronautics Administration selected Aniak as one of two sites in the lower Kuskokwim area for an air field, and began construction of the field in 1938. The community was chosen in 1956 for a White Alice radar relay station.

Aniak has been a major non-Native population center in the Kuskokwim River area. In 1944, about fifty Natives and forty non-Natives lived at the village. The population greatly increased during the 1940s because of the employment opportunities. In 1978, the population was 248, including 91 non-Natives.

In the late 1950s the village consisted of a Northern Commercial Company store, post office, Territorial school, roadhouse, theater, coffee shop, three churches, and a lumber mill. Operated by Ernest Begin, the mill produced about 200,000 BF of rough-cut lumber annually, and supplied Bethel with most of its lumber needs. Northern Consolidated Airlines DC-3s made one or two stops daily at the village during the summer. According to one account, fifty tourists (mostly sport fishermen) visited the place in 1957. In the same year, the community held its first agricultural fair. 109/

ISHKOKFELRA

The location of this village on Aniak River is unknown. According to oral tradition, the village was occupied year-round. 110/

BUCKSTOCK

Located on Aniak River at the mouth of Buckstock River, this village was inhabited year-round in the 1910s. Buckstock is reported to mean "swampy river" or "a piece of red flannel." 111/

CROW VILLAGE

The Eskimo community of Crow Village was first mentioned in the early 1790s by the Russian Ivanov who estimated its population at 150. The influenza-measles epidemic of 1900, combined with a reported change in the river channel, resulted in the abandonment of the village by 1912. The people moved to a site located just south of the bluff at the lower end of the settlement. The village was the

Kuskokwim River terminus of the Paimiut winter trail to the Yukon River. In 1925, the Alaska Road Commission re-routed the trail to Kalskag Village; subsequently, most of the families moved to the Kalskag or Aniak areas. A few families continued to live at the village into the early 1960s, however. Archaeologists Wendell H. Oswalt and James W. VanStone excavated the old village site in 1966. 112/

OHAGAMIUT

Ohagamiut Village was located on the north bank of the Kuskokwim River a short distance upriver from Kalskag Village. Ivanov, Rodionov, and Zagoskin, early Russian explorers, mentioned the community in their narratives. Ivanov reported that the village had two hundred residents; Zagoskin counted only sixty-one, perhaps because most of the people were then hunting caribou on Aniak River. In 1891, the Roman Catholic Church decided to establish its first Kuskokwim River mission at the village. A church was built in 1895 or 1896. A fire in 1903 damaged the mission building, and the station was closed four years later. A trading post was operated in the village from the late 1910s to the late 1920s. The village was probably abandoned in the early 1930s, perhaps because the slough in front of the village began drying up. 113/

IGEYAKHUK

Located at the mouth of the Ophir Creek, which empties into Whitefish Lake, this settlement was occupied by two or three families about 1900. In 1914 Alfred G. Maddren of the USGS visited the place and described it as a fish camp. 114/

KALSKAG

The original Kalskag Village was located a short distance below Mud Creek, an integral part of the Yukon-Kuskokwim portage. Zagoskin was the first European to record the existence of the village. In 1898, Josiah E. Spurr noted the village at the downriver mouth of Mud Creek. Following the epidemic of 1900-01, the Eskimos gradually moved from the village to a new site four miles upriver, a move that was not completed until after 1910. Eskimos from neighboring villages, primarily Ohagamiut and Crow Village, joined the Kalskag residents at the new site. Later, a number of families from the Yukon River, especially from Russian Mission Village, also settled at the village. In 1930 a Catholic church was built, and in the following year a two-room school opened. The community then had two trading posts and several non-Native families. The residents communally owned a reindeer herd during the 1930s. In 1963, Sam Parent opened a store midway between Kalskag and Lower Kalskag. 115/

LOWER KALSKAG

A site about two miles below Kalskag on the north bank of the Kuskokwim River was a long-established summer fish camp for several families from Kalskag. In the 1930s, people began to reside at the site on a permanent basis. Religious differences among Kalskag residents has been cited as the primary reason for establishing the new settlement. The majority of the Kalskag residents favored the Roman Catholic Church. Those at Lower Kalskag identified with the Russian Orthodox Church. 116/

KULKAROMIUT

Anthropologists recently reported the existence of this village site. The site is located along a slough a short distance below Lower Kalskag. 117/

OKHAGANAK

First reported by Edward Nelson in 1882, this village was located on the south bank of the Kuskokwim River and about ten miles below Ohagamiut. It was probably abandoned before the turn of the present century. 118/

TUKLAKAMIUT

The exact location of this village is not known. Located on the north bank of the Kuskokwim River, the village was inhabited in the late 1870s and early 1880s. 119/

OGAVIK

This village was located about midway between Lower Kalskag and Tuluksak, on a slough on the west side of the Kuskokwim River. An earlier settlement of the same name was located a short distance downstream on the east side of the Kuskokwim River; it was abandoned when the riverbank began caving in. Ogavik was an important prehistoric trading center where inhabitants of the central river area traded furs with coastal Eskimos for seal oil. Because of the large size and location of the village, the Moravian missionaries established a

mission there in 1891. The epidemic of 1900 decimated the population and, as the course of the slough changed, many survivors moved from the village. Several families moved to Tuluksak. By 1922, most Eskimos had left the village.

120/

NUMTREHAMIUT

This village was located on the north bank of the Kuskokwim River, somewhere between Ogavik and Kwigalogamiut. Weinland visited the village in 1884 and reported twenty to thirty people living there. 121/

KWIGALOGAMIUT

Situated at the mouth of a slough on the east bank of the Kuskokwim River, approximately midway between Tuluksak and Ogavik villages, Kwigalogamiut was once the most populated Eskimo villages on the Kuskokwim River. The 1880 census listed the village with a population of 314. In 1884, Weinland wrote that the village had been much larger when trader John W. Clark operated a store there in the 1870s. Sometime later the Moravian missionaries constructed a chapel there. In 1890, the village population was only sixty-five.

The epidemic of 1900 decimated the population and the survivors moved away. By 1910, the village was deserted. 122/

TULUKSAK

Formerly located at the mouth of the Tuluksak River on the north bank, this village was moved to the south bank due to repeated floods. The first mention

of this Eskimo community was in the 1880 census which listed its population at 150. In 1895, the Moravian missionaries stationed an Eskimo helper in the village.

After gold was discovered on Bear Creek in 1907, the village became a supply point for the miners. In 1910, the first store opened in the community. Two years later, Moravian missionaries constructed a chapel there. Until the mid-1920s, passing riverboats unloaded supplies for miners at Tuluksak. After 1925, freight was unloaded at Tuluksak Landing, thirty-five miles above the mouth of the Tuluksak River. Besides hunting, fishing and trapping, some Tuluksak villagers have engaged in reindeer herding or have found employment in the mines. 123/

NYAC

This community is situated at the mouth of Bear Creek. In 1925, the New York-Alaska Gold Dredging Company hauled a dredge to Bear Creek, and founded a camp called Nyac. The following year a post office opened at the camp. During the 1930s, a hydroelectric plant and airstrip were constructed. Each summer the company employed from eighty to 135 people. At least four to six families lived at the camp year-round. In the 1960s, structures at the site included a company store, laundry, mess hall, two bunkhouses, houses for fifteen families, a hydroelectric plant, and three dredges. In 1965, mining operations shut down and the camp became a ghost town. Today a dredge is operating on Bear Creek. 124/

AKIAK

Located on the north bank of the Kuskokwim River opposite the mouth of the Kisaralik River, Akiak was first noted by Father Illarion in 1863. In 1899, Moravian missionaries sent a Native helper to the community. Akiak and its neighbor Akiachak to the west were terminals of the Akiak-Russian Mission trail. This trail existed prior to 1885 and was used into the 1920s.

During the gold rush period, Akiak became one of the major non-Native settlements. As late as 1937, one-third of the 225 village residents were non-Natives. Although most ships stopped at Bethel, shallow draft ocean vessels could be taken up the Kuskokwim River as far as Akiak. The community became a supply point for miners and trappers working along tributaries of the Tuluksak, Kisaralik, and Kwethluk rivers. In 1917, Felder-Gale and Company opened a store at Akiak that operated until 1927. Several other stores operated in the community during and after 1917.

For over thirty years, Akiak was the center for the Kuskokwim River reindeer herd. At the suggestion of the Moravian missionaries, the first herd was brought to the Kuskokwim River area in 1905. Beginning in 1915, an annual fair for herders was held at Akiak. In 1932, the Kuskokwim River herd numbered 35,000, but by 1946 it had diminished to 600.

Akiak was also a major social services center. A Native school was established in 1911, and later a school for non-Native residents was opened. In 1918, the Alaska Native Medical Service opened a hospital at Akiak to serve the entire

Kuskokwim River area. In 1934, the hospital was moved to Bethel owing to the difficulty that ocean-going steamers encountered in ascending the Kuskokwim to the village. 125/

PAIMIUT

Located a short distance above Akiachak, this small village apparently existed in 1861. It was abandoned sometime after 1880. 126/

AKIACHAK

During the early 1890s, the Eskimo village of Akiachak, located on the north bank of the Kuskokwim River thirteen miles northeast of Bethel, replaced a nearby village called Kihtagamiut which was located on an island in the Kuskokwim River. The Orthodox churchman Illarion noted Kihtagamiut in 1862. In 1895, the Moravians assigned one of their Native helpers to Akiachak. In the 1930s, the residents communally owned a reindeer herd. 127/

NUNAPITSINGHAK

The Moravian Church established an orphanage on the lower Kwethluk River in 1925 and operated it for almost fifty years. The site, known as Nunapitsinghak, is on the south bank of the Kwethluk River about five miles upriver from Kwethluk Village. Two dormitories, a superintendent's cottage, and a chapel were built between 1925 and 1954. In 1973, the orphanage closed.

128/

KWETHLUK

Known as Quithlook or Kwikluk until 1938, Kwethluk is located on the south bank of Kwethluk River about a mile east of its confluence with Kuskokuak Slough, an anabranch of the Kuskokwim River. Prior to 1900, Native people from four settlements along the Kwethluk River moved to the village. Although the villagers owned 31,000 reindeer in 1939, they continued to follow a subsistence lifestyle. In 1953, 232 people lived at the village. By 1977, the number had increased to 415. 129/

KWIGAMIUT

First noted by Edward W. Nelson in 1879, this village was located seven miles north of Bethel at the mouth of Gweek River. In 1880, Petroff reported a population of 215. In 1890, Porter listed the population as forty-three. John H. Kilbuck, the Moravian missionary, noted in 1897 that only one family lived at the place. A few families maintained fishing camps there in 1906. 130/

KAMEGLIMIUT

This village was apparently located on a bluff (the name means "bluff village" in Yupik) on the north bank of the Kuskokwim River, somewhere between Kwigamiut and Bethel. Oral tradition has it that two families and a trader named Alexander Clark resided there. Moravian missionary John H. Kilbuck reported that it was an abandoned village in 1898. However, anthropologist Wendell H. Oswalt reported that the village called Kepangalook in the 1939 census with a population of ten, was probably Kamegliut. 131/

BETHEL

On the north bank of the Kuskokwim River opposite a small Eskimo village called Mumtrekhlagamiut, Reinhold Separe established a trading post for the Alaska Commercial Company. By 1884, the station, maintained by a Native named Kolmokoshen, consisted of two large log buildings, one for lodging, the other for a store, and several smaller structures including a bathhouse. Many of the Natives living across the river moved to the post. In 1884, J. A. H. Hartmann and W. H. Weinland, sent by the Moravian Church to locate a mission site, recommended that their first Kuskokwim station be located at Mumtrekhlagamiut. In 1885, the Bethel mission was established on the north bank of the river.

Rumors of gold in the Kuskokwim River basin brought prospectors and traders to the area in the winter of 1900-1901. In 1900, Lind formed a trading partnership with Frank Joaquin and Sam Hubbard of Nome. Their main store was at Bethel. In 1905, Joaquin, Charles A. Fowler, and Adams H. Twitchell purchased the operation. Four years later, Joaquin and his associates incorporated themselves as the Kuskokwim Commercial Company. Subsequently this company formed a subsidiary, the Kuskokwim Transportation Company.

More people came to the Kuskokwim River following gold discoveries along the Innoko River and tributaries of the Kuskokwim River, including the Tuluksak, George, and Aniak rivers. In 1908, the first ocean vessel, the Charles Hanson, reached Bethel. Formerly ships had stopped in the bay and passengers and freight were lightered to a warehouse near Quinhagak Village. Deep-draft ships could travel as far as Bethel; shallow draft ocean-going ships as far as

Akiak. Beginning in 1910, shallow draft steamboats moved freight up the Kuskokwim River as far as Takotna. Bethel and Akiak became important trans-shipment points on the Kuskokwim River where supplies and people were transferred from ocean ships to river boats. Several trading posts and roadhouses opened at Bethel.

Bethel did not become the major non-Native community of the lower river until the 1930s when a hospital and a non-Native school were established. The village population was about 325 in the mid-1930s. In the early 1940s, the community was chosen for a military airfield and garrison. In the 1950s, the Air Force established a White Alice communications station at Bethel. The availability of employment encouraged area residents to move to Bethel and the town grew rapidly in the 1950s, 1960s, and 1970s.

By 1960 Bethel was the largest community in the region with a population of more than 1,200. Incorporated in August 1957, the village consisted of six general stores, two hotels, three cafes, two theaters, two churches, a Standard Oil Company bulk storage plant, and an elementary and high school. Northern Consolidated Airlines DC-3s made scheduled stops twice daily during the summer. Northern Consolidated, Alaska Airlines, Jimmix Flying Service (John R. Samuelson, Jr.) and Herman Ludwigson provided charter air service. A "water taxi" operated between Bethel and the airport at a fare of \$1.50 each way. The "taxi" was a twenty-foot boat with an outboard motor. 132/

NAPASKIAK AND OSCARVILLE

Napaskiak is located on the south bank of the Kuskokwim River at the mouth of a slough, about six miles south of Bethel. According to tradition, the village

was founded by Eskimos from a village located about a mile up the slough joining the main channel at the upper end of the present village. They moved to the present site when the channel of the slough changed and began washing the village grounds away. Oscar Samuelson, a non-Native, established a trading post in Napaskiak in 1906. Several years later, he moved the post across the river to a site later known as Oscarville. Samuelson died in 1953, but the post continued in operation. Napaskiak's population was 250 in 1977; Oscarville's population was fifty-one in 1960 and fifty-two in 1979. 133/

LOMAVIK

This Eskimo village was located on the south bank of the Kuskokwim River fourteen miles south of Bethel. The village was visited by Edward W. Nelson in the winter of 1878-79. Petroff reported a population of eighty-one for the village in 1880; Porter reported fifty-three in 1890. The Moravians maintained a small station at the site during the early 1900s. In the late 1920s, a U.S. Bureau of Fisheries agent reported thirty-five people or eight families at the place. By 1931, however, the village was abandoned. 134/

NAPAKIAK

The large Eskimo village of Napakiak is located on the north bank of the Kuskokwim River on the west side of the mouth of Johnson River. The original village site is a short distance north of the present village. Some time between 1878 and 1891 the people deserted the first village. Forty people or nine families lived at the new site in the 1920s. M. N. Johnson had a trading post in the community. Anthropologist Ales Hrdlicka visited the village in 1933 and

described it as follows: "Towards 5 [June 9] arr[ived] in "Johnson's harbor"--a sheltered place in a large slough. The few structures there from a distance on a flat barren muddy shore look like skyscrapers, but from here prove to be just ordinary one story dwelling and storehouses of a trader. All stand on stilts, for during high water the whole flats get covered." In 1977, the population of the village was 276. 135/

PAINGAKMIUT

Paingakmiut, a summer camp, is located on the east bank of the Johnson River a short distance north of the mouth of Pikmiktalik River. The 1950 census listed the population as forty-four. 136/

ATMAUTLUAK

Atmautluak, a recently established Eskimo village, is located east of Nunapitchuk Village on the Pikmiktalik River. The residents primarily engage in subsistence activities. In 1975, the population of the village was 120. 137/

NUNAPITCHUK

Nunapitchuk is located on the west bank of Johnson River about fifteen miles above the mouth of the river. The village was reportedly established about 1902 by ten families from nearby villages as a result of an epidemic. A Bureau of Indian Affairs school in the village attracted people and the population has grown steadily. In 1979, about two hundred people lived in Nunapitchuk. 138/

KASIGLUK

The Eskimo village of Kasigluk is located on Willidulli Slough off the Johnson River two miles west of Nunapitchuk Village. In 1939, the population was sixty-six. By 1957, the population had increased to 140. 139/

NUNACHUK

This village site is located on a slough east of Kayigyalik Lake. The 1950 census reported the population of Nunachuk at forty-four. The village was subsequently abandoned and structures at the place were moved. The Russian Orthodox Church building was moved on a large log raft and towed by other boats to Kasigluk in 1959. 140/

NEWTOK

A new village, Newtok is located at the mouth of Kealavik River, thirty-six miles northeast of Cape Vancouver. In the late 1940s, residents of old Kealavik moved to the site of Newtok because their village could only be reached at high tide with a vessel under sixteen feet long. The population has increased from sixty-nine in 1950 to 114 in 1970. The community is served by one store. In the summer the villagers move to a fish camp called Nilikluguk on Nelson Island. 141/

TUNUNAK

Tununak is located in a small bay on the northeast coast of Nelson Island six miles northeast of Cape Vancouver. Visiting the village in the winter of 1878-1879,

Edward W. Nelson reported six people living there. In 1970, the population was 274.

In the summer of 1889, two Jesuit missionaries, Joseph Treca and Edward Cunningham, founded the first mission along the coast of the Yukon-Kuskokwim delta at Tununak. The Jesuits closed the mission in 1893 owing to the difficulties in supplying the place. From 1893 to 1927, missionaries from Akulurak visited Tununak every winter, and in 1927 built a chapel there.

At least since 1950, the Northern Commercial Company has operated a store in the village. The village has three other stores. In 1958, Northern Consolidated Airlines delivered mail to the village on a weekly basis. Village income from trapping during the 1950s reportedly yielded about \$20,000 annually. 142/

TOKSOOK BAY

The coastal village of Toksook Bay is located on the north shore of Kangirivar Bay at the mouth of Toksook River on the west coast of Nelson Island. The community was established in 1965 by Eskimos from Nightmute. In 1970, the population of the village was 257. 143/

NIGHTMUTE

Nightmute is located along the Toksook River on the southeastern part of Nelson Island. The village was first listed in the U.S. census in 1920 with a population of twenty-five. The population has fluctuated dramatically: in 1950 it was 27; in 1960, 237; and in 1970, 127. Many residents moved to Toksook Bay village

after the earthquake of 1964 resulted in subsidence of the land, causing tidal waters to reach the village. A Catholic church building was constructed in the village in 1931. A non-Native trader, John Dull, lived in the village during the 1930s. In 1958, the place had two Native stores. 144/

CHEFORNAK

Chefornak is located at the junction of Keguk and Kinia rivers, three miles from the Bering Sea. It is located within the Clarence Rhode National Wildlife Refuge. In 1970, the population was 146, including five non-Natives. 145/

KIPNUK

Kipnuk is located on the left bank of Kuguklik River four miles southeast of Kinak Bay. As late as 1933, the villagers traveled to Kwigillingok to trade. In 1958, three general stores owned and operated by Luke Amik (Emik), James Paul, and the village were located at the place. Northern Consolidated Airlines made one stop each week at the place with passengers and mail. Today, Kipnuk has three stores, a post office that was established in 1951, a National Guard Armory, a Moravian church, and a school. Unlike other Native villages in the Yukon-Kuskokwim delta, Kipnuk has steadily gained population. In 1940, the population was 144; in 1977 it was 325. 146/

KWIGILLINGOK

Kwigillingok is located at the mouth of a slough on the north shore of Kuskokwim Bay, thirty-seven miles west of Quinhagak. In 1891, Moravian missionaries established a station at the village. From 1929 to 1950, the population increased

from 104 to 215. According to one report, this was due mainly to the abundance of seals along the coast. Twenty years later, the population had declined to 148, including two non-Natives. By the mid-1930s, a trader lived at the village. In 1958, the store was owned by Luke Amik (Emik) and managed by Henry Evans. The community also had a cooperative store. In the late 1960s, as tidal waters encroached upon the village site, residents began gradually to move to nearby Kongiganak. In 1970, the community had three stores, a school, a National Guard Armory, and two churches. 147/

KONGIGANAK

The village of Kongiganak is situated on the west shore of Kuskokwim Bay, three miles east of Kwigillingok. Reported as early as 1878, the village was small by local standards. In 1968, however, the people of Kwigillingok began to move to Kongiganak. In 1970, the population of the village was 190, including seven non-Natives. 148/

TUNTUTULIAK

Tuntutuliak is located on the north bank of the Kinak River three miles above its mouth. In 1945, the village was moved to higher ground. A population of sixty-eight was reported for Tuntutuliak in the 1950 census. 149/

KINAK

Located four miles east of Tuntutuliak, Kinak was first mentioned in 1879 by Edward W. Nelson, who reported a population of 175 in the village. In the late

1920s, the population was seventy-six. At that time, two non-Natives named Joe Brown, described as a preacher and immigrant, and John Johnson, a trader, lived at the village. 150/

EEK

The Eskimo village of Eek is located on the south bank of Eek River about twelve miles from its mouth. From 1919 to 1958, Gil McIntyre, a non-Native, operated a trading post in the village. In the late 1920s, twenty families or 106 people lived in the village. One writer described Eek as a "rather nice village, the cabins look neat and the Natives also." In the late 1950s the village consisted of two stores, a Bureau of Indian Affairs school, forty houses, and a Moravian church. Northern Consolidated Airlines transported mail, perishables, and urgently needed parcels to the place once a week. 151/

APOKAK

Apokak is located along a slough of the same name off the east bank of the Kuskokwim River two miles north of its mouth. First reported by Edward W. Nelson in 1879, the Eskimo village grew from ninety-four in 1880 to 210 in 1890. In 1928, Apokak was described as "very old and run down." During the 1910s and early 1920s, Apokak was an important landmark for ships entering the river, and many vessels stopped there to hire a pilot to guide them upriver. The village trader, a man named Moses, was one of the best known and highly regarded river pilots. In 1949, the U.S. Coast and Geodetic Survey reported that the village had been abandoned for a number of years. Only two dilapidated cabins remained at the site. 152/

QUINHAGAK

Quinhagak, a large Eskimo village, is located at the mouth of Kanektok River on the east coast of Kuskokwim Bay. Lieutenant Gavril Sarichev located the village on a map prepared in 1826. For many years after the purchase of Alaska, the Alaska Commercial Company annually sent a ship to Kuskokwim Bay to meet its agent on the Kuskokwim River. The ship anchored offshore from Quinhagak and supplies were lightered to a small, one-story frame warehouse located a short distance north of the village along Warehouse Creek. From this point the traders used small boats to transport supplies to their posts on the Kuskokwim River. After the bay and river were charted in 1915, ocean vessels usually went to Bethel. During the 1930s, Felder and Gale of Bethel operated a trading post at Quinhagak. In 1967, the population of the village was 228. 153/

GOODNEWS BAY

Originally an Eskimo village known as Mumtrak, Goodnews Bay Village has been the supply station for gold and platinum miners in the area since 1927. The village is located at the mouth of Goodnews River on the north shore of Goodnews Bay. In 1929, a Native named Henry Wuyhea operated a store for Gil McIntyre, the trader at Eek. One trader named Joe Jean operated a post during the 1930s. 154/

GOODNEWS MINING CAMP

This camp supported the dredging operations of the Goodnews Bay Mining Company at the junction of Platinum and Squirrel creeks. By 1940, the camp

was the largest in the district. The company was still dredging in the area in 1979. 155/

PLATINUM

Platinum Village is located at the mouth of Smalls River on the southern shore of Goodnews Bay near an Eskimo village site called Agvik. The village was established shortly after platinum was discovered in the area in 1927. When interest in large-scale mining developed ten years later, Platinum became a "white gold" boom town. A post office was established in 1935. Two trading posts and a roadhouse served the miners. As late as 1950, Platinum was the commercial center for the area. In 1979, the Goodnews Bay Mining Company still operated a dredge in the district. 156/

Chapter Five--Communities

1. Wendell H. Oswalt, "Historical Populations in Western Alaska and Migration Theory," Anthropological Papers of the University of Alaska, 11 (December, 1962): 1-2; Wendell H. Oswalt, "Kolmakovskiy Redoubt: The Ethnoarchaeology of a Russian Fort in Alaska" (Los Angeles: University of California Press, forthcoming), pp. 21-22; Lavrentiy A. Zagoskin, Lieutenant Zagoskin's Travels in Russian America, 1842-1844, Henry N. Michael, ed. (Toronto: Arctic Institute of North America, 1967), pp. 244, 306-307. That the Eskimos were migrating inland as opposed to Athapaskans moving westward is inferred from linguistic and cultural ties and established trading relations at the time of contact with Europeans. Additional evidence is suggested from the partial adaptation of Eskimo culture, such as clothing and beliefs, by Athapaskans along the Holitna and Stony rivers.
2. James W. VanStone and Joan B. Townsend, Kijik: An Historic Tanaina Indian Settlement, Fieldiana Anthropology, Vol 59 (Chicago: Field Museum of Natural History, 1970), p. 13.
3. James W. VanStone, E. W. Nelson's Notes on the Indians, Fieldiana Anthropology, Vol. 70 (Chicago: Field Museum of Natural History, 1978), p. 12; Cornelius Osgood, Ingalik Material Culture (New Haven: Yale University Press, 1940), p. 31; Edward H. Hosley, "The McGrath Ingalik," Anthropological Papers of the University of Alaska, 9 (May, 1961): 97, 99, 113; Oswalt, "Kolmakovskiy's Redoubt," pp. 20-21.

4. Wendell H. Oswalt, Mission of Change in Alaska: Eskimos and Moravians on the Kuskokwim (San Moreno: Huntington Library, 1963), p. 119; Wendell H. Oswalt, Alaskan Eskimos (San Francisco: Chandler Publishing Company, 1967), p. 91; Oswalt, "Kolmakovskiy's Redoubt," p. 24; Margaret Lantis, "Folk Medicine and Hygiene, Lower Kuskokwim and Nunivak-Nelson Island Areas," Anthropological Papers of the University of Alaska, 8 (December, 1959): 41; T. R. Lambert, Report for the Kuskokwim River, June 1938, Central Classified Files, Box 6-45250, Records of the U.S. Fish and Wildlife Service, Record Group 22, National Archives, Washington, D.C.
5. Lois D. Kitchener, Flag Over the North: The Story of the Northern Commercial Company (Seattle: Superior Publishing Company, 1954), pp. 163-164; U.S. Congress, House of Representatives, Investigation of the Fur-Seal and Other Fisheries of Alaska, 50th Cong., 2d sess., H. Rept. No. 3883 (Washington, D.C.: Government Printing Office, 1899), p. 95.
6. Wendell H. Oswalt, Historic Settlements Along the Kuskokwim River (Juneau: Alaska Division of State Libraries and Museums, 1980), p. 52; Oswalt, "Kolmakovskiy's Redoubt," p. 181.
7. Robert P. Porter, Report on Population and Resources of Alaska at the Eleventh Census, 1890 (Washington, D.C.: GPO, 1893), pp. 3, 99, 162, 170.
8. J. E. Spurr and W. S. Post, "Report on the Kuskokwim Expedition," Maps and Descriptions of Routes of Exploration in Alaska in 1898 With

General Information Concerning the Territory, U.S. Geological Survey Special Publication (Washington, D.C.: GPO, 1899), p. 123.

9. Iditarod Nugget, September 7, 1910; David H. Sleem, "Great Kuskokwim: A New Land of Promise," Alaska-Yukon Magazine 10 (November, 1910), pp. 300-301; Kusko Times, February 5, 1937; Oswalt, "Kolmakovskiy Redoubt," p. 186.
10. Elizabeth F. Andrews, Report on the Cultural Resources of the Doyon Region, Central Alaska. Occasional Paper No. 5, Vol. II (Fairbanks: University of Alaska, 1977), pp. 370-371, 382, 384. Andrews also maintained that "Third Old Nikolai" (NE $\frac{1}{4}$, T. 29 S., R. 24 E., K.R.M.) was occupied for a brief time before the village was finally moved to its present location. However, on October 16, 1981, she wrote the writer that this information appeared to be in error.
11. Edward H. Hosley, "Factionalism and Acculturation in An Alaskan Athapascan Community" (Ph.D. diss., UCLA, 1966), pp. 156, 164, 168-169, 175.
12. Wendell H. Oswalt, Historic Settlements, pp. 64-66.
13. Josiah Edward Spurr, "A Reconnaissance in Southwestern Alaska in 1898," in U.S. Geological Survey, Twentieth Annual Report . . . 1898-1899, Part VII (Washington, D.C.: GPO, 1900), p. 71.

14. Ibid., p. 51.
15. Alfred G. Maddren, Gold Placer Mining Developments in the Innoko-Iditarod Region, U.S. Geological Survey Bulletin 480-I (Washington, D.C.: GPO, 1911), Plate XI.
16. Joseph S. Herron, Explorations in Alaska, 1899, For An All-American Overland Route from Cook Inlet, Pacific Ocean, to the Yukon, U.S. War Department, Adjutant General's Office, No. 31, 60th Cong., 2d sess., S. Doc. No. 689 (Washington, D.C.: GPO, 1909), pp. 36, 66.
17. Hosley, "Factionalism and Acculturation," p. 265; Andrews, Report on the Cultural Resources, p. 380.
18. Walter L. Goodwin to Alaska Road Commission, April 16, 1908, Historical Documents Geologic File, U.S. Geological Survey, Menlo Park, California (hereafter USGS Records).
19. Iditarod Pioneer, January 22, 1911; Hudson Stuck, Ten Thousand Miles with a Dog Sled, A Narrative of Winter Travel in Interior Alaska (New York, C. Scribner's Sons, 1914), p. 322.
20. Iditarod Pioneer, September 12, 1914; Gov. to Ms. Leonie Nohl VanPelt, July 7, 1922, General Correspondence of the Alaskan Territorial Governors, National Archives Microfilm Publication M939, roll 93, frame 221.

21. Kusko Times, February 18, December 6, 1922.
22. Kusko Times, April 17, 1926. For a list of the Native families living at Nikolai, Telida, Slow Fork, and Big River in 1933, see George A. Dale, "A Summary of Economic Conditions in Native Villages of the Kuskokwim and Adjacent Areas," September 13, 1933, General Correspondence of the Alaska Territorial Governors, roll 220, frames 1021 ff.
23. Hosley, "Factionalism and Acculturation," pp. 229, 257-258, 267-268.
24. Ibid., pp. 173-174; Charlene Craft LeFebre, "A Contribution to the Archaeology of the Upper Kuskokwim," American Intiquity, 21 (January, 1956): 268-269.
25. Hosley, "Factionalism and Acculturation," pp. 148, 151.
26. Herron, Explorations in Alaska, p. 67.
27. Iditarod Pioneer, March 13, 1915.
28. Hosley, "Factionalism and Acculturation," p. 197.
29. Kusko Times, February 6, 1922, April 21, 1923.
30. LeFebre, "A Contribution to the Archaeology of the Upper Kuskokwim," pp. 268-269; Charlene Craft, "The Last of the Telidas Tells His Story," Farthest North Collegian, 30 (1950): pp. 14-15.

31. Hosley, "Factionalism and Acculturation," pp. 257, 265-266; Oswalt, Historic Settlement, p. 83.
32. George Byron Gordon, In the Alaska Wilderness (New York, AMS Press, 1978), p. 107; Walter L. Goodwin to Alaska Road Commission, April 16, 1908, USGS Records.
33. Kusko Times, September 14, 1921, June 2, December 29, 1928, March 23, 1929, January 5, 1935; Hosley, "Factionalism and Acculturation," pp. 185, 219; Wendell H. Oswalt to John Beck, March 6, 1977, copy in writer's files.
34. Kusko Times, June 2, December 29, 1928, June 28, 1930; Hosley, "Factionalism and Acculturation," pp. 175, 184; Oswalt, Historic Settlements, p. 76; Alice T. Lynch, "Preliminary Inventory of Cultural Resources Along the Iditarod Trail; Rainy Pass and Unalakleet," 1978, copy in writer's file.
35. Kusko Times, May 12, 1928; John B. Mertie, Jr. and George L. Harrington, The Ruby-Kuskowim Region, Alaska, U.S. Geological Survey Bulletin 754 (Washington, D.C.: GPO, 1924), p. 12; Hosley, "Factionalism and Acculturation," pp. 175-176.
36. Andrews, Report on the Cultural Resources, p. 385; Hosley, "Factionalism and Acculturation," p. 185; Elizabeth Andrews to the writer, October 16, 1981; George A. Dale, "A Survey of Economic Conditions

in Native Villages of the Kuskokwim and Adjacent Areas," p. 9,
General Correspondence of the Alaskan Territorial Governors.

37. Herron, Exploration in Alaska, pp. 35, 67; Hosley, "Factionalism and Acculturation," pp. 173-174, 180, 184, 215; Andrews, Report on the Cultural Resources, pp. 368-369; Photographs Nos. 171 and 172, Stephen Foster Album, University of Alaska Archives, Fairbanks.
38. Tom Odale, "Some Alaska Adventures," The Alaska Journal, 4 (Winter, 1974), p. 44; Gordon, In the Alaska Wilderness, p. 107; Seward Weekly Gateway, April 6, 1912; Oswalt, Historic Settlements, p. 55; Kitchener, Flag Over the North, p. 176. Kitchener wrote that Apple established his store in 1904, but neglected to cite her source of information.
39. Goodwin to Alaska Road Commission, April 16, 1908, USGS Records.
40. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
41. Lee Raymond Dice, Chapter 10, Journal, University of Alaska Archives, Fairbanks.
42. Iditarod Pioneer, July 11, 1914; J. L. McPherson, "Report of Kuskokwim Reconnaissance," in "Report of Alaska Engineering Commission," RG322, Federal Records Center, Seattle, Washington.

43. Kusko Times, April 2, 1921; Hartman to Chief Signal Officer, October 6, 1923, C. A. Seone to Governor, October 20, 1923, General Correspondence of the Alaskan Territorial Governors, roll 108, frames 280, 284.
44. "From Ketchikan to Barrow," Alaska Sportsman, 4 (December 1938): 19; Patrice Brazil, "One Teacher Territorial School (McGrath)," 1941, University of Alaska Archives, Fairbanks.
45. James D. Bush, Jr., "Narrative Report of Alaska Construction, 1941-1944," pp. 113-115, unpublished manuscript on Alaska Resources Library, Anchorage.
46. Elmer W. Shaw, "Alaska Frontier Family," Alaska Sportsman, 31 (July 1965): 15-19; Eugene V. Wagner to Civil Works File, July 25, 1958, File 1520-03, Project O&M Files, Records of the U.S. Army, Corps of Engineers, Alaska District, Elmendorf AFB, hereafter cited as Corps of Engineers Records.
47. Goodwin to Alaska Road Commission, April 16, 1908, USGS Records.
48. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records; D. H. Sleem, "Great Kuskokwim," p. 300.
49. Kusko Times, November 17, 1928; Eugene V. Wagner to Civil Works File, July 25, 1928, Corps of Engineers Records.
50. Oswalt, Historic Settlements, pp. 40-41; Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.

51. Iditarod Pioneer, December 4, 1910, June 8, July 1, 1911, August 14, 1915.

52. Kusko Times, February 19, 1921, August 23, 1924, May 7, 1931;
John S. Brown, "The Nixon Fork Country," in P. S. Smith, et al.,
Mineral Resources of Alaska . . . 1924, U.S. Geological Survey
Bulletin 783 (Washington, D.C.: GPO, 1926), p. 99; Hosley,
"Factionalism and Acculturation," p. 203.

53. Iditarod Nugget, October 26, December 28, 1910; Iditarod Pioneer,
January 10, December 19, 1914.

54. Kusko Times, February 21, 1923, May 10, 1924, December 1, 1928;
Irving Reed, "Rainy Pass by Dog Team," Alaska Sportsman, 34
(October, 1965): 11; see also correspondence in File 13/58-9,
Box 65479, Records of the Federal Highway Administration, Record
Group 30, Federal Records Center, Seattle, Washington.

55. Kusko Times, May 24, 1928; May 10, 1930, October 15, 1937; Lynch,
"Preliminary Inventory of Cultural Resources"; see correspondence in
File 13/159-176, Box 65432, RG 30.

56. Seward Weekly Gateway, March 5, 1911, Iditarod Nugget, March 22,
1911; Iditarod Pioneer, December 19, December 26, 1914, December 2,
1916; Kusko Times, January 19, 1921, October 27, 1923; Lynch,
"Preliminary Inventory of Cultural Resources"; Photograph No. 176,
Stephen Foster Album.

57. Iditarod Nugget, March 1, March 8, 1911.
58. Iditarod Pioneer, January 14, 1913, January 10, December 12, December 26, 1914; Kusko Times, March 24, 1923, June 2, 1928, January 5, 1935, October 15, 1937; Photograph No. 175, Stephen Foster Album; Cioli to Major John C. Gotwals, June 22, 1923, John C. Gotwals to Frank R. Cioli, October 25, 1923, File 13/58-1, Box 65479, RG 30.
59. Seward Weekly Gateway, March 5, 1911; Iditarod Nugget, March 8, 1911.
60. Iditarod Pioneer, December 19, December 16, 1914.
61. Lynch, "Preliminary Investigation of Cultural Resources."
62. Iditarod Nugget, March 1, March 8, August 16, 1911; Iditarod Pioneer, January 13, 1912, October 31, December 12, 1914.
63. Kusko Times, May 18, 1921, August 7, 1926, January 5, 1935; Photograph No. 173, Stephen Foster Album; Oswalt, Historic Settlements, p. 76; Lynch, "Preliminary Investigation of Cultural Resources."
64. Iditarod Nugget, March 8, 1911; Iditarod Pioneer, January 22, February 25, March 22, 1911, March 25, 1916; Eide to the Alaska Road Commission, August 18, 1910, USGS Records; Alfred G. Maddren,

The Innoko Gold-Placer District, Alaska, With Accounts of the Central
Kuskokwim Valley and the Ruby Creek and Gold Hill Placers, U.S.

Geological Survey Bulletin 410 (Washington, D.C.: GPO, 1910),
p. 26; Charles Lee Cadwallader, "Reminiscences of" (un-
published manuscript, University of Alaska Archives, Fairbanks),
table.

65. Kusko Times, October 4, October 14, December 6, 1922, February 24,
April 21, 1923, September 22, 1924, April 17, 1926, March 17, 1928.
66. Kusko Times, March 19, 1927, March 24, 1928, June 3, 1933, January 5,
1935.
67. Kusko Times, July 23, 1921, September 13, October 28, 1922.
68. Alfred G. Maddren, Gold Placers of the Innoko District, U.S. Geological
Survey Bulletin 379-E (Washington, D.C.: GPO, 1909), p. 248;
Oswalt, Historic Settlements, pp. 43-44.
69. Iditarod Nugget, September 7, 1910, March 8, 1911; Iditarod Pioneer,
January 10, July 18, October 10, 1914, June 10, 1916; Anton Eide to
Alaska Road Commission, August 18, 1910, USGS Records.
70. Iditarod Pioneer, March 8, 1911, January 10, December 26, 1914.
71. Iditarod Pioneer, March 8, 1911, December 26, 1914.

72. Ibid.
73. Iditarod Pioneer, December 11, 1910, March 8, 1911, January 10, December 26, 1914.
74. Kusko Times, November 14, 1912, April 17, 1916, April 12, June 28, 1930.
75. Kusko Times, December 6, 1922.
76. Kusko Times, April 21, 1923, April 17, 1926.
77. Kusko Times, March 1, 1924.
78. Kusko Times, February 24, April 21, 1923; Andrews, Report on the Cultural Resources, pp. 385-386.
79. Ibid., p. 371; Kusko Times, December 26, 1922, February 24, 1923, July 14, November 14, 1923, April 25, 1925, December 1, 1928, April 6, 1929, April 26, September 20, 1930, June 6, 1931; R. R. Jones to Major Gotwals, May 5, 1923, Gotwals to R. R. Jones, May 26, 1923, File 13/58-9, Box 65479, RG 30.
80. Goodwin to Alaska Road Commission, April 16, 1908, USGS Records; Iditarod Pioneer, January 22, 1911.
81. Kusko Times, December 6, 1922, February 24, April 21, 1923, April 17, 1926.

82. Zogoskin, Travels in Russian America, pp. 270-271; Porter, Report on Population, p. 107; Spurr, "Reconnaissance in Southwestern Alaska," p. 52; Oswalt, Historic Settlements, pp. 86-87.
83. Ibid., p. 42.
84. Ibid., pp. 79-80; Kusko Times, June 3, 1933.
85. Box 2, Wendell H. Oswalt Collection, University of Alaska; Kuskokwim and Stony River Patrol, Box 6, Sam White Collection, University of Alaska Archives, Fairbanks; VanStone and Townsend, Kijik, p. 13; Oswalt, Historic Settlements, pp. 52-53; Kusko Times, April 11, 1925.
86. VanStone and Townsend, Kijik, p. 23; P. S. Smith, The Lake Clark-Central Kuskokwim Region, Alaska, U.S. Geological Survey Bulletin 655 (Washington, D.C.: GPO, 1917), p. 37.
87. Hrdlicka, Alaska Diary, 1926-1931 (Lancaster, Pa.: The Jacques Cattell Press, 1943), p. 326; and Oswalt, Historic Settlements, p. 60.
88. James Robertson, "Random Notes on the Kuskokwim," Alaska-Yukon Magazine, 9 (January, 1911): 22; Diary, August 8, 1912, Lee Raymond Dice Collection; Kusko Times, February 26, 1937; Oswalt, Historic Settlements, pp. 58, 76-78.
89. Kusko Times, January 26, 1929.

90. Donald J. Orth, Dictionary of Alaska Place Names, U.S. Geological Survey Professional Paper 567 (Washington, D.C.: GPO, 1967), p. 465; Wallace M. Cady, et al., The Central Kuskokwim Region, Alaska: An Account of Its Geography, Geology, Geomorphology, and Mineral Resources Including the Occurrence and Mining of Quicksilver, U.S. Geological Survey Professional Paper 268 (Washington, D.C.: GPO, 1955), p. 17; Oswalt, Historic Settlements, p. 43.
91. Cady, The Central Kuskokwim Region, p. 17; Orth, Dictionary, p. 498; Oswalt, Historic Settlements, p. 45.
92. Oswalt, Historic Settlements, p. 66; Cady, The Central Kuskokwim Region, p. 17; Orth, Dictionary, p. 693; Kozely, Over-all Economic Development Plan, p. 36. Oswalt provides the information about the village in 1900. He also notes that the village might be Non-chamiut listed by Porter, Report on Population, p. 6, with a population of twenty-eight in 1890.
93. Cady, The Central Kuskokwim Region, p. 109; Richard A. Berg, "The Economic Base and Development of Alaska's Kuskokwim Basin With Particular Emphasis on the Period 1950 to 1964" (M.A. Thesis, University of Alaska, 1965), p. 19; Oswalt, Historic Settlements, p. 75; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
94. Robertson, "Random Notes on the Kuskokwim," p. 22; Cady, The Central Kuskokwim Region, p. 17; Oswalt, Historic Settlements,

pp. 73-74. Zagoskin, Travels in Russian America, pp. 266, 301, mentions a summer camp believed to be at or near the future site of Parks.

95. Porter, Report on Population, p. 6; Cady, The Central Kuskokwim Region, p. 17; Oswalt, Historic Settlements, p. 46.

96. Oswalt, Historic Settlements, p. 41, credits George Hoffman with opening the post; Iditarod Nugget, November 12, 1910, credits George Fredericks; and Kusko Times, March 19, 1932, credits George Fredericks, George Hoffman, and Edward Lind. Kusko Times article also gives the date as 1908. Adding to the confusion, Oswalt, Historic Settlements, p. 62, writes that George Hoffman opened a trading post at Napamiut in 1906 and gives the impression that Hoffman lived at Napamiut from that time. Oswalt writes that Hoffman claimed a "commercial location" at Georgetown and that it was recorded by P. H. McGrath, District Recorder, on June 26, 1907.

97. Zagoskin, Travels in Russian America, p. 266; Fairbanks Weekly Times, October 5, October 12, 1910, January 4, 1911; Iditarod Pioneer, July 29, 1911, May 9, 1914; Maddren, "Gold Placers of the Lower Kuskokwim," p. 303, Diary, August 12, 1912, Lee Raymond Dice Collection; Oswalt, Historic Settlements, pp. 41-42.

98. David H. Sleem, Map of Iditarod, Kuskokwim, and Innoko (Seattle: Alaska Steamship Company, 1910), copy in Bess Byrd Collection, University of Alaska Archives, Fairbanks; Henry M. Eakin, The

- Iditarod - Ruby Region, Alaska, U.S. Geological Survey Bulletin 578 (Washington, D.C.: GPO, 1914); Zagoskin, Travels in Russian America, pp. 265, 301; Maddren, Fieldbook 408, USGS Records; Kusko Times, February 5, March 5, 1937; Cady, The Central Kuskokwim Region, p. 17; Clara G. Knoll, "We Teach at Crooked Creek," Alaska Sportsman, 25 (July, 1959): 12; Oswalt, Historic Settlements, pp. 36-39.
99. Ibid., pp. 73-74; Cady, The Central Kuskokwim Region, p. 17.
100. Oswalt, Historic Settlements, p. 45.
101. Zagoskin, Travels in Russian America, pp. 264, 301; Porter, Report on the Population, p. 6; Oswalt, Historic Settlements, p. 53.
102. Ibid., p. 42.
103. Zagoskin, Travels in Russian America, p. 264; Petroff, Report on the Population, Industries, and Resources of Alaska (Washington, D.C.: GPO, 1884), p. 16; Nome Nugget, January 27, 1904, p. 3; Kusko Times, April 9, 1937; Cady, The Central Kuskokwim Region; Oswalt, Historic Settlements, pp. 62-63. The Kusko Times article was written by Sam Voich who operated Hoffman's trading post for several years during the late 1930s.
104. James W. VanStone, "Russian Exploration in Interior Alaska: An Extract from the Journal of Andrei Glazunov," Pacific Northwest

- Quarterly 50 (April 1959): 45-46; Zagoskin, Travels in Russian America, pp. 306-307; Porter, Report on Population, p. 6; and Oswalt, Historic Settlements, pp. 51-52.
105. Francis Barnum, Life on the Alaska Mission: Second Series of Annual Letters from Father Barnum (Woodstock College, 1893), p. 7; Oswalt, "Kolmakovskiy Redoubt," pp. 60, 66; Zagoskin, Travels in Russian America, pp. 251-262; U.S. Department of the Interior, Report of the Governor of the District of Alaska (Washington, D.C.: GPO, 1903), p. 63; Maddren, "Gold Placers of the Lower Kuskokwim," p. 303.
 106. Zagoskin, Travels in Russian America, pp. 264, 301; Petroff, Report on the Population, p. 16; Porter, Report on Population, p. 6; Oswalt, Historic Settlements, p. 48.
 107. VanStone, "Russian Exploration," p. 46; Cady, The Central Kuskokwim Region, p. 17; Oswalt, Historic Settlements, pp. 35-36.
 108. Ibid., p. 72.
 109. Fairbanks Weekly Times, January 4, 1912; Iditarod Pioneer, May 4, 1912; Fairbanks Daily News-Miner, June 1, 1912; "Interior Alaska in 1911 and 1912," Lee Raymond Dice Collection, p. 108; Kitchener, Flag Over the North, p. 175; Cady, The Central Kuskokwim Region, pp. 16-17; N.C. Co. Flag, June, 1957; Oswalt, Historic Settlements, pp. 24-26; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.

110. Oswalt, Historic Settlements, p. 43.
111. Ibid., p. 33.
112. G. I. Davydov, Two Voyages to Russian America, 1802-1807, Richard A. Pierce, ed., Colin Bearne, trans. (Kingston, Ontario: The Limestone Press, 1977), p. 201; Zagoskin, Travels in Russian America, p. 203; U.S. Board of Road Commissioners for Alaska, Report of the Alaska Road Commission, Fiscal Year 1926 (Juneau: Territory of Alaska, 1926), II, p. 57; Wendell H. Oswalt and James W. VanStone, The Ethnoarchaeology of Crow Village, Alaska, U.S. Bureau of Ethnology, Smithsonian Institution Bulletin 199 (Washington, D.C.: GPO, 1967), pp. 68, 84. Based on his extensive research on the Kuskokwim River area, Oswalt, Historic Settlements, p. 38, concludes that Davydov confused Crow Village with the nearby village, Ohagamiut;
113. Davydov, Two Voyages to Russian America, pp. 200-202; Svetlana G. Fedorova, The Russian Population in Alaska and California: Late Eighteenth Century - 1867, Richard A. Pierce, ed., Alton S. Donnelly, trans. (Kingston, Ontario, The Limestone Press, 1973), pp. 64-68; Zagoskin, Travels in Russian America, p. 306; Oswalt, Historic Settlements, pp. 69-70. Spurr, "Reconnaissance in Southwestern Alaska," p. 53, mentioned that several hundred Eskimos lived at the village.
114. Oswalt, Historic Settlements, p. 42.
115. Zagoskin, Travels in Russian America, pp. 203, 306; Spurr and Post, "Report on the Kuskokwim Expedition"; Hrdlicka, Alaska Diary,

pp. 318, 330; F. P Wiseman, Bethel, to Governor G. A. Parks, January 20, 1932, George A. Dale, "A Survey of Economic Conditions in Native Villages of the Kuskokwim and Adjacent Areas," September 13, 1933, p. 25, General Correspondence of the Alaskan Territorial Governors; Oswald, Historic Settlements, pp. 71-72, 76, 85-86; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.

116. Oswald, Historic Settlements, p. 54.
117. Ibid., p. 48.
118. Ibid., p. 70.
119. Ibid., p. 84.
120. Ibid., pp. 68-69; Zagoskin, Travels in Russian America, p. 254; Oswald, "Kolmakovski Redoubt," p. 184.
121. Oswald, Historic Settlements, p. 66.
122. Ibid., p. 51; Petroff, Report on the Population, p. 17; Porter, Report on Population, p. 6.
123. Oswald, Historic Settlements, pp. 84-85; Kusko Times, April 2, 1937; U.S. Congress, House of Representatives, Compilation of Material Relating to the Indians of the United States and the Territory of Alaska, Serial 30 (Washington, D.C.: GPO, 1950), pp. 1018-1020.

124. Iditarod Pioneer, January 9, 1915; Rudy Firm and Jo Ann Firm, "Nyac -- Now Another Dead Gold Camp," Alaska Magazine 36 (September, 1970): 16; Oswalt, Historic Settlements, p. 67; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
125. Wendell H. Oswalt, "Eskimos and Indians of Western Alaska, 1861-1862: Extract from the Diary of Father Illarion," Anthropological Papers of the University of Alaska, 8 (May 1960): 110; "Interior Alaska in 1911 and 1912," Lee Raymond Dice Collection, p. 109; Kusko Times, April 9, 1937; Otto George, Eskimo Medicine Man (Portland: Oregon Historical Society, 1978), pp. 9, 12; Oswalt, Historic Settlements, pp. 21-24; U.S. Congress, House of Representatives, Compilation of Material Relating to the Indians of . . . Alaska, pp. 900-902.
126. Ibid., p. 73.
127. Oswalt, "Eskimos and Indians of Western Alaska," p. 111; Dale, "A Survey of Economic Conditions," pp. 26-27, General Correspondence of the Alaska Territorial Governors; The Kusko Times, April 16, 1937; Oswalt, Historic Settlements, pp. 20-21.
129. Oswalt, Historic Settlements, pp. 66-67.
129. Oswalt, "Kolmakovskiy Redoubt," p. 181, mentions an early American trading station (Kwigologamuk) managed by John W. Clark at Kwethluk. Oswalt's source is the diary of H. W. Weinland, July 10, 1884, Weinland

- Collection. Hartmann, "Exploration in Western Alaska by the Moravians," made no mention of the village or trading station. See also Oswalt, Historic Settlements, pp. 49-50; U.S. Congress, House of Representatives, Compilation of Material Relating to the Indians of . . . Alaska, pp. 964-967.
130. Edward W. Nelson, "A Sledge Journey in the Delta of the Yukon, Northern Alaska," in Proceedings of the Royal Geographic Society and Monthly Record of Geography 4 (1882): map; Petroff, Report on the Population, p. 17; Porter, Report on Population, p. 6; Oswalt, Historic Settlements, p. 51.
131. Oswalt, Historic Settlements, p. 44.
132. "Interior Alaska in 1911 and 1912," Lee Raymond Dice Collection, p. 113; Maddren, Fieldbook 407, USGS Records; Gordon, In the Alaska Wilderness, p. 127; J. A. H. Hartmann, "Exploration in Western Alaska by the Moravians, Rev. J. A. H. Hartmann and W. H. Weinland, 1884" in Report on Education in Alaska, 1886, Sheldon Jackson, ed. Appendix I (Washington, D.C.: GPO, 1887), pp. 62-63; Kitchener, Flag Over the North, p. 166; Oswalt, Historic Settlements, pp. 26-33; F. Drebert, "A Brief History of Bethel, Alaska," c. 1942, Huntington Library, San Marino, California; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
133. Oswalt, Historic Settlements, pp. 43-44, 72-73; Wendell H. Oswalt, Napaskiak: An Eskimo Village in Western Alaska (Ann Arbor, Mich.: University Microfilms, 1977), pp. 115-116.

134. Petroff, Report on the Population, p. 17; Porter, Report on Population, p. 6; Oswalt, Historic Settlements, p. 54.
135. Nome Nugget, July 14, 1910; Hrdlicka, Alaska Diary, p. 254; Nelson, "A Sledge Journey," map; Petroff, Report on the Population, p. 17; Oswalt, Historic Settlements, pp. 61-62; U.S. Congress, House of Representatives, Compilation of Material Relating to the Indians of . . . Alaska, pp. 971-972; Alaska Planning and Management, Alaska Community Survey (Anchorage: Alaska Planning and Management, 1972), pp. 536-537.
136. Orth, Dictionary, p. 736.
137. Robert D. Arnold, et al., Alaska Native Land Claims (Anchorage: Alaska Native Foundation, 1978), p. 330.
138. Samuel Anavuk Report, February 1, 1945, Box 1610, Records of the U.S. Bureau of Indian Affairs, Record Group 75, Federal Records Center, Seattle; Warren L. Coonrad, Geological Reconnaissance in the Yukon-Kuskokwim Delta Region, Alaska, U.S. Geological Survey Miscellaneous Geologic Investigations Map I-223 (Washington, D.C.: U.S. Geological Survey, 1957); Wendell Oswalt, "The Eskimos (Yuk) of Western Alaska," Modern Native Culture (Fairbanks: University of Alaska Museum, 1972), p. 81; U.S. Congress, House of Representatives, Compilation of Material Relating to the Indians of . . . Alaska, pp. 981-982.

139. Orth, Dictionary, p. 499; and Coonrad, Geological Reconnaissance in the Yukon-Kuskokwim Delta.
140. Samuel Anavuk Report, February 1, 1945, RG 75; Coonrad, Geological Reconnaissance in the Yukon - Kuskokwim Delta.
141. Alaska Planning and Management, Alaska Community Survey, pp. 562-563.
142. Ibid., pp. 873-874; Father Nelson, "Brief History of Nelson Island Mission," April 28, 1939, Reel 13, and Father Francis Menager, Alaska Kayak Club "Newsletter," March 10, 1957, Reel 38, Society of Jesus Records, University of Alaska, Anchorage; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
143. Alaska Planning and Management, Alaska Community Survey, pp. 860-861.
144. Ibid., pp. 565-566; Father John Fox, Diary, April 28, 1939, Reel 13, Society of Jesus Records; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
145. Alaska Planning and Management, Alaska Community Survey, pp. 127-128.
146. Ibid., pp. 404-405; Dale, "A Survey of Economic Conditions," pp. 31-32, General Correspondence of the Alaskan Territorial Governors; Eugene V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.

147. Alaska Planning and Management, Alaska Community Survey, pp. 454-455; Eugène V. Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
148. Alaska Planning and Management, Alaska Community Survey, pp. 429-430.
149. Nelson, "A Sledge Journey," map; Ferdinand Drebert, "The Mission in Alaska Report for the Year 1945," Proceedings of the General Meeting of the Society of the United Brethren for Propagating the Gospel Among the Heathen, 1945 (Bethlehem, Pennsylvania: The Moravian Press, 1946), p. 92; Orth, Dictionary, p. 993.
150. Nelson, "A Sledge Journey," map; Orth, Dictionary, p. 521.
151. Charles McGonogall to Bureau of Fisheries, 1928, Reel 155, General Correspondence of the Alaskan Territorial Governors; Eugene Wagner to Civil Works File, July 25, 1958, Corps of Engineers Records.
152. Nelson, "A Sledge Journey," p. 669; Petroff, Report on the Population, p. 17; Porter, Report on Population, p. 6; R. R. Lukens, "Report for Season 1915, Steamer Yukon," Records of the National Oceanic and Atmospheric Administration, Rockville, Maryland; Charles McGonogall to Bureau of Fisheries, 1928, Reel 155, General Correspondence of the Alaskan Territorial Governors; Orth, Dictionary, p. 83.
153. E. H. Wells, "From St. Michael to Katmai," Ro Sherman, ed., The Alaska Journal, 5 (Spring, 1975): 112; Spurr, "Reconnaissance in

Southwestern Alaska," p. 94; Dale, "A Survey of Economic Conditions," p. 35, General Correspondence of the Alaskan Territorial Governors.

154. James S. Couch, Philately Below Zero: A Postal History of Alaska (Pennsylvania: American Philatetic Society, 1957), p. 43; Dale, "A Survey of Economic Conditions," p. 35, General Correspondence of the Alaskan Territorial Governors.
155. George, Eskimo Medicine Man, p. 233; Orth, Dictionary, p. 378.
156. George, Eskimo Medicine Man, p. 233; James W. Phillips, Alaska-Yukon Place Names (Seattle: University of Washington Press, 1973), p. 103; Orth, Dictionary, p. 378.

CHAPTER SIX

WATER TRANSPORT

Since the days of the Russian fur traders, men with an eye to developing the resources of the Kuskokwim basin to their full potential recognized the important role that the Kuskokwim River as a natural highway would play in that development. The entrance to the river from Kuskokwim Bay was a formidable obstacle to overcome, however. Owing to the navigational hazards of shifting channels, shallow and turbid water, and extensive mud flats, in addition to the absence of harbors in Kuskokwim Bay where one could find protection from frequent storms and fogs, it was extremely risky business for marine vessels to enter the Kuskokwim River. Both Russian and American traders had in fact little success in supplying their posts by way of Kuskokwim Bay. After several attempts to locate a navigable channel to the Kuskokwim River, the Russians proceeded to develop overland routes to the river. The American traders had better success, cautiously descending the river in small Native crafts and following the coast to Warehouse Creek where they awaited ships loaded with trade goods and provisions. However, with the gold rushes to the region in the early 1900s and 1910s, the demands of miners for better transportation services resulted in the federal government initiating a project to survey and chart the navigable channels of Kuskokwim Bay. By 1915, when the government completed the survey of Kuskokwim Bay, 1/ ships usually proceeded to Bethel, where their cargo was transferred to steamboats and barges for shipment to upriver points.

The Russians investigated the feasibility of gaining access to the Kuskokwim River by way of Kuskokwim Bay in the late 1810s and early 1820s. Rejecting the idea, they subsequently relied upon first the Nushagak-Kolmakof overland

routes and later the St. Michael-Kolmakof routes to supply their only station on the river. Even Fedor Kolmakov's proposal in 1834 to send goods by ship to Kuskokwim Bay for transshipment up the river by baidarkas was not seriously considered. 2/ Perhaps the company directors did not believe the Kuskokwim trade warranted the expense and danger.

Before 1846 the Russian traders on the Kuskokwim River obtained their supplies from Aleksandrovsk Redoubt at the mouth of Nushagak River. Each winter the traders set out on a long journey up the Holokuk River and thence to the head of the Holitna River where they crossed a low pass to the headwaters of the Nushagak River. During the summer months they ascended the Holitna and its tributary, the Hoholitna. These trips were usually made in kayaks. After 1846, when Kolmakov Redoubt was transferred to the St. Michael district, the Russian traders obtained their supplies from Mikhailevosk Redoubt by way of the Yukon-Kuskokwim portage. Using large boats of skin called baidaras, the traders usually required a month for a round trip. At least two round trips were made each summer over the route. In 1862, for example, two transports arrived at Kolmakov Redoubt -- the first in mid-June, the other in late September. Six to eleven tons of goods were annually transported over the portage to the redoubt. 3/

Within the region itself, the Russians relied upon the Kuskokwim River as a route of travel. Not long after the spring break-up, the Russian traders left Kolmakof in boats to trade at the various villages. They ascended the river as far as Vinasale where they met Indians from the upper Kuskokwim basin.

American traders entering the basin after 1867, adopted this practice but relied upon a different route in obtaining trade goods and provisions. Sometime between 1870 and 1884, the Alaska Commercial Company constructed a frame storage building near the mouth of Warehouse Creek on Kuskokwim Bay. Each year the company sent a vessel (usually the Dora) loaded with supplies to Kuskokwim Bay where it was met by the traders who paddled out to the vessel from Warehouse Creek in baidarkas. The goods were then lightered to shore and shipped on small scows up the Kuskokwim River. Beginning in 1885, Moravian missionaries at Bethel also used this method, but a thirty-five-foot sailboat, the Bethel Star, was used to transport supplies to the mission. 4/

Through the years a few attempts were made to enter the Kuskokwim River in marine vessels. The first ocean-going vessel to enter the river was the U.S. Fish Commission's steamer Albatross, a 636-ton ship with a draft of thirteen feet, which ascended the river approximately forty miles in 1889. Sometime before 1910, the Leelanaw (1,923 tons) was taken up the river as far as an island located about forty miles below Bethel. 5/

With the gold rushes in the early 1900s, several steamboats were placed on the Kuskokwim River. Perhaps the first steamboat on the river was the one owned by trader Edward Lind. In 1901, he ascended the river in the steamboat as far as the mouth of the South Fork of the Kuskokwim River. 6/ In 1905 another trader named A. H. Twitchell sailed his boat, the Zenith, with a seven-foot draft, from Nome to Bethel. In August of the same year, E. Loomis on the steamer Research transported a small party of prospectors, including Eugene W. Parks and William Fisher, from St. Michael to Warehouse Creek where they planned to meet the bark Nicholas Thayer from Nome with a cargo of sixty

tons of supplies. The prospectors intended to transport the supplies to the upper Kuskokwim basin on a knockdown scow. It is unknown whether they were successful. They did succeed in taking the Research up the Kuskokwim River, for in 1906 it was reported to be docked at Bethel. 7/

In 1905, several companies announced plans to establish steamboat service on the Kuskokwim River. Captain W. E. Geiger of Nome organized a trading and transportation company and purchased the Quickstep, a small 225-ton steamboat with a draft of four and one-half feet. According to newspaper reports in Nome, Geiger intended to transport one hundred tons of freight and forty passengers up the Kuskokwim River to the Takotna River. He succeeded in entering the Kuskokwim River with the Quickstep that summer, but it is not known whether the steamboat reached the Takotna River. 8/ In the same year, Captain John J. Healy, the former head of the North American Trading and Transportation Company, organized the Central Alaska Company with plans to establish a string of trading posts along the Kuskokwim River. The company's large steamboat Nunivak left Seattle for the Kuskokwim River in July 1905, and succeeded in entering the river. The steamboat may have been taken as far as the upper Kuskokwim basin, for there is a Nunivak Bar in the area. In the following summer the steamboat was taken to St. Michael, never again to operate on the Kuskokwim River under the Central Alaska Company, for the company was placed into receivership sometime before October 1906. 9/

During the gold rush to the Innoko district in 1907, many people from Nome ascended the Kuskokwim and Takotna rivers to cross the short portages to the headwaters of the Innoko River. How many people and boats went over this route in 1907 is not known. Five schooners and five steamboats docked at

Bethel during the summer. 10/ The Hattie B., placed on the Kuskokwim River in 1906, made at least one trip to McGrath at the mouth of the Takotna River with W. A. Vinal, the newly appointed U.S. commissioner, on board. When George and McClaren Gordon reached Bethel in late 1907, they found two sternwheel steamboats there. One had been brought from the Yukon River in the spring, and the other was brought in as a rival to the first. According to George B. Gordon, the gold rush had proved abortive, and so the two steamboats lay at Bethel all summer. Gordon did not name the boats, but one was almost certainly the Hattie B., the boat that he took passage on from Bethel to Nome. Gordon wrote that the boat was owned by a Norwegian by the name of Houlberg. 11/

Of all the routes to the Innoko district, the Kuskokwim River was probably one of the least used in 1907. Yet few people denied that the river was destined to be the primary route. Analyzing the problems of transportation in the Innoko district, Alfred G. Maddren of the U.S. Geological Survey (USGS) explained that the river had not yet been used extensively as a route for the transportation of supplies primarily because the Kuskokwim basin had not been prospected or developed to any great extent and because the mouth of the river had not yet been charted, presenting a hazard to ocean vessels bound to Bethel. It was known that vessels with a draft of twelve feet could and did ascend the river to Bethel. Once developments in the basin warranted regular steamboat service, and if the mouth of the river was charted and marked, navigation companies may land freight at Bethel by ocean vessel, and then ship the freight upriver by steamboat to the lower Takotna River. The freight could then be transported by road or railroad to the Innoko district at any time of the year. Compared to the other

routes, the Kuskokwim River was closer to the Pacific Coast ports, required fewer transfers of freight, and thus offered the possibility of lower rates for the transportation of freight from Seattle to the Innoko district. Summing up, Madden wrote: "There appears to be no question that the Kuskokwim route to the Innoko placer camps affords the most expeditious and satisfactory solution of the transportation problem, that even under present conditions there is no reason why supplies from Seattle may not be delivered at Ophir for \$100 a ton, and that with good management the actual freight cost over this route may be reduced considerably below that figure." 12/

When Maddren visited the Innoko district in 1908, the beginning of a transportation system on the Kuskokwim River was already evident. At Bethel, the Kuskokwim Trading and Transportation Company, incorporated in 1908 at Nome and backed by B. G. Tognazzi of the Golden State Products Company of San Francisco, received several hundred tons of freight from the ocean steamer Charles Hanson (192 tons; 12 feet draft). 13/ Under the management of Frank Joaquin, the company transported about forty tons of freight aboard the steamer Hattie B. to the Takotna River and thence up that river on the small steamboat Star to Takotna. 14/ Sometime later Joaquin joined with C. H. Fowler and A. H. Twitchell to form the Kuskokwim Commercial Company. This company transported in 1909 about 150 tons of freight to its posts at Georgetown, Takotna, and Forks on the steamboat Quickstep and the Victoria. 15/

At the height of the Iditarod gold rush in 1910, the Northern Commercial Company entered the field with stores at Takotna and Georgetown, and its subsidiary, the Northern Navigation Company, placed the steamboat

Lavelle Young on the Kuskokwim River. Fogs, storms, and the threat of storms prevented the captain of the steamboat from entering the Kuskokwim River. The gas schooner Meteor was finally sent about fifty miles into the bay to guide the steamboat into the river. 16/ In 1911, the Northern Commercial Company closed its stores on Susitna River, and transferred the steamboat Alice and barges Susitna No.1 and Susitna No. 2 to the Kuskokwim River. 17/ The Lavelle Young operated in 1911, but was subsequently replaced by the Alice as it was too large and expensive to operate for the Kuskokwim trade. 18/ The Lavelle Young was later converted into a cold-storage barge, which sank at its moorings near Bethel in 1930. The Alice operated on the Kuskokwim River until 1915. 19/

The steamboats of both navigation companies made connections with ocean-going vessels at Bethel. In 1910, the Monterey, A. G. Lindsay, P.J. Adler, Arcata, and Anvil were among the many vessels that docked at Bethel. 20/ In 1911, the Alaska Steamship Company announced plans to run the Santa Ana from Seattle to Bethel, and the Northern Navigation Company placed the Melville Dollar (2,000 tons) on the run to Bethel. 21/

The peak year in the Kuskokwim River trade was 1911. About 2,500 tons of merchandise valued at \$198,500 was shipped to the river that year. Tonnage figures sharply declined subsequently. Only about five hundred tons of freight was transported from Bethel to McGrath in 1914. In the spring of that year, the Northern Navigation Company closed its stores at Georgetown and Kolmakof, and transferred the stock to its station at Takotna. Steamboats on the Bethel-McGrath run seldom made more than three or four round trips a season. 22/

A pattern to water transportation service on the Kuskokwim River emerged in 1914 that continued until 1940. Small gas schooners with a capacity of about one thousand tons, such as the Ozmo and the W.H. Tupper, operated on the Seattle-Bethel run. From 1923 to 1952, the Santa Ana Steamship Company provided service between Seattle and Bethel. A steamboat hauling about three hundred tons of freight made two or three trips each summer from Bethel to McGrath. The upriver trip usually took ten days with stops at Aniak, Crooked Creek, and Sleetmute.

In the years between the two world wars, a number of individuals provided transportation services from Bethel to outlying villages and mining camps. However, the Alaska Rivers Navigation Company dominated the Kuskokwim trade. In June 1916, Wallace C. Langley and his brother Horace brought the steamboat Tana and the barge Delta from the Yukon River to the Kuskokwim River. 23/ Captain Omar J. Humphrey, part-owner of the steamboat, had organized the Westward Navigation Company and planned to operate the steamboat out of Bethel, where connections were to be made with the newly-constructed Kuskokwim River (150 tons). The company soon failed as numerous problems with the new ship were experienced. The ship lost its propeller on its maiden voyage and had to be towed to Bethel. On its second voyage the ship developed engine problems in Southeast Alaska, and was forced to port for the remainder of the season. 24/ The Langley brothers subsequently purchased the Tana and the Delta, and in 1917 leased the Kuskokwim Commercial Company's steamboat, the Quickstep. 25/

Sometime in the late 1910s, the Alaska Rivers Navigation Company was incorporated with Wallace C. Langley as president. Langley was in charge of the Tana and Captain George A. Green operated the Quickstep. 26/ Through the years, the

company expanded operations. In 1920, the company purchased the Lavelle Young and two barges for \$7,500 from the American-Yukon Navigation Company. 27/ In 1923, the small steamboat Tacotna was added to the fleet; and in 1925, the Argonaut. 28/ In 1936, the company replaced the Tana with the Wallace Langley, a wood-burning steamboat 110 feet long with a twenty-inch draft. Constructed at Bethel, this steamboat was the largest boat on the Kuskokwim River for many years. 29/

During the 1920s and 1930s, upriver tonnage consisted primarily of fuel, dredge material, and foodstuff. Downriver tonnage consisted of ore from the Nixon Fork mines. During the 1940s and 1950s, tonnage increased dramatically as military communication facilities were constructed in the region. In 1952, diesel tugs replaced the Wallace Langley, the last wood-burning steamboat to operate on Alaska rivers. Three motor tugs, namely the Peyaka, Chelan, and Hella, were used on the river. About twelve thousand tons of freight were transported on the river. About two thousand tons were shipped to McGrath and vicinity. Downriver shipments consisted primarily of timber. 30/

During these years several navigation companies began to compete with the Alaska Rivers Navigation Company. In 1954, the Northern Commercial Company, then owning about 50 percent of Alaska Rivers stock, purchased the remaining stock, and effected a merger with an independent firm owned by Harlan J. Eggleston. The new Alaska Rivers Navigation Company, managed by Eggleston, operated five tugboats and eight barges on the Kuskokwim River. Competitors included J. P. Snow's lightering service at Bethel; C. F. Swan, Jr., who served communities below Bethel with the Sandra Lou; and the McGrath-Kuskokwim Freight Service on the upper Kuskokwim River. In 1957, about 45,000 tons of

cargo, much of it consisting of gas and oil, was landed at Bethel. About one-third of the cargo was destined for upriver points. 31/

In the early 1960s, at least ten boats ranging in length from fifty to 125 feet and twenty barges operated out of Bethel. Companies operating on the river at that time included the Alaska Puget United Transportation Company at McGrath; the Snow Transportation Company at Crooked Creek; and the McGrath-Kuskokwim Freight Service, which in 1964 purchased most of the equipment of the Alaska Rivers Navigation Company. 32/

Beginning in the late 1970s the BLM made navigability determinations for sections of the Kuskokwim as the need arose in the conveyance of land to Native village and regional corporations. However, on May 6, 1980, the BLM determined that the entire length of the Kuskokwim River was navigable. This determination was based upon a BLM report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin." 33/

TAKOTNA RIVER

During the gold rushes to Ganes Creek and Ophir Creek in 1907 and 1908, many people from Nome and the Kuskokwim basin ascended the Takotna River in boats to points twelve to twenty miles from Ganes Creek, where they found portages to the upper Innoko River. Some prospectors took advantage of the rush to earn money by transporting passengers and supplies to Takotna. Tom Odale, for example, purchased provisions at McGrath and necked his twenty-six-foot boat up the river to Takotna, then known as Berry's Landing. After prospecting awhile on Spruce Creek, he returned to the Takotna River by way of

Yankee Creek, and found employment with a storekeeper from Nome freighting about 3,500 pounds of goods up the river to Berry's Landing at a charge of six cents per pound. Later, he returned to McGrath, purchased a winter outfit of five thousand pounds, and ascended the Takotna River and Nixon Fork, where he intended to prospect during the winter. 34/

As one strike after another occurred on the upper Innoko River and the tributaries of Takotna River, and in view of the shortage of supplies in the district, the Kuskokwim Trading and Transportation Company, locally known as Joaquin, Twitchell and Fowler, moved into the field. In the spring of 1908, the company received several hundred tons of supplies from San Francisco. The goods were landed at Bethel, and in the summer transported to McGrath. The company then hired Arthur Berry to take the supplies up the Takotna River in his sternwheel steamboat, the Star. Berry hauled about forty tons of freight to Takotna, where a store was built to supply miners on Yankee Creek. In order to supply miners on upper Ganes Creek, the company decided to establish another store near the mouth of Big Creek. So Arthur Berry, Archie Higgins, Louis Blackburn, and John Felder ascended the river in two poling boats, each loaded with three tons of goods. They landed near the mouth of Big Creek, and there constructed a log cabin store. 35/

When, in the summer of 1908, Alfred G. Maddren of the USGS visited the district, he early recognized the importance of the Takotna River as a water route to the Innoko district. He noted that Joaquin, Twitchell and Fowler had established trading posts at the termini of the portages to the Innoko River, and predicted that the trail at Takotna would prove the superior route. According to Maddren, an auxiliary gasoline schooner of fifteen tons burden with a draft of four feet, ascended the Takotna River a distance of

thirty miles without any difficulty. Boats with a draft of two feet had ascended the river as far as Takotna. With a view to lowering transportation rates by reducing the number of times that freight must be transferred, Maddren recommended the construction of a road from a point near the mouth of Nixon Fork to Takotna and Ganes Creek. Boats operating on the Kuskokwim River could discharge freight at the terminus of the road, and teamsters could then haul the freight to the diggings in summer and winter. 36/

The Kuskokwim Commercial Company implemented Maddren's recommendations in part. In the fall of 1909, the company constructed a sled road from Nixon Fork to Takotna, and thence to Ganes Creek. Whenever water in the Takotna River was low, steamboats landed freight at the Forks for shipment to Takotna. Whenever possible, however, the company continued to use small steamboats and launches to haul freight from the Forks to Takotna.

Anton Eide of the Alaska Road Commission visited the area in the summer of 1910, and provided the best available description of the methods of water transportation on the Takotna River. 37/ Arriving at Bethel on July 7 on the ocean steamer A. G. Lindsay, Eide boarded the steamboat Quickstep for the journey to McGrath. Owned by the Kuskokwim Commercial Company, the Quickstep was 126 feet long with a beam of twenty feet and drew four feet of water. In this particular case, the boat was hauling 150 tons of merchandise for the company's post at Takotna.

Although not operated at full capacity, the Quickstep required seven days to reach McGrath. The steamboat then ascended the Takotna River to the Forks, arriving there early in the morning of July 23. Here, Eide wrote, was the

transfer point from large steamboats to smaller ones. Boarding the Hattie B., a fifteen-ton sternwheel steamboat with a draft of eighteen inches, Eide continued up the Takotna River as far as Victoria Bar, a distance of about twelve miles. Eide observed that the river began to get shallow at a point about eight or ten miles above the Forks. At the bar, freight was transferred from the steamboat to two scows, which coupled together were towed by a horse the remaining twenty-three miles to Takotna. According to Eide, this was the ordinary method of water transport to Takotna, although in periods of high water steamboats drawing eighteen or twenty inches of water ascended the river to the portage.

Eide himself did not board the scows for the trip to Takotna. Having brought a Peterborough canoe with him, he pulled and poled the canoe to Takotna, arriving there on July 25. The trip was made with little difficulty, as the river had a hard gravel bottom which made it a "good poling stream." Upon reaching Takotna, Eide learned that poling boats could be taken farther upriver to Moore Creek, but that the trip was "rather difficult on account of riffles and shallows." Since his mission was to investigate possible trail routes to Iditarod and Otter, Eide continued his journey overland, following the high ridges from Ophir to Iditarod.

This method of water transportation on Takotna River continued to be used until the late 1930s. The large steamboats of the Kuskokwim Commercial Company, Northern Navigation Company, and later the Alaska Rivers Navigation Company ascended the river as far as Nixon Fork, where freight was transferred to small steamboats, launches, or horse-drawn scows for shipment upriver to Takotna. If the steamboats arrived too late in the season, the freight was

landed at Nixon Fork and then sledged to Takotna in the winter. The Quickstep, Lavelle Young, and Tana were among the largest steamboats engaged in the Bethel-Nixon Fork run in the 1920s and 1930s.

As the navigation companies relied upon small steamboats on the Nixon Fork - Takotna run, and as the volume of freight increased dramatically with the introduction of dredges in the Innoko mining district, an important transportation industry developed in the upper Kuskokwim basin. Local residents constructed small steamboats and launches for use in the transportation of passengers and freight from McGrath or Nixon Fork to Takotna. Boats used on this run included: E. W. Miller's Alaskan, Shamrock, and Whippoorwill; Robert Lourie's Pioneer and Annabelle; Frank Larson's Sea Wolf No. 2; Charles Nicollet's Spud and Argonaut. E. W. Miller's boats were used on the Takotna River as late as 1937. 38/

Not infrequently, freighters on the Takotna River found the water too shallow to navigate. In 1921, for example, the Kusko Times reported that freighters were having serious difficulty on the Nixon Fork - Takotna run owing to the low water. All freight was being landed at the mouth of Charlie Wood's slough, about two and one-half miles below Takotna. A contract was let to clear the slough of snags, in the belief that gasoline-powered boats could reach Takotna by that route. 39/ Apparently the project was unsuccessful, for in 1923 or 1924, the Alaska Road Commission constructed a wagon road (one and one-half miles) from Takotna to a steamboat landing place for low water stages. The landing was located about four rivermiles below Takotna.

The problems of shallow water navigation led to the construction of various novel crafts. Robert Lourie's boat, the Pioneer, was completed in the summer of 1921; it was designed especially to haul freight between McGrath and Takotna. In 1925, he constructed the Annabelle, which was sixty-four feet long, fourteen feet wide at the bottom with an eighteen-foot beam. 41/ In 1922, Charles Nicollet constructed the stern-sidewheeler Spud, which was powered by a Ford engine and equipped with an adjustable device reaching through the bottom of the boat which was used to shove the craft over shallow places. 42/

The small boats on the Nixon Fork-Takotna run could not handle the volume of freight destined for the Innoko district, and at times of extreme low water were forced to suspend operations. Beginning in the mid-1920s, some people in the upper Kuskokwim basin began agitating for a road from Takotna to deep water at the mouth of Nixon Fork. With each season of low water, the need for the Takotna-Nixon Fork road was voiced. Petitions calling for the construction of the road were sent to the Alaska Road Commission in 1929, 1933, and 1936. The season of 1933 was particularly hard for the district; some people were forced to transport foodstuffs in airplanes from McGrath to Takotna at a cost of \$60 to \$80 a ton.

In 1937, the Alaska Road Commission finally obtained funds to construct a road from Takotna to the mouth of Nixon Fork. Construction materials were hauled by boat from McGrath to the mouth of Shorty Creek. In September, the M.S. Sea Wolf under the command of Frank Lange and Charlie Smith, arrived with twenty-five tons of mixed cargo, most of it being bridge material for the Alaska Road Commission. 43/ In the following year, however, the Road Commission

abandoned the proposed Takotna-Nixon Fork road project, and began construction of a road from Takotna to the Kuskokwim River via Candle Creek. Completed in the same year, this road became the primary route to the Innoko district for the transportation of heavy freight. As a result, freight boat traffic on the Takotna River declined dramatically. While some operators continued services on the Takotna River, they could not compete against the shorter and more reliable land route, and were eventually forced to suspend operations.

Boat traffic on the Takotna River above Takotna was limited to poling boats and canoes. As noted before, in 1908 the Kuskokwim Trading Company transported about three tons of goods in poling boats to found a store near the mouth of Big Creek. Following the construction of the Takotna-Iditarod winter trail in 1911, the store became a roadhouse, serving miners on Moore Creek and Fourth of July Creek as well as travelers on the winter trail. In 1910, Anton Eide noted that it was possible to take poling boats upriver to Big Creek. 44/ Visiting Iditarod in August 1911 to purchase supplies, Aaron Longnecker, a miner on Moore Creek, reported that it was difficult to transport supplies up Takotna River to Moore Creek owing to low stages of water, and that even poling boats were unable to reach the diggings. He predicted that miners on Moore Creek would in the future obtain all their supplies from Iditarod by way of the winter trail. 45/

Subsequent events were to prove Longnecker correct. All supplies for the Moore Creek diggings came from Iditarod or Flat. In the mid-1910s, the Kuskokwim Commercial Company undertook the construction of a wagon road from Big Creek to Ganes Creek, with plans to transport a dredge to the Innoko

district. In this connection, it was reported that launches were able to haul considerable loads up the Takotna River to Big Creek. The freight was then transported by wagon to Ganes Creek. 46/

In later years, hunters and trappers frequently ascended the upper Takotna River in small boats. According to Allan Anderson, who was born at Takotna, Deacon Deaphon used to transport supplies to trappers located above Joaquin, just below the Waldren Forks, until the late 1960s. He used small boats and barges about twenty feet in length and eight feet in width. Another resident of McGrath, Mike Harrington, stated that Deaphon used to ascend the river during the 1930s and 1940s in a riverboat with an inboard engine loaded with trapping supplies. 47/

In the summer of 1979, Diane Gudgel-Holmes of the Alaska Division of Research and Development interviewed numerous people at McGrath for information about potentially navigable waterways. Several individuals, most of them trappers and hunters, stated that they had ascended Takotna River and one or more of its tributaries in recent years. Allan Anderson stated that he had ascended the upper Takotna River many times in the spring, as well as Little Waldren Fork and Big Waldren Fork. On Little Waldren Fork, Anderson reached a point just below the mouth of Moore Creek in the northwest part of T. 28 N., R. 41 W., Seward Meridian. He ascended Big Waldren Fork three or four times in the spring when the water was high. Using an eighteen-foot riverboat with a propellor unit, he reached the northwest corner of Section 8, T. 28 N., R. 29 W., Seward Meridian.

Ralph Anderson, a forty-year resident of McGrath, stated that he ascended the Takotna River as far as the mouth of Fourth of July Creek. Beyond that point,

he said, the water is "tricky." However, Mike Harrington, a trapper, stated that although shallow in places near the mouth of Fourth of July Creek, the water is deeper farther upriver. Using a seventeen-foot canoe with a four-horsepower motor, Harrington had ascended Moore Creek, Big Waldren Fork, and Little Waldren Fork. He stated too that the late Vic Hooper ascended the river to the mouth of Little Waldren Fork many times in an eighteen-foot boat. In 1974, he ascended the creek five or six times with loads of supplies and building materials.

Another long-time resident of McGrath, Frank Miller has traveled frequently on the upper Takotna River to trap, hunt, and fish. He has used a 24-foot riverboat with jet units to ascend the river to Waldren Fork. He then used canoes on the tributaries, namely Big Creek, Fourth of July Creek, Minnie Creek, and Moore Creek. According to Miller, he has taken a canoe up Big Creek as far as the west border of Section 16, T. 33 N., R. 38 W., Seward Meridian; and up Minnie Creek to a cabin in the southeast corner of T. 30 N., R. 40 W., Seward Meridian. He stated as well that Pete Snow had ascended Minnie Creek to the cabin, and that people may take canoes up Moore Creek and Big Waldren Fork. As a matter of fact, he said, people may ascend Moore Creek with a canoe and motor at high water as far as the former mining camp.

Both Jim Pierson and Peter Shephard of McGrath have also ascended the upper Takotna River. Pierson ascended the river in a nineteen-foot boat with jet units on fishing and camping trips to points above the mouth of Fourth of July Creek. In 1978, he said, the river somewhere above Fourth of July Creek was too shallow for his motor-powered boat; he was then taking supplies to a

trapper's cabin. Shephard, a biologist employed by the Alaska Department of Fish and Game, has frequently ascended Takotna River to the mouth of Little Waldren Fork or Moore Creek in recent years while counting beaver and moose. He used a twenty-foot riverboat with jet units. 48/

The BLM first considered the navigability of Takotna River in 1977 in connection with land selections made by Takotna Village under the Alaska Native Claims Settlement Act. On June 8, 1977, the BLM easement and navigability task force recommended that the river be determined navigable to the mouth of Big Creek, a point just within the area selected by the village corporation. This recommendation was apparently based upon a report prepared by the Anchorage District Office. This report stated that the river was used as a route of travel during the gold rush days to Big Creek Roadhouse. In more recent times, there was heavy recreational use of the river near McGrath and Takotna, and lighter use upstream of the Takotna bridge. Skiffs, rafts, and canoes were used on the river. 49/

Following the issuance of easement regulations, the BLM changed its position on the navigability of the river, proposing to determine the river to be a major and navigable waterway through the area selected by the village. Receiving no objections to the proposal, the BLM on March 30, 1979 released a Decision to Issue Conveyance (DIC) for certain lands to Doyon, Limited and MTNT, Limited (a corporation formed by the merging of the village corporations of McGrath, Takotna, Nikolai and Telida on November 15, 1976). In the decision, the BLM determined the Takotna River to be navigable through the village selection area. Both Doyon, Limited, and MTNT, Limited, appealed the decision to the Alaska Native Claims Appeal Board (ANCAB), contesting BLM's determination that many water bodies in the selection area were nonnavigable. 50/

In view of a recent decision issued by the ANCAB regarding the navigability of the Nation and Kandik rivers in eastern Alaska, a decision that modified the Interior Department's criteria for navigability determinations for title purposes, the BLM initiated a study of water bodies in the upper Kuskokwim basin that might be navigable under the modified criteria. Completing the study entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin" in early May 1980, the Division of Resources in the BLM State Office recommended that the Takotna River be determined navigable to the mouth of Fourth of July Creek. According to the report, "Until the construction of the Sterling Landing - Takotna Road in the late 1920s, all freight to the Innoko mining district went over the Takotna River to Takotna in steamboats and launches, and sometimes to Big Creek in launches and pole boats. The physical character of the river is such that launches and pole boats may be used to the site of the former Indian village at the mouth of Fourth of July Creek." All tributaries of the Takotna River, excepting Nixon Fork, were recommended to be determined nonnavigable. The BLM State Director concurred with the recommendations on May 6, 1980. One month later, the BLM conveyed lands in Tps. 33 and 34 N., R. 36 W., T. 33 N., R. 37 W., and T. 32 N., R. 38 W., Seward Meridian. The bed of the Takotna River was excluded from the conveyance. 51/

Nixon Fork

Between the years 1907 and 1910, gold was discovered on the headwaters of Nixon Fork, sparking several small stampedes to the area. Most of the prospectors reached the diggings by boat. According to one report, the river was navigable for poling boats for a considerable distance. 52/ In the summer of 1907, Tom Odale was at McGrath when he learned from an old Indian of a strike on Nixon

Fork. Odale and three companions rushed to the river in a twenty-six-foot scow-shaped boat with five thousand pounds of extra supplies. Ascending Nixon Fork to a place where there was a good stand of spruce timber, the prospectors landed their supplies, and built a log cabin and a light twenty-two-foot riverboat, which they planned to use on prospecting trips to the headwaters. Odale and Jim Wood took the boat to the foothills at least once to pick berries. With the onset of winter, they sold their supplies and cabin to a trapper and returned to McGrath on the riverboat and scow. 53/

In the early 1930s, Dick McArthur recalled that in about 1908 he had accompanied a prospecting party in poling boats up the Nixon Fork. They eventually wandered to the West Fork, which they named, and prospected that stream. 54/ In the spring of 1910, there was a stampede to the Nixon Fork about 125 miles above its mouth, and several hundred claims were staked. Some of the stampeders may have used boats to reach the diggings for some of them descended the river in the spring, a trip that was not without its dangers. Writing from the Forks to a friend in Iditarod in June 1911, Bob Stout, who spent the winter of 1910-11 on Nixon Fork, stated that a Charles Hull nearly lost his life in the headwaters of Nixon Fork when he ran under a shelf of ice, causing him to lose his boat and a hand drill outfit. Bill West and George Walters also capsized their boat on the upper reaches of the river. 55/

In the late 1910s, prospectors discovered several gold lodes on Hidden Creek, Mystery Creek, and others in the headwaters of Nixon Fork. The lodes were subsequently developed by Thomas P. Aitken and the Alaska Treadwell Gold

Mining Company, and a road was constructed from the mines directly to Medfra on the Kuskokwim River. All freight for the Nixon Fork mines was hauled over this road.

While most prospectors and miners usually took the road to the Nixon Fork headwaters, some continued to use the Nixon Fork in boats. Hunters, trappers, and loggers also used the river. In May 1925, Frank Larson ascended Nixon Fork with the Sea Wolf No. 2 with Phil Wilson and Evoy Lechnecht on board. Wilson and Lechnecht were bound for the head of Nixon Fork where they intended to log 100,000 feet of timber for the Innoko Lumber Company. It is not known whether they reached their destination, for tragedy struck the party when Wilson, who was hunting ducks, drowned. His canoe had overturned on the river about fifty-five miles above its mouth. 56/ In May 1928, another drowning apparently occurred on the river. An Indian named Wasilla ascended the river to retrieve a boat that he had left on the West Fork for the winter. He never returned. 57/

Two prospectors named Theodore Von Frank and Lee Page are known to have relied on the Nixon Fork for the transportation of supplies to their trapping grounds and prospects for twenty or thirty years. Von Frank had prospected and trapped the headwaters of Nixon Fork before 1910. Each summer he descended the river to Takotna or McGrath to purchase a winter outfit. When in 1931 he did not arrive at Takotna as expected, it was believed that he had died. And so in late July, Dick McArthur, Henry Peel, and Woodrow Vanderpool ascended Nixon Fork to its head in a boat to seek out Von Frank. They found his cabin in good order, but the old prospector and his boat were gone, leading the search party to believe that he had ascended the river to another

cabin some seventy miles upriver. They later reported that Von Frank must have left the first cabin several weeks before their arrival for the water was very low. 58/

Von Frank must have appeared at Takotna or McGrath later in the summer. For in the summer of 1933, local residents again expressed fears that the prospector had met misfortune when he failed to visit the communities as expected. Another search party was organized and sent up Nixon Fork. This time they found Von Frank in his cabin located in the headwaters of the river. The old man had starved to death. The search party buried Von Frank near his cabin, and after collecting his possessions from the cabin and from another cabin about five miles upriver, they returned to Takotna River. 59/

Several months later, another search party was sent up the Nixon Fork, this time to find Lee Page, a prospector and trapper whose headquarters had been located on West Fork since 1909 or 1910. Apparently it was Page's habit to make several trips to McGrath in the summer to purchase his winter outfit. According to one report, the prospector "visited McGrath early each year of the open season, purchased his supplies, and again departed for his isolated home." 60/ He again purchased his usual supplies at McGrath, and left there in the latter part of June. When he did not return later in the summer, local residents became worried, and so dispatched a search party. The party found Page at his cabin on West Fork. The man had died of natural causes at the age of sixty-five. 61/

Page's headquarters may have been taken over by E. Gilman. A local newspaper reported in October 1937 that Gilman had left Takotna for his

trapping grounds on the West Fork of Nixon Fork. Considering the date of the report, it is likely that he was using a boat. 62/

In recent times, hunters, trappers, and fishermen sometimes ascend the Nixon Fork in small boats. In the summer of 1979, Diane Gudgel-Holmes contacted thirteen people in McGrath who had ascended the river or knew someone who had been on the river. Amos Turner, a resident of McGrath for thirty years, stated that he had hunted and fished on the Nixon Fork for many years, but apparently did not indicate how far he traveled up the Nixon Fork. Jim Pierson and Vic Snow said that they had ascended the Nixon Fork as far as "burnt top" in Section 26, T. 26 S., R. 17 E., Kateel River Meridian, in boats ranging in length from ten to sixteen feet.

Fred Demientieff, Pete Shephard, and members of the Rose Winkleman family have gone as far as the mouth of the West Fork. Demientieff and the Winkleman family were apparently hunting moose on the river. Shephard ascended the river in a twenty-foot boat with jet units for an unknown purpose.

Six individuals stated that they have ascended the river beyond the mouth of West Fork. Since 1972, Ray Collins has ascended the river each fall during the moose hunting season. Ralph Anderson stated that he has reached the mouth of Washington Creek in a twenty-foot boat with a propeller unit. Allan Anderson said that he had ascended the river in a twenty-four-foot riverboat several times in the fall to the mouth of Ruby Creek. John Andrews stated that he had ascended the river many times on hunting and fishing trips. Using a twenty-foot riverboat and motor, he had been beyond the mouth of Hosmer Creek a few times, as well as up the West Fork. He noted that sweepers on the river above Hosmer Creek are dangers to downstream navigation.

Bill Woolard and Sonny Holmberg have gone even farther. In 1973, Woolard, who traps on upper Nixon Fork, ascended the river in a sixteen-foot boat with a propeller unit to a point just above the mouth of Washington Creek, where he encountered sweepers at three shallow spots. Above this point, he said, the water was too shallow for his boat. However, in May 1979, when the water was high, Woolard and Holmberg ascended the river in an eighteen-foot boat with a propeller unit to a log jam located above the mouth of Cottonwood Creek. The jam consisted of a sweeper blocking two of the three channels. The third channel was too small for their boat. Although they could have removed the sweeper and continued upriver in the boat, they decided to walk to a cabin on Whirlwind Creek where they had a sixteen-foot boat, which had been hauled to the place during the winter. Using the smaller boat, they descended Nixon Fork to the log jam where they transferred to the larger boat. By early June, they were floating down the Nixon Fork. The water was low, they recalled, preventing them from using the motor for two days. At times they encountered sand bars, and sometimes had to sound channels. Finally, Holmberg stated that he had ascended the West Fork as far as the mouth of the unnamed tributary on the eastern edge of T. 24 S., R. 19 E., Kateel River Meridian. The trip was made with an eighteen-foot boat. 63/

On May 6, 1980, the BLM determined that Nixon Fork was navigable to the mouth of the West Fork. This determination was based upon information presented in a report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin," which was prepared by the Division of Resources in the BLM State Office. According to the report, "the historical record indicates that prospectors and trappers customarily traveled on the river in pole boats and possibly launches to reach their headquarters on West Fork. This use has been

documented for a 30-year period." All tributaries of the Nixon Fork and lakes in the Nixon Fork basin were determined to be nonnavigable. 64/

In 1981, the BLM reconsidered the navigability of Nixon Fork as a result of a number of State selections in the river basin. In that year, Epp Anderson of Takotna and Amos Turner of McGrath gave information about past use of the river to a BLM investigator. In the interviewer's synopsis, Anderson stated: "Use extends some 80 miles upriver depending on water levels. At one time this use was commercial, delivery of mining supplies, etc., being involved. Presently subsistence and recreational use is occurring." Turner stated: "Used at one time to haul supplies at least as far as the John Cookie Mine which is 40-60 miles at least. Smaller boats could haul supplies at least as far as the second fork (Nixon Fork and West Fork). At best water, a boat with 1,000 pounds could get as high as 100 miles up the main fork."

Noting that the gradient of the river for some one hundred miles was approximately four feet per mile and Turner's statement that a boat could be taken up the river for one hundred miles, the BLM investigator concluded that the river for most of its length was "physically susceptible" to navigation. He thus recommended that the river to the confluence of Whirlwind and Von Frank creeks be determined navigable. On September 9, 1981, the BLM State Director determined that the river above the mouth of the West Fork was navigable through T. 25 S., R. 21 E., Kateel River Meridian. 65/

Tatalina River

There is little documentary evidence of boat traffic on the Tatalina River. In 1922, one newspaper reported that L. N. Wilson attempted to descend the

river, but his boat struck a sweeper and overturned. His wife and son remained ashore and witnessed the incident. 66/

In 1979, Diane Gudgel-Holmes interviewed three local residents who had used boats on the river. Ralph Anderson said that he had frequently ascended the river as far as the bridge on the Sterling Landing - Takotna Road. Amos Turner stated that he had taken a twenty-four-foot boat upriver a distance of twenty miles, and that he could have proceeded farther. Finally, Frank Turner claimed to have frequently descended the river to McGrath in a canoe, apparently from the bridge as he reached the landing from Takotna by automobile. 67/

The BLM first considered the navigability of Tatalina River in 1977 in connection with land selections made by the village of McGrath under the Alaska Native Claims Settlement Act. On June 8, 1977, the BLM easement and navigability task force met to discuss proposed easements and navigability determinations in the land selection area. Only the Kuskokwim and Takotna rivers were recommended to be determined navigable. While the task force did not mention the Tatalina River by name, it clearly considered the river to be nonnavigable. According to the author of the report on the task force meeting, the river was "not navigable by reason of susceptibility." Describing the river as winding and narrow with very low and brushy banks and with shallow places, he wrote that the river was "not considered boatable." He was unaware of any past use of the river as a route of boat travel. 68/

On May 6, 1980, the BLM State Director determined the Tatalina River to be nonnavigable. This decision was made on the basis of information presented in a report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim

Basin." Prepared by the Division of Resources in the BLM State Office, the report demonstrated that mining and prospecting activities along the river had long been served by roads and trails. 69/

SOUTH FORK KUSKOKWIM RIVER

According to oral tradition, the South Fork of the Kuskokwim River was long used by Indians and some Eskimos as a route of travel from hunting grounds in the Alaska Range to villages on the South Fork and Kuskokwim River. Interviewing several elders of Nikolai in the summer of 1960, Edward H. Hosley, an anthropologist, learned that until the 1910s or 1920s Indians of Old Nikolai, located several miles by land or eight miles by river from present-day Nikolai, usually traveled as a group to the mouth of Big River in early spring. Relatives from Vinasale joined the Nikolai group at Big River and then all traveled south-eastward by dogsled to the foothills of the Alaska Range, arriving there before the spring breakup of the river ice. During the summer, the Indians migrated eastward, hunting all the while along the upper reaches of the Middle Fork, Windy Fork, and Sheep Creek. By fall, the Indians reached the headwaters of the South Fork. They then built bullboats of caribou hides, and with their summer's catch floated down the South Fork to their villages.

Eskimos took a somewhat different route. Reaching the foothills by way of the Stony River drainage, they moved northward to the headwaters of Big River and sometimes to the South Fork in pursuit of caribou. In the fall, they too constructed boats of caribou hides, and descended the rivers to their villages on the Kuskokwim River. 70/

Once the Orthodox priest began to visit the villages in the upper Kuskokwim basin, the Indians altered their seasonal round in order to accommodate his visits. In early June, the Nikolai Indians descended the South Fork and Kuskokwim River to Vinasale, where they visited with relatives, set up fish camps, and awaited the priest. The priest arrived at Vinasale in early summer, and then all traveled to Old Nikolai Village. Following the priest's visit, the Nikolai Indians, together with Indians from Vinasale, Big River, and Salmon River, traveled as a group, sometimes numbering forty or fifty people, up the South Fork in canoes to a point near the mouth of the Little Tonzona River, above which point the river was usually not suitable for canoe travel. The group then followed a well-known summer trail from fish camp on the Itzulkashno to the foothills of the Alaska Range in the east. Hunting sheep, moose, and caribou during most of the summer, the Indians constructed canoes and bullboats in early September, and with these crafts loaded with meat descend the South Fork to their respective villages. 71/

Precisely when this seasonal round ceased is difficult to determine. As roadhouses were established on the Rainy Pass trail in the 1910s, and with the development of "market hunting" in the upper Kuskokwim basin, game populations were subject to heavy pressure from both Indians and whites. As big game was either decimated or driven away, the large hunting expeditions became less successful and eventually were abandoned.

The first written record of travel on the South Fork comes from Josiah Edward Spurr in 1898. Reaching the headwaters of South Fork by way of Ptarmigan Valley, Spurr and his men lined their Peterborough canoes through Hellgate to the mouth of Hartman River. The expedition being short of supplies, Spurr

decided to "shoot" the rapids of the upper South Fork. As he described this part of the trip: "The fall of the river was very great, and rapids were almost continuous; but as the state of our provisions did not admit of much delay nearly all of those rapids were run through in the canoes, and in this downstream traveling our progress was as rapid as it had before been slow." 72/ Before reaching the foothills of the Alaska Range, the expedition made only one portage, about one-quarter mile in length, in order to avoid a short canyon.

On July 25, the Spurr expedition finally left the mountains and entered a "broad, flat, gravelly plateau." Spurr estimated that they had traveled one hundred miles, passing through "snag flats similar to those we had ascended on the Susitna, presenting, if possible, even a more formidable aspect to the explorer." 73/ Two days later, they saw an uninhabited Indian village, the first they had seen in two months. Some distance below the village, Spurr wrote, "the water suddenly grew slacker until it entirely changed its aspect and was a slow, placid current flowing through silt banks." 74/ Finally, on July 29, they passed a large tributary on the right limit which Spurr named the East Fork. In all probability, he saw the North Fork which he correctly recognized as one of the two streams making up the main Kuskokwim River.

In his report on the historic expedition, Spurr made it clear that he did not consider the upper and middle portions on the South Fork a practicable route of travel, declaring that "it can never be safe for travelling." The upper portion of the river was exceedingly swift, while the middle section was characterized by "snag flats." These Spurr described as follows: "Where the river flows through the gravels the facility with which these are eroded tends to make the stream spread out broadly, especially at the junction of a tributary, so that it often

flows in many channels which change continually in position and volume and split and reunite so intricately that it is hard to find a passage over for a canoe. These channels are often choked with dead trees brought from the stream above, and such areas are called in the report 'snag flats.'" 75/ Spurr thought it doubtful that a "boat could be gotten upstream by any means." 76/

As far as the lower South Fork was concerned, Spurr seemed more optimistic about the possibilities for boat traffic. At a point little more than half of the distance between the mountains and the junction of the North Fork, the current of the South Fork "rather suddenly becomes gentle and the river meanders between low banks of fairly stratified silt and sand, with some fine gravel." 77/

Following Spurr's expedition of 1898, some prospectors and trappers evidently ascended the river in boats for unknown distances. According to Hosley's informants, in the fall of 1901 a small steamboat carrying six prospectors and trade goods ascended the South Fork to Nikolai Village at the mouth of the Little Tonzona River. The prospectors spent the winter at the village, trading for furs and prospecting for gold, and in the following summer went down the Kuskokwim River. Noting that Alfred Hulse Brooks wrote in 1911 that a small steamboat ascended the Kuskokwim River as far as the junction of the North and South Forks in 1901, Hosley hypothesized that the steamboat was owned Joaquin, Twitchell & Fowler Company, a suggestion first made by his mentor Wendell Oswalt. 78/ There is no conclusive evidence presently available to indicate whether, first, the steamboat did ascend the South Fork and, second, the steamboat was owned by the commercial company.

It is certain, however, that white trappers and prospectors were on the South Fork about 1904. In 1907, for example, the Gordon brothers met a trapper in

a boat on the North Fork who claimed to have spent three years on the South Fork. While on the Minchumina portage, they met two trappers with a large poling boat. Both were headed for the South Fork, and were prepared to spend two years on the river. 79/

Some prospectors also crossed Rainy Pass from Cook Inlet during these years, and may have descended the South Fork. One account of such an expedition comes from Tom Odale. Upon learning of favorable reports of the Kuskokwim River, Tom Odale and Jack Clouse left Cook Inlet in October 1906 for the region. Purchasing a boat at Susitna Station, they ascended the Yentna and Skwentna rivers. Joined by two prospectors named Jim Ward and Mike Stagner, the men constructed sleds from their boats and traveled overland via Rainy Pass to the South Fork. In April, they built a twenty-six-foot scow, six feet wide, and with the breakup of the river ice in May, began the journey downriver. On the second day of the journey, they reached Nikolai Village, which Odale estimated to be located about twenty miles above the junction of the North and South Forks. The Indians told them of the gold strike on Ganes Creek and the new trading post at McGrath. With that the Odale party became one of many to stampede to the Innoko River.

During the summer of 1907, the Odale party prospected on the upper Innoko River, freighted supplies on the Takotna River, and even joined a rush to the head of Nixon Fork. While on the Nixon Fork, they decided to retrace their route to Cook Inlet. Using the same scow they had built near the head of South Fork, the men required four days to reach Nikolai Village. Beyond the village they found the journey very difficult. As Odale recalled: "The farther we got up the South Fork, the harder the going became, of course, as

the river grew narrower and swifter. With three men on the towline and one in the boat to keep it off the banks, we made slow progress." Prospecting along the way, the Odale party finally reached a point within ten miles of their former camp. There they made camp and built three sleds from the scow. In November, with snow on the ground, they began the overland trek to Rainy Pass and Cook Inlet. 80/

With the discovery of gold on Ophir Creek and Iditarod River, other prospectors were to follow the route of the Odale party to the Kuskokwim basin. Unlike the Odale party, most prospectors took the route during the winter months, when travel was easiest. Subsequently improved by the Alaska Road Commission, the Seward-Iditarod or Rainy Pass trail became an important route of travel between the Kuskokwim and Susitna basins. The trail also made it possible for prospectors to reach favorable prospects in the Alaska Range, particularly on Hartman River, where gold was discovered in the winter of 1908-09, and was the scene of several minor gold rushes.

The original trail apparently followed the right limit of the South Fork from Tatina River to Nikolai Village, and then headed westerly to the mouth of Big River. At Nikolai, travelers found a trading post and sometimes a steamboat. In 1908, when visiting the Innoko district, Alfred G. Maddren learned that several steamboats had ascended the South Fork a distance of about forty miles. 81/ One of these steamboats was certainly the May D. Writing in 1910, Anton Eide reported: "A year ago Capt. Holtman with the steamer May D., draft four feet and a cargo of 35 tons, ascended the river 650 miles from Bethel to Nicholai, near Tonzona, on the south fork, where he wintered. This is the end of navigation for power boats." 82/ The steamboat again ascended the South Fork

in 1910, and wintered there. One newspaper reported that a Captain Holten and the steamboat May D. was located on the South Fork, about thirty-five miles from the Big River trading post on the winter trail. 83/ The steamboat may have been owned by an independent trading firm, although it is known to have hauled freight up the Kuskokwim River to Takotna for the Kuskokwim Commercial Company. 84/

In 1911, the Alaska Road Commission constructed a trail from the mouth of Salmon River directly to Farewell Mountain, and roadhouses on the original trail were relocated to the new winter trail. Nikolai was no longer on the established route of winter travel. In the early 1920s, the village was relocated downriver about eight miles to its present location. According to Hosley, the move was required by subsidence and subsequent flooding. 85/

Boat traffic on the South Fork to Nikolai has been relatively heavy. In 1948, the Territory authorized construction of a school at the village and construction materials were subsequently shipped by barge to Medfra, and thence by small boats to the village some forty miles from Medfra. 86/ In the early 1960s, the village received annually about one hundred tons of bulk materials, nonperishable goods, and petroleum products. 87/

Writing in 1961, Edward Hosley claimed that the people of Nikolai seldom ascended the river above their village. The bulk of the traffic was between Nikolai and Medfra. In early spring, the men left Nikolai in boats to Medfra, while those with children followed in early June. The people usually remained near Medfra until early September when they return to their village. 88/

In the matter of boat traffic above Nikolai, the historic record is virtually silent. In 1918, it was reported that the mail carrier, unable to take the winter trail owing to an early breakup of the river ice, was forced to leave eight hundred pounds of first-class mail at Tatina River. The carrier later sent two men to Tatina River with equipment to build a boat in order to bring the mail to McGrath. 89/ In addition, Hosley reported that one family at Nikolai traditionally ascended the South Fork each season in boats to the Itzulkashno, where they operated a fish trap. 90/

In 1979, Diane Gudgel-Holmes of the Alaska Division of Resource and Development interviewed fifteen local residents who at one time or another ascended the South Fork. Of this number, four claimed to have gone no farther than the Little Tonzona River. Bill Woolard of Medfra stated that he has guided parties up the South Fork to the Little Tonzona River in a twenty-four-foot boat on four separate occasions within the past two years. He said one must know the channel as the river is braided. Bobby Esai of Nikolai Village occasionally ascended the South Fork to Alexia's cabin on the Little Tonzona River, which he described as swift and crooked. He used a twenty-eight-foot wooden boat or smaller skiff. He noted too that some people from Nikolai Village went up the river to Little Tonzona River each year to fish for grayling and salmon. In 1971, Kenneth T. Alt, a biologist employed by the State of Alaska, ascended the river a few miles in a twenty-four-foot boat with a propeller unit. Finally, Nic Alexia of Nikolai Village stated that he annually ascended the river in a twenty-foot boat with a propeller unit a distance of about fifteen miles or two hours running time during the fall to hunt. He also traveled by boat to his mother's cabin on the Little Tonzona River.

Six individuals stated that they had taken boats as far as the "first bluffs," located near the eight-hundred-foot contour line in T. 31 N., R. 24 W., Seward Meridian. Ray Collins, a resident of Nikolai Village for nine years, used to ascend the South Fork to hunt and fish as far as the bluffs once or twice a year in a twenty-five-foot boat. He stated that the river was shallow in some places, and in fact was not able to reach the bluffs with a local guide on his first trip owing to low water. Philip Esai stated that he had taken a boat to the bluffs. Pete Gregory of Nikolai Village used to go up the river to a point below the bluffs to hunt moose and caribou. Nic Petruska of Nikolai Village ascended the river each fall to hunt to the north border of T. 31 N., R. 24 W., Seward Meridian, a considerable distance below the bluffs. Pete Shephard, a game biologist, stated that he ascended the South Fork in 1974 in a twenty-foot boat with jet units to a point near the bluffs. He claimed that he could have gone farther if the water level had been higher. Finally, Nic Dennis of Nikolai Village stated that he ascended the South Fork as far as the bluffs annually during the fall hunting season in a propeller-driven wooden boat, about thirty feet in length.

Four individuals claimed that they had ascended the South Fork beyond the bluffs on occasion. Nic Dennis said that he used to pole a wooden boat to Egypt Mountain, the last time in 1974. Dennis guided hunters for fourteen years near Farewell Lake Lodge, mainly by airplane. He said that many people of Nikolai Village ascended the South Fork in boats to Egypt Mountain and Tatina River, although there are places where they must line the boat. Junior Gregory of Nikolai Village stated that in 1951 he ascended the river to Egypt Mountain in a twenty-foot wooden boat and motor for hunting purposes. He encountered some shallow spots with rocks. Miska Deaphon, an elder of

Nikolai Village, recalled that he with his father used skin boats on the South Fork until the late 1910s while hunting sheep, caribou, and moose. He stated that he had ascended the river at least twice to Post River in a thirty-two-foot boat with eighteen-horsepower motors when hunting for sheep and moose. He did it once in 1942. John Andrews, a guide on the upper South Fork from 1950 to 1963, stated that the river was too shallow for boats in the fall. However, he recalled that in the 1960s he once hauled a load of lumber upriver to Farewell Lake Lodge in a thirty-foot boat, and that he once saw an old thirty-foot poling boat on Tatina River. Finally, in 1977, Nic Dennis descended the South Fork from a point a few miles above Farewell Lake Lodge to the lodge, picking up bison along the way. 91/

The BLM first considered the navigability of the South Fork in 1975 in connection with land selections made by the village of Nikolai under the Alaska Native Claims Settlement Act. On October 9, 1975, two BLM employees met with representatives of the village to discuss public easement proposals for the village-selected lands. One employee wrote, "The many streams were discussed and the heavy boating use described." 92/ The other employee reported "heavy" use of the river to Nikolai by canoe, skiff, and barge. He recommended that the river be determined navigable to Nikolai and susceptible to navigation through the selection area. 93/ The BLM easement and navigability task force on November 1, 1977 recommended that the river be determined navigable to Nikolai Village. 94/

On May 6, 1980, the BLM State Director determined the South Fork to be navigable to the bluffs in T. 31 N., R. 24 E., Seward Meridian. This determination was made upon the recommendations of the Division of Resources in the BLM State

Office. On the basis of a report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin," the Division of Resources reported evidence of steamboat and barge traffic to Nikolai village, and use of large boats to the mouth of Little Tonzona River (the former location of Nikolai Village) as well as to the bluffs for hunting purposes. The division considered the South Fork above the bluffs to be nonnavigable. According to the division, "While several local residents have stated that boats may be used to the headwaters of the South Fork, the historical record indicates that the customary route of travel to the head of the South Fork was the Salmon River - Rainy Pass Trail, and the summer trail which began at the Little Tozona [sic] River." 95/

In 1981 the BLM reconsidered the navigability of the South Fork in connection with land selections made by the State of Alaska. In a report prepared by an hydrologist with the BLM Anchorage District Office, it was recommended that the South Fork be determined navigable to the mouth of Hartman River; Hartman River to Section 7, T. 21 N., R. 22 W., Seward Meridian; and Dillinger River to NE $\frac{1}{4}$, NE $\frac{1}{4}$, Section 13, T. 29 N., R. 23 W., Seward Meridian. These recommendations were based partly upon information in the report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin" and partly upon an interview with Stan Frost, a big game guide at Anchorage who worked in the headwaters of the South Fork. According to this report, Frost had ascended the South Fork to a point between Denny Creek and Hell's Gate in a twenty-foot Smokecraft boat with two fifty-horsepower outboard motors. Frost believed that he could ascend the river as far as the Hell's Gate - Hartman River juncture. In addition, he had floated down the Hartman River from his hunting camp located in the swale between the South Fork and Hartman River in T. 19 N., R. 23 W., Seward Meridian, and thence down the South Fork to the Kuskokwim

in Redshank and Adventurer class rafts. He had also floated down the Hartman from the point where it braids out in T. 21 N., R. 23 W., Seward Meridian, above the cabin in Sec. 7, T. 21 N., R. 22 W., Seward Meridian. According to Frost, there in "no problem" in "negotiating" the South Fork between Nikolai and Farewell Lake during a year of average runoff. He indicated that the past three years had "not been indicative of normal conditions on the South Fork."

Frost also stated that he had ascended Dillinger River about three miles in his boat; he did not proceed farther "because he felt that it was unfeasable."

Frost had also floated down Tatina River from his hunting cabin at Earl River to the South Fork. He described it as offering "an exciting trip with potential for commercial rafting." He believed that he could take his boat up the river to Dalzell Creek once the boat was lined past the braided section near the old Rohn Roadhouse. Frost had never used a boat on Post River, but believed it could be floated in a raft from Post Lake. Moreover, he believed the river in its lower reaches was "boatable in power boats" once the braided section at its mouth was "negotiated."

Considering the available information, the Anchorage District Office concluded that the South Fork was navigable for most of its length. "Boating information on the upper river . . . including the transportation of building materials to Farewell by John Andrews and current use as far upstream as Denny Creek by Stan Frost, indicate that it is indeed susceptible to use by commercial watercraft (i.e., watercraft capable of carrying in excess of 1,000 pounds)," the district office concluded. On the basis of the interview with Frost and what information about the physical characters could be gathered from USGS maps, the BLM hydrologist concluded that Hartman River and Dillinger River were also navigable

by "traditional commercial watercraft." He recommended on the basis of the Frost interview that Tatina River and Post River be determined nonnavigable. "Under current guidelines," he wrote, "neither stream can be considered navigable as the limited use information indicated that physical characteristics make it difficult to negotiate the lower stretch of the river." 96/

The BLM State Office took no action upon these recommendations for the South Fork and its tributaries in Tps. 25 and 26 N., R. 22 W., Tps. 26-28 N., R. 23 W., and T. 31 N., R. 24 W., Seward Meridian. This decision was apparently based upon the belief that there was insufficient information to determine the South Fork navigable and the Tatina and Post rivers nonnavigable. 97/

Farewell Lake

In 1981, the BLM Anchorage District Office recommended that this lake be determined navigable, apparently on the basis of floatplane use. The BLM State Office took no action on the recommendation. 98/

Little Tonzona River

On May 6, 1980, the BLM determined that Little Tonzona River was navigable to the mouth of No Creek. The determination was based upon information presented in a BLM report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim River Basin" that the South Fork and Little Tonzona rivers were the customary routes of boat travel to an old fish camp and a summer trail leading to the foothills of the Alaska Range. The location of the fish camp was assumed to be at or near the mouth of No Creek, for USGS maps portray a cabin and a

"winter trail" near the mouth of No Creek, and the placename "No Creek" appeared to be an abbreviation of "Itzulkashno," the name of the stream reported by anthropologist Edward H. Hosley where the fish camp was located. However, the BLM later discovered additional information about the Little Tonzona River which indicated that the old fish camp was located on an unnamed tributary of the river which enters the river a considerable distance downstream from the mouth of No Creek, and that the river above the mouth of the unnamed tributary is not suitable to navigation. 99/

Evidence of use of the Little Tonzona River was first reported by Lieutenant Joseph S. Herron in 1898. In early August of that year, Herron and his men crossed the river some distance above its mouth. Herron later reported two deserted Indian villages on the river: one located at the mouth of the river and one located on the north bank of an unnamed stream flowing into the Little Tonzona from the south. This latter village may very well have been a fish camp occupied on a seasonal basis by the Indians of Nikolai Village on the South Fork Kuskokwim River. 100/

Much of what we know about the history of Little Tonzona River comes from Edward H. Hosley, an anthropologist who recorded the oral traditions of the Nikolai Indians during the early 1960s. In 1960, Hosley learned from several elders of Nikolai Village that the Little Tonzona was once an important travel route to hunting grounds. Until the 1910s or 1920s, the Indians traveled as a group, sometimes numbering forty or fifty people, up the South Fork and the Little Tonzona in canoes to a fish camp on the Itzulkashno. There the Indians followed a summer trail to the foothills where they hunted sheep, moose, and caribou before returning to their villages by way of the South Fork. In more

recent years, Hosley wrote, the families of Miska Alexia and Philip Esai maintained a fish camp on the Itzulkashno, a tributary of the Little Tonzona River, located about twenty miles by river from Nikolai Village. According to Hosley, the Itzulkashno is a narrow and deep stream, where the Indians are able to use traditional fishing structures, such as weirs. The camp was accessible by boat, usually a flat-bottomed craft from fourteen to twenty-four feet long and constructed from spruce logs taken along the North Fork Kuskokwim River. These boats were powered by outboard motors ranging from six to thirty horsepower, although most were in the range of twelve to fifteen horsepower.

101/

Unfortunately, Hosley did not provide a precise description of the location of the fish camp or Itzulkashno. One anthropologist believed, however, that Hosley's Itzulkashno Creek was No Creek and that the fish camp was located at or near the mouth of the latter stream. Compiling a list of historic and cemetery sites on lands selected by Doyon, Ltd., under the provisions of the Alaska Native Claims Settlement Act, Wayne Kroul of the University of Alaska, Fairbanks, identified a village site at or near the mouth of No Creek which "was used as a fish camp in the protohistoric and early historic periods, possible earlier." He added: "The location is considered good for King Salmon, and inhabitants of the First Old Nikolai went there annually. Though no specific graves are mentioned, it is reported that the camp was severely struck by the flu epidemic of 1918." Kroul did not cite his source of information, but the internal evidence suggests that Hosley was his source. 102/

In 1979, while interviewing residents of Nikolai Village about their use of rivers and lakes in the upper Kuskokwim basin, Diane Gudgel-Holmes of the State of Alaska learned that some people ascended the Little Tonzona

in boats. Nick Alexia stated that he sometimes traveled to his mother's cabin on the Little Tonzona, above which point the river is shallow and narrow with much brush on the streambanks. The specific location of the cabin was not identified. Bobby Esai stated that he sometimes ascended the Little Tonzona, which he described as swift and crooked, in a twenty-eight-foot wooden boat or smaller craft. He said too that some people from Nikolai ascended the river to fish for grayling and salmon. Finally, Ray Collins, a former resident of Nikolai, stated that he used to ascend the Little Tonzona in a boat once or twice a year. 103/

Only two Native allotments are located on the Little Tonzona River. On March 2, 1971, Miska Alexia applied for an eighty-acre parcel on the Little Tonzona in Sections 12 and 13, T. 33 N., R. 25 W., Seward Meridian, a short distance above the mouth of No Creek. Alexia claimed to have used the land during the months of March and April since 1944 in connection with beaver trapping. He described his use of the land as follows:

I started using this land in 1944. There was a cabin there that was built by Jack Dun [sic] but he had left the area. I have used it since that time mostly during beaver season each year between March and April. I have stayed there for periods of up to a month but usually just overnight every few days during the season.

The cabin used by Alexia was probably owned by Jack Dunn, a well-known white trapper in the area during the 1930s, and is probably the same one portrayed on USGS maps in T. 33 N., R. 25 W., Seward Meridian. 104/

Ralph J. Korn of the BLM and Nick Dennis of Nikolai traveled to the cabin site by helicopter in July 1973. Korn confirmed the existence of the cabin, but was unable to inspect the interior for evidence of recent use as there was no open land for the helicopter to set down. He noted that a winter trail crossed the parcel in a northwest-southeast direction just west of the cabin, and that the cabin was accessible only in winter by snow machine. He recommended that the allotment be processed to patent, but that it should be reduced to forty acres. In addition, he recommended that a fifty-foot right-of-way be reserved for the winter trail. 105/

Miska Alexia opposed Korn's recommendation that only forty acres be allotted to him. Claiming that he used the entire parcel, he wrote:

I trap on my land up the Tonzona. I have a cabin up there. I bought the trapline from a white man named Jack Down [Dunn] about 20 years ago. He built a cabin up there, and I have that cabin. I keep it up. That white man died about 20 years ago. I have some gas cans up on the Tonzona, too. I trap there every winter. Nobody uses that cabin but me. 106/

Philip Esai, a friend, and Nick Alexia, Miska's son, provided statements in support of Miska's claim. Esai submitted a sketch of the river near the cabin showing the location of the cabin and winter trail, and wrote that Miska used the land for hunting, trapping, and wood gathering. A hunting rack, traps, trails, and animal bones were also located on the parcel. Nick Alexia also submitted a sketch of the river and improvements, and claimed that his father used the land for trapping and wood gathering. Both individuals stated that Miska Alexia's family also used the parcel. 107/

The other Native allotment is located on an unnamed tributary of the Little Tonzona River in Section 7, T. 33 N., R. 25 W., Seward Meridian, just south of a small, unnamed, circular lake. Miska Alexia's wife, Anna, applied for the 160-acre allotment on May 2, 1971. She claimed to have used the land since 1937 for hunting, fishing, trapping (beaver and marten), and blueberry picking. She wrote:

I first stayed at Tonzona in 1936. After freezeup [sic] we moved to the hills and then returned to the cabin for the spring. Some winters we stay at the cabin all winter. We also stay there in the spring and summer some years for beaver trapping and fish. I have used this land every year since 1936. We also harvest blueberries on this land.

Two cabins were located on the land. One cabin (12'x14') was built in 1944; the other (12'x14'), in 1965. A cache was located on the land since 1936, and a steambath since 1965. 108/

In July 1973, Ralph J. Korn of the BLM and Nick Dennis of Nikolai traveled to the site by helicopter. Korn found a log cabin, a log cache, a log smokehouse, a fish rack, and a fish trap on the land. In the cabin, he saw food, traps, beds, and a snow machine, all indicating recent use of the land. Korn subsequently recommended that Anna Alexia's application be approved with the condition that the size of the allotment be reduced to forty acres.

109/

Like her husband, Anna Alexia vigorously opposed Korn's recommendations to reduce the size of the allotment with the argument that she used the entire allotment. In May 1975, she wrote the BLM:

My allotment is on the Tonzona creek about 15 miles from Nikolai in a straight line. It is further by creek. It is on the north side. Last time I was at my land was last November to February. We go out to the land every year to trap and sometimes we hunt moose in fall and fish in the summer for King Salmon

She noted that another campsite was located on the land just downstream from her cabin. Finally, she wrote, "Most of the villagers know about my land and many have been up there." 110/

Statements submitted to the BLM by relatives and friends of Anna Alexia, indicate the use of boats on the Little Tonzona and its unnamed tributary for many years. Nick Alexia wrote that his mother used the land before 1944. Oline Petruska, Anna's daughter, stated that a dock or boat landing was located on the land. Claiming that his wife began using the land about 1950 or earlier, Miska Alexia identified the allotment as being "up the Tonzona near a creek we call the Little Tonzona." Nick Dennis wrote that the allotment was located on the north side of Tonzona Creek, about fifteen miles from Nikolai. He noted that fish spawned in the stream and that a boat landing or dock as well as old fish traps were located on the allotment. Dennis also wrote that Anna Alexia began using the land about 1940. 111/

In conclusion, the evidence is compelling that Anna Alexia's cabin site is in fact the fish camp which Edward H. Hosley described as being located on the Itzul-

kashno. Positive evidence include references by local residents of the use of boats at the allotment, fish spawning in the creek, use of the land since the late 1930s, and the existence of old fish traps on the land. Interestingly enough, the location of Herron's Indian village on an unnamed tributary of the Little Tonzona, corresponds to a striking degree with the location of Anna Alexia's allotment. In contrast, there is almost no evidence to indicate that a fish camp ever existed at or near the mouth of No Creek. Wayne Kroul's report that there was a fish camp in that vicinity appears to be based upon a misunderstanding of Edward H. Hosley's writings. The cabin on the Little Tonzona River above the mouth of No Creek which appears on USGS maps, was the trapping cabin of Jack Dunn and later Miska Alexia. While we do not presently know how Dunn reached the cabin, it is instructive to note that Ralph J. Korn reported that the place was accessible in winter by snowmachine. He mentioned no other modes of travel. Miska Alexia's statement that he used the cabin for trapping (a winter activity), that only he used the cabin, and that he stored gas cans on the land, presumably for a snowmachine, tends to support Korn's statement.

In view of this evidence, the writer contacted Ray Collins in McGrath by telephone on October 20, 1982 for information about Little Tonzona River. Collins confirmed that he had ascended the river in a boat to a fish camp, which he described as being located on the first right-hand tributary of the river. He stated that local residents generally reached the fish camp in twenty-foot boats with outboard motors (propeller). Collins was unable to contribute much information about the river above the mouth of the unnamed tributary, as he had never ascended that stretch of the river. He said that he understood that that stretch of the river was filled with log jams. Collins referred the writer to Jeff

Stokes at Nikolai for additional information. Despite repeated efforts, the writer was unable to reach Stokes or anyone else at Nikolai or the Alaska Department of Fish and Game at McGrath.

Considering the evidence as a whole, the writer concluded that the Little Tonzona River and the unnamed tributary to Anna Alexia's allotment was navigable in 1959. Historically, these streams were a customary route of travel to hunting grounds in the foothills of the Alaska Range and to an important fish camp. At the time of Alaska Statehood, local residents used the streams in boats customarily used in the area for travel and trade to reach the fish camp. The Alexia family also used boats to reach their cabin on the unnamed tributary where they fished, hunted, and trapped. So far as is known, the streams were in their natural and ordinary condition in 1959. In addition, the writer concluded that the Little Tonzona River above the mouth of the subject unnamed tributary, as well as all other tributaries of the Little Tonzona River, were neither navigable nor susceptible to navigation in 1959. 112/ As of the present writing, the BLM has taken no action on the recommendations.

BIG RIVER

Before the construction of the Salmon River-Farewell Mountain section of the Rainy Pass trail in 1911, boat traffic on Big River and Pitka Fork consisted of Indians from Salmon River village going up and down the streams in canoes. According to Hosley, Indians of Salmon River village, located near the mouth of Salmon River, traditionally descended the streams each year in early spring to the mouth of Big River. There they joined Indians from Nikolai and Vinasale in the journey to the foothills of the Alaska Range for the summer hunt. In the

fall, they descended the South Fork in boats, and returned to their village by way of Kuskokwim River, Big River, and Pitka Fork. This seasonal round apparently continued until the 1910s or 1920s. 113/

After the construction of the Salmon River-Farewell Mountain trail, many people traveled on Big River and Pitka Fork to the mouth of Salmon River. During the summer months, prospectors and trappers chartered boats to transport their winter outfits to Salmon River. Once conditions on the winter trail were suitable, they traveled overland to Hartman River, Windy Fork, and Sheep Creek. Others continued on the trail to Anchorage.

Roadhouse proprietors on the Rainy Pass trail relied considerably on the rivers during the summer in transporting supplies and equipment to their headquarters. Some chartered boats, and others used their own. As a matter of fact, some proprietors spent the summers freighting supplies on the Takotna River. In 1911, Joe Blanchell, the proprietor of Farewell Mountain Roadhouse, was mentioned in the local newspaper in connection with freighting operations on Takotna River. 114/

Once the Rainy Pass trail was adopted as a mail route, mail carriers transported horse feed to Salmon River for use in the winter. In August 1915, for example, it was reported that Tom Boyd, a mail carrier, was hauling horse feed to Salmon River in his new boat, which was powered by an Evinrude motor. The mail carriers intended to use horses to carry the mail on the winter trail as far as possible. 115/

Boat traffic on Big River and Pitka Fork during the late 1910s must have been substantial, for in the early issues of the Kusko Times, the first newspaper published in the upper Kuskokwim basin, there are numerous, scattered references to boats on the rivers. Some of the named boats included the Shamrock, Snookie, Thor, Salmon River Flyer, Roosevelt, Yodler, Alaska, U-600, and Redwing.

While it is not practical to describe each reference to boats on the rivers, a few examples will serve to indicate the nature and volume of the traffic. In May 1921, the Kusko Times reported that Charles Nystrom had just left McGrath in the motorboat Shamrock for the North Fork with at least five passengers. Most of the passengers were bound for Medfra, but one named Tom Conley, a prospector on Windy Fork, was headed for Salmon River. About the same time, a Captain McMullen left McGrath in the launch Snookie. He carried two passengers, one of whom, Jesse Yoder, was bound for Salmon River. Apparently Yoder had left his launch at Salmon River during the winter. About two weeks after his departure, Yoder arrived at McGrath in his launch from Salmon River. He left McGrath shortly thereafter with passengers for Medfra. Later, in mid-October, Joe I. Wills left McGrath in the Aloha with five passengers for Salmon River. All five passengers intended to take the winter trail to Anchorage. 116/

During the summer of 1922, Vic Nystrom made a number of trips up Big River and Pitka Fork in the launch Redwing. In early June, he left McGrath with Einar Carlson, a trapper in the Tatina River section, for Salmon River. Several days later, Nystrom returned to McGrath from Salmon River with a barge that had been left there in 1921. In July, he again left McGrath for Salmon River,

taking with him Frank R. Cioli, who was returning to his roadhouse at Peluk. Finally, in October, Nystrom again went to Salmon River, this time accompanied by the trapper Herman Hinsche. 117/

Several roadhouse proprietors on the Rainy Pass trail had their own boats which they used to haul supplies to their winter headquarters, as well as passengers and general freight to various points in the upper Kuskokwim basin. Frank Fox, the proprietor of Salmon River Roadhouse, advertised his boat, the Thor, in the Kusko Times as a "fast boat" (12 horsepower) for transportation of passengers and freight on the Kuskokwim River and its tributaries. In early August 1921, the Thor left McGrath for Salmon River, carrying Joe Blanchell and a large quantity of freight for several roadhouses on the Rainy Pass trail. In September 1921, Frank Fox and Fred Beaubeu returned to McGrath from Salmon River after an absence of several weeks on the launch Salmon River Flyer. Fox subsequently left McGrath in the same launch for Salmon River with three passengers, all of whom were bound for Anchorage. 118/ In September 1922, the Thor left McGrath for Salmon River with August Sharfe on board. Sharfe was headed for his Mountain Climber Roadhouse in the Rainy Pass section. In mid-October 1922, the Salmon River Flyer arrived at McGrath from Salmon River with James Pernie, Frank Lange, Louis Sundbeck and John William on board. These men had been working on the Rainy Pass trail during the summer; they had been transported to the trail at Salmon River on the launch Roosevelt in early August 1922. 119/

The Roosevelt was owned and operated by Robert Jones and James Davidson, the proprietors of the Rohn River (Tatina River) Roadhouse. In June 1921, Jones transported Frank Fox from McGrath to Salmon River. In August, Jones,

Davidson, and Frank R. Cioli left McGrath for Salmon River. All were returning to their roadhouses on the Rainy Pass trail. Perhaps this was the last trip for the season, for the launch was not reported again until the spring of 1922, when Jones, Davidson, and Joe Blanchell arrived at McGrath for an indefinite stay. 120/

After the Rainy Pass trail was abandoned as a mail route, and the roadhouses suspended business, the volume of traffic on Big River and Pitka Fork declined significantly. During most of the 1920s and all of the 1930s, traffic on the rivers consisted principally of trappers and prospectors ascending to Salmon River, where they then sledded to their winter headquarters, and, in the spring, descended the streams to McGrath. A few examples from the Kusko Times will serve to illustrate this practice. In May 1921, A. J. Hosmer followed the ice down Big River to McGrath with a load of ducks and game. 121/ In early May 1924, Bob Davidson and Einar Carlson arrived at McGrath from their headquarters on Tatina River. In late July 1926, Charlie White and Frank Lange arrived at McGrath from Salmon River. In June 1928, Frank R. Cioli arrived from Peluk. In July, Frank Lange arrived from Salmon River. In May 1930, Einar Carlson arrived from Tatina River. Finally, in 1937, Joe I. Wills left Takotna with two boats loaded with dogs and a winter outfit; he was bound for Salmon River, from which point he intended to sled to his trapping grounds on Sheep Creek. 122/

According to the late Virgil Knight, the Civil Aeronautics Authority made considerable use of Big River and Pitka Fork during the 1940s in transporting fuel to the navigational aid station near Farewell Lake. Fuel was taken up the Kuskokwim River to Farewell Landing by steamboat and there stored in holding.

tanks. The fuel was transferred to fifty-five-gallon drums, and then transported by barge up Big River and Pitka Fork to the mouth of Salmon River. Tractors were then used in winter to transport the fuel to the Farewell station. The federal agency reportedly continued this method of transport until the late 1950s, when air transport from Anchorage was adopted. 123/

In more recent times, local residents ascend Big River and Pitka Fork in boats for the purpose of hunting and fishing. Hosley reported that Natives ascended Big River in boats, and usually harvested several moose each season. Also, Miska Diaphon of Nikolai maintained a fish camp near the mouth of Salmon River. Presumably he reached the camp by boat. 124/

Little is known at present about use of boats on Big River and its tributaries above the mouth of Pitka Fork. In 1949 or 1950, A. T. Fernald of the USGS descended Big River in a canoe, having gained access to the river by landing an airplane on a nearby lake. Nothing else is known about the trip. 125/

Only a few local residents have ascended Big River above the mouth of the Middle Fork in recent years. Bobby Esai stated that he has ascended the river to his Native allotment as well as to his wife's allotment in Section 25, T. 31 N., R. 30 W., Seward Meridian. He has taken a skiff past his wife's allotment, and has been up the river as far as the northwest corner of T. 29 N., R. 31 W., Seward Meridian, in a boat to hunt caribou and to prepare for the trapping season. He stated that he can usually go beyond an unnamed stream called Otter Creek in the fall with a boat ranging in length twenty to twenty-eight feet, although the river is shallow and rough water to that point and requires

one to exercise caution. The creek is reportedly located in Section 19, T. 31 N., R. 29 W., Seward Meridian. Pete Gregory stated that in the spring of 1942 he ascended the river to Otter Creek, where he hunted for otters. Pete Shephard said that in 1975 he was able to reach the southeast border of T. 27 N., R. 31 W., Seward Meridian, in a twenty-foot boat with jet units. Beyond that point, he said, the river is braided and very swift with rapids.

As concerns the Middle Fork and its tributaries, local residents report little traffic. In 1971, Kenneth T. Alt ascended the river a few miles in connection with fish studies. Pete Gregory stated that in 1936 he went up the river to Mary Conley's cabin in Section 35, T. 33 N., R. 29 W., Seward Meridian. Miska Deaphon said that he had ascended the Middle Fork many times on hunting trips for sheep in the mountains. Evidently he was able to reach the mouth of Windy Fork, for he stated that he had to travel overland from that point to the mountains. Bobby Esai has also ascended the river to the Windy Fork many times for hunting and trapping purposes. He used a skiff and motor to reach the southern border T. 31 N., R. 29 W., Seward Meridian. In the fall of 1947, he recalled, he took his wife and two children up the river to Windy Fork, planning to spend the winter in the hills. He towed the boat up Windy Fork for a distance of four to five miles, and then used dogs to mush overland to the mountains. There are several Native allotments on Windy Fork, which are used as camps for sheep hunting. Rose Winkleman of McGrath reaches the allotments by airplane.

Local residents continue to travel on the Pitka Fork to the mouth of Salmon River. Some have gone beyond that point, however. Miska Deaphon, who has a Native allotment at the mouth of the Salmon River, stated that he used to

ascend the Pitka Fork to a point above the mouth of Sheep Creek in order to hunt and trap in the fall. He had to pole the boat part of the way but otherwise had no difficulty. One unidentified person claimed that it was possible "sometimes" to reach the southeast section of T. 31 N., R. 28 W., Seward Meridian by boat.

A few people have also ascended the Salmon River and its tributaries. Glenn Bass, a four-year resident of McGrath, stated that he had ascended the river and its first left tributary for a distance of about fifteen miles, which was as far as he could go. He used a boat with a jet unit, and goes there every year to fish for king salmon. He has traveled as far as the northeast part of Section 11, T. 32 N., R. 28 W., Seward Meridian. Terry Chase ascended the Salmon River with a twenty-foot riverboat with a propeller unit to a point in Section 3, T. 32 N., R. 28 W., Seward Meridian, where he fished. Phil Esai stated that he ascends Salmon River sometimes for fishing purposes. He has been up both forks a few miles to the northern part of Section 32 and the western edge of Section 33, T. 33 N., R. 27 W., Seward Meridian. Jim Pierson also fishes on the river each year, but he goes only a few miles in a boat with a jet unit.

Little evidence of the use of boats on Blackwater Creek, a tributary of Big River, has been found. In 1971, Kenneth T. Alt ascended the stream a distance of about ten miles in a twenty-four-foot riverboat. Alt claimed that he could have ascended the creek farther in the same boat "had he needed to."

126/

The BLM first considered the navigability of the Middle Fork and Pitka Fork in June 1977 when the Anchorage District Office recommended that the Middle Fork from Section 18, T. 33 N., R. 29 W., through Section 35, T. 33 N.,

R. 29 W., Seward Meridian be determined navigable. Describing the river as having a single main channel with medium to low wooded banks, a BLM investigator wrote that local residents used skiffs on the river for travel to hunting, fishing, and trapping grounds. Possible cabin sites were located along the river. In addition, he recommended that the Pitka Fork be determined navigable from its mouth to Sec. 13, T. 33 N., R. 29 W., Seward Meridian. This river was similar in character to the Middle Fork and was used for the same purposes. The degree of use was "low" in the case of the Middle Fork and "moderate" in the case of the Pitka Fork. 127/

On May 6, 1980, the BLM State Director determined the Big River to the mouth of Middle Fork, Middle Fork to the mouth of Pitka Fork, and Pitka Fork to the mouth of Salmon River, to be navigable waterways. This determination was made upon the recommendation of the Division of Resources in the BLM State Office. In a report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin" the division demonstrated that the water system was "the customary route of summer travel to villages and roadhouses - trading posts on the Rainy Pass Trail, as well as to prospecting and trapping headquarters on Windy Fork and Sheep Creek. Launches and barges have been used on the water route." In addition, the division recommended that the remaining stretches of the Big River, Middle Fork, and Pitka Fork as well as their tributaries be determined nonnavigable, for the historic record indicated that these water bodies were used or capable of being used by hunters and fishermen in small boats only. 128/

In 1981, the BLM reconsidered the validity of these navigability determinations when processing a number of State selection applications. In a report prepared by a hydrologist at the BLM Anchorage District Office, it was recommended

that the limit of navigability on the Big River be extended to SE $\frac{1}{4}$, Section 36, T. 27 N., R. 31 W., Seward Meridian. In addition, it was recommended that the Middle Fork be determined navigable to the mouth of Windy Fork; the Pitka Fork to the mouth of Sheep Creek; the Salmon River to SW $\frac{1}{4}$, Section 3, T. 32 N., R. 25 W., Seward Meridian, or to the first fork; and finally, Blackwater Creek to NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 32, T. 33 N., R. 30 W., Seward Meridian.

In support of his recommendation that the limit of navigability for Big River be extended upstream, the ADO reporter evidently relied upon information in the Division of Resources' report as well as a conversation with Kenneth T. Alt, a biologist with the Alaska Department of Fish and Game. Alt told the district office investigator that in late September 1980 he was ferried by helicopter to a point on Big River west of Lone Mountain. From that point he used a raft with a four-horsepower "kicker" on the river for a distance of four miles both upstream and downstream. He encountered no problems on the river, even though the water level was decreasing at that time of the year. According to the ADO report, Alt believed the river to be "boatable to the foothills of the Alaska Range using a 40 Hp. outboard with prop." Given the available information, the district office hydrologist concluded that the river was susceptible to navigation "at least as far as the southeast corner of Section 36, T. 27 N., R. 31 W., Seward Meridian." He added:- "Physical data tend to confirm this as the least upper limit of susceptibility by commercial watercraft. Field examination or further use information might extend this limit upstream from this point."

In the case of the Middle Fork, the hydrologist learned from John Beck, an anthropologist at the district office, that Tommy Connelly built a cabin with a greenhouse and root cellar near the mouth of Windy Fork. Beck stated that

Connelly reached the cabin by boat, and lived there throughout the year, trapping in the winter. The district investigator contacted Ray Collins of McGrath for information about Connelly's activities. Collins corroborated Beck's statement, and added that in his opinion the Middle Fork was "useable only during Spring runoff." Consequently, the district office report writer concluded that there was sufficient historical information to determine the Middle Fork susceptible to navigation to the Windy Fork. "Precipitation data, drainage area and gradient tend to confirm this as the last upper limit," he wrote. He added, however, that further research and field examination may result in a recommendation extending "the limit of physical susceptibility to navigation" above the mouth of the Windy Fork.

As regards the Pitka Fork, the district office report pointed out that the Federal Aviation Administration (FAA) once had a cabin at Sullivan Creek. According to John Beck, the FAA transported supplies to the cabin by boat, and then hauled the supplies to Farewell by winter trail. Ray Collins corroborated Beck's statement. In addition, the hydrologist reported that in August 1980 he participated in a four-day raft trip down the river. Other BLM participants included Mike Scott, a fisheries biologist, Frenchie Malotte, a fire management office, and Bill Hanson, a fire effects specialist. Landed by helicopter on the river in Section 36, T. 31 N., R. 28 W., Seward Meridian, the men floated down the river to the confluence of the Middle Fork and Pitka Fork. At the mouth of Salmon River, they stopped briefly to talk with Natives at a fish camp. Miska Deaphon stated that he had ascended the Pitka Fork to "traditional salmon fishing grounds" in boats with outboard motors; he said that such a boat could be taken to Sullivan Creek. Unfortunately, except for noting that Pitka Fork at Sheep Creek was approximately 150 feet wide and on the

average two feet deep, the district hydrologist did not provide details about his trip down the river. Citing his discussions with the Natives, his experience on the river, and reported boat traffic to the FAA cabin at Sullivan Creek, he concluded that the river was susceptible to navigation to Sheep Creek.

The district's report writer was unable to discover information about the Salmon River in addition to that provided earlier by Diane Gudgel-Holmes. He noted Miska Deaphon's statement to the effect that he had ascended the Salmon River to "traditional salmon fishing grounds" in boats with outboard motors and that such boats could be taken as far as the first forks in Section 3, T. 32 N., R. 25 W., Seward Meridian. He thus recommended that the river be determined navigable to that point.

As concerns Blackwater Creek, the district hydrologist noted Kenneth T. Alt's statement to Gudgel-Holmes that he had ascended the creek about ten miles. He contacted Ray Collins of McGrath for additional information about the creek, and learned that it was "easily ascendible for three to four miles, after which it narrows and traffic is impeded by log jams." Finally, he noted that John Beck stated that the former Smith Roadhouse on the creek may have been supplied by boat. Considering this use information, precipitation and runoff data for the region, and the physical character of the creek as depicted on USGS maps, the hydrologist concluded that the creek was "suitable for use by commercial watercraft at least as far as upstream as the NE $\frac{1}{4}$ or SE $\frac{1}{4}$ of Section 32, T. 33 N., R. 30 W., Seward Meridian. Further investigation might extend this limit upstream." 129/

The BLM State Office took no action on the district office's recommendations for Blackwater Creek and Big River, apparently in the belief that insufficient

information was presented to make a navigability determination. However, the recommendations for the Middle Fork in T. 33 N., R. 29 W., Seward Meridian, the Pitka Fork, and the Salmon River were approved. On August 11, 1981, the BLM State Director concurred with the recommendations. 130/

Guitar Lake

This lake is located about one mile north of the Pitka Fork in Tps. 33 and 34 N., R. 28 W., Seward Meridian. In 1981, the BLM Anchorage District Office recommended that the lake be determined navigable, for it was suitable for floatplane landings. The district office noted that several lakes in the western limit of T. 33 N., R. 30 W., Seward Meridian, were also suitable for floatplane landings but made no recommendations for the lakes. The BLM State Director took no action on the recommendation for Guitar Lake. 131/

NORTH FORK KUSKOKWIM RIVER

The North Fork of the Kuskokwim River has long been an important water route to the Tanana and Yukon basins. Indians and later white prospectors and trappers ascended the Tanana, Kantishna, and Muddy rivers to Lake Minchumina, crossed a low divide to the headwaters of North Fork, and then descended that stream to the Kuskokwim River.

Although neither had been on the route, Josiah Edward Spurr and Lieutenant Joseph S. Herron noted the existence of the portage between the Tanana and Kuskokwim rivers. 132/ The first specific mention of the Minchumina portage was made by Herron in 1899: "A short portage between Minchumina and the

Kuskokwim results from the extraordinary invasion of the former into the latter's territory, and the Indian canoe route between these waters is via this portage." 133/ The location of the portage is correctly illustrated on Herron's map of the upper Kuskokwim basin.

Spurr and Herron were not the first white men to learn of the existence of the route. Spurr himself recorded that sometime in the late 1880s, Frank Densmore and a party of prospectors journeyed from the Tanana River to the Kuskokwim River. It is not known what season of the year the Densmore party made the journey, but if the prospectors traveled in the summer, as seems probable, they may have crossed the Minchumina portage. Other white men were to follow. Spurr wrote that a prospector named Al King followed Densmore's route about the same time. Interviewing several Indian elders in the basin in the early 1960s, Hosley learned that a few white trappers traveled from the Kuskokwim River to the Tanana River via Minchumina portage. In the late 1880s or early 1890s, a white trapper ascended the North Fork, crossed the portage, and descended Kantishna River to the Tanana River. According to Hosley, the Indians considered this ascent of the North Fork by one white man as a "near super-human feat, since the current is comparatively rapid on the upper reaches of the river." 134/ Not long thereafter, a small party of white trappers took the same route. Oral tradition has it that one of the white men was killed somewhere on the upper reaches of the North Fork by Koyukon Indians from the west. 135/

During the gold rushes to the Kuskokwim and Kantishna rivers in 1905, prospectors and trappers doubtless made use of the Minchumina portage to explore virgin territory, and to reach the new gold camps on the lower

Kuskokwim River, the Kantishna River, and the Tanana River. Unfortunately, few recorded their experiences. The Fairbanks Northern Light reported that J. D. Green and J. M. Smith ascended the North Fork in a knockdown steam launch in the summer of 1906. The two men wintered on the launch at the mouth of Swift Fork, then known as McKinley Forks, and in the spring, when trail conditions were suitable, traveled to Fairbanks. The two men claimed that "in high water a launch could be steamed to within ten miles of Lake Minchumina, the head of navigation for the Kantishna." 136/

By this time the Minchumina portage had already become an established route of travel between the Kuskokwim and Tanana rivers. In 1907, George B. Gordon and his brother Maclaren ascended the Kantishna and Muddy rivers to Lake Minchumina, crossed the portage to the North Fork, and descended that stream and the Kuskokwim River to Bethel. George B. Gordon's account of the journey, published in 1917, was the first detailed description of the route. While the journal is primarily of interest to anthropologists, as it holds a great deal of information about Indians in the Lake Minchumina area, it contains many references to the fact that the Minchumina portage was used by white prospectors.

The Gordon brothers learned of the existence of the Minchumina portage in 1905. At Tanana, an Indian village on the Yukon River opposite the mouth of the Tanana River, George B. Gordon obtained a crude map of the Lake Minchumina area showing the location of the portage from Chief Henry of the Tanana Indians, with the Reverend Jules Prevost, a missionary at the nearby Fort Gibbon acting as interpreter. They learned from the Indian that Kantishna River had its source in Lake Minchumina and that the Kuskokwim River could be reached from the lake. According to the Chief, the Kuskokwim River was "good water."

Intending to take the Kantishna River-Lake Minchumina route to the Kuskokwim River, the Gordon brothers returned to Tanana in 1907, and learned of the recent gold rush to Kantishna River and rumors of someone ascending the Kantishna River to the lake in a poling boat. In June, the brothers began the long journey to the lake in a canoe. Using the map provided by Chief Henry as a guide, they reached the lake after nearly a month of difficult travel. There they met two Indians at a small village who informed them that two white men in a large poling boat had crossed the lake to the portage ten days earlier. The Indians told the brothers that one could cross the Minchumina portage in five days if traveling light, and gave them a birchbark map of the lake, portage, and the North Fork.

After exploring the lake the Gordon brothers began the trek across the portage in early August. After crossing a low divide, they found signs, including an improvised roller, of someone dragging a boat over the ground. About two miles from the North Fork, they finally encountered two men with a poling boat. Gordon failed to record the names of the two men, only saying that they were bound for the South Fork of the Kuskokwim River where they planned to spend two years in prospecting and trapping. Continuing their journey, the Gordon brothers finally reached the North Fork on August 7, having spent seven days on the portage. George B. Gordon estimated it to be ten miles in length.

The Gordon brothers subsequently required about eight days to descend the North Fork and the Kuskokwim River to McGrath in their canoe. On the first day on the North Fork, they saw a cabin on a high bank. A trapper had built the cabin the previous summer and occupied it through the winter. On the third day, they found the Indian summer camp on the left bank of the river

which the Indians on Lake Minchumina had described. The camp was then occupied by only one "very ancient Indian." Then, on the fifth day on the river, August 12, they met two trappers rowing two boats upriver. The two men had met several days earlier, and decided to form a partnership and trap on the North Fork for the winter. One of the men had spent three years on the South Fork of the Kuskokwim River; the other had spent the previous winter on the Takotna River and decided to abandon the field when prospectors appeared in the spring.

Shortly after meeting the two trappers, the Gordon brothers passed the mouth of Swift Fork, or as the Indians called it the Totzona, a muddy stream. Near the mouth of the river, they saw a hut on the bank and met two Indians in birchbark canoes who stated that their village was a short distance upriver. On the eighth day on the river, the Gordon brothers finally passed the mouth of the East Fork or the Chedotlothna and the two outlets of the South Fork or Istna, where they met an Indian in a canoe and saw the cabin of a trapper who had died sometime in the previous winter.. From that place they pushed on to the new trading post of McGrath, and thence to Bethel on the lower Kuskokwim River where they obtained passage on the Hattie B. to Nome. 137/

The Gordon brothers reached the upper Kuskokwim River shortly after the gold rush to Ganes Creek. As more prospectors entered the area following subsequent gold discoveries on Innoko River and Kuskokwim River, some would travel up the North Fork to trap and to prospect. The account of Lee Raymond Dice in 1911-12 provides additional insight into the extent of traffic on the North Fork.

In February 1912, Dice, a deputy game warden, and Stephen Foster, a noted guide, traveled overland from Tanana to the headwaters of the North Fork.

Descending the North Fork for about twelve miles, they met two men named Ben Anderson and James Johnson in a small cabin on a creek draining Haystack Mountain, also known locally as Cone Hill or Mount Unsuzi. Anderson and Johnson had spent the winter on the creek, digging prospect holes and trapping. Dice and Foster remained at the cabin for a time, and assisted the prospectors in the construction of a poling boat, a narrow, flat-bottomed craft about thirty-three feet in length with pointed ends. The boat was capable of carrying a load of one ton or more. On May 1, the ice in the North Fork went out; and eleven days later, Anderson, Johnson, and Foster left the camp in the poling boat for McGrath. The prospectors intended to trade their furs for provisions at McGrath, and then return to a different location on the North Fork for another year of prospecting and trapping.

In early June, Dice constructed a scow seventeen feet long with flared sides seven feet wide, and on June 18, a man named Ben Mozee joined him. Five days later, both began to float down the North Fork in the scow. Dice wrote that the river was "small, swift, with dangerous snags." Landing at the portage, Dice and Mozee walked over the eight-mile trail to Lake Minchumina, and met two men on the trail. One man had dragged a large canoe to the lake and was carrying his equipment over the last stage. His companion had already dragged a heavy poling boat over the trail to the lake. Dice saw various contraptions used to haul boats over the portage. One was a small cart designed to move on a track of birch poles. Another was a large cart which someone pulled over the trail with handmade pulleys and rope.

Returning to the North Fork, Dice and Mozee continued their journey down the river. Their progress was rapid, the current being swift in many places, occasionally broken by long sluggish stretches. After several days on the

river, Dice noted that the current gradually became sluggish in a stretch of a few miles to the junction of the McKinley Fork (Swift Fork). Rowing the scow through the "dead water," they finally reached the mouth of the Swift Fork, a large muddy stream. There they met an Indian named Sheshuey or Shesuie in a canoe who had a cache of rotten moose meat nearby. According to the Indian, Dice wrote, the village of Telida was located ten miles overland or twenty-five miles by river up the Swift Fork.

Below the mouth of the Swift Fork, Dice and Mozee found the current of the North Fork very rapid and encountered many shallow places. Several times their scow struck the stream bottom. Numerous sunken logs and stumps, and sweepers were hazards to navigation, Dice wrote. They passed a few cabins on the banks, but most were vacant. They saw two cabins occupied by prospectors who had already made their summer trip to McGrath to obtain supplies. They met one man on the North Fork who was returning to his cabin; and near Big River they passed several men bound for the North Fork. Dice eventually reached McGrath, then consisting only of three or four cabins, and ascended the Takotna River to Takotna. He subsequently returned to McGrath and floated down the Kuskokwim to the Russian Mission summer portage. 138/

Not long after Dice passed through the district, the North Fork received a considerable amount of attention as the result of the disappearance of Bob Lagin, a trapper and prospector, in the headwaters of the stream. In August 1914, Stephen Foster, then back in Fairbanks, informed authorities that in March 1913, while in the Lake Minchumina area, he had learned from the Indians that Lagin was on the North Fork, about three miles below the Minchumina portage

with ample supplies recently acquired from Jesse Yoder. Foster reported that, following a confrontation with Indians at the mouth of the North Fork, Yoder and Lakin ascended the North Fork in a boat and canoe. Apparently fearing reprisals from the Indians, Yoder refused to remain on the North Fork and returned to McGrath, leaving the canoe with Lakin. 139/

When Lakin failed to return to McGrath, rumors had it that Lakin had been murdered by the Indians. In a letter to Deputy Marshal Percy G. Charles, Wilbur F. Green, the U.S. commissioner, expressed his suspicions that Indians had killed Lakin, and described a recent conversation with Yoder. Lakin and Yoder had killed two moose about thirty-five miles up the North Fork. The two men separated on September 12, planning to meet again in McGrath at Christmas. Yoder then took the moose downriver in a poling boat to the Big River trading post while Lakin went up the North Fork for about forty-five miles in his canoe to trap. Two days later, Yoder encountered Indians from the Swift Fork who attempted to intimidate him. A fist fight resulted, and, according to Yoder, a gun battle would have occurred if the Indians had not been aware of his prowess with a rifle. Yoder was convinced that these same Indians had killed Lakin, recalling too that another man named John Sigurson had recently disappeared in the country.

Green also described a conversation with Paul Minnick, a German who had recently returned from a hunting trip on the North Fork. Minnick ascended the river in a motorboat to the mouth of McKinley Fork (Swift Fork), where a cabin owned by another German named Frederick was located. Shortly after Minnick reached the cabin, Chief "Soo Suey" also arrived in a boat. Upon

questioning the Indian, Minnick was given to understand that Lagin and two Indians had died on the same day. Green noted, however, that Minnick and the Indian may have misunderstood one another, as neither understood English well. He wrote too that one Cowan, who found Lagin's canoe and took it to the Big River trading post, stated that Lagin had crossed the divide to the Nowitna River. 140/

Rumors that the Indians had killed Lagin were eventually squelched by the investigation of Harry Sheppard, a deputy marshal at Ophir. In January 1915, he announced that Lagin had not been murdered by Indians. 141/

During the the 1910s and 1920s, prospectors and trappers worked the tributaries of the North Fork. Sometimes they chartered boats to take them upriver to their headquarters. In May 1921, the Kusko Times reported the recent departure of Charles and Victor Nystrom from McGrath in the motor boat Shamrock. The two men were transporting a number of passengers to Salmon River and Medfra, before continuing up the North Fork to a point said to be 350 miles from McGrath where their launch Red Wing was left in the fall of 1920. 142/ About a month later, Herman Hinsche, a trapper whose cabin was located at the mouth of Swift Fork, descended the North Fork to McGrath in a boat. In late July, Arthur Berry returned Hinsche as well as Herman Hanson to their trapping headquarters. 143/ Several weeks later, Jesse Yoder descended the North Fork from the Swift Fork in a launch (probably the Maple Leaf) with C. O. Peterson on board. Yoder subsequently ascended the North Fork, this time to bring Major John C. Gotwals of the Alaska Road Commission downriver to Medfra. 144/

In September 1922, Charles and Victor Nystrom again took the launch Red Wing to the Swift Fork, intending to search for Hinsche who failed to appear at McGrath as was expected. They found Hinsche's canoe and large boat in the water, but Hinsche himself was not to be found. Some believed that the trapper was lost, since he left more than \$1,000 worth of furs with a friend and a strangely worded note. But he reappeared in McGrath in October 1922 with fellow trappers John Dunn and Bob Robeson. 145/

Boat traffic on the North Fork must have been fairly heavy, for in the early 1920s local residents began agitating for mail service on the route during the summer and winter seasons. At this time, residents of McGrath, Takotna, and Ophir were receiving their mail by trail from Ruby during the winter, and by river from Holy Cross and Bethel during the summer. The editor of the Kusko Times, complaining about the poor mail service, suggested that the mail be routed from Nenana on the government railroad to McGrath throughout the year. Mail carriers could use boats on the North Fork, Lake Minchumina, and Kantishna River in the summer; and they could use sleds on practically the same route in the winter. Referring to an unnamed authority on the summer route, the editor declared "that no impediments other than a few riffles at various distances apart, give any great hindrances to the successful navigation of the North Fork, at least until the portage point is reached. With a boat of proper draft, equipped with [an] engine to give speed averaging 10 miles an hour, the distance from McGrath to the portage would be accomplished in 40 hours." Allowing a day to cross the portage by horse or dog team, the editor argued that only seven days would be required to travel from McGrath to Nenana, a distance estimated to be six hundred miles. 146/

In support of the editorial, the newspaper published a statement by Dave Clough, a roadhouse proprietor at McGrath. Clough claimed to know two men who crossed the divide from the Nowitna River to Lake Minchumina, and then portaged to the North Fork, which they descended to the Kuskokwim River. Theodore Von Frank, a well-known prospector, also crossed the portage and went down the river, although he did so in the winter. As to the winter route, Clough reported that Berry, who knew the country well, had informed officials of the Post Office Department that the trail from McGrath to the railroad line was about 150 miles in distance, and that a number of men had traveled from Kantishna to McGrath in five days. 147/

The Alaska Road Commission was not unaware of the agitation. In August 1921, Major John C. Gotwals ascended the Kantishna and Muddy rivers to Lake Minchumina in a small steamboat. With the assistance of K. B. Kammergard, a trapper and roadhouse proprietor on the lake, he crossed the portage, constructed a raft, and then floated down the North Fork. Near the close of the first day on the river, Gotwals met Sam Sanderson and a group of prospectors in a twenty-six-foot boat and Arthur Berry in his motor boat. Gotwals borrowed Sanderson's boat, and by himself rowed it to Herman Hinsche's headquarters at the mouth of Swift Fork. In the meantime, Arthur Berry transported Sanderson and presumably his party to the portage in the motorboat. Gotwals remained at Hinsche's cabin for two days before Jesse Yoder arrived in his launch, the Maple Leaf. He then accompanied Yoder downstream to Berry's Landing, and then took the steamboat Tana to McGrath, arriving there on September 3. From McGrath, Gotwals went to Takotna on the launch Maple Leaf, and subsequently followed the summer trail to Ophir and Ruby. 148/

Not long after Gotwals passed through the section, local residents circulated a petition for the establishment of mail service on the Nenana-McGrath summer route. Stating that motor boats could be used on the entire route with the exception of the portage, the petitioners called for the establishment of a mail service on the route on a bi-weekly basis during the months of June, July, August, and September. In addition, Robert S. Boyd, chairman of the McGrath Commercial Club, wrote a letter dated November 5, 1921 to Alaska's Delegate in Congress, Don Sutherland, requesting his assistance in establishing the Nenana-McGrath route as a summer mail route. Boyd claimed that mail carriers would be able to haul one thousand pounds of mail on each trip. An Indian village was located near the portage, and a white trader at the foot of the lake. He noted as well that the steamboat Pioneer, carrying four horses and outfits for four men, had traveled from Nenana to Lake Minchumina in 1921 in a matter of four days. 149/

Little more was said about the summer route until the Post Office Department established winter mail service on the Nenana-McGrath trail, and the Alaska Road Commission decided to improve the winter trail. Writing to the Kusko Times on January 12, 1925, W. J. Widman, a resident of Medfra since 1921, advocated the establishment of summer mail service on the Nenana - McGrath route, and in support of his argument noted the fact that Arthur Berry of Medfra "always seemed to be able to get to the portage whenever he had occasion to go there." 150/ In October 1924, for example, Berry transported a number of people up the North Fork to the portage. Leaving Medfra on October 5, Berry ascended the river in his launch with J. L. Berry, Archie Higgins, and a child named Bessie Higgins on board. Arriving at the portage on October 10, Arthur Berry escorted his passengers across the portage to

Lake Minchumina, where they were met by K. B. Kammersgard. Leaving the lake on October 12, Kammersgard transported the passengers in his boat to Nenana where they arrived on October 15. The passengers then continued their journey to San Francisco by train and steamship. 151/ Later interviewing Arthur Berry, Widman learned that the water in the North Fork at the time of the trip was "pretty low," and that the trip would have been easier in a sternwheeler than in his propeller-driven launch. 152/

In addition, Widman sent the newspaper a copy of a letter written by K. B. Kammersgard on January 3, 1925. Kammersgard wrote that the portage was about eight and one-half miles long, striking Lake Minchumina in its southwest corner. The trail was in poor condition, and should be relocated to a high, dry ridge where it would strike the lake in its northwest corner and reduce the distance by one-half mile to one mile. Kammersgard claimed that freight from Nenana could be landed at the portage for four cents a pound; and that he would transport passengers to Nenana for about \$200, depending upon the size of the party. One man and his board would be charged \$50. As concerns the route for the transportation of mail, Kammersgard wrote, "I believe that's the only route by which it can be landed in McGrath two times a month, if they want it." 153/

The people of McGrath and Takotna wanted it. The Kusko Times published the correspondence of Widman and Kammersgard; and letters were sent to H. H. Ross, the representative of the Fourth Division in the Territorial Legislature, requesting his assistance. On March 12, 1925, Ross wrote to James G. Steese, president of the Alaska Road Commission, on the possibility of the Commission surveying the Minchumina portage, and forwarded to him letters from W. J.

Widman, Peter McMullen, the Innoko Lumber Company, and the Schwabacher Hardware Company, all advocating adoption of the summer route for the transportation of mail. Ross stated that it was his understanding that local inspectors of the Post Office Department desired to adopt the route, but could not do so until a survey had been made. Steese replied by letter dated March 13, informing Ross that a representative of the Commission was to examine the portage in the summer. 154/

In June 1925, the Road Commission announced that Major Lunsford E. Oliver, the Engineer Officer of the Commission, and Robert Sommers, a member of the Territorial road commission, were to inspect the portage with a view to its improvement to road, trail, or tramway standard. They were also to investigate water conditions on the upper Kantishna River and the North Fork and determine the practicality of river boat service on the streams. According to Steese, the Road Commission expected to improve the portage if Oliver's report was favorable and if the Post Office Department agreed to establish mail service on the route during the summer months. 155/

Oliver and Sommers made the trip from Nenana to McGrath in six and one-half days. They chartered a boat at Nenana to take them to Lake Minchumina, and on the North Fork side of the portage they met Joe Oates by previous arrangement. Oates took Oliver and Sommers in his launch to McGrath. Continuing to Takotna, the two men subsequently went over the summer trail to Iditarod, and there obtained passage on a boat to Holy Cross. 156/

While at Takotna, Oliver refused to discuss his investigations with local newspaper reporters. Evidently the Road Commission decided that the route was feasible, but would not improve the portage until the Post Office Department let a contract

for summer mail service on the route. 157/ However, the department was at this time planning to use airplanes for the delivery of mail to communities on the upper Kuskokwim River. Mail service on the Minchumina portage route was never instituted.

The introduction of airplanes as carriers of the mail was not entirely welcomed by local residents. On September 4, 1925, Jack Mutchler of Takotna wrote to Alaska Delegate Dan Sutherland that airplanes would not meet the local needs for better mail service. He stated that the majority of local residents favored the adoption of the Lake Minchumina route for the delivery of mail on a bi-weekly basis during the open season. Once mail service on the route was established, perishable freight could be delivered at McGrath from four to six weeks earlier than usual. Also, mail carriers on the route would be in touch with the winter mail trail whenever an early freeze-up of the river occurred. Finally, the adoption of the route would tend to develop the country between McGrath and Nenana. As Mutchler put it, "Prospectors who want to go into that section at present are either compelled to buy or charter a gas boat, which you know isn't likely to happen. With a permanent route established as proposed, they could come and go at will." 158/

As airplanes became the general mode of travel between Fairbanks and Nenana and McGrath, boat traffic on the North Fork declined in frequency. The North Fork continued, however, to be the primary route of travel to hunting and trapping grounds. In September 1937, for example, the Kusko Times reported that Victor Nystrom was headed to his trapping grounds on the North Fork in a boat. He was accompanied by two other trappers named George Harwood and Arnold Akers, both bound for Bill Hartzberg's trapping grounds. 159/

Local residents continue to travel on the North Fork in connection with hunting and trapping activities. However, only a few travel up the river as far as the mouth of Swift Fork. In 1979, Diane Gudgel-Holmes of the Alaska Division of Research and Development contacted twelve individuals who had operated boats on the river. Five individuals had ascended the North Fork beyond the Swift Fork. In 1971, Kenneth T. Alt ascended the "slow and crooked" river as far as Little Hog Butte with a twenty-four-foot boat and propeller unit. Miska Deaphon stated that he had ascended the river to the Minchumina portage only twice in his lifetime. Deaphon Eluska, whose winter home is located on the North Fork opposite the mouth of the Swift Fork, stated that he once went to the Minchumina portage and beyond about thirty years ago in a poling boat. He said there were places where he had to line his boat through some shallow spots, but had no problem descending the river. He may have used a thirty-foot poling boat, but now uses an eighteen-foot boat with a propeller unit. Dick Nikolai claimed to have gone hunting nearly every year on the North Fork above the Swift Fork; he usually did not go beyond the Chleca Lakes but said that it was possible to go farther. Steve Nikolai said that he ascended the river to a cabin above the West Fork of the North Fork just for sightseeing, but not often. 160/

The BLM first considered the navigability of the North Fork in 1977 in connection with land selections made by Nikolai Village under the Alaska Native Claims Settlement Act. In June of that year, the Anchorage District Office recommended that the river be determined navigable to the mouth of the Swift Fork as the river was used for travel, trade, and commerce to Telida Village. The district office indicated moreover that the river was susceptible to navigation above the

mouth of the Swift Fork and that a "moderate" amount of traffic occurred on the river. Small barges, skiffs, canoes, and rafts were used on the river for inter-village travel and for hunting and fishing trips. 161/

On May 6, 1980, the BLM State Director determined the North Fork to be navigable to the Minchumina Portage. This determination was made upon the recommendation of the BLM State Office's Division of Resources. According to a report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin" which was prepared in the Division of Resources: "The historic record indicates that the North Fork was an important route of travel between the Kuskokwim and Tanana River basins. Pole boats and launches have been used on the river." 162/

Swift Fork

With the North Fork of the Kuskokwim River, the Swift Fork has been the primary route of summer travel to Medfra and McGrath for residents of Telida Village. White prospectors and trappers may have ascended the river as far as the village in poling boats or launches; but there does not appear to be documentation of the journeys. The record indicates that canoes and river boats were used on the river.

In 1979, several people reported to Diane Gudgel-Holmes that they traveled by boat on the Swift Fork and its tributaries. Kenneth T. Alt stated that in the fall of 1971, he ascended the Swift Fork to the mouth of Highpower Creek, and thence up that creek for a distance of about twenty miles, or to the eastern edge of T. 23 S., R. 30 E., Kateel River Meridian, in a twenty-four-foot riverboat. Beyond the mouth of Highpower Creek, he said, one would need an

airboat to ascend the Swift Fork. Nic Dennis, Deaphon Eluska, and Dick Nikolai stated that they also used the Swift Fork in boats to reach Telida Village. Eluska, who maintains a summer home at Telida, stated that the Swift Fork is shallow at times and mentioned the existence of sandbars and snags on the river. Steve Nikolai stated that he ascended the Swift Fork as far as the mouth of Highpower Creek in the fall to hunt, and Highpower Creek to the mouth of Deep Creek to fish. He said that he went there several times a year, and could have proceeded farther up Highpower Creek if he wanted. Dick Nikolai ascended the river as far as the mouth of Highpower Creek. Above that point, he said, the Swift Fork is too shallow and swift for boats. In addition, he ascended Highpower Creek to the mouth of Lonestar Creek in an eighteen-foot boat with a propeller unit. At that point, the water in Highpower Creek is about two feet deep and the channel about thirty feet wide with a gravel bottom. Sweepers are apparently common along the creek above the mouth of Lonestar Creek.

Both Dick Nikolai and Steve Nikolai reported that they used Red Slough as a route of travel. Dick Nikolai stated that the slough was easy to navigate in his eighteen-foot boat; he hunted along the entire length of the slough. Steve Nikolai said that he used the slough a lot for hunting, and in making trips to Telida. 163/

In 1977, when identifying public easements on land selected by Telida Village under the Alaska Native Claims Settlement Act, the BLM proposed to determine the Swift Fork navigable through Section 6, T. 25 S., R. 30 E., Kateel River Meridian, a point well above the mouth of Highpower Creek, and Highpower Creek to Section 26, T. 23 S., R. 30 E., Kateel River Meridian. Describing

the Swift Fork as having a single well-defined channel with low to five-foot cut banks, an Anchorage District Office realty specialist wrote that barges were used on the river to Telida, and skiffs to points beyond the village. In the future, the river would be "a main transportation route from Telida Village upstream and downstream." He described Highpower Creek as having a "narrow, winding channel" with a "good current" and "sweepers on cut banks." He wrote that local residents used skiffs on the creek in connection with hunting, fishing, and trapping activities. Finally, he noted that a good stand of timber was located along the creek which may someday be harvested by the local residents. 164/

On June 8, 1977, the BLM easement and navigability task force recommended that only the Swift Fork be determined navigable to Telida. So as "to provide public access along this significant waterway," the task force proposed a stream-side easement on both banks of the river to the mouth of Highpower Creek as well as site easements on the left bank of the river in Sec. 28, T. 24 S., R. 29 E., Kateel River Meridian, and on the left bank of Highpower Creek at its mouth in Section 17, T. 24 S., R. 30 E., Kateel River Meridian. 165/

On May 6, 1980 the BLM State Director determined that the Swift Fork was navigable to the mouth of Highpower Creek. All tributaries of the Swift Fork as well as Red Slough were determined to be nonnavigable. This determination was based upon a report entitled "Navigable and Nonnavigable Waters in the Upper Kuskokwim Basin" which was prepared by the Division of Resources in the BLM State Office. In the report, the Division of Resources presented evidence of the use of wooden riverboats to Telida Village, and maintained that the physical character of the river was such that wooden riverboats could be used to Highpower Creek. In addition, the Division of Resources maintained

that Red Slough, an interconnected slough of the Swift Fork, be determined nonnavigable as local residents reportedly used the slough in small boats only and as the waterbody was not considered to be a "slough" as the term is generally understood. The water body meandered for many miles north of the Swift Fork. 166/

In 1981, the BLM reconsidered the navigability of the Swift Fork, Red Slough, and Highpower Creek as a result of State of Alaska land selections in the area. In a report prepared by a historian with the BLM Anchorage District Office, it was recommended that Red Slough and Highpower Creek be determined navigable. The previous navigability determination for Swift Fork to Highpower Creek was reconfirmed.

In support of his recommendations, the historian relied principally on the information collected by Diane Gudgel-Holmes and his interview with a number of government officials. Kenneth T. Alt, a biologist with the Alaska Department of Fish and Game, stated that in the early 1970s he ascended the Swift Fork and Highpower Creek in a twenty-four-foot wooden boat. The trip was made in mid-September when water levels were normally low. He indicated that he reached a point on the Swift Fork just above the mouth of Highpower Creek before encountering shallow water and sand bars. He turned back at this point in the belief that further progress up the river would be very difficult.

Alt also stated that he ascended Highpower Creek in a twenty-four-foot boat for a distance of eighteen to twenty miles, and believed that he could have proceeded even farther in the boat. He described the creek as being "a physically large, deep creek," more than one hundred feet wide at its mouth. For a distance of

eighteen miles, the creek was at least three feet deep with "some small riffles." Alt said that Dick Bishop, a former employee of the Alaska Department of Fish and Game, knew "numerous people" at Telida who had ascended the creek for a distance of eighteen miles for fishing purposes. Clifford D. Ells of the BLM supported Alt's statement, asserting that the creek was, in the district historian's words, "a physically large, deep river capable of handling a boat in excess of 1,000 pounds for some distance upriver."

According to Alt, Red Slough, about nineteen miles in length, was approximately 175 feet wide at its head and two hundred feet wide at its outlet. The average water depth throughout its course was three feet. He added that the current in the slough was slower than that in the Swift Fork. Art Hosterman, the former manager of the BLM McGrath Resource Area, told the historian that he believed the residents of Telida used the slough as a route of travel in returning to their village from the North Fork. As the historian explained, "Travel downstream would occur on the main stem Swift Fork, while upstream travel would occur on the Red Slough. This type of travel normally occurs on many water bodies where the slower current in the slough is more enticing to upstream boaters."

Given the available evidence, the Anchorage District Office recommended that Red Slough be determined navigable for its entire length. "Since the main channel Swift Fork has previously been determined navigable and due to its close proximity to Telida, travel over the slough has obviously occurred in the past by boats capable of carrying 1,000 lbs and will continue in the future." In addition, the district office recommended that Highpower Creek be determined navigable to the mouth of Lonestar Creek "at least" as the creek "provides a local transportation route for the area's residents." The BLM State Office took

no action on the recommendations as Highpower Creek was not located on State-selected lands and insufficient information was available about use of Red Slough as a route of boat travel. 167/

Upper Telida Lake

Located about one mile from Telida, this lake is approximately seven hundred acres in area. The BLM first considered the navigability of the lake in 1977. According to an Anchorage District office report on the lake, the lake is bordered by spruce and birch trees except on its north end where there is a swampy area. A "small amount" of lake water flows through a "little outlet" to Lower Telida Lake. There was no known use of the lake, and access to the lake was limited to floatplanes and "small craft." The report indicated that recreational values along the lake were high. The BLM easement and navigability task force subsequently proposed to determine the lake to be nonnavigable. On May 6, 1980, the BLM State Director determined that this lake, as well as all other lakes in the upper Kuskokwim basin, were nonnavigable. 168/

Lower Telida Lake

In 1977, the BLM proposed to determine this lake, approximately four hundred acres in area, to be nonnavigable. According to a report by the BLM's Anchorage District Office, the lake is bordered by a thick stand of spruce and birch trees except on its southern end, where there is a swamp. The lake is drained by a stream about six feet wide. Access to the lake is limited to floatplanes and "small craft." There was no known use of the lake but the district office added that recreational values in the area were high. On May 6, 1980, the BLM State Director determined that the lake was nonnavigable. 169/

Bear Island Lake

Located about three miles southwest of Telida on land selected by the village corporation, this lake was determined by the BLM to be nonnavigable on May 6, 1980. According to an Anchorage District Office report, the lake is approximately three hundred acres in area and is bordered by swampy areas and black spruce trees. The lake is accessible by floatplane, but the report writer was unaware of any use of the lake. The report added that the lake is "close to Telida but does not appear to be the type of lake that appeals to recreationists." 170/

Shisnona Lake

The landlocked lake is located about one mile south of Shisnona River, a tributary of the Swift Fork, approximately fifteen miles east of Telida Village. Approximately 250 acres in size, the lake is bordered by spruce trees. According to an Anchorage District Office realty specialist, the lake is accessible by floatplane, but there is no known use of the lake. He indicated, however, that the lake may be used for recreational purposes in the future. On May 6, 1980, the BLM State Director determined that the lake was nonnavigable. 171/

Spruce Lake

Located in T. 22 S., R. 28 E., Kateel River Meridian, approximately twelve miles northwest of Telida, this lake is about four hundred acres in area. In 1977, a report prepared by the Anchorage District Office of the BLM stated that the lake shoreline was swampy in character with some spruce trees. The

lake was accessible by floatplane. The report writer was unaware of any past use of the lake, but indicated that recreational activities may occur on the lake in the future. On May 6, 1980, the BLM State Director determined that the lake was nonnavigable. 172/

Bellen Lake

Located near Spruce Lake, this lake is about five hundred acres in area. According to an Anchorage District Office report, the shoreline is swampy in character. There was no known use of the lake, although it was accessible by floatplane. The report indicated that the lake may have recreational value in the future. On May 6, 1980, the BLM State Director determined that the lake was nonnavigable. 173/

East Fork Kuskokwim River

Crossing the East Fork, or as it was then called, the Chedotlothno, on August 25, 1899, Lieutenant Herron believed this river to be navigable for small steamboats as far as a point near the mouth of the Shisnona River (Slow Fork). 174/ While there is no specific mention of boat traffic on the East Fork in the historic record, we can assume, given Herron's statement, the difficulty of overland travel, and the existence of settlements on the river, that boats were used on the river.

The East Fork was probably the primary route of summer travel to Medfra and McGrath for residents of the South and East Fork villages. In addition, there is strong evidence to support the view that the East Fork Roadhouse was supplied

by boat from 1923 to 1931, and possibly later. Roadhouse proprietors in the area generally relied upon boats to supply their establishments. The fact that the local newspaper noted the arrival and departure of the proprietors of the East Fork Roadhouse only in the summer, suggests that the roadhouse was supplied by boat during the open season. 175/

In 1979, a number of local residents told Diane Gudgel-Holmes that they used boats on the river. Miska Deaphon stated that in 1926 he traveled overland from Telida to the East Fork, built a skin boat, and descended the swift and rocky river. According to Nic Dennis, "everyone" in Nikolai Village used the Slow Fork and the East Fork. He himself often ascended the East Fork in a thirty-foot wooden boat with a propeller unit to a point in the northwest portion of T. 28 S., R. 23 E., Kateel River Meridian. Moreover, he took a motorboat up the Slow Fork on a hunting trip as far as the northcentral township line of T. 26 S., R. 28 E., Kateel River Meridian. Many villagers hunt on the river to this point, although there is a log jam in the northwest part of Section 10, T. 26 S., R. 27 E., Kateel River Meridian. Bobby Esai said that he often traveled to Ann Alexia's cabin in the northcentral part of T. 28 S., R. 26 E., Kateel River Meridian. He claimed that some people ascended the Slow Fork, but he himself had not made the trip as the river is too shallow and has too many channels with a soft bottom that would ruin the motor on his boat.

Pete Gregory, who owns a cabin in Section 4, T. 28 S., R. 26 E., Kateel River Meridian, said that he has hunted on the East Fork to about the Slow Fork.

Nic Petruska stated that every fall he travels to his cabin in Section 21, T. 26 S., R. 27 E., Kateel River Meridian, and to an old log jam located five miles upriver. He claimed that he could travel farther if the log jam was not there. Jim Nikolai stated that on hunting trips he too used to ascend the East Fork and

Slow Fork above Petruska's cabin, but the water is too shallow for the boat and big motor which he then owned. Finally, Bill Woolard said that he used a boat on the river to reach his cabin located near the base of the East Fork Hills (T. 28 S., R. 23 E., Kateel River Meridian).

Apparently only a few people use boats on the East Fork Slough. In 1979, Nic Alexia told Diane Gudgel-Holmes that he used the slough in a twenty-foot boat only when the water was high. Bill Woolard said that he once ascended the slough in 1974 for a distance of about ten miles during a hunting trip. He apparently reached the northwest section of T. 28 S., R. 23 E., Kateel River Meridian.

Even fewer people have traveled on Tonzona River. According to Ray Collins, there are some people still alive who have floated down the river in skin boats. Nic Petruska said that a "Goog" Anderson once ascended the river in an airboat as far as Amos Lake in the Alaska Range. However, Nic Dennis stated that people do not travel on the river. 176/

The BLM first considered the navigability of the East Fork and its tributaries, the Slow Fork and Tonzona River, in 1977 following land selections made by Nikolai Village and Doyon, Limited. Personnel of the BLM's Anchorage District Office recommended that the East Fork be determined susceptible to navigation to Section 33, T. 27 S., R. 26 E., Kateel River Meridian; the Slow Fork from Section 30, T. 25 S., R. 28 E., to Section 26, T. 25 S., R. 30 E., Kateel River Meridian; and Tonzona River in Section 31, T. 26 S., R. 28 E., Kateel River Meridian. Describing the East Fork as "meandering" and "slow moving" with banks characterized by gravel bars and cut banks up to twenty feet in

height, one employee wrote that local residents ascended the river in canoes and skiffs to hunting and fishing camps. In the future, boats may be used on the river in connection with timber cutting in the area. He added that boats may be used as far as the extreme end of Section 33, T. 27 S., R. 26 E., Kateel River Meridian, where the river channel becomes too narrow and the water too shallow for boats. 177/

The employee described the physical character of the Slow Fork as being similar to the East Fork. Local residents traveled the river in canoes and skiffs for essentially the same purposes. An ADO realty specialist noted that stands of timber were located along the river and that sweepers, divided channels, and sand bars were "obstructions" to navigation. While no improvements were located along the river, local residents used skiffs on the river in connection with subsistence activities. Finally, he claimed that the river would be needed in the future as a transportation route to the headwaters in the foothills. 178/

The BLM easement and navigability task force subsequently recommended that the East Fork be determined navigable for an unknown distance. In addition, the task force recommended a streamside easement on both banks of the river through Section 12, T. 27 S., R. 26 E., Kateel River Meridian, so as "to provide for public use of waters having highly significant present recreational use." The task force did not make navigability recommendations for the Slow Fork and Tonzona River. 179/

On May 6, 1980, the BLM State Director determined that the East Fork was navigable to the mouth of the Slow Fork. The Slow Fork and Tonzona River were determined to be nonnavigable. This determination was based upon a BLM report entitled "Navigable and Nonnavigable Waters of the Upper Kuskokwim

Basin." Information in the report supported the view that the East Fork was the principal route of summer travel to the former East Fork and Slow Fork villages and roadhouses. 180/

In 1981, the BLM reconsidered its determination of nonnavigability for the Slow Fork and Tonzona River in connection with a number of State land selection applications. In a report on water bodies located on the State-selected lands, a BLM historian recommended that the Slow Fork be determined navigable to the north township line of T. 26 S., R. 28 E., Kateel River Meridian; and Tonzona River to "at least" the mouth of Dennis Creek in T. 27 S., R. 28 E., Kateel River Meridian. These recommendations were based largely on information reported by Diane Gudgel-Holmes and an interview with Ray Collins on August 19, 1981. According to the historian's account of the interview, Collins stated that a number of local residents, including Nic Dennis, ascended the Slow Fork in riverboats ranging in length from eighteen to twenty-four feet and equipped with twenty-five-horsepower outboard motors. He added that the Slow Fork was similar to the East Fork in character. While the water level fluctuated "greatly" during the year, the river generally carried sufficient water to accomodate a riverboat eighteen feet or more in length.

Collins believed that Tonzona River above Dennis Creek had "tremendous potential" for recreational float trips. In the fall of 1979, he said, he floated down the river from Amos Lake to its mouth. He recalled that the river was swift and shallow to a point just above the mouth of Dennis Creek. Below Dennis Creek the river flowed with a slower current in an "easily identifiable" channel to the East Fork. The water depth in this reach was three to ten feet. Collins

believed that "a waterborne craft capable of carrying in excess of 1,000 pounds could easily navigate from the East Fork on to the Tonzona to Dennis Creek." He added that numerous people had summer cabins on Dennis Creek. 181/

As of the present writing, the BLM State Office has taken no action on the historian's recommendations for Tonzona River and Slow Fork partly because of conflicting information. According to Diane Gudgel-Holmes, a log jam was located in the Slow Fork below Petruska's cabin. The BLM's historian assumed that "navigation on the Slow Fork occurs at high water levels and that the log jam below Petruska's cabin is either temporary in nature or is portaged around or is drowned out at high water levels." 182/

Grayling Lake

Located on land selected by Doyon, Limited, twelve miles south of Telida, this circular lake, about 350 acres in area, was determined by the BLM on May 6, 1980, to be nonnavigable. No use of the lake is known to the BLM. According to an Anchorage District Office report, "Recreational values along the lake are potentially high." 183/

Denagiemina Lake

This lake, about five hundred acres in area, is located fourteen miles east of Nikolai Village. In 1977, an employee of the BLM's Anchorage District Office reported that the lake was bordered by spruce and birch trees except on its southern end where a swampy area was located. He was unaware of any past use of the lake, but noted that recreational values along the lake were high. On May 6, 1980, the BLM State Director determined the lake to be nonnavigable. 184/

SMITTY'S LAKE

Located in Sections 16, 17, 20, and 21, T. 33 N., R. 32 W., Seward Meridian, this large landlocked lake (about 300 acres) is used throughout the year by local residents for recreational purposes. According to a BLM realty specialist at the Anchorage District Office, a high bluff is located on one side of the lake and a swampy area on the other side. A Native allotment cabin is located on the lakeshore. The realty specialist wrote that "small skiffs" were used on the lake. 185/

KATLITNA RIVER

The BLM first considered the navigability of Katlitna River in 1977 in connection with land selections made by the Village of McGrath under the Alaska Native Claims Settlement Act. On the basis of personal knowledge of the river, an employee of the BLM's Anchorage District Office recommended that the Katlitna be determined nonnavigable "due to size, depth, and width limitations on susceptibility." Describing the river as having a winding and narrow channel with low brush and timbered banks, the employee wrote that boats were not used on the river and that no improvements were located on it. Accordingly, the BLM easement and navigability task force recommended that the river be determined nonnavigable and prepared an easement for a trail along the river from the Kuskokwim to public land. The trail was reportedly used by many local residents. 186/

The BLM reconsidered the navigability of the river in 1981 in connection with State-selected lands in T. 31 N., R. 32 W., Seward Meridian. Interviewed by a BLM employee sometime in the summer of 1981, Amos Turner of McGrath

stated that local residents ascended this river only at high water stage, when it was possible to take a boat with an outboard motor to the foot of the mountains. In July 1981, the BLM employee took an eighteen-foot boat to the mouth of the river which he estimated to be about sixty feet wide and the water four to five feet deep. He ascended the river for several miles. 187/

On the basis of these personal observations and the interview, the Anchorage District Office recommended that the Katlitna River be determined navigable to Section 22, T. 28 N., R. 32 W., Seward Meridian. In support of the recommendation, the report stated: "Despite the fact that this river is smaller than others in the . . . area, the author is satisfied . . . that it is in fact capable of use at its mouth having traveled up from its mouth several miles in an 18-foot riverboat with outboard motors. Examination of [USGS] quads McGrath C-5, D-5, and D-6 shows this river takes approximately 40 river miles to go from 300 to 600 feet in elevation for a gradient of 7.5 feet/mile. At this point, in 22, T. 28 N., R. 32 W., Sec. 22, Seward Meridian, it has effectively reached its upper limit of susceptibility, going to a gradient of approximately 15 feet/mile." On September 9, 1981, the BLM State Office determined that the river in State-selected T. 31 N., R. 32 W., Seward Meridian, was navigable. 188/

CARL CREEK

The BLM determined that this creek in T. 31 N., R. 36 W., Seward Meridian, was nonnavigable on September 9, 1981. Following an inspection of the creek sometime in the summer of 1981, a BLM employee reported that the creek at its mouth was about twenty-five feet wide and the water three to four feet deep. For some reason he was unable to take his eighteen-foot boat powered with a

fifty-horsepower propeller unit up the creek. He subsequently recommended that the creek in the above State-selected township be determined nonnavigable. 189/

WILSON LAKE

During the summer of 1979, Diane Gudgel-Holmes of the Alaska Department of Natural Resources interviewed a number of residents of McGrath in an effort to collect information to support the State's claims to potentially navigable waterways. Several residents claimed to have used boats on this lake in connection with fishing and hunting activities. Glenn Bass stated that he used a twenty-four-foot riverboat on the lake at high water, as well as a jet boat at low water. James Pierson claimed to have used a nineteen-foot boat with jet units on the lake. Lee Chamberlain said that he also used the lake, but did not indicate whether he used a boat on the lake or the nature of the use. 190/

The BLM first considered the navigability of Wilson Lake in 1977 when identifying public easements on lands selected by McGrath Village. Describing the lake as being "deep" with low banks covered with brush or timber, an Anchorage District Office realty specialist wrote that the lake "fills up during spring floods." Many local residents used skiffs and floatplanes on the lake in connection with "recreational fishing." A cabin known as "Poorman's Cabin" was located on the north shore of the lake. 191/

The BLM easement and navigability task force subsequently recommended that the lake be determined nonnavigable. In addition, it recommended a site easement on the north shore and bed of the lake, a trail easement from Poorman's

Cabin to Section 15, T. 31 N., R. 34 W., Seward Meridian, and a streamside easement on both banks and the bed of the lake outlet for its entire length.

192/ MTNT, Limited, objected to these proposed easements, stating that the area was "held in reverence by the Natives of Takotna and McGrath as traditional hunting grounds," that only the Natives used the area, and that the cabin on the lake was not for the use of the public. 193/

BEAVER CREEK

Interviewed by Diane Gudgel-Holmes of the Alaska Department of Natural Resources in 1979, Lee Chamberlain of McGrath claimed that he ascended this creek in a "big boat" to a cabin located in Section 11, T. 30 N., R. 35 W., Seward Meridian, and beyond for the past five or six years. He reported as well that a canoe can be taken to the "extreme end" of the creek. One year, he said, a log jam was located somewhere above the cabin, but it was gone the following summer.

194/

To date, the BLM has determined only the upper reaches of the creek in T. 30 N., R. 36 W., Seward Meridian, to be nonnavigable. In early 1981, a BLM employee attempted to reach the mouth of the creek in an eighteen-foot boat. He was unable to enter the mouth for reasons that are not clear. He simply noted: "Mouth entered behind a slough, could not be reached with 18-foot riverboat." The employee subsequently recommended that the creek in the above-cited township selected by the State be determined nonnavigable, as it did not appear that the creek was "capable of use by boats capable of carrying 1,000 pounds net cargo on a regular basis." The BLM State Director concurred on September 9, 1981. 195/

VINASALE LAKE

According to Diane Gudgel-Holmes of the Alaska Department of Natural Resources, this lake receives heavy use by hunters and fishermen from McGrath. However, she cited only Lee Chamberlain of McGrath as using the lake. She did not describe the nature of this use and whether boats are used on the lake. 196/ It is presently unknown how people customarily gain access to the lake or, for that matter, whether they use boats on the lake. The BLM has not yet made a navigability determination for the lake.

BLACK RIVER

In 1979, Lee Chamberlain of McGrath told Diane Gudgel-Holmes of the Alaska Department of Natural Resources that he ascended this river in a boat "many times" to a point located in Section 35, T. 30 N., R. 35 W., Seward Meridian, and "could have gone farther." He also stated that Deacon Deaphon, a local resident, used to travel overland to the headwaters of the river and then descend the river in a canoe in order to hunt muskrats. 197/ In 1981, Epp Anderson of Takotna reported to a BLM investigator that local residents ascended the river fifteen to twenty miles for the purpose of hunting and fishing. Amos Turner of McGrath told the same BLM employee that the river was "subject to intermittent use for prospecting and hunting." The employee subsequently took a boat to the river mouth, which he described as being about one hundred feet wide and the water two to three feet deep, but he was unable to enter the river with his boat as a sandbar blocked the entrance. 198/

On the basis of this information, the investigator recommended that the river be determined navigable to Section 12, T. 28 N., R. 38 W., Seward Meridian.

While he was unable to reach the mouth of the river with a boat, he believed that he could have entered the mouth by poling the boat "as there was enough water to float the boat over the bar." Considering too the "the river takes only approximately 25 river miles to go from 300 to 500 feet in elevation for a gradient of 8 feet per mile," he stated that the river "would be as susceptible to use as any of the other streams of this size in the . . . area." The BLM State Director on September 9, 1981 determined that the river was navigable in T. 28 N., R. 37 W., Seward Meridan. All water bodies in T. 28 N., R. 38 W., Seward Meridian, including a short stretch of the Black River which the employee recommended be determined navigable, was in fact determined to be nonnavigable. 199/

LITTLE SELATNA RIVER

According to Diane Gudgel-Holmes of the Alaska Department of Natural Resources, Lee Chamberlain of McGrath stated in 1979 that he had ascended this river a few miles in a riverboat, and could have gone farther in a canoe. In July 1981, however, a researcher for BLM's Anchorage District Office took a boat to the river mouth, which he described as being about twenty-five feet wide and the water five to six feet deep, and found that a boat could not be taken up the river as the channel constricts quickly. 200/

On the basis of this experience, the ADO employee recommended that the river be determined nonnavigable. On September 9, 1981, the BLM State Director determined that the lower reaches of the river in State-selected T. 28 N., R. 35 W., Seward Meridian, was nonnavigable. 201/

SELATNA RIVER

In June 8-14, 1979, scientists Richard A. Dotson and David P. Mindell conducting raptor surveys in the area descended this river from a point near 62° 26' 40" N., 155° 26' 30" W., in an Avon Redshank raft for a distance of about twenty-seven miles. While nothing is known about their day-to-day experiences on the river, their published comments about the river character are suggestive. From a "narrow . . . high-banked stream" about twenty-three feet in width, the river became a "wide, low-banked river" about forty-nine to sixty-six feet in width. Water depths ranged from ten inches to four and one-half feet. Two large log jams made navigation impossible beyond ten miles upriver, they wrote. Downed trees may present navigational hazards in some years. Vegetation along the river consisted of "a dense to open forest with white spruce, paper birch, quaking aspen, balsam poplar, and extensive pure stands of black spruce," which are usually associated with bogs. 202/

In the same year, Diane Gudgel-Holmes of the Alaska Department of Natural Resources interviewed four residents of McGrath who claimed to have used boats on this river. Ralph Anderson said that he ascended the river on a hunting trip for a distance of twenty to thirty-five miles or to a point near the cabin of Chet Wright, and "a few times" to a cabin on the river located south of Selatna Mountain. Lee Chamberlain said that he often ascended the lower reaches of the river, and in the fall of 1977 went up the river on a hunting trip to a cabin located on the east edge of T. 26 N., R. 33 W., Seward Meridian. The water was high at the time, and the trip took about three hours actual running time. A log jam was located near the cabin, but he managed to get around the jam and continued up the river an additional five miles. He claimed that it was

not always possible to ascend the river as far as he did. Amos Turner stated that he ascended the river to the "first cabin," located about five miles upriver, as well as to another cabin located fifteen to twenty miles farther. These trips were made in the spring when the water was high in order to bring trappers in the area back to McGrath. Observing that the river was very crooked and swift, Turner added that only people with much experience should attempt to ascend the river. Pete Shephard of the Alaska Department of Fish and Game said that he ascended the river at high water stage to a point located southwest of the center of T. 27 N., R. 34 W., Seward Meridian. As the river is very crooked and often shallow with sweepers along the banks, people did not usually ascend this stretch of the river. 203/

The BLM first considered the navigability of the river in 1981 in connection with State selections. In July 1981, a BLM employee examined the river at its mouth, and estimated it to be about one hundred feet wide and the water ten to twenty feet deep. He did not ascend the river, but quoted Amos Turner to the effect that one could take a boat with an outboard motor up the river to the mountains at extreme high water stages.

Considering Turner's statement and the physical character of the river as depicted on USGS maps, the Anchorage District Office recommended that the river be determined navigable to Section 31, T. 27 N., R. 33 W., Seward Meridian. It pointed out that the gradient of the river in its first twenty miles from the Kuskokwim was approximately ten feet per mile. Farther upriver, the gradient was twenty-five feet per mile. The district's report thus concluded that "the point at which this river ceases to be capable of use is the point at which its gradient changes to over 10 feet/mile, or at the point it crosses the

500 foot gradient" in Section 31, T. 27 N., R. 33 W., Seward Meridian.

"Resources that would cause use include houselog timber, mineral exploration, and fish and game resources," the report added. On September 9, 1981, the BLM State Director determined that the river was navigable in State-selected Tps. 27 and 28 N., R. 35 W., Seward Meridian. 204/

BEAVER SLOUGH

Beaver Slough is the local name for an interconnected slough of the Kuskokwim River below Rohn River and above Devil's Elbow. The slough enters the Kuskokwim River from the west in Section 35, T. 25 N., R. 38 W., Seward Meridian. In 1979, Ed Else of McGrath told Diane Gudgel-Holmes that he used a twenty-six-foot riverboat on the slough. 205/ No other information concerning his experience on the slough is available.

UNNAMED CREEK

This creek enters the Kuskokwim below Devil's Elbow in Section 13, T. 23 N., R. 38 W., Seward Meridian. According to Diane Gudgel-Holmes, Ed Else claimed to have ascended the creek about ten times to the east edge of Section 13, T. 23 N., R. 39 W., Seward Meridian. He described the creek as being shallow with many sweepers. 206/

UNNAMED CREEK

Ed Else also claimed to have ascended this unnamed creek entering the east side of the Kuskokwim River in Section 16, T. 26 N., R. 37 W., Seward Meridian. 207/ No other information is available.

UNNAMED CREEK

Ed Else reportedly ascended this unnamed creek entering the east side of the Kuskokwim River in Section 15, T. 26 N., R. 37 W., Seward Meridian. 208/

UNNAMED CREEK

In 1979, Ed Else told Diane Gudgel-Holmes that he fished for pike in the creek entering the west side of the Kuskokwim River in Section 34, T. 27 N., R. 37 W., Seward Meridian. It is not clear from Gudgel-Holmes' account of the interview whether he ascended the creek in a boat. 209/

UNNAMED LAKE

According to Diane Gudgel-Holmes, Ed Else stated in 1979 that the unnamed lake on the east side of the Kuskokwim River in the southeast portion of Section 2, T. 26 N., R. 37 W., Seward Meridian, offers good opportunities for pike fishing. 210/ It is not clear from Gudgel-Holmes' account whether Else used a boat on the lake.

UNNAMED CREEK

In 1979, Ed Else reported that the unnamed creek entering the Kuskokwim River from the east in Section 23, T. 27 N., R. 37 W., Seward Meridian, can be ascended in a boat "after pushing around the first three bends." 211/ No additional information about his experience on the creek is available.

NUNSATUK RIVER

The BLM first considered the navigability of this river in 1981 in connection with State selections. In 1981, Epp Anderson, a resident of Takotna, told the BLM that local hunters and fishermen ascend this river in boats for ten to fifteen miles. In July of the same year, a BLM employee took a boat to the river mouth, which he described as being about sixty feet wide with steep banks and water about ten feet deep. Apparently he did not attempt to ascend the river. 212/

On the basis of Anderson's statement, the physical character of the river as depicted on USGS maps, and his own examination of the river mouth, the employee recommended that the river be determined navigable to the forks in Section 2, T. 25 N., R. 38 W., Seward Meridian, a distance of approximately three miles. He chose this point "due to the small size of the drainages of the two tributaries forming at this point." On September 9, 1981, the BLM State Director determined that the river was navigable in T. 26 N., Rs. 37 and 38 W., and T. 25 N., R. 38 W., Seward Meridian. 213/ It is not clear whether the entire river in T. 25 N., R. 38 W., Seward Meridian, was determined to be navigable.

ROHN RIVER

The BLM first considered the navigability of this river in 1981 in connection with State selections. In July 1981, a BLM employee found the mouth of this river blocked by a sandbar, making it impossible for him to enter the river in his eighteen-foot boat. He concluded that the river not "capable of use by

boats capable of carrying 1,000 pounds net cargo on a regular basis," and so recommended it be determined nonnavigable. On September 3, 1981, The BLM State Director determined that the river in Tps. 24 and 25 N., R. 37 W., Seward Meridian, was nonnavigable. 214/

TATLAWIKSUK RIVER

Conducting a raptor survey in June 15-18, 1979, scientists Richard A. Dotson and David P. Mindell descended about forty-nine miles (forty-four miles by their account) in an Avon Redshank raft. The two men were ferried by helicopter to a point on the river just east of the "Shifting Sands" area. They described the river at that place to be forty to fifty feet wide and the banks low. As they floated down the river to its mouth, they noted that it flowed through a "rather wide, flat valley . . . walled on its northwest side by several large hills, having rounded to flat summits" White spruce and balsam poplar were common along the river except in its lower reaches where muskeg-bog areas abounded. Gravel and sand bars supported dense stands of alder and willows. They estimated the river at its mouth to be ninety-nine to 115 feet wide. Finally, they wrote that, in their opinion, it was possible at the time of their journey for a "motorboat" with a draft of fourteen inches to ascend the lower twenty miles of the river. 215/

The BLM first considered the navigability of the river in 1975 in connection with the land selections of Stony Village. At that time, the Alaska Department of Fish and Game recommended a campsite easement at the mouth of the Tatlawiksuk. This later was amended to include a twenty-five-foot easement on the bed of the river on the campsite's waterfront. A trail of about a quarter of a

mile long leading southeasterly from the campsite was also recommended. This set of easements was designed to provide access to public lands beyond the village's thin land selection along this section of the Kuskokwim. In July 1978, two BLM employees inspected the easement recommendations, and ascended the river a short distance in a jet boat with a fourteen- to sixteen-inch draft.

216/ On July 26, 1982, one of these employees informed the writer that he and his co-worker experienced difficulties in ascending the river due to shallow water and sand bars. He recalled no evidence of human activity along the lower reaches of the river. 216/

With the issuance of new easement regulations, the Anchorage District Office recommended that the lower reaches of the Tatlawiksuk River in the Stony Village conveyance area be determined a major and navigable waterway. In justification of the major waterway recommendation, the district stated in April 1980: "The Tatlawiksuk River was determined to be a major waterway within the selection area as it provides access to public lands to the east. It also provides access to Native allotments located along its shore. The Tatlawiksuk is a slow, meandering river at its mouth and throughout the selection area. The gradient from the mouth of the Tatlawiksuk for approximately 12 miles is about 125 feet. The BLM's riverboat, a 20-foot inboard with a 14 inch draft has been operated on the Tatlawiksuk River." It further noted that the river was susceptible to travel, trade, and commerce. On September 29, 1982, the BLM issued a decision to convey land to The Kuskokwim Corporation. The Tatlawiksuk River was determined navigable in the conveyance area. 217/

In early 1981 the Anchorage District Office prepared a report on water bodies in townships selected by the State of Alaska. In the report, the district office recommended that the Tatlawiksuk River be determined navigable to the forks in

T. 25 N., R. 33 W., Seward Meridian. The recommendation was based partly upon a statement made by Amos Turner of McGrath that local hunters, fishermen, and trappers ascended the river in boats. He said that an outboard boat could be taken a considerable distance up the river. It is not clear from the report whether Turner himself had ever been up the river. In any case, a BLM employee subsequently took an eighteen-foot Smokecraft equipped with a fifty-horsepower motor (propeller) past the mouth of the Tatlawiksuk. He estimated the river at its mouth to be about two hundred feet wide and the water more than six feet deep in mid-July 1981. 218/ He apparently did not attempt to ascend the river.

On the basis of Turner's statement and the physical character of the river as depicted on USGS maps, the BLM employee recommended that the river be determined navigable to Section 35, T. 25 N., R. 33 W., Seward Meridian. He pointed out that the gradient of the river for fifty river miles above its mouth was on the average eight feet per mile. Above this reach, he wrote, "two things happen to this stream which reduce its further susceptibility. First, the stream splits into three tributary streams within a short interval. Secondly, all three of these tributaries exhibit small drainage size and high gradients, in the range of 26 to 50 feet/miles" On September 9, 1981, the BLM State Director determined that the Tatlawiksuk River in T. 23 N., R. 37 W., Seward Meridian, was nonnavigable. 219/

In June 1982, the BLM Anchorage District Office prepared another report on water bodies in six townships selected by the State of Alaska. One township, T. 24 N., R. 33 W., Seward Meridian, included the Tatlawiksuk River above its rivermile 58. Taking note of much of the information presented here,

the district office recommended that the river be determined navigable "to at least the boundary between Section 35, T. 25 N., R. 33 W., Seward Meridian, and Section 4, T. 24 N., R. 33 W., Seward Meridian." In making this recommendation, she quoted an earlier report at length: " . . . obviously susceptible to use at its mouth, this stream maintains an average gradient of 8 feet per mile for approximately 50 river miles. At this point in Section 35, T. 25 N., R. 33 W., Seward Meridian, two things happen to this stream which reduce its further susceptibility. First, the stream splits into three tributary streams within a short interval. Second, all three of these tributaries exhibit small drainage size and high gradients in the range of 26 to 50 feet/mile." The district office stated that "even in the absence of use information, the Tatlawiksuk River is certainly susceptible to use by traditional and commercial watercraft (capable of transporting 1,000 pounds) through the selection area." 220/

Reviewing the available information about the river, the BLM State Office reached the conclusion that the river in the subject township was nonnavigable. The rationale was as follows:

The historic record reveals almost no evidence of the use of boats on the middle and upper reaches of the Tatlawiksuk River. In fact, the available information suggests that these sections of the river are not suitable for the use of boats. In July 1978 Cliff D. Ells and Stanley Bronczyk of the BLM ascended the river a short distance with difficulty in a twenty-foot aluminum boat equipped with a jet unit. In June 1979 scientists Richard A. Dotson and David P. Mindell descended about forty-nine miles of the river in a raft, and concluded that at the time of their trip a motorboat drawing

fourteen inches of water (the approximate draft of a twenty-foot jet boat) could have been taken up the river a distance of twenty-miles. Considering the reports of Ells, Bronczyk, Dotson, and Mindell, there is no reason to believe that a jet boat may be used on the river above its rivermile 58 except possibly at stages of high water. In that event, however, it is improbable that wooden riverboats in excess of twenty feet and powered by motors (propeller) could be taken up the river if there was even a reason to take such a boat up the river. The absence of Native allotments and other evidence of human activity in the upper reaches of the river underscores the view that that section of the river is not a practicable route of summer travel.

On August 17, 1982, the BLM determined that the river was nonnavigable in T. 24 N., Rs. 32 and 33 W., Seward Meridian. 221/

SWIFT RIVER

The historic record reveals almost no evidence of use of the Swift River for the purpose of travel. In 1904, a prospector reported that the river was too swift for even Natives in canoes. 222/ However, in the early 1960s the USGS reported that "small boats can be 'lined up' Chunitna Creek to points about 10 miles southwest" of the White Mountain cinnabar prospects. The USGS described the creek as "a small fork of an unnamed tributary of the Tatlawiksuk River." 223/ Chunitna Creek is present-day Cheeneetnuk River, a tributary of Swift River.

Access to the cinnabar prospects was normally, if not solely, accomplished by airplane. USGS maps dated 1958 illustrate the location of an airplane landing

field just west of the river. The field was suitable for small airplane landings only.

Two parties are known to have descended the Cheeneetnuk River in recent years. Conducting a raptor survey in June 25 - July 1, 1979, Rhett Wise and Pete Jerome of the BLM and scientists Richard D. Dotson and David P. Mindell floated down the river in two twelve-foot Avon Redshank rafts. The four men were landed on the river at 62°05'06" N., 154°58'45" W., by helicopter, and then floated down a distance of about fifty-nine miles before leaving the river in a floatplane. Wise and Jerome described the river as being shallow with clear water and a gravel bottom. A large log jam was located about eight miles above the river's mouth. They claimed that in June they could have ascended the river in a "motorboat" with a one-foot draft a distance of about fifteen miles. Shallow water would have prevented navigation farther up the river. Dotson and Mindell made essentially the same observations. 224/

In the latter part of June 1980, two other BLM employees also descended the river in a twelve-foot Avon Redshank raft in connection with a coal survey. According to one employee, the river was "boatable" from the mouth of Shoeleather Creek (rivermile 36.8) to Swift River. It was necessary, however, to portage around a massive and permanent log jam about eight miles above its mouth. He believed that the BLM's jet boat as well as flat-bottom boats with propeller units could be taken up the river. Both employees also ascended Shoeleather Creek a short distance in the raft, but eventually decided to walk along the creek because, as one put it, the creek was "not boatable." 225/

When in 1975 the BLM first attempted to identify navigable waters in the Stony River Village selection area, it considered the Swift River to be nonnavigable. In the minutes of its meeting on December 5, 1975, the easement task force noted that there was no evidence of use of Swift River, but then added the comment "skiff only." 226/

In July 1978, during an investigation of possible easements on lands selected by Stony Village, to employees of the BLM ascended Swift River for a distance of about sixteen miles in a jet boat with a fourteen- to sixteen-inch draft. One employee later described the trip as follows: "The mouth of the Swift River is rough, deep and swift with trash and debris making entrance difficult and somewhat frightening. After getting through the rough water, we proceeded without incident sixteen miles (Lime Hills D-8 quadrangle, 1:63,360) where the main channel narrowed and became obscure, at that point we decided to turn back. The Swift River was at high water due to spring run-off and at that stage appeared to have an average depth of about three feet." 227/ Their trip on the Swift River subsequently became the basis for Anchorage District Office recommendations that Swift River in the Stony Village conveyance area be determined a major and navigable waterway. In April 1980, the district office stated: " The Swift River was determined to be a major waterway within the selection area as it provides access to public lands to the east. It is a slow, meandering river at the mouth and throughout the selection area. The gradient from the mouth of the Swift River for approximately 22 miles is about 300 feet. The BLM's riverboat, a 20 foot inboard with a 14-inch draft has been operated on the Swift River.

It recommended that the river be determined navigable as it was susceptible to travel, trade and commerce. More specific reasons were not given. On

September 29, 1982, the BLM issued a decision to convey lands to The Kuskokwim Corporation. The Swift River in T. 21 N., R. 38 W., Seward Meridian, was determined to be navigable. 228/

In 1981, the Anchorage District Office also made a navigability recommendation for Swift River in connection with certain State selections on the Lime Hills quadrangle. According to the author of the report, the Swift River is an extremely braided and murky stream. The stream gradient is 167 feet per mile in the first six miles, 44 feet per mile between rivermiles 99 and 81, 15 feet per miles between rivermiles 81 and 41, and 7 feet per mile between rivermiles 41 and 0. Two Native allotments are located in the basin--one at the mouth of the Swift River and one on Cheeneetnuk River.

The report writer contacted a number of people with personal knowledge of the river. According to Rhett Wise of the BLM who flew over the river in 1979, the river is murky, braided, and swift with sweepers, logs, and debris at the mouth. Aviator Harry J. O'Donnell, a resident of the area since 1956, stated that neither the Swift River nor its principal tributaries, Gagaryah and Cheeneetnuk rivers, were used by local residents for travel purposes. These river, he said, are shallow and braided with many sharp bends. He added that the rivers may have recreational potential and that jet boats might be able to operate on the lower reaches of the Swift and Cheeneetnuk rivers in the spring when the water is high. Kenneth T. Alt of the Alaska Department of Fish and Game stated that in 1968 he ascended the Swift River in connection with sheefish studies a distance of about six miles from its mouth in a twenty-four-foot riverboat with a forty-horsepower Evinrude prop unit. He did not continue farther upriver owing to the size of the boat and the low water stage. He said, however,

that it would be "no problem" for one to ascend the river at high water stage in a boat with a jet or prop unit. Alt was unaware of any use of the Cheeneetnuk River or Shoeleather Creek. However, on the basis of an air reconnaissance flight over the area in 1980, he stated that the lower reaches of the Cheeneetnuk River may be "boatable in the lower reaches." He also said shallow draft boats might be able to ascend Shoeleather Creek and the North Fork in extremely high water. 229/

Pete Shephard of the Alaska Department of Fish and Game claimed that "commercial use of the Swift, Gagaryah, and Cheeneetnuk rivers has been occurring only within the past ten years." He himself had ascended all three rivers in a twenty-foot jet boat with a draft of fourteen- to sixteen-inches. He ascended Swift River as far as the base of the mountains, a distance of about thirty miles; Cheeneetnuk River as far as Shoeleather Creek (rivermile 36.8); and Gagaryah River as far as a log jam. He believed that the Swift River presented no problem to people using jet boats. Boats with propeller units had been used on the rivers in the past, but difficulties were encountered during periods of low water. Finally, he said one may find it necessary sometimes to cut or remove logs and debris from the mouth in order to enter Swift River.

230/

Both Alt and Shephard also provided information on the use of floatplanes in the area. Alt stated that guides, hunters, and local residents landed planes on North Lime Lake, Why Lake, and perhaps the unnamed lake in SE $\frac{1}{4}$, T. 20 N., R. 38 W., Seward Meridian. In 1980 he saw two hunting camps near Why Lake, and in the previous year several hunters near the unnamed lake. Moreover, in 1980 Nixie Mellick landed a plane on one of the unnamed lakes in T. 17 N.,

R. 30 W., Seward Meridian. He himself landed a floatplane on North Lime Lake and Why Lake in 1979 to net pike and grayling. Shephard confirmed the use of floatplanes on North Lime Lake and Why Lake.

On the basis of this information, the district office recommended that Swift River be determined navigable through T. 19 N., R. 37 W., Seward Meridian, or approximately ten miles above the mouth of the Cheeneetnuk River. In support of the recommendation, the district stated:

The Swift River appears to have those physical characteristics necessary for watercraft engaged in commercial type operations (i.e., capable of carrying in excess of 1,000 pounds.) It is wide enough and deep enough to offer access for some distance upstream. Its physical susceptibility is evidenced . . . by use on the lower reaches of the river by State Fish and Game personnel in a flat bottomed riverboat with prop and BLM personnel in a jetboat. The fact that they used the river as the only means of access into a roadless and trailless area to carry out official business further points out the potential for commercial use of the river as the area develops . . . it seems reasonable to assume, in the absence of other transportation alternatives, that as lands transfer to the private sector with recognition of the agricultural potential of large amounts of land in the basin, and the recent emphasis on homesteading and oil and gas exploration, that the Swift River will be utilized for access and egress into the area at least as far upstream as through T. 19 N., R. 37 W., Seward Meridian.

In addition, the district recommended that all tributaries of Swift River and all lakes in the basin be determined nonnavigable owing to "their lack of susceptibility

as commercial highways for travel, trade or commerce." 231/ The BLM State Office took no action on these recommendations as there were no active State selections in the river basin at the time. 232/

In June 1982, the BLM Anchorage District Office prepared a report on water bodies in six townships selected by the State. Three townships, specifically T. 22 N., Rs. 32 and 33 W., and T. 23 N., R. 32 W., Seward Meridian, included the upper reaches of the Cheeneetnuk River, that is above its river-mile 34. Relying on the information presented in the district's earlier report, the new report concluded that this stretch of the river was not susceptible to navigation, owing to the "lack of use information and the restrictive physical characteristics." 233/

The BLM State Office agreed with the recommendation, pointing out that the use of boats larger than a jet boat on the Cheeneetnuk River appeared to be impracticable. The available information indicated that the river was "only suitable for use by small boats and then only with difficulty and at extremely high water stages." The BLM determined the river to be nonnavigable in the subject three townships on August 17, 1982. 234/

STONY RIVER

The Stony River has been the customary route of travel to Lime Village and nearby fish camps. In 1910, while on a trip up the Kuskokwim River to Takotna on the steamboat Quickstep, Anton Eide of the Alaska Road Commission learned that the river was "not navigable for any but small boats." 235/ One year later, Captain Albert Rhodes predicted that the next great mining camp in

Alaska would be located somewhere on the headwaters of the Swift and Stony rivers. The area was difficult to reach, he said, as both rivers were swift and filled with boulders, making navigation almost impossible. 236/ In 1925, Billie McGowan, a trapper, reportedly ascended the river in a gas boat, but failed to reach the "upper village" (presumably Lime Village). 237/ In the summer of 1932, Oddie Hallson, a game warden, reported that a number of old-timers were heading into the Stony River region upon learning that a man at Kalskag had recorded about forty quartz locations on the river. 238/

In 1914 and 1928, USGS parties were sent into the Stony River basin. In 1914, Philip S. Smith and R. H. Sargent led a pack train expedition from Lake Clark to Stony River by way of the Mulchatna and Hoholitna rivers. Striking the Stony River at a point almost directly south of Why Lake in early August, they met a number of Natives who were bound for the Kuskokwim River, two days distant. Presumably the Natives were traveling in boats for they did not accompany the Survey expedition and succeeded in reaching the Kuskokwim River before the Survey party. Where they first reached the river, Smith recorded in his journal, the river was more than one hundred yards wide, had a strong current, and could not be forded. Large boulders in the river made rapids and whitewater at several places. However, Smith referred to reports that the river was "rather easily ascended in poling boats." 239/

The Survey party followed the Stony River as far as the mouth of Stink River, where they found the cabins of Ralph, one of the Natives they met upriver. They then traveled cross-country to the head of a tributary of Muskeg Creek, followed that drainage to the Stony River, and then headed west in a circuitous course to reach the Kuskokwim River on August 21. This overland journey was

extremely arduous, Smith recalled; "in the 50 miles from that camp [August 6] to the Kuskokwim more than 50 fills and bridges had to be built and horses repeatedly had to be pulled bodily out of impassable morasses." 240/

In the summer of 1928, Stephen R. Capps and Gerald FitzGerald headed a small USGS expedition into the upper Stony River country. Entering the basin by way of Merrill Pass, the men followed Necons River to Two Lakes and then took a trail across a high ridge to Stony River, which they followed as far as Sled Pass before returning over the same route to Trading Bay in Cook Inlet.

In describing routes of travel to the upper Stony River, Capps evidently depended upon information provided by R. M. White, a trapper who lived somewhere in the area, perhaps near Two Lakes where Capps saw two cabins, one on the north shore of Two Lakes and another near a small lake north of Necons River and a short distance below Two Lakes. These were the only cabins that Capps saw in the area, although he noted that Natives caught and dried salmon on the Necons River as well as the main Stony River. White moved into the area in the spring of 1925 from the upper Swift River, 241/ and provided Capps with a rough sketch map of the Stony drainage with which he was familiar. According to Capps, people usually reached the area by two routes: one from Lake Clark to Telaquana Lake and thence to Two Lakes, the other from the Kuskokwim River by way of the Stony River. The latter route was said to be "difficult in summer, as there are several canyons on the Stony through which boats can not be taken, and some of the portages around the canyons are reported to be several miles long." People could ascend the river with dogsleds, but it was a long journey from the Kuskokwim River. In any case, few prospectors and trappers had penetrated the country until recent

years, inasmuch as an expedition to the area was considered to be a two-year undertaking. The first summer was used to transport supplies and equipment by poling boat to "the head of navigable waters," and then after the freeze-up in the fall, by dogsled to the chosen field. During the winter the men usually trapped, built cabins, and cleared trails, and in the following summer devoted their time to prospecting. 242/

Airplanes had "wonderfully simplified" travel to the upper Stony River. Capps noted that in the winter of 1927-28 several men from Anchorage chartered airplanes (700 pounds payload) to fly into the headwaters of the Chakachatna and Stony rivers to trap and prospect, and that in the summer of 1928 planes equipped with pontoons landed on some of the lakes in the area. The area was no longer inaccessible to prospectors and trappers. 243/

It is not known whether the increase in the number of prospectors and trappers in the area resulted in greater use of the river as a route of travel. The only available evidence of anyone using a craft on the upper river was reported in 1950 when aviator Archie Ferguson was forced to land his airplane somewhere on the upper Stony River. He and a passenger then built a raft and floated the Stony River to Sleetmute. According to Nick Mellick of Sleetmute, the trip was somewhat remarkable as the two men negotiated two sets of rapids that even the Indians portaged around. 244/

Partly because the upper Stony River was readily accessible to Anchorage residents by airplane, the U.S. Heritage Conservation and Recreation Service investigated the recreational opportunities on the river in the late 1970s. In July 1978, the Service organized an expedition to float down the Stony River

and its tributaries, the Telaquana and Necon rivers. Members of the expedition included Kevin Apgar of the U.S. Heritage Conservation and Recreation Service, Laralle Smith of the BLM, Lon Cooper of the U.S. National Park Service, and Alex Connors of the Alaska Division of Parks.

Following an inspection of the Necon and Telequana rivers, the party began on July 15 the trip down the Stony River at the confluence of the Telaquana River in two twelve-foot Avon Redshank rafts. According to Apgar, they were forced to paddle steadily a distance of about ten rivermiles below the mouth of Telequana River, as the Stony River flowed slowly (about two miles per hour) in a wide channel, estimated to be about two hundred yards. In T. 12 N., R. 30 W., Seward Meridian, as the river cut through a series of small canyons, the channel constricted and the current became swifter. In this reach, Apgar recalled, the river appeared to drop one or two feet in short rapids between one- to two-mile stretches of "moderately swift flatwater." Due to the late hour and the appearance of rapids in the distance, the party made camp at the mouth of Rock Creek, a swift clearwater stream about twenty yards wide at its mouth. Apgar estimated that they had traveled eighteen miles in about six hours on the river.

On July 16, the party floated through about nineteen miles of scenic canyons, the walls of which were almost vertical and were about a hundred feet or more above the water. They experienced few difficulties in negotiating this stretch of river, consisting of short rapids at intervals of a mile or more. At one time, after taking on several gallons of water due to a miscalculation, they decided to line a "small rapid." A short distance below the foot of the canyons in Section 6, T. 13 N., R. 31 W. Seward Meridian, they stopped at the fish camp of the Bobby family. There they met Molly Bobby and her sister, the

first people they had seen on the river. They learned that the family had caught about one thousand salmon with nets and a fishwheel. Perhaps it was from discussions with the Bobby sisters that led Apgar to write: "apparently the people from Lime Village do not often travel upstream from the fish camp because of these [canyons and rapids]."

After spending the night at the fish camp, the four men began the eighteen-mile trip to Lime Village. In mid-afternoon, after four hours on the multi-channeled river and with little paddling, they reached Lime Village, a small community situated on a small, treeless hill. A log Orthodox church was the most prominent structure in the village. Five fishwheels were located in the river near the village. Not long after their arrival, Vonga Bobby, an elder, crossed the river to ask them to carry some mail to Stony River Village, as the weekly mail plane that landed on a gravel bar in front of the village had already departed. The party spent the night on the river bank opposite the village.

The party covered the sixty-three rivermiles from Lime Village to Stony River Village on the Kuskokwim River in fifteen hours in three days. For the most part, this leg of the trip was uneventful. On July 18, they passed two large houses below the mouth of Stink River. One cabin located in Section 16, T. 16 N., R. 38 W. Seward Meridian, was owned by Ken Deardorff. A small airplane landing field was located about a mile upstream on a gravel bar. The second house was located about a mile below Deardorff's house. On July 19, they saw an abandoned log cabin, which Apgar later learned was owned by Daniel and Sylvia Owens. A short distance downstream from this cabin, on the inside of a sharp riverbend (in Sections 32-33, T. 17 N., R. 38 W. Seward Meridian) they stopped at the homestead of Richard and Rita Nevitts. Apgar

described the party's last day (July 20) on the river as follows: "Stony very meandering and multi-channeled today. We consistently follow the channel with the largest volume [of water], but after half a dozen braids we somehow end up on a small winding slough, perplexed [sic]. Ever fearful of inadvertently floating down the Stony River cutoff and bypassing Stony River Village, we are somewhat relieved to see the muddy Kuskokwim." At the village they chartered a Magnuson Airways plane to McGrath, where they boarded a Polar Airways flight to Anchorage. "Overall," Apgar concluded, "the Stony [was] a pleasant easy float trip." 245/

In the fall of 1979, the U.S. Heritage Conservation and Recreation Service determined that "the Stony River system meets the conditions established by the National Wild and Scenic Rivers Act for inclusion in the National Wild and Scenic Rivers System as a 'wild river area'." 246/ Scenery, fish and wildlife, and recreation were considered to be the outstanding values associated with the river system. The river was classified in three sections as follows:

For approximately 10 miles below its confluence with the Telequana, the Stony is very wide (200 + yards) and slow (2 mph) flatwater. The next 19 miles flow through a series of scenic canyons. Short stretches of Class II whitewater spaced at mile + intervals make this one of the most interesting stretches of the Stony. At high water during a relatively wet year, these rapids may contain up to 8' standing waves. The last 90 river miles are multi-channeled with numerous islands and moderately swift."

247/

Given the report of the Service expedition, the fact that local residents ascend the Stony River a considerable distance in the fall to hunt moose, and reports

that residents of Lime Village also travel regularly to Trout Lake and Tishima Lake to net fish, the Service concluded that the Necons, Telaquana, and Stony rivers were "suitable for canoes, kayaks, and rafts and for relatively inexperienced boaters (moderately experienced canoers) and adults accompanying children," although short portages were necessary in some places. As far as the canyon section on the Stony River was concerned, the Service concluded: "The series of rapids within the 19 mile long 'canyons' stretch of the Stony River impedes upriver travel by motorboat, although such travel is certainly possible." 248/

The BLM first considered the navigability of Stony River in 1975 when identifying public easements on land selected by the villages of Lime and Stony River. On November 26, 1975, the BLM easement and navigability task force recommended that the river be determined navigable to Lime Village. In addition, the task force proposed campsite easements on the right bank of the river in Section 7, T. 14 N., R. 33 W., Section 10, T. 15 N., R. 35 W., and Section 36, T. 16 N., R. 36 W., Seward Meridian; a floatplane tie-up and campsite easement on the river opposite Lime Village, a site easement on the river about one-half mile above the mouth of Can Creek, and a linear easement along and on the bed of Stony River. The streamside easement was originally proposed by Knik Kanoers and Kayakers which reported that Bill Quirk "ran" the river and the Kuskokwim to Red Devil in 1974 and that homesteaders used the Stony as a route of travel. At one time a half-dozen homesteaders lived on the river. In 1975, only two remained. Representatives of Lime Village verified use of the river by recreationists, reporting that two people descended the river in 1974.

All these proposed easements were opposed by the Lime Village Company. The BLM deleted or relocated a number of the proposed site easements, but retained

the continuous streamside easement so as "to provide for public use of waters having highly significant past recreational use." 249/

Following the issuance of easement regulations, the BLM reconsidered its easement and navigability recommendations. In 1980, the BLM Anchorage District Office recommended that Stony River through the Lime Village selection area be determined a major and navigable waterway. All other water bodies in the area, including North Lime Lake, South Lime Lake, East Lime Lake, Trout Lake, Kutokbuna Lake, and Tundra Lake, were considered to be nonnavigable. In support of these recommendations, the district office stated that the Stony River "is significantly used by local people for hunting, fishing, recreation and access to public lands. Barges have been known to travel up the Stony River as far as Lime Village. Smaller boats such as poling boats and shallow draft power boats must be used from the village to the end of the selection area. There is a waterfall located just outside the selection area. The Stony River has a long, colorful past." 250/

No evidence of boat travel was discovered on other water bodies in the area, although people were known to have landed planes on a number of lakes. Interviewed by district office personnel on December 9, 1981, Henry James "Bud" O'Donnell of Big Lake, a small community near Anchorage, claimed to have landed floatplanes on many lakes in the area, including the North, East, and South Lime lakes, Trout Lake, and Tundra Lake, for personal hunting, fishing, and trapping purposes as well as business purposes when employed by Bob Vanderpool during the years 1956 to 1962. In the mid-1950s, when a major oil company was conducting exploratory work in the area, he hauled gasoline

needed for the company's helicopter by floatplane to the lakes. Also, he noted that Nick Mellick and Bob Vanderpool landed floatplanes and skiplanes on these lakes. 251/

The BLM State Office agreed with the District Office's proposal that Stony River be determined a navigable and major waterway. And, considering the information provided by O'Donnell, the State Office proposed to add North Lime Lake, South Lime Lake, Trout Lake, Kutokbuna Lake, and Tundra Lake to the list of major waterways in the areas as the lakes were "being extensively used by floatplanes for access to public lands." 252/

On July 14, 1982, BLM officials traveled to Lime Village to discuss the proposed navigability and major waterway determinations as well as proposed easements with representatives of the Lime Village Company, The Kuskokwim Corporation, and the State of Alaska. The representatives of Lime Village Company agreed that Stony River was navigable, and provided information about Can Creek, Hungry Creek, and a number of unnamed tributaries of Stony River which the State claimed were susceptible to navigation. The company representatives made no comments about the proposed major waterway determinations. 253/

Finally, on September 29, 1982, the BLM released a decision to issue conveyance of lands to Lime and Stony River villages. The Stony River and a number of its tributaries were determined to be navigable through the conveyance area. The following were also determined to be major waterways: Hungry Creek, Trout Lake, Kutokbuna Lake, and the unnamed stream connecting these two lakes in Section 28, T. 14 N., R. 35 W., Seward Meridian, Tundra Lake, and the creek locally known as Mountain Creek to the forks in Section 13, T. 15 N., R. 35 W., Seward Meridian. 254/

In the spring of 1981, a realty specialist employed by the BLM at Bethel, interviewed a number of people about use of Stony River in certain townships selected by the State of Alaska. In March, Bernie Fredricks of Stony River Village said that he personally ascended the river in an eighteen-foot flat-bottomed boat many times as far as Lime Village, and understood that similar boats could be taken farther upstream for an unknown distance. Richard Briggs of the Alaska Department of Transportation, stated that when the airfield at Lime Village was constructed, the contractor did not use the river as a route of travel to the construction site, but instead "trailed" the equipment and materials overland to the village during the winter. Pete Shephard of the Alaska Department of Fish and Game stated that boats eighteen to twenty feet in length can be taken up Stony River to the first rapids above Lime Village, a few miles above the mouth of Can Creek. A series of fish camps are located nearby. Local residents travel to these camps by boat. Observing that people using small boats powered by outboard motors were unable to ascend the river beyond the rapids, Shephard stated that in his opinion a skilled pilot could ascend that stretch of the river in a boat equipped with a powerful jet unit.

On April 20, the BLM employee with Iyana Gusty of Stony River Village and Nick Bobby of Lime Village undertook an aerial survey of the Stony River as far as the canyon. According to Gusty and Bobby, local residents relied upon the river as a route of travel between Lime and Stony River villages. People with fish camps near the canyon also used boats to travel to the camps. Boats ranging in length from eighteen to twenty feet were the customary mode of transportation on the river. Beyond a point in Section 6, T. 13 N., R. 31 W., Seward Meridian, where the river debouches from the last of a series of canyons, they claimed that travel by boat was not possible. Both agreed that "the most

powerful jet boat" might be taken through the canyons and rapids, but Gusty believed it "questionable if sufficient control could be maintained to make a safe passage." The two men agreed that "the problem with getting a boat through this canyon is not lack of sufficient water, but simply the physical obstruction of the rapids created by the canyon." The BLM employee thus concluded that the canyons and rapids were in effect a navigational obstruction, one that was "as effective a barrier at high water as at low water levels." This observation, he added, did not apply to rafts and kayaks that may be used to descend the river. 255/

On the basis of this information, the BLM employee recommended that Stony River be determined navigable from its mouth to the first canyon in SE $\frac{1}{4}$, SW $\frac{1}{4}$, Section 6, T. 13 N., R. 31 W., Seward Meridian. "Surface craft large enough to carry 1,000 pounds or more of cargo cannot safely get beyond this point," he wrote. The BLM State Office agreed with the recommendation only insofar as it applied to State-selected townships. Thus, on June 19, 1981, the BLM determined the Stony River to the above-cited point in T. 13 N., R. 31 W., Seward Meridian, was navigable. From this point to the mouth of Necons River and Telaquana River, the Stony was determined to be nonnavigable. In addition, the BLM determined that the Necons and Telaquana rivers in T. 11 N., R. 29 W., Seward Meridian, were nonnavigable. 256/

Necons River

There is little evidence in the historic record of boat traffic on this river. In mid-July 1978, Lon Hooper of the U.S. National Park Service and Alex Connors of the Alaska Division of Parks descended the river from Two Lakes to Stony

River in a twelve-foot Avon Redshank raft. Details concerning their day-to-day experiences on the river are not available. The U.S. Heritage Conservation and Recreation Service, which sponsored the float trip, subsequently described the river as follows: "The Necons River from the outlet of Two Lakes to the Stony River, averages 40 - 50 feet in width and 4 - 5 mph with a gradient of 11 fpm. Short stretches of small rapids (Class I and II) alternate with moderately swift flatwater." 257/ The Service concluded that the river met the criteria for designation as a Wild and Scenic River.

In recent years, most people apparently reach Necons River by airplane. Suitable for floatplane landings, Two Lakes is considered to be a popular hunting and wildlife viewing area, particularly for moose and caribou. Cabins used seasonally for guiding or recreational purposes are located on the lake. 258/ In July 1979, Kevin Apgar of the U.S. Heritage Conservation and Recreation Service, while on an overflight of the area, saw an airplane parked on a gravel bar on the upper Necons River, about ten miles upstream from Two Lakes. Viewing the river from the airplane, he wrote that the upper river appeared to be "very turbid and swift . . . but may be floatable from some distance above the lake." 259/

Telaquana River

Located in a popular hunting and fishing area, and probably the most important sockeye salmon producing system in the Kuskokwim drainage, Telaquana Lake has attracted a considerable number of visitors, especially in the last decade. Evidently all hunters and fishermen travel to the lake by airplane. In February 1974, Richard R. Straty, a resident on the lake since 1964, reported that prior

to 1968 no hunting camps were observed on the lake. Since that time, he counted an average of seven camps at any one time between August 10 and September 10, 1973, each camp consisting on the average of three hunters. Hunters killed most of their caribou on a plateau on the western end of the lake. Moose were killed on the shore on the western and eastern end of the lake. In addition, Straty wrote, there were about six sportfishing locations on the western end of the lake, where the water is more shallow and more clear than elsewhere. 260/

According to the U.S. Heritage Conservation and Recreation Service in 1978, a number of cabins used seasonally for guiding and recreation purposes are located on the lake. At least one airplane charter service with headquarters in Anchorage advertised flights to Lake Telaquana and encouraged clients to float Telaquana River for recreation. 261/

In July 1978, the U.S. Heritage Conservation and Recreation Service sponsored a float trip down the river. On July 12, Kevin Apgar of the Service and Laralle Smith of the BLM were landed on Telequana Lake by Ketchum Air Service of Anchorage. On the following day, the two men began the trip down the river in a twelve-foot Avon Redshank raft. About one third of a mile down the river, they stopped briefly to search for evidence of Old Village, a site illustrated on USGS maps. They found evidence of recent campsites in the vicinity, but nothing to indicate the existence of a former village. Apgar thought the spot was an unlikely place for a village as the ground was low and wet.

As they continued downriver, Apgar noticed that the current appeared to increase in speed. For the first ten miles, the river channel was thirty to forty yards wide with occasional sweepers. Observing that the river was at a

"slightly high water level," he suspected that many more rocks were probably exposed at lower water stages. He characterized this stretch of the river as flatwater-Whitewater I.

Not far from the point where the river swings to the northwestward (in Section 22, T. 10 N., R. 29 W., Seward Meridian), Apgar noted that the river channel constricted, the current increased, and many rocks were exposed in the water. Here the men encountered rapids on the scale of Whitewater II that extended for a distance of one to one and a half miles. Apgar described this section of the river as follows:

The last tributary from the southwest in Sec. 22 preceeds [sic] the rapids and is easily recognizable, as it appears to be a wide slough located off the main channel. These rapids are accentuated by two waterfalls. Dangerously concealed around a sharp bend to the right, the first drop falls a total of 8'-10' in two steps. It should be portaged. The second drop falls about 4'-5', although it appears runnable in a raft or decked boat via straight, swift chutes located on both sides of the river. We portaged the first falls and lined through the second. The managled [mangled] remains of a Klepper [kayak] were tangled in an outcrop near the lip of the second drop.

After having traveled eleven and one-half rivermiles in four hours, and portaging and lining for another three hours, Apgar and Smith decided to make camp on a gravel bar located in Section 16, T. 10 N., R. 28 W., Seward Meridian.

On the following day, the two men descended several miles of river which Apgar classified in the Whitewater I range. This was followed by one hundred

yards of river in the Whitewater II range and then one-quarter to one-half mile of river in the Whitewater III range. Landing the raft, they spent about an hour scouting the river ahead. Here, according to Apgar, the river cut through a ridge in a channel thirty to forty yards wide and filled with many big boulders. The river banks were about fifty feet high. Although it was possible to bypass this section of the river by taking a game trail on the right side, the two men decided to run the rapids. Apgar wrote too that it was possible to avoid the boulders and standing waves by ferrying back and forth across the river channel.

Once through the rapids, they found the trip less of an ordeal. The next few miles Apgar considered to be in the Whitewater I range. The remainder of the river to its junction with the Stony River, he characterized as "slow flatwater" and suitable for small floatplane landings. After spending six and one-half hours on the river, they have covered about eighteen and one-half rivermiles that day. It was, Apgar recalled, "an attractive two day float trip." 262/

As noted earlier, the BLM determined Necons River in State-selected T. 11 N., R. 29 W., Seward Meridian to be nonnavigable on June 19, 1981. This determination was based upon the recommendation of an Anchorage District Office report on the the Stony River system. In the report, Jerry Yeiter, a BLM trespass investigator, noted that Necons River was floated by people for recreation and that a number of trespass cabins were located on Telaquana Lake. One cabin was located at the lake outlet and at least three were scattered on the north shore of the lake.

Considering the size of and current activities on the lake, the district recommended that the lake be determined navigable. Its reasoning was as follows: The

"current levels of use, combined with the potential for future commercial [sic] development leads one to believe that the lake is susceptible to future use as a highway of commerce. The lake's size, developable shorelines, and clear waters will undoubtedly be attractive to future developers as land passes from the public to the private sector. Large lakes in roadless and trailless areas will become increasingly important as staging areas for development. It is not difficult to envision a lodge or small development center with an airport located by the lake that will serve as a commercial supply center for other development occurring around the lake." Partly because the lake was not located in a State-selected township, the BLM took no action on the recommendation. 263/

Can Creek

Located in an area conveyed to the Lime Village Company, this creek enters Stony River from the southeast in T. 14 N., R. 33 W., Seward Meridian. The BLM first considered the navigability of the creek at the request of Dennis P. Daigger, a land management officer with the Alaska Division of Research and Development. Following a conversation with Ken Deardorff, a homesteader near Lime Village, Daigger reported to the BLM that Deardorff and local villagers ascended the creek as far as Section 34, T. 13 N., R. 32 W., Seward Meridian, in riverboats with outboard motors in connection with subsistence activities. Deardorff used a thirty-five-foot boat with a twenty-five horsepower motor (propeller). According to Deardorff, the Natives also ascended the creek during the winter by dog sled and snowmachine to trapping grounds. This information, claimed Daigger, demonstrated that the creek was a highway of travel in boats capable of carrying one thousand pounds. The creek should be determined navigable, he wrote. 264/

Meeting with representatives of Lime Village Company on July 14, 1982 to discuss proposed easement, major waterway, and navigability determinations, the BLM solicited additional information about the creek. According to a BLM employee, the Natives stated that they ascended the creek for hunting, trapping, and recreation purposes in eighteen-foot boats with twenty-five horsepower motors. "It is considered navigable but not heavily use [sic], since it is a salmon spawning stream which attracts large numbers of bears," he wrote. On September 29, 1982, the BLM determined that the creek was nonnavigable in the Lime Village conveyance area. 265/

Salmon Berry Lake Outlet

As in the case of Can Creek, Dennis P. Daigger of the State Division of Research and Development urged the BLM in June 1982 to determine this creek and its lake source to be navigable on the basis of information provided by local resident Ken Deardorff. According to Daigger, Deardorff himself had never ascended the creek in a boat, but he knew that local Natives took boats up the creek to the lake in connection with hunting and other subsistence activities. These boats ranged in length from sixteen to thirty-five feet and were equipped with outboard motors (propeller). However, on July 14, 1982, representatives of the Lime Village Company informed a BLM employee that the creek was shallow and "not boatable." Accordingly, on September 29, 1982, the BLM determined that the creek was nonnavigable in the Lime Village conveyance area.

266/

Hungry Creek

Draining Kutokbuna and Trout lakes, this creek flows northerly to empty into Stony River in T. 15 N., R. 34 W., Seward Meridian, near the village of Lime. The creek receives the waters of a number of lake-fed creeks in its course.

Until recently, the BLM considered the creek system to be nonnavigable. In 1975 the BLM adopted a proposed easement for an existing trail from Lime Village along Hungry Creek to a proposed campsite easement on the south end of Trout Lake, near a Native allotment. Local residents reported that the trail was "good for walking and for snowmobiling, but it is too swampy for ATV [all-terrain vehicle] use. Use is by the villagers and sometimes by airmen from Sparrevohn Air Force Station Most use is [on Trout Lake] by local air taxi." One BLM employee made an aerial reconnaissance of the trail and found a "brushed out 15-foot trail just past Kutokbuna Lake." The BLM thus proposed to extend the Hungry Creek trail easement from Trout Lake to Tundra Lake by way of Snake Creek. Both the Lime Village Company and Calista Corporation opposed the trail easement proposals. 267/

When in early 1982 the BLM reviewed the easement recommendations in light of recently issued regulations, it proposed that Trout and Kutokbuna lakes be determined major waterways as both were "extensively used by floatplanes for access to public lands." No such recommendation was made for Hungry Creek, although it was known that local residents sometimes ascended the creek in boats. While collecting information about certain waterways on State-selected lands, a BLM employee learned from Nick Bobby of Lime Village that local residents "worked small boats up" the creek to the two lakes. As the employee understood Bobby, this was not "readily or frequently done." 268/

Information subsequently provided by the State of Alaska caused the BLM to reconsider its position on the navigability of the creek. In June 1982, Dennis P. Daigger of the Alaska Division of Research and Development urged the BLM to determine Hungry Creek to and including Kutokbuna Lake to be navigable. Citing local resident Ken Deardroff as his source of information, Daigger wrote that local Natives and Deardroff ascended the creek to Kutokbuna Lake in boats sixteen to thirty-five feet in length and equipped with outboard motors (propeller). A number of "subsistence whitefish camps" were located on the lake. In addition, Daigger wrote: "During annual high water conditions, generally in August, travel by the riverboats is possible from Kutokbuna Lake to 'Horseshoe' Lake. Horseshoe Lake is the local name for the unnamed lake in Sections 8 and 9, T. 13 N., R. 35 W., Seward Meridian, which is connected to Tundra Lake. This route allows uninterrupted riverboat travel from Stony River to Hungry Creek to Trout Lake to Kutokbuna Lake to Horseshoe Lake to Tundra Lake to Stink River to Stony River." 269/

Residents of Lime Village verified the use of boats on Hungry Creek to Kutokbuna Lake. On July 21, 1982, representatives of the Lime Village Company informed a BLM employee that they considered the creek to the lake to be navigable. Many fish camps were located on Trout and Kutokbuna lakes which local residents reached in boats up to thirty feet in length and equipped with thirty-horsepower motors. (The employee later examined BLM land plats and found two Native allotments on Trout Lake.) In addition, they pointed out that the unnamed tributary of Hungry Creek in Sections 7 through 10, 14, 15, 23, and 26, T. 14 N., R. 34 W., Seward Meridian, could also be used in boats to access public land and resources. Evidently the representatives did not discuss use of Horseshoe Lake, Tundra Lake, and Stink River as a route of travel, for the BLM employee did not record any information about the route.

Since in their view Hungry Creek was navigable, the company representatives opposed the proposed trail easement along the creek to Kutokbuna Lake. The trail provided access to a village berry-picking area, they claimed. However, they favored retention of the proposed trail easement from Kutokbuna Lake northwesterly and a proposed site easement on the lake, although in both cases minor relocations were recommended. Finally, they recommended a site easement on Hungry Creek and a trail easement bearing easterly to public land if the unnamed tributary of the creek was determined to be nonnavigable. 270/

On September 29, 1982, the BLM determined that Hungry Creek to and including Trout Lake and Kutokbuna Lake were navigable and major waterways. All tributaries of the creek were determined to be nonnavigable. A linear easement for the existing trail along Hungry Creek from Lime Village to Section 12, T. 14 N., R. 35 W., Seward Meridian, and site easements on the southwest and southeast shores of Kutokbuna Lake and on the right bank of Hungry Creek in Section 7, T. 14 N., R. 34 W., Seward Meridian, were reserved. 271/

Mountain Creek

Unnamed on USGS maps, this creek flows westerly from South Lime Lake to the Stony River. According to Dennis P. Daigger of the Alaska Division of Research and Development, who obtained his information from local resident Ken Deardorff, this creek is "in reality a large river," one that local Natives ascended to the lake in the spring and fall seasons in boats sixteen to thirty-feet long with outboard motors. In addition, the creek was "the primary travel route by trappers on dog sled or snow machine from Lime Village" to South and North Lime lakes and Swift River. 272/

During a meeting with representatives of the Lime Village Company on July 14, 1982, a BLM employee solicited additional information about the use of boats on the creek. The Native representatives stated that they considered the creek to be navigable at least to its forks in Section 13, T. 15 N., R. 35 W., Seward Meridian. Describing the creek as being thirty feet wide and five feet deep on the average, the Natives said that they used the creek in summer and winter to gain access to trapping and berry-picking grounds, "to reach the mountains surrounding the lake [South Lime Lake], and for recreation." Both the North and South Lime lakes were described as "deep" and "good for whitefish fishing." Finally, according to the BLM employee, "they confirmed the lakes [sic] use as part of a transportation system that included the Swift River, particularly during the winter. Float planes and planes equipped with skis/wheels use the lakes frequently; chartering (hunting, fishing) operations being a primary user." 273/

On September 29, 1982, the BLM determined that Mountain Creek to the forks in Section 13, T. 15 N., R. 35 W., Seward Meridian, was navigable. South Lime Lake and North Lime Lake were determined to be major and navigable waterways. 274/

Unnamed Creek

This creek empties into Stony River in the SE $\frac{1}{4}$, Section 15, T. 15 N., R. 35 W., Seward Meridian, and traverses Sections 15, 22, 23, 26, 35, and 36, T. 15 N., R. 35 W., and Sections 1 and 2, T. 14 N., R. 35 W., Seward Meridian. During the July 14, 1982 meeting with the BLM, representatives of the Lime Village Company stated that local residents used boats in summer and land vehicles in

winter on this creek. They described the creek as being thirty feet wide and five feet deep as far as the forks in Section 15, T. 15 N., R. 35 W., Seward Meridian. Noting that the creek provided access to "public land and resources," they did not state why people traveled the creek. On September 29, 1982, the BLM determined that the creek was nonnavigable in the Lime Village conveyance area. 275/

Poacher Slough

Unnamed on USGS maps, this creek empties into the Stony River from the north in Section 30, T. 16 N., R. 36 W., Seward Meridian. On the basis of his discussions with local resident Ken Deardorff, Dennis P. Daigler of the Alaska Division of Research and Development in June 1982 urged the BLM to determine the creek to be navigable, as it was "traveled by riverboat to points outside the [Lime Village] conveyance area for hunting and other subsistence activities." Also, the creek was used by trappers as a "highway" to Why Lake. BLM officials discussed this creek with representatives of the Lime Village Company during a July 14, 1982 meeting. The representatives declared that they considered the creek to be nonnavigable and "not boatable." On September 29, 1982, the BLM determined that the creek in the Lime Village conveyance area was nonnavigable. 276/

Stink River

When in 1975 the BLM first identified possible easements on land selected by Lime Village, it proposed a site easement for a floatplane tie-up on the east end of Tundra Lake, the source of Stink River, and a trail easement from Lime

Village to the lake by way of the Hungry Creek system. The village and regional corporations opposed the easement proposals. However, the BLM retained the proposals. 277/

Reconsidering the easement proposals in 1980, the BLM Anchorage District Office recommended the deletion of the site easement on Tundra Lake as the lake was not considered to be a navigable or major waterway. The District Office later discovered evidence of floatplanes landing on the lake. Thus, in 1982 the BLM State Office proposed to designate Tundra Lake a major waterway for it was "extensively used by floatplanes for access to public lands." The lake was still considered to be nonnavigable, although Dennis P. Daigger of the Alaska Division of Research and Development provided information from local resident Ken Deardorff that Tundra Lake and Stink River with the Hungry Creek system formed a continuous water route of boat travel. Later, at a meeting at Lime Village, representatives of the village company told the BLM that they considered Stink River to Tundra Lake to be navigable. No information to support the claim was presented, however. Consequently, on September 10, 1982, the BLM decided that Tundra Lake was a nonnavigable and a major waterway. A formal determination of nonnavigability was made on September 29, 1982 when the BLM issued a decision to convey lands to the Lime Village Company. 278/

In the course of preparing a report on waterways in State-selected townships, one BLM employee contacted several local residents for information about Stink River. In April 1981, Nick Bobby of Lime Village told the employee that during periods of "exceptional high water" local residents with Native allotments on Tundra Lake can ascend Stink River to the lake in boats eighteen to twenty

feet in length, although they would have to pole the boats for a considerable distance. However, people customarily used smaller boats to ascend the river or traveled overland from Lime Village. He added that Stink River was the only tributary of Stony River that local residents used on any frequent basis as a route of boat travel. The employee explained, "Local residents, particularly of Lime Village, have worked small boats up minor creeks etc., to Trout and Kutokbuna Lakes south of Lime Village but this is neither readily or [sic] frequently done." Pete Shephard, a biologist with the Alaska Department of Fish and Game, confirmed Bobby's statement that local residents used small boats on Stink River, poling the boats up the river to fish camps on Tundra Lake. He added that hunters also ascended the river in boats to moose and caribou hunting grounds. 279/

On the basis of Bobby's and Shephard's statements, the Anchorage District Office recommended that Stink River to Tundra Lake be determined nonnavigable. It pointed out that the river and Tishimna Lake and its outlet in T. 16 N., R. 38 W., Seward Meridian, had already been determined nonnavigable as the township was tentatively approved for conveyance to the State of Alaska. Partly because of this fact, the BLM State Office took no action on the recommendation. 280/

Stony River Cutoff

The upper reaches of this slough, which flows westerly from the Stony River to the Kuskokwim River, is located in an area selected by Stony River Village (in T. 19 N., R. 40 W., Seward Meridian). In 1980, the BLM Anchorage District Office proposed that the slough be determined a navigable and major waterway as it provided access to public lands south of the village selection area. In

addition, the BLM had operated a twenty-foot riverboat with a fourteen-inch draft on the slough. On September 29, 1982, the BLM formally determined that the slough in the Stony River conveyance area was a navigable and major waterway. 281/

MOOSE CREEK

Approximately one mile of this creek from its mouth falls within the Stony River village conveyance area. In 1975, the BLM easement and navigability task force recommended a site easement on the creek in Section 10, T. 20 N., R. 41 W., Seward Meridian, to facilitate use of the creek as an access route to public lands. The task force did not include the creek in a list of navigable waterways in the village selection area. Three years later, however, the BLM deleted the proposed site easement with the comment that there was an alternative access route to public lands. 282/

Following the issuance of easement regulations, the BLM reconsidered proposed easements in the village selection area. No easements were recommended on or along Moose Creek, but it was recommended that the first mile of the creek be determined a navigable and major waterway. According to an Anchorage District Office employee, the creek provided access to public lands and Native allotments located outside the village selection area. Subsequently, on September 29, 1982, the BLM determined that Moose Creek in the village conveyance area was a navigable and major waterway. 283/

INOWAK CREEK

Inowak Creek empties into the Kuskokwim River at rivermile 302, or about thirteen rivermiles above the village of Sleetmute. Heading in the low

Kuskokwim Mountains, the creek flows southerly to the lowlands, and then meanders southwesterly to enter a small lake. Oriented northwest-southeast, the lake is approximately one and one-half miles long and one-half mile wide. From the lake, the creek empties into the Kuskokwim River in two wide channels less than one-half mile in length. Although a tributary of the creek is illustrated on USGS maps as interconnecting with the Kuskokwim River in Sections 13 and 14, T. 19 N., R. 42 W., Seward Meridian, Inowak Creek evidently does not receive the waters of the Kuskokwim in any significant degree, if at all. Recent aerial photographs of the area indicated that the waters of Inowak Creek are silt-free. More detailed information about the physical character of the creek is not presently available.

The BLM first considered the creek as a possible navigable waterway at the request of Dennis P. Daigger of the Alaska Division of Research and Development. Following a meeting with representatives of The Kuskokwim Corporation and the BLM to discuss, among other things, proposed easement, major waterway, and navigability determinations in the vicinity of Sleetmute, Daigger requested on July 19, 1982 the BLM to determine the creek to be navigable. He claimed that the creek and lake is within "the line of ordinary high water of the Kuskokwim" and people reached two Native allotments on the creek by "powered riverboats." 284/

Upon receipt of Daigger's letter, the BLM State Office researched the available records concerning the creek. The Sleetmute village case file provided no information about the history of the creek. However, Native allotment records provide pertinent information. On June 11, 1971, Jack Egnaty, Jr., of Sleetmute (F-17918) applied for a seventy-acre parcel of land on the southernmost mouth

of the creek. In his application he claimed to have used the land since May 1965 for the purpose of hunting, fishing, trapping, and wood gathering. He also wrote that he had used the land since childhood, except for a period when he served in the military. He claimed no improvements on the land; he simply pitched a tent when visiting the area. On July 23, 1975, Jack Egnaty, Sr., and Jenny L. Zauker of Sleetmute submitted statements to the BLM in support of Egnaty's application. The statements corroborated Egnaty's claims.

On June 11, 1971, Nastasia Andreanoff of Sleetmute (F-17916) applied for a 160-acre allotment on the west shore of the lake in Section 19, T. 19 N., R. 42 W., Seward Meridian, about one mile from the Kuskokwim River. She claimed to have used the land since 1952 for fishing, hunting, and trapping on a subsistence basis. She added, "I even picked berries here when I was a young girl because my mother and father had fish camp here." She claimed no improvements on the land, for her family simply pitched a tent when visiting the area. On May 21, 1975, Arthur Andreanoff (her husband) and Steve Derendy (a relative) of Sleetmute submitted statements to the BLM in support of Nastasia's application. The statements corroborated her claims. In addition, Andreanoff noted that wood cutting also occurred on the land.

In September 1972, Ralph L. Korn of the BLM Anchorage District Office and guide Steve Derendy examined both Native allotment claims by helicopter. Korn found no evidence of use or occupancy by the claimants on the subject lands. In the case of Egnaty's claim, he referred to Derendy's remark that the site had not been used for many years. In the case of Andreanoff's claim, Derendy stated that he did not know of any campsite on the subject land. However, Korn found and photographed a number of structures located just north of

Andreanoff's claim and a short distance west of the lake. These included a log cabin, one or two tent frames, one of which was covered with visqueen, a stove, a bridge across a small creek, and miscellaneous paraphernalia. Korn claimed that the structures were used by Arctic Missions in the operation of a summer camp. This use was confirmed by Dave Penz of Arctic Missions in a meeting with M. J. Smith and Robert E. Sorenson of the BLM on November 26, 1975.

The BLM concluded that the creek to an including the unnamed lake was a potential highway of commerce, hence susceptible to navigation. The rationale was as follows:

Given the width of lower Inowak Creek, the size of the lake, and the fact that the lower creek is lake-fed, there is good reason to believe that a sufficient amount of water flows in the lower creek throughout the open season for the use of boats. Thus, in all probability, the lower creek and the lake were in their natural and ordinary condition in 1959. The record strongly suggests that access to the lake is accomplished by the creek. Korn failed to locate any trails in the area. Andreanoff's statements that her parents once had a fish camp on the lake and that her family used the lake for berry picking and fishing, in addition to the fact that a church summer camp existed on the lake, indicates customary use of the lower creek and the lake as a route of boat travel to specific points since the early 1950s, if not earlier. While there is no available evidence that trappers historically ascended the creek in waterborne commercial craft in order to supply their headquarters on the lake, as in the case of the Nation and Kandik rivers, the record indicates that local trappers could

have made such use of the creek and lake if they desired to do so. Both Egnaty and Andreanoff indicated that the lower creek and lake area were used for trapping purposes. The fact that the lake is less than a day's travel from Sleetmute probably explains the apparent absence of trappers' cabins on the lake. Boats used on the lower creek and lake were in all probability the same used on the Kuskokwim River in 1959. For in order to reach the mouth of the creek, the people of Sleetmute would have to ascend about thirteen miles of the Kuskokwim. It is highly unlikely that these people would have transported smaller boats for use in ascending the creek to the lake.

Accordingly, on September 13, 1982, the BLM added the unnamed lake in Sections 18, 19, 20, and 29, T. 19 N., R. 42 W., Seward Meridian, and its outlet to the list of navigable streams in the vicinity of Sleetmute. The BLM formally determined the waterway to be navigable on September 30, 1982. 285/

HOLITNA RIVER

With the Nushagak River, the Holitna River was once an important trade route of the Kuskokwim Eskimos and Russian traders. Beginning in the early 1830s, Russian traders on the Kuskokwim River usually sent two expeditions, one in summer and one in winter, to Aleksandrovsk Redoubt on the Nushagak River. The summer convoy, usually consisting of two or three three-place baidarkas and ten to fifteen one-place baidarkas, ascended the Holitna River and its tributary, Shotgun Creek, to the foot of a seven-mile portage leading to a trail house on one of the tributaries of the Nushagak River. From that place the party descended Nushagak River to the redoubt. The party returned to the

Kuskokwim River by the same route. 286/ Partly because the route was difficult and long, Lieutenant L. A. Zagoskin recommended that Kolmakov Redoubt be supplied from the St. Michael Redoubt near the mouth of the Yukon River by way of the Yukon-Kuskokwim portage. In 1846, the Russian-American Company approved this recommendation. Use of the Holitna River by Russian traders subsequently declined or ceased altogether.

Until the turn of the century, the Holitna River was traveled mostly by Natives living along its course. The only known account of a white man ascending the river during these years is that of William C. Greenfield in 1891. His account was published in the Eleventh Census. 287/

Beginning in the early 1900s, a small number of prospectors worked in the upper reaches of the Holitna and Hoholitna rivers. They discovered gold in the area but not in sufficient amounts to spark a major rush. 288/ Apparently many of the prospectors reached the area in small boats. In 1904, one prospector reported that Holitna River was navigable for river steamers for a distance of seventy-five to one hundred miles. 289/ In the spring of 1911, a man named Fraser attempted to descend the Hoholitna River in a small boat loaded with the furs, dogs, and personal effects of a trapper who committed suicide. As he descended the river, the boat hit a snag and sank with the loss of all cargo. Fraser survived the disaster. 290/

In the early 1910s, a number of government officials reported use of the river for travel purposes. In 1910, Anton Eide of the Alaska Road Commission wrote that the river at its mouth looked larger than the Kuskokwim River, and "many have ascended it for some distance thinking it was the main river." Noting

that the Hoholitna River entered the Holitna thirty-six miles above its mouth, Eide claimed that the Holitna River was navigable for "small size stern-wheelers for a distance of 60 miles." 291/ Four years later, while ascending the Kuskokwim River to McGrath on the Quickstep, H. A. Cotton of the U.S. Coast and Geodetic Survey learned that a boat drawing about four feet of water "can be taken 75 miles up [Holitna River] which marks its head of navigation except for poling boats." He added that boats can also be taken up the Hoholitna River for a distance of fifty miles and that a portage trail reportedly existed from the head of the Hoholitna to the Mulchatna River. 292/

For many years the only reliable map of the Holitna River basin was prepared by William R. Buckman, a prospector who spent the years 1902 and 1903 in the basin. Based upon compass and paced surveys, the map was transmitted to the USGS and the information transferred to official maps. 293/ Some additions were made to official maps following the USGS overland expedition of 1914 from Lake Iliamna to the Kuskokwim River by way of the Mulchatna, Hoholitna, and Stony rivers. In late July, the Survey party crossed the Hoholitna River on a riffle not far below Whitefish Lake. Philip S. Smith, the geologist on the expedition, recorded that the water was only knee-deep and flowed with a strong current, but not strong enough to prevent one from ascending the river in a poling boat. Subsequently, in late August, he reported that two different parties left the Sleetmute area in boats to ascend the Holitna River, where they planned to spend the winter prospecting in the upper part of the basin. 294/

During the 1940s, the USGS and the U.S. Bureau of Mines investigated most of the mercury mines in the central Kuskokwim region, including the Cinnabar Creek deposit located on the headwaters of Cinnabar and Beaver creeks, which

unite to form the Gemuk River. The Gemuk River flows into the Chukowan River, which in turn flows into the Holitna River. According to the Bureau of Mines, small power boats were taken at ordinary stages of water up the Holitna River and upper tributaries leading into the area within twenty miles of the Cinnabar Creek deposit. A poling boat with an outboard motor can be taken to a point within five miles of the deposit at moderately high stages of water. The journey by boat from Sleetmute required seven to ten days, and the return trip, about four days. 295/ F. A. Rutledge of the Bureau of Mines wrote that boats could be taken to within one mile of the deposit. 296/

Following extensive fieldwork in the central Kuskokwim region in the early 1940s, the USGS reported that at times of high water small barges may be pushed up Holitna River as far as Kashegelok Village. The mercury deposits in the Cinnabar Creek area were reached chiefly by poling boats with outboard motors by way of the Holitna, Chukowan, and Gemuk rivers. In 1943, Russell Schaeffer transported about 2,300 pounds of cinnabar ore to Sleetmute by back packing and poling boat. The deposit was also accessible by winter tractor trail from the Aniak River by way of the west fork of Timber Creek. In 1943, W. A. Cady and C. A. Hickox of the USGS ascended the Holitna and several of its tributaries in a thirty-foot poling boat powered by an outboard motor (twenty-two and one-half horsepower). They ascended Chuilnuk River to the foot of the Chuilnuk Mountains; and Chukowan and Gemuk rivers to the mouth of Beaver Creek. According to Cady, the Chukowan River is a swift river but deep enough for easy use of power boats. On the other hand, Gemuk River was filled with tree stumps and log jams, against which a boat may easily be swamped or crushed by the current if the boat lost power. 297/

During the winter of 1979-80, the BLM collected additional information that resulted in a determination of navigability for the lower reaches of the Holitna and Hoholitna rivers. On January 16, 1980, the manager of the Anchorage District Office requested the State Office to expedite the conveyance of lands in T. 16 N., Rs. 41-44 W., Seward Meridian, to the State of Alaska. Observing that two townships (T. 16 N., Rs. 41-42 W., Seward Meridian) were already tentatively approved for conveyance, he wrote that his office considered these lands to be "of high priority for conveyance because of the complex management problems . . . in administering these lands." There were thirty-four settlement claims in the area which, in view of a homesteader's pending application for a grazing lease, "would present many time consuming management considerations."

298/

In support of the request, the district manager enclosed a report prepared by a realty specialist on water bodies in the area. The BLM employee wrote that several Native allotment claims and a number of homestead and trade and manufacturing site claims were scattered along the Hohitna and Hoholitna rivers in the area. Some claimants had filed with the BLM proofs of homestead entry and applications for purchase of trade and manufacturing sites as well as headquarters sites; and some had already established guiding, hunting and fishing lodges in the area. These claimants, he wrote, travel "quite regularly" on the Holitna and Hoholitna rivers in small boats.

In addition, he reported that a BLM crew ascended both rivers in a twenty-one-foot McGregor jet boat to a point in the NW $\frac{1}{4}$, Section 21, T. 16 N., R. 42 W., Seward Meridian. The crew chief stated that the Hoholitna River at that point was five to ten feet deep and seventy-five to ninety feet wide, was "easily

navigable by this craft," and that he could have "very probably" continued much farther up the river in the boat "if business had required it." With a load capacity of 1,765 pounds, the boat draws two feet of water while moored or moving at slow speeds and one foot while cruising. The boat is capable of hauling one thousand pounds of freight with full fuel tanks and an operator. The purpose of the BLM's trip is presently unknown.

As concerns other waterbodies in the area, the BLM employee referred to the statement of the crew chief that Keefer Creek was a small and insignificant stream. In a telephone conversation with Rae Baxter of the Alaska Department of Fish and Game at Bethel, he learned that the small tundra creek was not used for the purpose of travel, although Baxter thought one could negotiate the creek in a "poling small craft."

The BLM employee considered only one lake in the area. Two headquarters claims and one trade and manufacturing site claim were located on the large unnamed lake in Sections 25-26, 34-36, T. 16 N., R. 43 W., Seward Meridian. The claimants constructed cabins on the headquarter sites for use as lodges by customers engaged in hunting, fishing, camping, and other recreational pursuits, and placed small boats on the lake for the fishermen. All travel to and from the lake was done "strictly by air," he claimed. "It would be physically possible to travel to the lake overland by foot from the Holitna River, but it would be arduous walking over swampy terrain," he wrote.

The BLM district office recommended that the Holitna River be determined navigable from its mouth to the confluence of Kogruluk River and Shotgun Creek in T. 9 N., R. 48 W., Seward Meridian. With the exception of the

Holitna and Hoholitna rivers, no other waterbodies in the four townships were recommended to be navigable. 299/ On January 31, 1980, the Division of Resources in the State Office concurred in the recommendations as they pertained to the four townships only. On February 11, 1980, the BLM State Director determined that only the Holitna and Hoholitna rivers in T. 16 N., Rs. 42-44 W., Seward Meridian, were navigable. 300/

The lower reaches of the Holitna River, that is the first twenty-five miles of the river, were later determined to be navigable by the BLM in connection with land conveyances to The Kuskokwim Corporation. In response to a BLM request to nominate easements on village-selected lands, the U.S. Bureau of Outdoor Recreation and the Knik Kanoers and Kayakers proposed the reservation of a streamside easement on both banks and the bed of the Holitna River as it was "a very significant recreation" stream. In addition, the Bureau of Outdoor Recreation recommended a site easement at the mouth of the river, a site easement on the right bank of the river in Section 25, T. 18 N., R. 43 W., Seward Meridian, and a trail easement from the latter site extending along the right bank of Basket Creek, another site easement on the left bank of the river in Section 3, T. 17 N., R. 43 W., Seward Meridian, and a trail easement bearing in a westerly direction. In September 1975, BLM representatives met with residents of Sleetmute and found that they were opposed to the streamside and bed easements as well as the site easement at the mouth of the Holitna. They claimed that the site was periodically flooded. 301/

Taking the residents' comments into account, the BLM easement task force recommended against the reservation of the site easement at the river mouth.

However, it approved the other proposed easements. In addition, it recommended

that the Holitna and Hoholitna rivers be determined nonnavigable for there was no evidence of use of the rivers for travel, trade, and commerce. The river was considered to be physically capable for travel to the mouth of the Hoholitna River, however. Later, in 1978, in justification of the proposed continuous linear easement on the banks and bed of the river, the BLM reported that the river was "one of the most noted sheefish spawning areas in the Kuskokwim drainage and attracts fly-in fishermen annually who travel and fish along the lower river." 302/

Following the issuance of new easement regulations, the BLM reconsidered the proposed easement and navigability determinations. In 1980, the BLM Anchorage District Office recommended that the river be determined a navigable and major waterway as it provided access to public lands and was a "well-traveled water route." noted It that the river "is still used today as a travel route over which equipment and supplies are hauled." As concerns the proposed easements, the district office recommended that all but the site and trail easements in Section 3, T. 17 N., R. 43 W., Seward Meridian, be deleted. 303/

In late April 1982, BLM officials met with representatives of The Kuskokwim Corporation, Calista Corporation, and the State of Alaska to discuss the proposed determinations. Evidently the corporation and State representatives made no comments on the proposed major waterway and navigability determinations, for there is no reference to such comments in the BLM's summary of the meeting. However, The Kuskokwim Corporation opposed the proposed site easement, stating that travelers could camp on public land to the south. Later, Edward J. McNamara, a resources manager with the corporation, wrote the BLM, "KC opposes these easements since they access a swamp area and since

public lands are readily accessed by the navigable Johnny Slough River." In the end, the BLM decided to retain the proposed site and trail easement "due to the additional travel required to reach public lands via navigable waters and the minimal impacts to Native lands due to the short length of the easement." On September 30, 1982, the BLM determined the Holitna to be navigable in the conveyance area. 304/

About a week later, the navigability unit in the BLM State Office recommended that only the Holitna and Hoholitna rivers in State-selected T. 17 N., R. 43 W., Seward Meridian, be determined navigable on the basis of information presented in this report. On November 17, 1982, the Assistant to the State Director for Conveyance Management concurred with the recommendation. 305/

Hoholitna River

While there is little direct evidence of people using the Hoholitna River as a route of boat travel, the available information suggests that people may have used the river for such purposes. For example, the Alaska Department of Fish and Game reported that in 1969 a total of nine trappers worked in the area; in 1971, only one trapper. 306/ It is not presently known whether these trappers reached their grounds by airplane, boat, or some other mode of transportation.

In the early 1970s, the U. S. Bureau of Outdoor Recreation identified the river as a potential Wild and Scenic River. Apparently on the basis of an aerial reconnaissance trip over the river in late June 1972, the bureau considered the river to be a "fine boating stream" and one of the least modified of the major Kuskokwim River tributaries. Recreational opportunities on the river included camping, fishing, hiking, and canoeing. 307/

In the winter of 1979-80, the BLM Anchorage District Office collected information about the river with the object of making recommendations of navigability for water bodies located in T. 16 N., Rs. 42-43 W., Seward Meridian. The District Office noted that a number of land claims were located on the lower reaches of the river, which the claimants "quite regularly" used for the purpose of travel in small powered boats. Moreover, in June 1979, a BLM party ascended the river for an unknown purpose to the NW $\frac{1}{4}$, Section 21, T. 16 N., R. 42 W., Seward Meridian, with a twenty-one-foot jet boat. At that point the river was five to ten feet deep and seventy-five to ninety feet wide.

The district office collected additional information from Rae Baxter of the Alaska Department of Fish and Game at Bethel. Baxter stated that in August 1979 he descended the entire length of the river from Whitefish Lake, and encountered no problems on the trip except on the headwaters of the river where he had to push his boat over a few gravel bars. The district office's report did not indicate the type of boat that Baxter used in the descent, but according to the report, Baxter believed the river was "easily navigable" by jet boat to the South Fork, and said that Pete Shephard, who had a "guide camp" on the South Fork, hauled supplies to the camp by boat from Sleetmute. Finally, he said that he had landed floatplanes on the river above the "Diamond" benchmark in T. 14 N., R. 42 W., Seward Meridian, where the river was "still fairly wide and deep."

In addition, the district office noted that two Native allotments were located in the area: one in Section 32, T. 17 N, R. 42 W., Seward Meridian, in the vicinity of a cluster of cabins illustrated on USGS maps; and one in Section 17, T. 15 N., R. 42 W., Seward Meridian, at a place called Cotton Village on USGS

maps. The field examiner's report on the first allotment stated: "The military had some buildings here, but they were moved away. All evidence of use in this allotment was associated with military activities in the past. Winter trails crossing this allotment [were] used by military as access to Sparrevohn, an Air Force station approximately 50 miles SE of the cabins." Rae Baxter said the Cotton Village allotment was on an old village site. Nothing remained at the site to indicate a former village, however.

The district office's report recommended that the Hoholitna River be determined navigable to the site of Cotton Village. The fact that small boats were used on the lower reaches of the river to reach land claims, that the river had been used by the Russians as a trade route, that a BLM crew had ascended the river in a jet boat, in addition to the likelihood that Natives used boats to Cotton Village, were cited as evidence in support of the recommendation. Considering too the physical character of the river at the point which the BLM crew reached in June 1979, the district office concluded that "the river is very probably physically susceptible to navigation at least to the old Cotton Village site." 308/

On January 31, 1980, the BLM State Office concurred in the recommendation only insofar as it applied to the two townships cited above. On February 11, 1980, the State Director determined that the Hoholitna River in the two townships was navigable. All other water bodies in the area were determined to be nonnavigable. 309/

In March 1981, the BLM Anchorage District Office prepared a report on waterways, including Whitefish Lake, Hook Creek, Gnat Creek, South Fork, and the upper reaches of the Hoholitna River, in an area selected by the State of Alaska.

Observing that use of the Hoholitna River as a trade route to Cotton Village had been documented, the author of the report wrote that only small canoes, rafts, and kayaks may be used on the upper reaches of the river. Citing BLM employees Russ Blome, John Bowman, and Cliff Ells as his sources of information, he concluded that none of the streams in the area were "capable of supporting any boat traffic capable of hauling 1,000 pounds of freight." Hunters and trappers customarily reached the area by airplane, which landed on Whitefish Lake and smaller lakes in the vicinity. Whitefish Lake, about eight miles long and two miles wide with water depths ranging from six to eight feet, received the greatest amount of floatplane use. No permanent improvements were located on the lake. Considering the size of the lake, the stable character of the shoreline, the potential for developments along the lake, and the amount of floatplane traffic, he concluded that the lake was "physically susceptible to being navigable." 310/

On April 27, 1981, the BLM Division of Resources in the State Office agreed that all streams in the area were nonnavigable. However, it recommended that action on Whitefish Lake be suspended until such time that legal standards for lakes were clarified. On April 29, the State Director concurred with the division's recommendations. 311/

Johnny Slough

This slough, named Barge Slough on USGS maps, enters the Holitna from the west in Section 27, T. 18 N., R. 43 W., Seward Meridian. In early July 1982, Edward J. McNamara of The Kuskokwim Corporation wrote the BLM that the "river" should be determined navigable. In support of the request, he submitted

a handwritten statement signed by four people and a number of photographs. The signers of the statement claimed that Lee Gardner had a house "up there" in the 1940s and that Nick Mellick placed barges in winter quarters on the slough until about 1975 or 1976. "Everybody" currently used the slough in connection with hunting and fishing activities during the open season, and people used the water body as a route of travel to Native allotments. Boats used on the flowing slough ranged in length from twelve to thirty feet and were equipped with motors up to 150 horsepower. Seven photographs dated July 1, 1982 showing a boat on a water body were submitted. The water body was identified by McNamara as "Johnny Slough River." 312/

Considering this information and the State of Alaska's position in support of McNamara's request, the BLM agreed that the slough throughout the selection area was navigable. The slough was determined to be a navigable and non-major waterway on September 30, 1982. 313/

Barge Slough

Unnamed on USGS maps, this slough is located south and west of the Holitna River in Sections 22, 27, and 28, T. 18 N., R. 43 W., Seward Meridian. USGS maps portray the water body as a landlocked lake. However, in early July 1982, Edward J. McNamara of The Kuskokwim Corporation wrote the BLM that the nonflowing slough was navigable throughout its length, barges having been wintered on the slough and people having traveled to the Native allotments of Margie Mellick and Antone Zaukar by way of the slough. A statement signed by four persons who claimed that people used the slough essentially for the same purposes as Johnny Slough, was also submitted. Finally, McNamara enclosed

the BLM claimed that the river was historically used as a "water supply route to mining areas north of the village selected area. The river was traversed throughout the selection area by a BLM field crew in a 20-foot inboard jet boat in 1979. This boat has a load capacity of 1,765 pounds and is capable of hauling 1,000 pounds of freight." In addition, the East Fork is "traversable throughout the selection by outboard equipped boats. The river is similar in physical characteristics to the main branch. The area drained by the East Fork has high potential for minerals." 324/

The Kuskokwim Corporation and the State of Alaska subsequently agreed to the proposed Sleetmute - Julian Creek trail easement. No comments were made by these parties concerning the proposed major waterway and navigability determinations. Accordingly, on September 29, 1982, the BLM determined that George River and the East Fork in the conveyance area were navigable waterways. The South Fork in T. 22 N., R. 45 W., Seward Meridian, was determined to be nonnavigable. 325/

The South Fork in T. 21 N., Rs. 43-44 W., Seward Meridian, is also located in the area selected by Red Devil Village. Since 1975, the BLM considered the river to be nonnavigable; and since 1980, a non-major waterway. The BLM has not yet formally determined the river in these two townships to be nonnavigable or navigable. 326/

CROOKED CREEK

Historically the mining properties on the upper reaches of Crooked Creek as well as the DeCourcy Mountain Mine on the upper reaches of Iditarod River, were supplied mainly by winter trails from Crooked Creek Village and Flat.

Julian Creek and water depths ranging from two to six feet. The river winds through a mountain valley with steep slopes one thousand feet above the river. Steep banks are found on river bends and marshy areas on wide benches. He wrote that the river was "useable" in the spring and at high water stages. Small barges (20' x 60') loaded with fuel were known to have been taken up the river as far as Julian Creek. Snowmachines were also used on the river during the winter. 321/

In addition, the task force recommended easements for existing trails from Sleetmute to Julian Creek and along the South and East forks of George River, an easement for a site in Section 1, T. 22 N., R. 46 W., Seward Meridian, and a trail on the right bank of the river and extending westerly. A proposed streamside easement on both banks of the river was also approved. According to Bob Vanderpool of Georgetown, the Sleetmute - Julian Creek trail was used about 1955 to "skid" equipment to the Julian Creek mine. 322/

The Kuskokwim Management Corporation objected to the proposed streamside easement. Glenn W. Fredericks, president of the corporation, wrote that the river "in some cases is navigable and the river and hill make it impractical for the 25 foot easement on both sides of the river." He also objected to the proposed Sleetmute - Julian Creek trail easement as the trail was no longer used by local residents. 323/

Following the issuance of easement regulations, the BLM deleted the proposed site and trail easement in Section 1, T. 22 N., R. 46 W., Seward Meridian, and the proposed streamside easement. George River and its East Fork were proposed to be determined major and navigable waterways. In the case of George River,

156°57'43" W., the two men covered a distance of about sixty miles. Few details about this trip are available. They described the river as "relatively slow," flowing through a generally wide and flat valley and a tall and dense white spruce forest, mixed locally with birch or balsam poplar. Willow and alder thickets occurred regularly along the river. In addition, they noted that the "George River and East Fork George are seasonally navigable by small motorized craft." 319/

In the same year, Diane Gudgel-Holmes of the Alaska Department of Natural Resources interviewed Glenn Bass of McGrath about his use of the river. Bass owned placer claims on Michigan Creek and traveled from Flat to the claims during the winter; he trapped along Michigan and Doherty creeks, tributaries of George River, and along Ruby and Bonanza creeks, both tributaries of Iditarod River. Bass told Gudgel-Holmes that he ascended the river to Eldorado and Willow creeks with a twenty-four-foot boat and propeller unit in the spring. He also ascended the river during the fall hunting season, apparently in the same boat but equipped with jet units. Bass also stated that for a long time Willy Pitka operated a trapline up George River to Little Waldren Creek and thence down the East Fork George River on an old "cat trail," but he did not indicate how Pitka reached the area. 320/

The BLM first considered the navigability of George River in connection with the land selections of Georgetown Native Corporation under the Alaska Native Claims Settlement Act. On December 11, 1975, the BLM easement task force recommended that the river be determined navigable through the selection area. This recommendation was based upon a report on the river prepared by a BLM realty specialist. He described the river as being about forty feet wide at

five photographs dated July 2, 1982, showing a boat on a water body. The water body was identified as Barge Slough. Two photographs were labeled as showing portages from the slough to Johnny Slough and the Holitna. 314/

The State of Alaska subsequently notified the BLM that it considered the slough to be navigable on the basis of McNamara's information. The BLM agreed that the slough was navigable. The slough for its entire length was determined to be a navigable and non-major waterway on September 30, 1982. 315/

GEORGE RIVER

Following the gold rush of 1909-10, George River became one of the customary routes of travel to mining developments along the river. In 1910, D. H. Sleem reported that men in boats ascended the river for a considerable distance. In the same year, a local newspaper reporter, commenting on the recent discoveries of gold on Julian Creek and the North Fork, wrote that poling boats could be taken up George River to the new strikes. 316/ When, in 1914, Philip S. Smith of the USGS visited Georgetown, he learned that under ordinary conditions the river could easily be ascended in poling boats for an airline distance of probably twenty-five to thirty miles. 317/ Evidently the use of boats on the river as far as Julian Creek continued for many years, for in 1935 Stephen R. Capps of the USGS reported that miners shipped supplies up George River to Julian Creek in poling boats with outboard motors. 318/

Conducting a raptor survey, Richard A. Dotson and David P. Mindell floated down the East Fork and George River to the Kuskokwim River in an Avon Redshank raft from July 31 to August 2, 1979. Beginning the trip at 62°11'16" N.,

Access to these properties prior to the advent of airplane travel during the summer months was extremely difficult, as the trails traversed swampy country. It was possible, however, to reduce the distance to be covered by trail by ascending Crooked Creek by boat. According to the U.S. Bureau of Mines in the 1940s, the creek could be ascended at high water stage in boats with outboard motors to a point within eight miles of the DeCourcy mine. The mine could also be reached from the Iditarod River by ascending that river to a point within seven miles of the property. 327/

When, in 1975, the BLM solicited nominations for easements on land selected by Crooked Creek Village, a number of mining operators requested easements for existing tractor trails. William T. Lyman, president of the Lyman Mining Company, Corvallis, Oregon, which held claims on Donlin Creek and in T. 23 N., R. 50 W., Seward Meridian, requested easements on existing tractor trails connecting these two groups of claims with Flat, Crooked Creek, and Georgetown. These trails were illustrated on USGS maps. About a year later, Elizabeth T. Lyman wrote the BLM in support of an easement for the Crooked Creek - Flat trail. Providing a short history of the trail, she described the trail as following Crooked Creek to its junction with Flat Creek, and thence up Flat Creek and across the valley of Bonanza Creek to Willow Creek and Flat. Spur trails extended up Grouse Creek to the DeCourcy Mountain Mine and up Donlin Creek to Flat by way of Prince Creek. The former trail had been used since 1912 by dog and horse teams and later by tractors; the latter had been in use since about 1956. The Lyman Mining Company used to transport all types of equipment and supplies to claims on Crooked Creek and Donlin Creek over the Crooked Creek - Flat trail. 328/

John A. Miscovich, manager of the Otter Dredging Company at Flat, also nominated an easement for the Crooked Creek - Flat trail. Henry W. Waterfield of Anchorage, who held the Rhyolite mercury claims, nominated easements for existing tractor trails to the claims, and provided the BLM with a map showing the locations of the trails. 329/

Taking this information into account, the BLM easement task force in December 1975 proposed easements for the Crooked Creek - Flat trail and spurs up Grouse Creek, Donlin Creek, Omega Gulch, Eagle Creek, Getmuna Creek, and Village Creek. In addition, the task force recommended that Crooked Creek be determined nonnavigable as only small skiffs were used on the creek. This recommendation was based upon a report on the creek by a realty specialist with the BLM. According to the employee, the creek was "useable" in sixteen- to nineteen-foot skiffs. 330/

The Kuskokwim Management Corporation subsequently notified the BLM that it opposed many of the proposed trail easements due to lack of current use and excessive width. Also, it agreed that Crooked Creek was nonnavigable and "never used for trade and commerce." 331/

In 1980, the BLM reversed its position on the navigability of Crooked Creek, proposing to determine it navigable to the mouth of Getmuna Creek. In the course of discussions with the State of Alaska and The Kuskokwim Corporation, a number of proposed easements in the Crooked Creek basin were deleted or relocated. Neither the State nor the corporation commented on the proposed navigability determination. Thus, on September 30, 1982, the BLM determined that Crooked Creek to Getmuna Creek was a navigable and non-major waterway. 332/

OSKAWALIK RIVER

Approximately three miles of this river from the Kuskokwim is located within the land selection area of Crooked Creek Village. In response to a BLM request for easement nominations, the Alaska Department of Fish and Game proposed a campsite easement near the mouth of the river. Meeting with BLM officials on September 5, 1975, village representatives expressed opposition to the proposed easement. A BLM employee evidently made an aerial survey of the river for he noted that he saw seven riverboats on the first five miles of the river. He described the river as having very steep banks for about twelve miles. The south bank is "comparatively flat." The employee did not describe the boats seen on the river, but noted that watercrafts commonly used in the area were thirty feet in length. Finally, he reported a statement made by Wayne Fields that the river was used by the Russians about 1830 as a route of travel to the Nushagak River. 333/

The BLM easement task force subsequently recommended that the Oskawalik be determined navigable. The task force believed, "This stream is used for recreation and local subsistence uses. There is no evidence of commercial use. It was brought out during the meeting that there may have been a travel route down this river by the Russian explorers in the early 1800s as a route between the Kuskokwim River and the Nushagak River." In addition, the task force approved a campsite easement on the river in Section 16, T. 19 N., R. 49 W., Seward Meridian, and a trail easement extending easterly from the site to public lands. 334/ A streamside easement on the banks of the river was considered but ultimately rejected. However, the BLM State Office decided that a continuous linear easement on both banks and the bed of the river was needed; it also recommended that the river be determined nonnavigable. 335/

Following receipt of public comments on the proposed easements, the BLM decided to retain the site and trail easement near the mouth of the river. The proposed streamside and bed easement was deleted as there was no available evidence to indicate that the stream was "a highly significant recreational stream" and that the easement was needed to reach public lands. According to one employee of the BLM, "The river will normally provide access across the three miles of village selected lands." 336/

Reconsidering proposed easements on the river in 1980, the BLM Anchorage District Office proposed that the river be determined a major and navigable waterway. Noting that the river is "traversable for many miles by power boat," the District Office pointed out that in 1979 a BLM crew ascended the river fifteen to twenty miles in a twenty-one-foot jet boat capable of carrying one thousand pounds of cargo. In addition, the river provided access to "a highly mineralized area." 337/

The Kuskokwim Corporation and the State of Alaska agreed that the Oskawalik was navigable and recommended the deletion of the proposed site and trail easement. The BLM deleted the easement and, on September 30, 1982, determined the river to be a major and navigable waterway through the conveyance area. 338/

HOLOKUK RIVER

Little evidence of boat traffic on this river was found in the historic record. In 1945, W. M. Cady and J. M. Hoare of the USGS ascended the river as far as Girl Creek, apparently in a poling boat with an outboard motor. Establishing a

base camp at the creek, the two geologists then made a geologic traverse from the creek almost to Flat Top Mountain and back by a circular route, traveling a distance of sixty to seventy miles on foot in twelve days. 339/

When, in 1975, the BLM easement task force met to consider easement proposals along the Holokuk River in the Napaimute selection area, it proposed that the river be determined nonnavigable. The task force noted evidence of prospectors ascending the river to Gold Run Creek, and local residents and visitors traveling to the river to fish. In the belief that the river was "a significant recreation stream," the task force recommended a streamside easement on both banks and the bed of the river, site and trail easements at the mouths of Gold Run and Kogoyuk creeks, and trail easements from the river in Section 6, T. 16 N., R. 51 W., and Section 28, T. 17 N., R. 51 W., Seward Meridian, to public lands. 340/

Following receipt of public comments on the proposed easements, the BLM deleted the proposed site and trail easement at the mouth of Kogoyuk Creek as well as the two trail easements to public lands. The streamside and bed easement was retained in order to guarantee public access to public lands and "public recreational use of the river." In this connection the BLM noted that the river was "a significant waterway receiving recreational use by local residents and visiting sportsmen for fishing, boating, etc." 341/

As required by regulation, the BLM in 1980 reconsidered easement proposals for the Napaimute selection area. The Anchorage District Office did not recommend any easements in the Holokuk basin. On the other hand, it proposed that the Holokuk be determined a major and navigable waterway, as the river "provides

access to public lands southeasterly of the selection area, and it also provides access to the mining area upriver near Gold Run." The District Office also reported that a BLM crew ascended the river to a point one mile above the mouth of Kogoyuk Creek in a twenty-foot riverboat with a fourteen-inch draft.

342/

The Kuskokwim Corporation, Calista Corporation, and the State of Alaska agreed that the river was navigable. Accordingly, on September 30, 1982, the BLM determined that the river was a navigable and major waterway. No easements were reserved along the river in the conveyance area. 343/

KOLMAKOF RIVER

From 1975 to 1978, the BLM considered this river to be nonnavigable. As the lower reaches of the river were located on land selected by Napaimute Village, the BLM proposed in 1975 a site easement at the mouth of the river and a trail easement along the river to public lands. 344/

However, in 1980, the BLM Anchorage District Office recommended that the river be determined navigable. In addition, it recommended a site easement at the mouth of the river and a trail easement paralleling the river to public land. 345/ The Kuskokwim Corporation, Calista Corporation, and the State of Alaska agreed that the river was navigable. The Kuskokwim Corporation opposed the site and trail easements as the river provided access to public land. Accordingly, on September 30, 1982, the BLM determined that the river in the conveyance area was a navigable and major waterway. No easements were reserved in the Kolmakof basin. 346/

OWHAT RIVER

Most of this river (through T. 19 N., R. 55 W., Seward Meridian) is located in the area selected by Little Russian Mission (Chuathbaluk) Village. In 1975, the BLM easement task force recommended that the river be determined nonnavigable as it is "very shallow" and "light skiff use only" was known to occur on the river. In addition, the task force recommended a site easement in Section 1, T. 17 N., R. 56 W., Seward Meridian, and an associated easement for a trail shown on USGS maps generally following the river to Flat. According to local residents, who opposed the linear easement, the trail was used many years ago to move supplies to the Flat mines. The trail had not been used since that time. 347/

The BLM State Office agreed with the proposed determinations. Subsequently, in June 1978, two employees of the BLM visited the mouth of Owhat River to inspect the proposed campsite easement, which was actually located on land selected by Aniak Village. They found human litter near the mouth of the river, which they described as "confined and [with] gravel bars which may restrict river traffic." 348/

Reviewing the easement proposals in 1980, the BLM Anchorage District Office again recommended the reservation of the site and trail easements. However, it proposed that the river be determined a navigable and major waterway. The river provided "needed access to public lands and [had] significant use." 349/

The Kuskokwim Corporation, Calista Corporation, and the State of Alaska agreed that the river was navigable. The Kuskokwim Corporation agreed to the trail and site easements, provided that the site was relocated to Section 2, T. 17 N.,

R. 56 W., Seward Meridian. On September 30, 1982, the BLM determined the river through the conveyance area to be a navigable and major waterway. The proposed site and trail easements were not reserved in the belief that Owhat River provided access to public lands. 350/

ANIAK RIVER

Prior to the gold rush period, the Aniak River was probably a Native trade route. According to Lieutenant L. A. Zagoskin, Kuskokwim Natives returning from the Nushagak River country descended the river in light, one-place baidarkas. The Russian traders evidently never adopted the route, although they did not fail to investigate it. In a story recorded by Zagoskin, the son of chief factor Lukin described his experiences with a Russian trade expedition that descended the river in four three-place baidarkas loaded with supplies. Lukin described the upper reaches of the river as meandering, extremely swift, and full of sweepers. 351/

In the first gold rush to the Kuskokwim River in the winter of 1900-01, a few prospectors doubtlessly made their way into the headwaters of Aniak River. Little, however, is known about their experiences. In 1904, Duncan McDonnell reported in Nome his belief that he and E. L. Rabidou were the only white men who had ever ascended the river in a canoe. He added that many prospectors went up the river during the winter. 352/

With the discovery of gold on Marvel Creek in 1911, a large number of prospectors stampeded to Aniak River. In early September, O. Hofseth in Iditarod confirmed the discovery of gold on Aniak River, and reported that he had met a number

of prospectors at Georgetown bound for the mouth of the Aniak River on the steamer Quickstep. He believed that the prospectors would require thirteen days to pole up the river to the diggings as the current was very swift. 353/ U.S. Commissioner E. J. Stier described Aniak River as a large and swift river, one that was difficult to pole up. He noted, however, that a party of three prospectors succeeded in reaching Salmon River by boat. 354/ A short while later, a local newspaper in Iditarod reported that J. M. Pickle with his wife succeeded in poling a boat up the river to the strike. 355/

With the opening of navigation in the spring of 1912, a second wave of prospectors stampeded to the headwaters of Aniak River. In view of a shortage of supplies in the new mining camps, the Northern Commercial Company announced plans to establish a trading post on Aniak River at the supposed head of steamboat navigation, which was said to be about sixty miles up the river. From that point small sternwheel boats would be used on the remaining distance of thirty miles to the diggings. At the time, it was believed that steamboats could not be used on the river. In any case, W. H. Golder, the company agent at Georgetown, had the steamboat Alice with 110 tons of supplies attempt to ascend the Aniak River. 356/

Evidently the steamboat was unable to ascend the river, for reports later that summer indicated that only small boats on the order of poling boats could be used on the river. According to one Iditarod newspaper, two men with a poling boat, preferably those of the "shovel-nose type," should have no difficulty in ascending the river to the mouth of Marvel Creek in ten to twelve days. In support of this claim, the reporter noted that Tony Zimmerman and another man ascended the river a distance of ninety miles in eight days with a

poling boat loaded with 1,800 pounds of supplies. In late June, geologist J. F. Newsom left Flat for Georgetown, where he hired George Fredericks to pilot a "fast launch" up the Aniak River as far as it could be taken. From that point, Newsom then intended to take a poling boat with a prospector named Taylor to guide him to the diggings. 357/

The journey up the Aniak River was doubtlessly a difficult one. One prospector working on Marvel Creek in the early 1910s recalled a trip he once made to the Kuskokwim River for supplies. Descending the Salmon and Aniak rivers in a small boat was easy, he wrote; he made the trip to the Kuskokwim River in twenty hours with "nothing to do but sit comfortably and steer the boat to keep it in the channel." The return trip to Marvel Creek was a quite different matter. It took two men "at least fifteen working hours of constant concentration and vigilance" for twenty days to pole and line their boat loaded with two tons of supplies up the river. Once they reached the Salmon River landing, they had to carry the supplies on their backs for six miles over the hills to Marvel Creek. 358/

In later years, some people continued to travel to the headwaters of Aniak River by boat, although most preferred to use the Tuluksak River and the Ophir Creek trails. In 1914, William Acheson and a party of seven men from Iditarod reportedly ascended Aniak River in a poling boat to the "head of navigation," forty-five miles upriver, in fourteen hours when the river was at a "pretty high stage of water." In the same summer, Arthur W. Johnston, J. A. Davidson, Walter Soule, and Frank Moran, all well-known Alaska miners with prospective dredging ground on Cripple Creek, investigated Aniak River as a possible route for the transportation of a dredge to the headwaters. They

ascended the river in a "large power boat," reportedly the first of its kind on the river, a distance of about forty miles to a roadhouse. According to Soule, the steamboat Alice could have easily ascended the river. 359/

Through the years, miners and trappers traveled on the Aniak River in small boats. In 1937, a local newspaper reported that the river was navigable for small boats for a distance of sixty miles. For the transportation of supplies to Marvel Creek, most miners used a caterpillar trail extending from the village of Aniak to the diggings. The miners on Marvel Creek worked only in summer, residing at Aniak during the winter. 360/ In the early 1940s, the USGS reported that the river was "not as favorable for navigation with small boats as are most of the other large streams of the central Kuskokwim region," as it flowed in several shifting channels that crossed back and forth in a braided pattern. 361/

Some insight into conditions on Aniak River comes from the account of a float trip down the river by Sepp Weber in late August 1970. Weber with his fiancée Brigitte Bittlingmaier descended the river in two collapsible Klepper kayaks, each weighing seventy-five to eighty pounds. On August 14, after portaging from Nishlik Lake, they began their trip down a small creek flowing into the Aniak River. For some time they had to line the kayaks down the narrow creek, but once the creek widened to four or five feet, they were able to ride their kayaks, and soon reached the "swift and obstacle-free Aniak River."

They paddled and drifted down the clearwater river for a day or two, and reached the tree-line. Rain forced them into camp for a day, but they decided to continue the trip owing to a shortage of food. After several days of rain,

Weber estimated that the river had risen about four feet. The river character had changed radically. "The clear, swift one we had known was gone, and in its place was a raging torrent, muddy and full of uprooted trees, the water spilling over into low-lying areas," he wrote. Drifting trees and sweepers required their full attention on the river. The braided character of the river presented a problem, for as Weber wrote, "We never quite knew which channel to take." Once Weber was swept into a sweeper and fell into the river. His companion on one occasion was swept onto a driftwood pile. On one late afternoon after several days, Weber wrote, "The river disintegrated completely, with water boiling and rushing through the trees and under huge log jams. Man-handling the kayaks, we balanced on logs, cut through thickets, hauled the boats through log jams and barricades." After "paddling, lifting, carrying, and climbing through this unbelievable maze of fallen trees and driftwood," they reached a "more confined river" down which they could paddle. Not long after they reached a point where the river broadened and meandered in wide bends through the forest with a less forceful current, they passed an old cabin, "the first sign of civilization on the Aniak River." In late afternoon on the following day, they reached the Kuskokwim River. 362/

The BLM first considered this river as a potentially navigable waterway in 1975 when identifying possible easements on lands selected by Aniak Village. Proposed easements in the village selection area included a trail from Aniak to Tuluksak via the mouth of Ophir Creek, a trail along the Aniak River from Aniak to Nyac, and a campsite at the mouth of Doestock Creek. On September 18, 1975, a BLM official met with Native leaders at Aniak to discuss the proposed easements. The leaders stated that the Aniak - Ophir Creek - Tuluksak trail had not been used for thirty or forty years. The Aniak - Nyac trail was used primarily by

miners. While not opposed to a campsite easement at the mouth of Doestock Creek, the leaders saw little need for the easement as the place received very little if any use. They added that Marie Ann Ledlow's Native allotment was located there. 363/

Taking the Native leaders' comments into consideration, the BLM easement task force approved all but the campsite easement at the mouth of Doestock Creek, and recommended a continuous easement on the banks of Aniak River as it was a "heavily" used river for fishing, hunting, and general recreation purposes. Moreover, the task force recommended that Aniak River and Aniak Slough be determined navigable. 364/

The Kuskokwim Corporation subsequently notified the BLM that it opposed both proposed trail easements as the trails were not currently in use. No comments were made regarding the proposed navigability determinations. 365/

Following the issuance of easement regulations, the BLM Anchorage District Office again recommended easements for the Aniak - Tuluksak and Aniak - Nyac trails. The proposed streamside easement was deleted. In addition, the District Office recommended that Aniak River, Aniak Slough, and Doestock Creek be determined navigable and major waterways. Aniak Slough was considered to be an interconnected slough of the Kuskokwim. Aniak River and Doestock Creek were considered to be susceptible to navigation. More specific information about these two streams was not presented. 366/

In late April 1982, BLM officials met with representatives of The Kuskokwim Corporation, Calista Corporation, and the State of Alaska to discuss the proposed easement, navigability, and major waterway determinations for Aniak

Village and others. The Kuskokwim Corporation agreed to the Aniak - Tuluksak trail easement, provided that the trail was used in the winter only. The corporation opposed the Aniak - Nyac trail easement as the trail had not been used in the last decade. Miners on Tuluksak River used airplanes or the Aniak River to supply their operations. When asked if barges could be used on the Aniak to move mining equipment and supplies, the corporation representative replied that it would be "tough going." No specific comments were made regarding the proposed navigability determinations. 367/

The BLM stipulated the Aniak - Tuluksak trail easement for winter use only, and deleted the proposed Aniak - Nyac trail easement as "access to public land and resources can be gained using the navigable Aniak River." Aniak Slough was determined to be an interconnected slough of the Kuskokwim, hence navigable. Both Aniak River and Doestock Creek through the conveyance area were determined to be navigable "because of their susceptibility to navigation." 368/

A week later, the BLM determined the upper reaches of Doestock Creek in the Little Russian Mission Village conveyance area to be navigable. The BLM Anchorage District Office first recommended this stretch of the creek be determined navigable in 1980 because the creek was susceptible to navigation. More specific information was not presented. The Kuskokwim Corporation, Calista Corporation, and the State of Alaska agreed with the proposed determination. 369/

George One's Creek

Unnamed on USGS maps, this creek enters the Kuskokwim from the north in Section 5, T. 17 N., R. 58 W., Seward Meridian. From 1975 to 1982, the BLM considered the lower reaches of the creek, located in the Aniak Village selection

area, to be nonnavigable. No information about the creek as a route of boat travel was available. To provide access to public lands, the BLM proposed a trail easement along the creek from the Kuskokwim in Section 2 to public lands in Section 25, T. 18 N., R. 57 W., Seward Meridian. 370/

The Kuskokwim Corporation opposed the proposed easement. In 1977, Glenn W. Fredericks, president of the corporation, claimed that there were shorter routes to the public lands. Later, in 1982, the corporation pointed out that the easement duplicated another, which it approved, extending northerly from the Kuskokwim in Section 12, T. 19 N., R. 58 W., Seward Meridian, to public land. Then, by letter dated July 9, 1982, Edward J. McNamara of The Kuskokwim Corporation reported to the BLM that the creek was navigable through the selection area. Many people used the creek for hunting purposes, and the Native allotments of George One, Marie Nicolie, David Nook, and Timothy Kameroff were "all proximate to this creek." Moreover, he wrote, "The fur trade . . . relies on this creek a great deal." In support of his request that the creek be determined navigable, McNamara submitted a statement signed by six individuals. These people claimed that "lots of people" used the creek throughout the year. During the open season, people traveled the creek in boats fourteen to thirty feet in length and equipped with ten to seventy-five-horsepower motors in connection with moose and duck hunting as well as fishing trips. Only furs were identified as goods transported on the creek. Finally, McNamara submitted three photographs dated June 30, 1982, showing a boat on a water body identified as George One's Creek. 371/

The State of Alaska agreed with the corporation's position that the creek was navigable and that the two proposed trail easements be deleted. Considering the corporation's and the State's comments, the BLM decided to delete one

proposed trail easement. The trail easement originating in Section 2, T. 17 N., R. 57 W., Seward Meridian, was retained. On September 23, 1982, the BLM determined the creek to be a navigable and major waterway. 372/

DISCOVERY CREEK

This creek empties into the Kuskokwim River from the south in T. 17 N., R. 59 W., Seward Meridian. As the creek was located in the selection area of Upper Kalskag Village, the BLM in 1978 investigated the creek as a potentially navigable waterway. In early June of that year, a BLM official took a boat to the creek, intending to ascend it. However, he found the mouth "silted in" and impassable. On September 30, 1982, the BLM determined the lower reaches of the creek in T. 17 N., R. 59 W., Seward Meridian, to be nonnavigable. 373/

WHITEFISH LAKE

During the gold rush era, Whitefish Lake and its outlet was probably a route of travel to mining operations on Bear and Ophir creeks and fish camps on the lake. The first known account of boat travel on the waterway system comes from Alfred G. Maddren of the USGS. In early August 1914, Maddren, who desired to visit the various mines on the headwaters of Aniak and Tuluksak rivers, was taken by Pete McDonald in a poling boat from Oknagamut on the Kuskokwim River to Whitefish Lake. On August 8, the first day of the trip, Maddren ascended a sluggish tundra stream a distance of three or four miles before making camp. He wrote in his journal that the stream had mostly low

banks bordered by willows, alders, and grass. Sometimes the stream flowed between high banks, ranging from ten to fifteen feet above the water at its normal level, with scattered growths of "fair-sized" spruce trees.

On the following day, they traveled about six or seven miles upriver before turning right into the first tributary of any consequence. Where before the stream was twenty-five to forty feet in width, it now was ten to fifteen feet wide, and nearly as deep (six to fifteen feet) as it was wide. The current was about two and one-half to three miles per hour where the channel was narrow; it was sluggish in ponds and wide bends. For the first half mile up this branch, the channel was much overgrown by willows. Soon reaching a flat country, they followed a chain of shallow ponds or lakes with extensive growths of lily pads, wild celery grass, and horsetail rushes. Occasionally they passed banks three to six feet in height with stands of willows, alders, birch, and sometimes spruce. After ascending this branch about ten or twelve miles, they came upon a fork. According to Maddren, the eastern or northeastern branch flowed into the larger stream which his party first ascended and emptied into a slough of the Kuskokwim River some ten miles below Oknagamut. The northwestern or western fork reportedly discharged into the Kuskokwim River some thirty-five miles below Oknagamut or near Akiak.

After four hours of "indifferent poling and rowing" up this meandering stream, made difficult by the soft bottom, sharp bends, sweepers, and narrow channel (ten feet wide), they finally caught sight of Whitefish Lake and the "Medicine man's house" located on the lake about one-half mile from its outlet. Once upon the lake, they rowed about six miles to the mouth of Ophir Creek, a clearwater stream with a gravel bottom, and thence up that creek about one-half mile to

Charles Heckman's barabara and fish camp. Maddren described the lake as shallow all the way across and lacking beaches, willow trees apparently growing to the water's edge. Taking soundings with a pole, he estimated the water depth to be ten to fifteen feet. At the fish camp, he met Heckman, two Japanese, and a German known as "Flying Dutchman" Smith (or Schmidt) curing whitefish. Entering the creek about June 20 to spawn, the fish were caught with a seine net. Heckman caught six to eight hundred fish a day and, upon Maddren's arrival, had already cured some seven thousand fish. The fish were packed over the trail to Bear Creek, where the miners purchased them at fifty cents a pound.

From the fish camp, Maddren followed the trail up Ophir Creek, crossed Rockpile Pass, and continued his journey to Bear and Marvel creeks. Returning to Whitefish Lake in late September, he was forced to wait one or two days for better weather conditions as strong swells prevented a crossing of the lake by poling boat. On September 21, he finally crossed the lake to the "Medicine Man's cabin," and then made his way down Shit Creek to the Kuskokwim River, about thirty miles distant. He then proceeded to Bethel. 374/

In his published report of the 1914 expedition, Maddren wrote that the miners on Ophir Creek were "somewhat favored as regards the transportation of heavy mining equipment and supplies, for the water route from Kuskokwim River to Whitefish Lake [was] available if the proper kind of boat [was] used." He added, "It would be less difficult to place a small dredge on Ophir Creek than on the other placer creeks now known in the district, because tedious and expensive overland hauling would not be necessary." 375/ So far as is known, the Ophir Creek miners never placed a dredge on the creek. In 1917, however,

it was reported that Joseph Lewis and associates planned to take a gasoline-powered drill and three tons of gasoline and other supplies from Bethel to Ophir Creek by way of Whitefish Lake in a specially-built boat with a thirty-horsepower motor. The men intended to test the gold content of the gravel on Ophir Creek with the drill. 376/

Meeting on December 23, 1975 to discuss proposed easements in the Lower Kalskag selection area, the BLM easement task force considered Whitefish Lake to be nonnavigable, and recommended a linear easement on the banks and bed of the lake outlet. Glenn W. Fredericks, president of The Kuskokwim Corporation, opposed the easement as fish spawned in the creek. If the public entered the area, fishing would be harmed, he claimed. Considering Fredericks' statement, the absence of information about use of the waterway, and the fact that proposed easements for the Aniak - Nyac and Aniak - Ophir Creek - Tuluksak trails would provide access to public lands north of the lake, the BLM decided to delete the proposed bank and bed easement. 377/

With the issuance of new easement regulations, the BLM Anchorage District Office reconsidered proposed easements in the selection area. In this connection, the District Office recommended that Whitefish Lake and its outlet be determined a navigable and major waterway. According to the district office, "Small boats travel this route in subsistence activities." 378/

The Kuskokwim Corporation, Calista Corporation, and the State of Alaska agreed that the lake and its outlet were navigable. Edward J. McNamara of The Kuskokwim Corporation and Dennis P. Daigger of the State of Alaska also requested that the unnamed lake and creek tributary to Whitefish Lake in Section 18,

T. 15 N., R. 60 W., and Sections 13 and 24, T. 15 N., R. 61 W., Seward Meridian, be determined navigable as the waterways provided access to the Native allotment of Mary P. Kameroff. The nearby Native allotment of Mary Nook was "more directly accessed by Whitefish Lake." 379/

On September 30, 1982, the BLM determined that Whitefish Lake and its outlet were major and navigable waterways. In support of the navigability determination, the BLM noted, "Small skiffs travel this route in subsistence activities." The unnamed lake and creek in Section 18, T. 15 N., R. 60 W., and Sections 13 and 24, T. 15 N., R. 61 W., Seward Meridian, were determined to be nonnavigable. 380/

Shortly after issuance of the decision to convey lands to The Kuskokwim Corporation (Lower Kalskag), the BLM considered the question whether the unnamed lake and creek in Sections 4 and 9, T. 14 N., R. 60 W., Seward Meridian, were also navigable. On November 8, 1982, the BLM decided that the lake and creek were part of Whitefish Lake and, under the "bank-to-bank" rule, navigable. 381/

PAIMIUT SUMMER PORTAGE

One of the two major water routes of travel across the lake-studded lowlands between the lower reaches of the Yukon and Kuskokwim rivers, the Paimiut summer portage consists of approximately sixteen miles of lakes, ten land portages for a total distance of about two miles, and about fifty-seven miles of narrow and deep creeks. The Yukon and Kuskokwim rivers are separated by an airline distance of about thirty miles; by this portage, the distance is about seventy-five miles.

The only available detailed description of the portage route comes from Walter W. Lukens, who as district superintendent of the Alaska Road Commission crossed the portage from the Yukon River in September 1929 in order to collect data necessary to estimate the cost of a proposed water canal project on the route. Traveling with a guide in a canoe, Lukens ascended Paimiut Slough for a distance of two miles, and then descended what he called "the Innoko branch of Shagluk Slough" for eight miles. This slough is probably present-day Twelvemile Slough. At a point about eight miles down Twelvemile Slough, Lukens headed south up a creek locally known as Anvik Creek. This placename does not appear on modern USGS maps, but is probably the creek which enters Twelvemile Slough in Section 24, T. 21 N., R. 60 W., Seward Meridian. Lukens ascended Anvik Creek for a distance of approximately ten miles, and then a small mud creek to its source, a distance of about one mile. To this point, Lukens did not experience any difficulties. He recorded that at the mouth of the small mud creek, Anvik Creek was fifty-five feet wide and three feet deep at low water stage. The small mud creek was fifty feet wide and two feet deep at its mouth, and forty-five feet wide and two feet deep at its source. The small creek was definitely affected by Yukon River floods, Lukens observing that the rise of water from low stage to high stage from the Yukon River to the head of the creek was twenty feet.

Lukens's route from the mud creek to what he called Shell Lake (Sections 1-2, 11-12, T. 19 N., R. 61 W., Seward Meridian) is next to impossible to determine from modern USGS maps. From the source of the mud creek, he proceeded overland about one-half mile to a lake nearly empty of water. In earlier years the lake contained about two feet of water, but in 1929 it had only enough water to cover the roots of marsh grass in extreme dry weather. Even during

extreme high water stages, there was only about a foot of water in the lake. On the south shore of the lake, a "very thin wall of earth" rising above the bed of the nearly dry lake formed the north bank of a small lake locally known as Little Crow Lake. Circular in shape with a diameter of about one mile, the lake contained about seven feet of water. Lukens crossed Little Crow Lake to its south shore, and then portaged about one-fifth mile to an oblong-shaped lake known locally as Big Crow Lake. This lake had steep banks about six feet above the low water line, and the water was about eight feet deep. Crossing the lake for a distance of about a mile, Lukens then portaged across a narrow strip of land six hundred feet wide to Big Point Lake, a small lake about one and one-half miles wide with water ranging from eight to twelve feet in depth. Crossing this lake to its south shore and thence across a one-quarter mile portage, Lukens reached Little Creek Lake. According to Lukens, the water in this lake was about fourteen feet deep. Lukens traversed this lake diagonally in a southern direction for a distance of one and one-half miles. He then crossed a narrow strip of land to a small circular lake, and crossed that lake to make another short overland portage to still another small lake. Upon crossing this lake, he made an overland portage of one-fifth mile to a point near the head of a small creek locally known as Crooked Creek.

Crooked Creek connected a series of lakes known as Shell Lake, Grass Lake, and a large lake now known as Arhymot Lake. As Lukens descended Crooked Creek, he noted that the creek became wider and the water deeper. Where the canoe was launched, the creek was about ten feet wide and the water about two feet deep. Just before entering Shell Lake, the creek was about eighteen feet wide and the water four feet deep. From Shell Lake to Grass Lake, the creek ranged from twenty-four feet to thirty-six feet in width; the water was about

eight feet deep throughout this distance. From Grass Lake to Arhymot Lake, the creek ranged in width from twenty-one feet to forty feet; and the water depth was about six feet throughout this distance. Lukens described the twisting creek as being "covered with underbrush of willows, alders and birch which droop into the creek and obstruct the passage of canoes and small boats whenever same should be desired to be taken through."

As far as the lakes are concerned, Lukens encountered little or no difficulty in crossing them. Shell Lake, about one and one-fourth miles wide, had an average water depth of four to six feet at low water stage. Grass Lake, the precise location of which has not been determined, was about one-half mile wide with an average water depth of ten feet. Very abrupt banks of frozen mud and moss about eighteen feet above the low water line bordered the lake. The entire lake surface was covered with "seaweed grass" and water lilies to a depth of two feet, making it very difficult to cross the lake in boats or canoes unless the winds swept the vegetation aside for navigable channels. Oriented north-east-southwest, Arhymot Lake was by Lukens' estimate about ten miles long and five miles wide with a water depth of about twenty feet. The shoreline was very low and consisted of swamp grass and willow brush. According to Lukens, people tended to follow the easterly shoreline so as to gain protection from winds and rainstorms.

Upon reaching the southwest end of the lake, Lukens descended Johnson Creek, or what is known today as Crooked Creek. Where it leaves the lake, the creek was forty feet wide and the water six feet deep. At a point about six miles from the lake, where the creek was sixty-five feet wide and seven feet deep, Lukens made a land portage of about three-quarters of a mile in distance to a

"slough" containing eight feet of water. He then crossed this slough and made another land portage of one-fifth mile to Mud Creek. Here the creek was twenty-four feet wide and the water six feet deep. Lukens subsequently descended Mud Creek a distance of six miles to the horseshoe-shaped slough of the Kuskokwim River. At its mouth, Lukens noted, Mud Creek was twenty-six feet wide and the water eight feet deep.

According to Lukens, the Paimiut portage rather than the Russian Mission portage was then "the line of travel," although the Russian Mission portage continued to be the mail route. People usually crossed the Paimiut portage in small canoes in three days. Often small parties consisting of three or four people, each person in a separate canoe, crossed the portage. The reason for this method of travel, Lukens explained, was because of "the streams being very narrow and shallow; also many portages are encountered over which the canoes or boats, if boats are used, would have to be transported. Therefore the smallest craft which can be used with safety is the most practical for this portage." At low water stages, the canoe was certainly the "most practical" craft in crossing the portage. Lukens believed, however, that rowboats could be used to cross the portage at extreme high stages of water.

As far as the proposed canal project was concerned, Lukens recommended further investigation of the portage route. According to his estimate, ten miles of slough needed to be cleared; and twenty miles of canal, thirty feet deep, needed to be excavated. The project would cost about \$15 million. Finally, Lukens recommended that the Alaska Road Commission expend \$1,800 on the portage in the construction of two shelter cabins, the erection of high markers or beacons, and the clearing of brush and grass from two lakes and creeks.

382/ The Road commission initially approved the construction of the two shelter

cabins and the placing of beacons on the route, but for some reason suspended action in the matter. 383/ The commission did not give further consideration to the portage route in subsequent years.

The BLM considered the navigability of Arhymot Lake and that portion of Crooked Creek in the Paimiut Portage in 1975 when identifying possible easements on lands selected by Upper Kalskag Village. Meeting with BLM officials on September 19, 1975, Native leaders opposed the proposed easements for the east and west branches of the Kalskag - Paimiut trail. This trail splits into an east and west branch on the southern end of Arhymot Lake, locally known as Pike Lake, and converges again about five or six miles north of the lake. Natives used the west branch principally in traveling to Paimiut; and the east branch, to ice-fishing areas. The Native leaders indicated that the trail north of the lake was not heavily used.

The Native leaders also opposed the proposed easement for the Kalskag - Russian Mission trail. This trail left the Kalskag - Paimiut trail on the south end of Arhymot Lake and headed northwesterly across Kukaklik and Kulik lakes. The Natives told McWilliams that the trail received much use. 384/

Taking into consideration the Native leaders' comments, the BLM easement task force recommended on December 23, 1975 that easements be reserved for two existing trails from Lower and Upper Kalskag which converged in Section 11, T. 17 N., R. 59 W., Seward Meridian, and extended to the south edge of Arhymot Lake. In addition, the task force proposed a site easement on the south shore of Arhymot Lake in Section 4, T. 17 N., R. 61 W., Seward Meridian. The lake and the Crooked Creek portion of the Paimiut Portage were not

included in the list of water bodies in the selection area which the task force proposed to determine navigable. 385/ Subsequently, the BLM proposed to reserve a twenty-five-foot easement on the bed of Arhymot Lake at the site easement. 386/ At the request of the State of Alaska, the BLM also adopted a proposed winter trail easement following the north bank of Mud Creek from the Upper Kalskag - Arhymot Lake trail to the old Mud Creek tramway. 387/

Reviewing the proposed easement and navigability determinations in 1980, the BLM made few changes. Only the proposed site easement on Arhymot Lake was deleted. 388/ However, during a meeting with representatives of The Kuskokwim Corporation, Calista Corporation, and the State of Alaska in late April 1982, the BLM was requested to reconsider its position on the navigability of Crooked Creek and Arhymot Lake. Representatives of The Kuskokwim Corporation stated that both water bodies were navigable, "recreationists" and local residents with Native allotments on the lake using twenty-foot boats with twenty-five-horsepower motors to transport supplies and goods from a point in the S $\frac{1}{2}$, Section 22, T. 17 N., R. 62 W., Seward Meridian, to the lake. Seven or eight Native allotments for seasonal camps were located on the lake. Finally, the representatives indicated that the water bodies were also used as an "alternative access route between the Yukon and Kuskokwim rivers." 389/ Since in their view the water bodies were navigable and provided access to public lands, the representatives requested deletion of the Upper Kalskag - Arhymot Lake trail easement. They disagreed with the State's claim that the trail was used by local residents to transport fuel drums to the lake during the winter, claiming that the drums were hauled up Crooked Creek. 390/

The BLM agreed that Crooked Creek and Arhymot Lake were navigable, but decided to retain the Upper Kalskag - Arhymot Lake trail for winter use only.

On September 30, 1982, the BLM determined that the two water bodies were navigable. 391/

RUSSIAN MISSION SUMMER PORTAGE

Popularly known as the Yukon-Kuskokwim portage, this route extends from Russian Mission on the Yukon River to the mouth of Mud Creek on the Kuskokwim River, and consists of a series of lakes, creeks, and short land portages. The route is about seventy miles in distance, most of it attributable to the sinuous character of the creeks; the Yukon and Kuskokwim rivers are separated by an airline distance of about twenty-five miles in this area.

While the summer portage was doubtlessly traveled by Indians, Eskimos, and a few Russians traders for many years, it was not until Lieutenant L. A. Zagoskin went over the route in June 1844 that a written description of the portage was made. Following his journey up the Kuskokwim River, Zagoskin left Kolmakov Redoubt in the morning of June 8 with a small group of men in kayaks. Spending the night at Kkalkagmyut (probably Kalskag or Lower Kalskag), Zagoskin and his men led by the son of the village chief left that place late in the afternoon of June 9 during a downpour to take what Zagoskin called "the kayak route" to the Yukon River. About a half mile below the village, the small party entered the mouth of a stream called Makalakhtuli (Mud Creek) and ascended that stream in a general northeast direction for a distance of about three miles. Zagoskin wrote that the stream was not more than twenty-eight feet wide with low banks, three feet or less in height, and bordered with scrub willow. The water was dark, yellow in color, smelled of fish, and flowed with a slow current. According to the guide, the creek flowed out of a small lake, which Zagoskin located on the same meridian as Ukhagmyut (Oknagamut).

After ascending the creek about three miles, the party made three portages: one about twenty-five sazhens (172.5 feet) to a small lake; another about two hundred sazhens (1,300 feet) to a small lake; and finally a short portage to the Kvinchagak River (Johnson River). According to Natives who hunted otter, muskrat, and beaver along its tributaries, the river found its source in a large lake called Kullik Lake. Zagoskin followed the twisting river for a distance of about four miles before entering the mouth of the Kakyglet (Crooked Creek). The creek was twenty-one to twenty-eight feet in width, and the blackish water was quite deep. Zagoskin was unable to locate the bottom.

The party ascended the Kakyglet for a distance of about twenty miles to its source in Kukaklik Lake. "Along this stream," Zagoskin wrote, "we twisted and turned for about 20 miles towards all points of the compass, but principally in a northwesterly direction." The stream was not more than twenty-one feet wide and the water was deep. Evidently Natives hunted or fished along the river, for Zagoskin saw about ten groups of Kkhalkagmyut (Kalskag?) dwellings along its course.

From Kukaklik Lake, the party made their way into Kullik (Kulik) Lake by way of a small and narrow channel. They crossed the lake and, after four hours of hard travel, made camp on the shore, "exhausted and wet through to the bones." Zagoskin described both Kukaklik Lake and Kullik Lake as being oriented east-west. The former lake was about six miles wide and three to four miles long; the latter lake was about fifteen miles wide and five to six miles long. The banks of the lakes consisted of "alluvial clayey and sandy silt."

On the following day, the party started out on the final leg of the journey to the Yukon River by making three portages: one about 1,380 feet to a small

lake; one of unknown length to another lake; and finally, one about 2,070 feet in distance to the Talgiksyuak (Talbiksok River). This last portage--the longest on the route--was over a "broad beaten track" across "a stretch of land with mounds of clayey soil some 3 sazhens (20.7 feet) in height, covered with a thick forest of fir."

Upon reaching the Talbiksok River, the party descended the river in a southwest and west direction. Zagoskin was told that the river flowed from a lake and emptied into the Yukon River some five miles below Ikogmiut (Russian Mission). Flowing through a "fine fir forest," the river was thirty to fifty sazhens (207 to 345 feet) wide at high water stage, and about half that width at low water stage in the fall. Many Natives from Ikogmiut maintained fish camps along the river. Late in the day, the party left the river to follow a right bank tributary called Kvikhpakquak (Little Yukon) which emptied into the Yukon River about one and one-half miles below Russian Mission. They reached their destination just "as the sun was setting." 392/

Pursuant to Zagoskin's recommendations, the Russian-American Company subsequently adopted the St. Michael-Kolmakof route in the transportation of supplies and trade goods to Kolmakov Redoubt. While most travel between these points was conducted during the winter months, it is certain that a greater number of Russian traders made use of the Russian Mission summer portage following Zagoskin's expedition. No record of the specific route taken by the traders appears to exist, however.

Following the purchase of Alaska, fur traders, prospectors, and adventurers are known to have crossed the Yukon-Kuskokwim portage. In 1869, Army Captain Charles P. Raymond, who was on a mission up the Yukon River to

determine whether the Hudson Bay Company post at Fort Yukon was in fact located in American territory, obtained a description and sketch map of the summer portage from a trader named Zandt. According to Zandt, who made the trip over the portage that summer, the general direction of the route from the Kuskokwim River was northwest. Travelers ascended a small tributary of the Kuskokwim River called the Mahkhsatule (Mud Creek) for a distance of about five miles, and then crossed a portage of one-half mile to Lake Kuklaelekunta, which he described as being about one mile in length. This lake was crossed and then a portage of three-fourths of a mile was made over a swampy plain covered with birch trees to another lake, which was somewhat larger than the first lake and was one of the sources of the Kvichavak River. One descended this river for about seven miles and then ascended one of its tributaries called Oukahkl to its source in a lake of the same name. This lake, about two miles in width, was crossed to a small stream, and thence up that stream to another lake called Koulakh (Kulik), which was the largest lake on the route. From this lake, a short portage was made to the somewhat smaller Lake Philikh-Tulik and then another portage was crossed over "low pine-clad hills" to the Talbiksokh (Talbiksok) River. One then descended this river to its confluence with the Yukon River, a distance of eight miles. Zandt claimed that one could cross the fifty-five-mile portage in two days. 393/

Through the years several visitors to Alaska mentioned or described the portage route. In 1886, Henry W. Elliott claimed that one could make the journey from Kolmakof to the Yukon River via the portage in five days with canoes. 394/ In the fall of 1890, E. H. Wells and Alfred B. Schanz of Frank Leslie's Illustrated Magazine crossed the portage to the Kuskokwim River at different times. In the company of two Eskimo guides, Schanz left Russian Mission to enter the

mouth of a creek one hundred yards in width with reddish-colored water. They ascended the creek, and on the following morning crossed a number of portages to two or three lakes. After floundering across marshes, they finally entered "a small but well-defined stream along which we were enabled to pull at a somewhat brisk rate. This stream proved to be very crooked and its navigation was attended with great difficulty." One or two additional portages were subsequently made before they reached a tributary of the Kuskokwim River. Schanz estimated that he had covered a distance of seventy miles in three days of hard travel. 395/

In the same year, John H. Kilbuck, the Moravian missionary at Bethel, ascended the Kuskokwim River to Vinasale for the purpose of enumerating the village populations, and in the course of this work he obtained a description of the portage route which was published in the Eleventh Census. Kilbuck wrote that the route began at the mouth of a small stream entering the Kuskokwim River from the north a few miles west of Kaltkagamiut. Travelers had little difficulty in locating the stream for "its dark red, muddy water" was evident for miles along the shore of the Kuskokwim River. "Entering this tributary with his canoe, the traveler meets with no perceptible current, but glides over an apparently oily surface, with large patches of metallic luster," wrote Kilbuck. "The channel winds through a stunted growth of spruce and poplar trees, with trunks and lower branches discolored by the same red pigment which tints the water, an evidence of flood, caused by 'backwater' from the Kuskokwim." Ascending this stream about two miles, one reached a portage trail, "the terminus of one of the most important routes of intertribal traffic in all this region," which led over very swampy ground less than one-half mile in distance to channels connecting with the Kvichavak (Johnson) River. This river was an

"exceedingly crooked stream" which flowed at first generally east to west and after capturing the drainage of a number of large lakes doubles upon itself and finally empties into the Kuskokwim River below Bethel. Upon crossing the portage trail, travelers followed the Kvichavak River and then "drag[ged] the canoes through swampy swales and channels into several connecting lakes, and finally [carried] them over a wooded knoll 50 feet in height, and involving a portage of half a mile, and deposit[ed] them in a wide sluggish stream of dark brown water, which affords uninterrupted navigation to the great river of the north." 396/

Two years later, an adventurer and naturalist named Warburton Pike crossed the portage from the Yukon River in the company of "the chief of the Upper Kuskokwim Indians" who was then visiting Ikogmiut (Russian Mission). On August 15, Pike left Russian Mission with the chief and his family in a long, slim bidarka and a small birchbark canoe. For an entire day they paddled up a small, winding creek that flowed with little current between low banks covered with willows. Pike recalled that the creek "split up so frequently that nobody without local knowledge could possibly keep the right course." Late in the afternoon they crossed a portage trail to a small lake, and there made camp for the night. "A gloomy, desolate strip of country is this marshy tundra, with its countless lakes and sluggish streams, especially as we saw it this night in drenching rain, which only seemed to pause a few moments to give the mosquitoes a fair chance to annoy us," wrote Pike. On the next day, the small party poled across shallow lakes where rushes and water lilies almost prevented the passage of the canoe and bidarka, sometimes carried and sometimes dragged the small crafts over the portage trails, and paddled up and down twisting creeks with corners so abrupt that the bidarka frequently collided with the soft banks.

Finally, late in the evening on the third day, they descended "a long slough with scarcely enough water to float us, and found ourselves at the Kuskokwim." At this point, the Indians ascended the Kuskokwim River, while Pike went down the river to the Moravian mission at Bethel. 397/

While the existence of the portage route was known for many years, it was not until after a small party assigned to the Josiah Edward Spurr expedition of 1898 crossed the portage that a reliable and detailed description of the route was made available in print. Following the journey down the Kuskokwim River to Bethel, Spurr decided to send A. E. Harrell, F. C. Hinckley, and a trapper named Madison with Dr. John Romig across the portage with a view to preparing a detailed description and a sketch map of the route. Spurr noted that "the water route to the Yukon is one which has been of great commercial interest in the past and perhaps may be even more important in the future." 398/ Using the notes taken by Hinckley on the journey, W. S. Post of the USGS described the portage route as follows:

The southern entrance to the route is at the Native village of Kalchagamut, where a sluggish stream enters the Kuskokwim. This stream is ascended in a northwestern direction about 3 miles. Its mouth is 70 feet wide and 30 feet deep; 1 mile of it is 100 feet wide and 7 to 12 feet deep, and it gradually narrows to 30 or 40 feet in width in its upper course. The channel is remarkably straight and the depth uniform, with banks 4 to 6 feet high. On August 23, 1898, when the route was traveled, the current was dead, being backed up by high water in the Kuskokwim.

At the point 'A' boats are pulled through a swamp and mud rut for an eighth of a mile, and there portaged 300 feet over a clay bank to a pond

whose level is about 6 feet higher. This pond is 150 feet long. From here a second portage 60 feet long is made over a clay bank 15 feet high. Here one passes from tree growth to open tundras. After this portage boats are dragged or poled through a water rut 1,000 feet long to Lake 'B,' which is 500 feet across. The outlet of the lake is marshy, and the boats are pushed through water grass short distance to a stream flowing northwest. This is extremely tortuous, 240 bends being noted between 'B' and 'C,' the latter point being its junction with its eastern branch. Its usual width is 30 feet and its depth 6 to 9 feet. The banks are not well defined, but run into swamps and ponds; the current is about 1 mile an hour.

On reaching the junction 'C' the main stream is ascended. In the lower portion the banks run into swamps and ponds, while farther up they become better defined and are 6 to 10 feet high, and the stream narrows to 25 feet and even to 10 feet in width. Still farther up it again widens, and the lateral swamps and ponds again replace the banks, affording numerous short cuts for canoes. From 'C' to Lake 'D' is about 20 miles. Lake 'D' is about 3 feet deep, and a winding stream 1 mile in length connects it with Lake Oknakluk, which is $2\frac{1}{2}$ miles long and average 4 feet in depth, with clay bottom and flat shores.

A water rut one-half mile long extends from Lake Oknakluk into Lake 'E,' three-fourths mile long, and from here one paddles through water grass to the last lake, 'F'. At this point the tundras end and the spruce forest begins. A portage is here made over a clay bank 30 feet high to a water rut which runs into the Yukon tributary, the Talbigsak River. This is a

large, slow stream with high flood banks. It is at first 100 feet wide and 7 feet deep, but 12 miles farther, at its mouth, is 350 feet wide and 14 feet deep. 399/

According to Post, the total distance of the portage route was sixty-six miles, while the airline distance between the Yukon and Kuskokwim rivers was only twenty miles, much less than had been widely believed. Given the short distance between the two great rivers, the fact that the land portages were short and low, and the fact that Kuskokwim Bay and River were open to navigation earlier than the Yukon River and Bering Sea, the USGS believed that a canal might be constructed with very little work from the Kuskokwim River to the Yukon by way of the portage route. Presumably the waters of the Yukon River would flow toward the Kuskokwim River via the canal, since the Yukon River flowed with stronger current than the Kuskokwim River. If the canal were constructed, shippers would save some 320 miles in the transportation of freight into the Yukon River valley. This would of course reduce the costs of transportation and consequently the price of supplies and equipment in the region; and in addition freight would reach the region earlier in the season. 400/

During the gold rush era, large numbers of stampedeers probably crossed the Russian Mission summer portage. In 1908, a Nome newspaper quoted Duncan McDonnell to the effect that two hundred men were using the portage, and the number was likely to increase as a result of the recent gold strikes in the Kuskokwim region. 401/ Very few accounts of journeys across the portage during these years are available, however. In 1910, Anton Eide of the Alaska Road Commission ascended the Kuskokwim River on the steamboat Quickstep, and learned of a portage from Kalkagamute to Russian Mission. According to

his unnamed informants, Eide wrote, "it takes about three days with a small boat, by following sloughs and small lakes and dragging the boat over dry land in three or four places, the longest being one quarter mile. Over the portage once a month comes the mail, supplying Bethel and the lower river, and is used a good deal by people crossing the two rivers. On coming from the Yukon, a good many get tangled up among the sloughs, high grass and willows in the low lands near the Kuskokwim, and wander around finally coming out about 25 miles below Bethel." 402/

In late August of the same year, Adolph Stecker, the Moravian missionary at Bethel, crossed the portage to Russian Mission. Taking passage on a gasoline-powered boat to the mouth of Mud Creek, Stecker with an unknown number of companions rowed and paddled a small boat up Mud Creek, traveling the four miles to the first land portage in two hours. The baggage was unloaded and carried across the trail to a lake, which was crossed to a second land portage, about three-fourths of a mile in distance. After spending three hours in carrying their baggage over the trail, they crossed the lake into a large stream, which they followed for about twenty-five miles to enter Crooked Creek. This creek, Stecker wrote, "has so many windings that our passage through it took four times as long as if we could have pursued a direct course." The banks of the creek were lined with tall birch and other trees. Sometimes they passed extensive flats covered with grass, some of it as tall as a man; at times it was necessary to force the boat through grass-choked channels. Eventually they reached a lake with shallow water which Stecker considered to be dangerous to cross in stormy weather as the water would be "raised into such high waves that they dash into the small boats." A river five miles long connected this

lake with another, where it was necessary to cross a "swampy portage," about one mile in distance. Once this portage was made, they found easy passage down the Talbiksok River to the Yukon River. 403/

Another account of a journey across the portage comes from Lee Raymond Dice, a deputy game warden. In the summer of 1912, following a remarkable trip down the North Fork of the Kuskokwim River and thence down the main river in a poling boat, Dice and his fellow travelers made camp at the mouth of Mud Creek, a short distance below the village of Kaltshak. Early the next morning they broke camp and with a Native from the nearby village to guide them, began to row their boat up the creek. Dice described the first day of the journey, September 1, as follows:

The little creek that began the portage drained some marshes back from the river and its water had a dirty red color and gave off an offensive odor. After rowing up this creek for four miles we made a short portage over the bank into a small lake. We crossed this lake and then had another portage of about a half-mile into a large lake. About half of this second portage was dry land over which we carried the boat and outfit. The remainder was a narrow ditch, through which four of us were able to drag the boat by pulling on a rope, while the boat was steered by the other man using the pole. The guide in his light birch-bark canoe was easily able to paddle along the ditch. From this large lake we rowed into and through several small connected lakes and then into a small stream, called Johnson Creek. We rowed down Johnson Creek until it was joined by Crooked Creek, up which we turned.

Crooked Creeks are numerous in Alaska and most of them well deserve their names. This one, however, for crookedness far outdid any other one that I saw. It was a tiny creek with barely room in places for the boat to pass between the banks. At most of the bends, the current had washed out holes. These enabled the boat to turn, although the bow of our long boat often ran on the bank and we would have to back before we could turn around. In some of the turns the entrance and outlet of the stream were on the same side of the hole, so that the boat had to turn almost completely around. The turns followed one another in rapid succession, so that our progress was slow. 404/

Spending the night "in some small birches," where they had difficulty in finding dry wood for a campfire, the Dice party continued the journey the following day up Crooked Creek, which "grew still more crooked, if that were possible." Eventually, he recalled:

. . . the stream began to open up into small lakes and marshes, where horsetails and other water plants grew thickly. The soft mud in the bottom of these lakes was many feet deep. Standing in the boat we had to force our way through the vegetation and mud with poles. In many places there was no channel or path. We followed our guide through the places that offered the easiest going.

Towards morning we crossed two large lakes, each about three miles across at our place of crossing, although they were evidently larger in their other dimensions. On the lee shores of these lakes, high winds on the previous days had piled up much soft mud which we had some difficulty

crossing. We were thankful that there was no wind that day for these large lakes cannot be crossed in rough weather by a small boat and there is no wood nor shelter on their shores to allow camping while waiting for a storm to pass.

Beyond these lakes there was a portage of a half-mile. Here, however, there was a small ditch in which soft mud and muck had collected. By all of us pulling on a rope we were able to drag the boat though loaded. We then entered a series of connected lakes. Late in the evening we made camp at the beginning of the last land portage. Here there was a good growth of trees and consequently also of fuel for the fire. 405/

On the following day, Dice and his companions moved the boat and their outfits across the land portage, which was "higher and drier than any of the others," with considerable difficulty as everything had to be carried or dragged across the portage trail. Upon crossing the trail, they found themselves on Talbiksok River, "a good-sized, winding stream." As this river had almost no current, they consequently rowed steadily for a full day and a quarter of another day before reaching the Yukon River.

Following the development of hard-rock mining in the Nixon Fork country, which had the effect of stimulating prospecting activity in the Kuskokwim region, territorial officials considered the possibility of improving travel on the Russian Mission summer route with the construction of trams on three short land portages. The proposal to improve the route was not a new one. As early as 1908, Walter L. Goodwin of the Alaska Road Commission had proposed dredging and straightening the sloughs and creeks on the route for poling

boats, and constructing a corduroy road on the land portage on the Yukon River side of the route. 406/ Responding to an inquiry from Governor Thomas Riggs, Jr., about the subject, Oscar Samuelson, the mail contractor on the Bethel-Holy Cross run since 1912, wrote on January 12, 1920, that in his opinion the project was entirely feasible. The terrain was fairly level except in the area of the last portage on the Yukon River side of the route where there was a hill about forty feet high. Access to the land portages was available from both the Yukon and Kuskokwim Rivers. The slough that ran from the Yukon River to the longest land portage was large and deep enough for the passage of ordinary river steamers in the spring and early summer. Material for the other two portages on the Kuskokwim River side could be landed at the mouth of Mud or Portage Creek, about five miles distant from the first portage. These two land portages, he wrote, were almost one for only a few hundred feet of water separated them. The transportation of material to these portages would present a problem, as "Mud Creek is most of the time nearly dry, either dammed or locked at the mouth which is an easy matter, as it is only about fifty feet wide." The tule or grass in the creek would have to be cut or pulled or perhaps killed with some chemical. 407/

Governor Riggs was unable to secure any action on the proposed project during his term in office. However, in the summer of 1921, Major James G. Steese, who occupied the dual positions of president of the Alaska Road Commission and district engineer, initiated steps to obtain congressional authority to conduct a preliminary examination of the route as a possible waterway improvement project. Writing to the Chief of Engineers in May 1921, Steese requested authority and funds to make the examination in the next Rivers and Harbors bill. The Road Commission, then considering a proposal to stake the Holy Cross - Bethel

winter mail trail and to place guideposts on the summer portage, periodically received petitions to improve the portage for the passage of boats. Some petitioners advocated improvements that would allow the passage of river steamboats from the Kuskokwim River to the Yukon River, as the Kuskokwim route was not only shorter in distance than the St. Michael route but was also open to navigation for a larger period of time. Steese believed that the cost of such improvements would exceed the benefits, but he agreed that minor improvements such as trams on the land sections of the portage for the transportation of canoes, small motor launches, and poling boats might be warranted. 408/

Territorial officials lent their support to Steese's proposal. In late June 1921, Duke E. Stubbs, the U.S. Commissioner at Aniak, met with the new Governor of Alaska, Scott C. Bone, in Washington, D.C., to discuss the need for improvements on "the Poling Boat Portage." Having made a careful study of the route, Stubbs proposed the construction of three tramways and a short canal. Perhaps it was through Bone's, Alaska Delegate Donald A. Sutherland's, and Steese's efforts that a provision requiring a preliminary examination of the Yukon - Kuskokwim portage was included in the River and Harbor Act of September 22, 1922. 409/

Responsibility for the preliminary examination devolved upon Steese in his capacity as district engineer. By this time Steese was quite familiar with conditions on the portage and what improvements were needed, having made a trip across the portage in the previous fall. At the risk of redundancy, it is well to quote Steese's account of the journey in the fall, if only to demonstrate the difficulties in traversing the portage at a time when water levels are usually low.

As we were, on the whole, very lucky in our weather conditions, our party made the trip from the Kuskokwim River to the Yukon River in three days. There were five men in the party including two Indian helpers. We had a thirty-two foot poling boat driven by an Evinrude, a small tent, sleeping bags, and grub. One of the Indians also had a kayak.

Leaving the Kuskokwim near Kalchagamut [Kalskag], September 21, 1921, we proceeded up a slough about two miles to the mouth of Mud Creek. We made the six miles up Mud Creek in about an hour and a quarter, stopping occasionally to pull weeds out of the propeller and pole ourselves along through the mud. Most of the way we encountered scum ice, which caused one of our Indians to mutter to himself.

Near the head of Mud Creek we came to the first portage, about two hundred feet long, up an incline over a rise of only ten to fifteen feet to a small lake. Crossing this lake, which was only about a quarter of a mile wide, we came to a second portage of about half a mile with a total rise of not over five feet. Part of the way across this portage we necked the boat along a muddy rut which, at a higher stage in the lake, would contain sufficient water to float the boat. Crossing a second lake about a quarter of a mile wide, we then proceeded into Johnson Creek and followed it downstream for sixteen miles. The channel was quite narrow and deep and there were over a hundred horseshoe bends in the sixteen miles. Reaching the mouth of Crooked Creek, a tributary of Johnson Creek, we followed it upstream for twenty miles, around probably a thousand horseshoe bends. We camped the first night about an hour after starting up Crooked Creek.

At the head of Crooked Creek we found a series of grassy sloughs and lakes extending over a distance of about five miles. We harried our boat along, sometimes with the Evinrude, sometimes by poling and sometimes by getting out and manning the neck ropes. Of this five mile section it was necessary to drag the boat an aggregate of about a mile.

We then came to Lake Kukaklik, about three miles wide and quite shallow. A wind had sprung up which made the lake quite rough but we managed to get across with about an inch or less of freeboard at times. We then found more grassy lakes and followed them for about two miles to a second larger lake. Most of this two miles was accomplished with the Evinrude, supplemented by occasional poling and many stops to clear the propeller. A strong wind had again developed and after getting two or three hundred feet from shore and having taken in a lot of water and nearly getting swamped, we had to turn back and barely got landed about half a mile down the beach on the bare, wet tundra before a heavy storm broke, filling the air with sleet and snow. We made camp as best we could and everyone scattered to search for fuel.

At the first lake our elder Indian abandoned us and took his kayak with him. He was afraid to go farther for fear of getting frozen in and not being able to get back to his home village on the Kuskokwim. Just after crossing this first lake we met four Indians, each with his own kayak, coming from the Yukon. We tried to hire one of them to go along to help on the neck ropes but they were afraid to risk it.

We spent the night on the tundra on the shore of the second big lake, Lake Kulik. About the middle of the next morning the wind died down

somewhat and we started across. The distance was about five miles and by skirting along the shore we made it without getting too wet. We then came to the most difficult portage of all, about half a mile of dry slough which is navigable at a higher stage of the lakes. Here it was necessary to drag our boat through the mud and grass where the footing was very bad. The whole country was swampy but not sufficient to float the boat. The difference in elevation did not seem to be over two feet. Then two miles more of lakes and sloughs brought us to the main portage on the Yukon side. This final portage is about half a mile long over a bluff about forty feet high. This landed us on the Tatlaweesuk River. We followed down this stream for fifty miles into a slough which we then followed up six miles to Russian Mission where we arrived about midnight.

The total distance, as we traveled it, from Kalchagamut to Russian Mission is about one hundred and twenty miles. The route is very tortuous and could hardly be followed without a guide. The route could be readily improved so that small launches, scows and poling boats could go through from end to end with only one-fiftieth of the effort now required. This would require a tramway about three-fourths of a mile long, connecting Mud Creek with the head of Johnson Creek and another tramway about half a mile long, connecting the last lake with the Tatlaweesuk River. These trams would run down into the water at each end so that boats could be run right up on cradles on one or two flat cars. A cable and hand winch would make the lift. A total of about four miles of dredging or clearing out the mud and weeds to a width of about twelve feet and a depth of about four feet across the grassy lakes would permit a power boat to go

right through. The mail carrier who has had the contract for the past fifteen or twenty years maintains a rowboat on each lake and transfers his load at each intervening portage.

Reflecting upon the journey, Steese believed that the summer portage could be easily improved for small boats. Tramways might be constructed to connect Mud Creek with Johnson River and the last lake on the route with the Talbiksok River. If the tram were extended into the water and cable and hand winches provided, boats could be lifted onto flat cars and hauled across the land sections of the portage. In addition, four miles of waterways might be dredged or cleared of mud and weeds to a width of twelve feet and a depth of four feet. Already the mail carrier maintained rowboats on each of the lakes on the route. If these improvements were made, "small launches, scows and poling boats could go through from end to end with only one-fiftieth of the effort now required."

410/

Upon his return to Juneau, Steese corresponded with the mail carrier, Oscar Samuelson, about marking the route with stakes ten to twelve feet high. Samuelson wrote that about forty stakes were needed on the route, particularly on the upper end of Crooked Creek where spring floodwaters made it difficult to follow the course of the creek, and enclosed a sketch map of the route showing the places where the stakes should be erected. In July 1922, the Road Commission let a \$500-contract to Samuelson to erect stakes and directing arms on the route. By October, he had erected about ninety poles with directing arrows on the portage. 411/

Less than a month after the passage of the River and Harbor Act of 1922, Steese sent telegrams to a number of interested parties, inviting them to submit

their views on the need and type of improvements for the portage, as well as information on current traffic and benefits once the improvements were made. Steese received few responses, but all were in favor of improvements on the portage. The Alaska Department of the Seattle Chamber of Commerce favored the project with the view that it would advance the commercial and industrial development of the territory. John W. Felder, the Bethel trader, wrote that the bulk of the summer mail for the Kuskokwim valley as well as one hundred passengers and twenty-five to thirty tons of freight went over the portage each summer. The winter traffic was about the same as during the summer. The freight rate was about twenty-five cents per pound, summer and winter. If the portage was improved for boats of three- or four-feet draft and twelve- to fifteen-foot beam, freight rates could be expected to be reduced by 80 percent, resulting in a reduction of winter freighting operations and an increase in the volume of traffic by at least six times. Most people on the Yukon bound for the Kuskokwim during the summer took the Innoko River route to Iditarod or Flat and then followed the trail to Takotna. In addition, an improved portage would allow for faster mail service on the route (five days for a round trip) and thus result in less expense to the government in mail contracts. With the improvements, small power boats could traverse the portage in twenty hours running time. 412/

The response of lower Yukon residents was enthusiastic. After receiving Steese's telegram, Father P. I. Delon, superintendent of the Holy Cross Mission, circulated a letter to all whites between Holy Cross and Marshall, encouraging them to provide information about the portage. He received replies from Paimiut, Tucker's Landing, Russian Mission, the Stuyahok mining camp, Fortuna Ledge, and Ikkoaramute. At a mass meeting at Marshall, the residents

agreed that the portage needed to be improved for the passage of boats with a beam of sixteen feet and drawing five feet of water. Tramways should also be built across the land sections of the portage. They estimated that more than three hundred people and five hundred tons of freight went over the various routes between the Yukon River and the Kuskokwim River each year. If the portage was improved, the bulk of this traffic would go over the portage, resulting in cheaper transportation rates and better mail service. 413/

In a letter to Father Delon, Chris Betsch, a trader at Russian Mission, estimated that more than one hundred people and fifteen to twenty-five tons of freight went over the route during the winter, and seventy-five to one hundred passengers and two or more tons of mail during the summer. As concerns needed improvements, Betsch wrote that two short stretches of the Talbiksok River needed to be deepened for boat passage at low water stages in August or September, and a tramway built at the first land portage. Once across this portage, Betsch wrote, travelers reached "a lake . . . connecting with a larger lake through a strip of 40 or 50 ft. of low land which was dug by handpower. The second lake about a $\frac{1}{2}$ a mile from this handmad canal, connecting with the first long land portage perhaps 1 mile across through low lands which connects a large lake 8 or 10 miles long & $2\frac{1}{2}$ miles wide, draining by a little creek $2\frac{1}{2}$ miles long to a second lake, about 5 miles across and about 15 miles long." Both lakes had hard bottoms and depths of four and one-half feet at medium stage of water. Once across this large lake, travelers crossed "Grassy Lake," about two miles in length. A number of travelers lost their course here, including Betsch who with two other men once spent a full day here searching for the proper course. From this lake one descended Crooked Creek for twenty-eight miles to Johnson Creek. Crooked Creek flowed with a current averaging about one and one-quarter

miles per hour and was five to eighteen feet deep at low water stages. As the channel was narrow and very crooked, making it difficult to steer boats, Betsch suggested that a number of the creek bends be cut off.

Draining a large lake, Johnson Creek was five to fifteen feet deep at low water stages and flowed with a current three and one-half miles per hour. Travelers ascended the creek, crossed a small lake three-quarters of a mile long, then a low land portage of the same distance, and finally another small lake about one-quarter mile long. From this lake, a trail about fifty yards long led to Mud Creek. According to Betsch, Mud Creek was difficult to navigate, "only here and there are pools with sufficient water to flood a boat drawing 5 and 6 inches of water, leaving the remainder of 6 miles to be dragged across the mud." Out of seventeen trips across the portage during the latter part of July, Betsch twice found enough water to descend the creek in a birchbark canoe without having to drag the canoe. On two other occasions, he descended the creek in a heavy boat drawing about two feet of water. On one of these trips he found nine to eleven feet of water in the creek, learning later that a "tidal wave" had backed up the waters of the Kuskokwim several hundred miles. There was "no chance of rowing Mud Creek" unless a long period of rain caused the water level to rise, wrote Betsch. 414/

Father Delon forwarded the Marshall resolutions and Betsch's letter to Steese, and in a letter of his own summarized the response of others on the lower Yukon. No doubt the Yukon - Kuskokwim traffic amounted to many hundred tons of freight each year, wrote Delon. Mail carriers, government officials, teachers, doctors, nurses, trappers, traders, prospectors, and sometimes entire families crossed the portage. Local residents wanted a canal for boats with a

three- to five-foot draft and an twelve- to twenty-foot beam. Most appeared to agree that a canal for a boat with a four-foot draft and an eighteen-foot beam was adequate. Delon himself agreed with this estimate, pointing out that the canal would allow the passage of small steamers which would no longer have to be exposed to the dangers of the Bering Sea.

While most people favored improvement of the Russian Mission portage, Delon wrote that old-timers and other knowledgeable people considered the Paimiut portage to be a "far more practical" route for a canal. He claimed that the Paimiut route was half or less in distance; no hills or knolls were located on the route; and as the Yukon terminus was some forty miles above Russian Mission, perishable goods from Nenana could be shipped to the Kuskokwim on the portage in less time than on the Russian Mission portage. Until about 1903 the Paimiut portage was considered to be much easier to travel than the Russian Mission portage. However, one of the lakes on the Paimiut route near the Yukon had nearly dried up, making it virtually impossible to push a boat or canoe through the thick marsh grass in the lake. Consequently, travelers must cross a difficult portage about three-quarters of a mile in distance. The remaining portages were very short: two about fifty yards each, one about twenty yards, and two about ten feet each. People still crossed the portage even at low water stages with canoes. Finally, Delon suggested that the portage could be made shorter by moving the Kuskokwim terminus from Kalskag to Iksiglek or Iksig'lik (Kasigluk?), the next village upriver. 415/

On January 1, 1923 Steese submitted a report on the Yukon - Kuskokwim portage to the Chief of Engineers with a request for authority to make a ground survey of the route and to investigate further the benefits and costs of improvements.

In justification of the request, he emphasized the importance of the portage in the context of the territorial transportation system. The completion of the Alaska Railroad, the inauguration of government steamboat service on the Yukon from Nenana to Holy Cross, and the plans of the White Pass and Yukon Navigation Company to operate a boat from Dawson to St. Michael beginning in the 1923 season, presented an opportunity to make the Alaska Railroad - Yukon River route the primary route of transportation to the Kuskokwim valley. As the ice went out on the Tanana and lower Yukon at least one month before boats from St. Michael could enter the Yukon, freight could be delivered to Bethel by way of the Alaska Railroad, Yukon River, and the portage and thereby allow mining and other operations to start at least two weeks earlier than usual. The transportation of freight over this route would mean an added cost of \$25 per ton for goods delivered at McGrath to rates on other routes to the Kuskokwim. However, with two weeks added to the mining season if freight was shipped over the portage, gold production in the Kuskokwim should increase by 16 percent, not an insignificant figure considering that \$600,000 in gold was produced in the region in 1921. In turn, this production could stimulate prospecting and commercial developments in the region. 416/

Steese estimated that the costs of improvements on the Russian Mission portage and the Paimiut portage would be \$95,000 and \$27,500, respectively. Improvements for the former route consisted of one and one-quarter miles of tram with flat cars, windlasses, and cables, and four miles of dredging and clearing out vegetation for a channel twelve feet wide and four feet deep. In the case of the Paimiut portage, Steese envisioned the construction of one-quarter mile of tram and one mile of dredging. The projected costs were based almost entirely on guesswork; he requested \$3,000 to send a man to make a thorough investigation of the two portages. 417/

As early as May 1922 Steese had instructed Walter W. Lukens, the Road Commission's district superintendent, to make a survey of the various Yukon-Kuskokwim portages with a view to their improvement as waterways. It was not until early June 1923 that an allotment of \$3,000 was issued for the examination, however. In September of that year, Lukens began the surveys with instructions to prepare detailed notes of the routes and sketch maps of portage trails, and to take as many photographs as possible. 418/

Following an investigation of the Paimiut portage, Lukens went over the Russian Mission portage. Ascending Mud Creek a distance of six miles, he then crossed a land portage about one mile in distance to Johnson Creek (River). This river, he wrote, was about sixty-six feet wide and the water seven feet deep. Proceeding down the river in a westerly direction to the mouth of Crooked Creek, Lukens noted that the stream tended to become narrower and the water deeper. At the confluence of Crooked Creek, the river was forty-four feet wide and the water ten feet deep. Very abrupt frozen mud banks as well as sloping banks covered with grass, moss and brush, were noted. At various points along the river, heavy growths of willow, alder, and birch were found.

At Mile 22, Lukens left Johnson River to ascend Crooked Creek for about twenty miles, much of this distance due to the very crooked course of the stream. Crooked Creek was similar to Johnson River except that it was not quite as wide, the flow of water was "much more sluggish," and the banks higher. The creek ranged from sixteen feet in width at its mouth to twelve feet in width at the point where the creek was left to ascend a small tributary. Throughout this distance, the water was about six feet deep.

From Crooked Creek at Mile 42, Lukens ascended a small creek which drained a series of lakes. For a distance of ten miles the creek was about eight feet wide and the water six feet deep. The creek banks were covered with a thick growth of brush, which in places blocked the creek and impeded navigation. As Lukens described it, the creek meandered through a country of many small grass swamps and marshes, and many sections of the creek as well as the small lakes were covered entirely with a thick layer of grass and "seaweed" approximately two feet deep. At Mile 52, the creek left an oblong-shaped lake locally known as Three Mile Lake which had banks rising about twenty feet above the line of low water and a water depth of about ten feet. From the west shore of this lake, Lukens proceeded up a "canal" to "four mile lake."

This canal, wrote Lukens, was "two miles long, twenty feet wide and ten feet deep at low water line, and the banks of this creek or canal are very abrupt and extend to an elevation of approximately twenty feet above low water line." The lake itself was somewhat round in shape, with water about nine feet deep and a shoreline mostly very low and covered with grass.

Following the western lake shore, Lukens soon reached a ditch across a "low, grass swamp, which is submerged during stages of high water, though at low stages or water line the water is approximately two feet below the surface of the sod on this swamp." The ditch, about one mile long and ranging in width from four to six feet with a average depth of one foot, was constructed "by the old timers of the early days who were freighting outfits for prospecting" from the Yukon River to the Kuskokwim River; it was covered with grass, making it very difficult for the mail carriers to navigate in small boats loaded with five to six hundred pounds of mail. Proceeding up the ditch, Lukens soon found

himself on a circular lake known as Two Mile Lake with water about ten feet deep and banks rising at a very low angle about ten feet above the low water line. Crossing this lake and a "water portage" about one-tenth of a mile in distance and four to ten feet deep "with island growths of grass and weeds which can be spread apart to permit small boats passing on the water surface," Lukens reached another circular lake with water about fourteen feet deep and gradual banks rising about twenty feet above the line of low water. By crossing this lake a distance of nine-tenths of a mile, Lukens reached a high land portage to Tatlaweesuk Slough [Talbiksok River]. Rising to an elevation of about 120 feet above sealevel, this portage formed, in Luken's opinion, "the dividing line or rather water shed between the Yukon and Kuskokwim Rivers."

By crossing the portage trail, Lukens reached what he called Tatlaweesuk Slough. Here the slough was thirty-two feet wide and the water about eight feet deep. Winding its way with a "very sluggish" current between banks thirty to forty feet in height, the "very muddy" slough emptied into the Yukon River about twenty rivermiles from the foot of the portage. At its mouth the slough was about five hundred feet wide and the water twelve feet deep. According to Lukens, these figures applied as well to the branch of the slough that entered the Yukon River seven miles below Russian Mission.

In his report to the district engineer on January 31, 1924, Lukens was clearly unimpressed by the idea of building a canal connecting the Yukon and Kuskokwim rivers. He believe it would be more practicable to construct a wagon road or a tramway from Crow Village on the Kuskokwim River to the Yukon River. However, he recommended the Paimiut portage route for improvement as a waterway if such a project should be approved. That portage was more centrally located

than the Russian Mission portage and was the customary route of summer travel between the Kuskokwim and Yukon rivers. The mail carrier was practically the only one crossing the Russian Mission portage. Each month during the summer he made a round trip from Bethel to Russian Mission by way the portage, carrying a maximum of six hundred pounds of mail. Usually the carrier required fifteen to twenty days to make a round trip. 419/

In his second report on the proposed project, Steese recommended further investigation of the Russian Mission portage and, in addition, proposed that the Territory and the Alaska Road Commission be involved in the project, the federal government furnishing the channel improvements, and the Territory and Road Commission providing and operating the tramways. However, the Board of Engineers for Rivers and Harbors concluded that further consideration of the project was inadvisable at the time. The board informed the public of its decision as follows:

The interests to be immediately benefited by the improvement would be those now engaged in mining in the upper Kuskokwim Valley. It does not appear to the Board that their activities are at present of sufficient national importance to justify the expenditure of Federal funds in the amount desired, even with the degree of cooperation proposed by the territory. There already exists a practicable route from Seattle to the upper Kuskokwim, via ocean vessel and river steamer, which apparently can serve the valley practically as early in the season as could the proposed improved portage, and even more cheaply. This route is not extensively used at present, but apparently for the reason that there is insufficient activity in mining or prospecting for new field to justify more than two ocean trips per year. 420/

With this the proposal for a canal between the Yukon and Kuskokwim rivers was laid to rest until the late 1950s.

During the years that the canal had been under consideration by the district engineer, the Alaska Road Commission received a number of appeals from local residents, territorial officials, and the Post Office Department to improve the portage route for the transportation of mail. In response to a letter from mail carrier Oscar Samuelson, the chief clerk of the Railway Mail Service at Nenana wrote to the superintendent of the Service of the need for some type of improvements on the portage. The portage had been an important mail route for many years, and was likely to remain an important one for some time. The transportation of mail over the route had always been expensive, the department paying fifty-one cents a pound for each one-way trip. Part of this expense was due to the fact that the mail carrier was required to maintain boats on both the Yukon and Kuskokwim rivers, as well as five rowboats on the portage itself. As the only work done on the portage in past years was the erection of stakes, the clerk suggested that the matter of additional improvements on the portage be taken up with the Governor of Alaska. The superintendent contacted Governor Bone about the matter, and Bone in turn took the subject up with Major John C. Gotwals, engineer officer of the Alaska Road Commission. Gotwals replied that the portage was then subject to survey under the U.S. Engineer Department and that the Road Commission had done all that was legally possible to improving the portage as a waterway. 421/

About the same time the Road Commission began to receive pressure from Walter W. Lukens to make improvements to the portage. After his journey across the portage, Lukens wired Gotwals from Holy Cross on October 8, 1923, requesting

an allotment of \$1,000 to be expended in clearing the creeks of brush. He said that the mail carrier was willing to submit an emergency bid for the work that fall. Once the creeks were cleared, the mail contractor would be able to transport a maximum of one thousand pounds of mail over the route twice a month. Two days later Lukens again wired Gotwals, urging that a contract be let to Oscar Samuelson to clear the creeks. In addition, he recommended that early the next summer tram roads be constructed across two of the longest portages, each approximately one mile in distance. 422/

Later that winter Lukens wrote two memoranda to Gotwals, describing necessary improvements on the Russian Mission and Paimiut portages. As concerns the former portage, he repeated his earlier requests that the creeks be cleared of brush and that three trams be constructed across the portages. He pointed out that the trams could be constructed on a very low gradient so as to eliminate the need for machinery for traction power. The trams could be laid directly upon the ground surface and thereby reduce the cost of constructing a roadbed. Native timber could be used for all superstructures, but Douglas fir should be used for all ties. If a standard width track was laid and common light hand push cars provided, it would facilitate the transportation of mail, small amounts of express freight and baggage, and small boats. Also, he recommended the expenditure of \$3,000 for clearing the creeks, sloughs, and lakes of grass and sod, "which has closed most of the shallow waterways completely and the remainder partly, thus making it very difficult to navigate this waterway with its present condition." Some of the creeks could be improved for navigation, he noted, by the construction of six small dams of willows, grass, and muck so as to impound the water, and skidways or slides constructed over the dams. Boats and canoes could be dragged over the dams by means of hand windlasses with steel

cables. Finally, he recommended the construction of three shelter cabins at intervals on the portage route. The estimated cost of clearing the creeks of brush, clearing the lakes and streams of grass and sod, and constructing the shelter cabins was \$5,050. Lukens estimated the cost of constructing two miles of tramroad at \$14,000. 423/

James G. Steese, president of the Road Commission, gave Lukens' memorandum of February 9, 1924 his personal attention. He approved the construction of three shelter cabins at about miles 22, 44, and 65 from the mouth of Mud Creek, provided the Territory paid for their construction, and requested Earle M. Forrest of Aniak to obtain bids from Oscar Samuelson and others for the work. Forrest replied that he and Samuelson were in agreement that five shelter cabins were needed on the route, especially on the lakes where travelers were often stormbound for many days. As events turned out, the Territory was unable to provide funds for the construction of two shelter cabins on the route until 1926. The cabins were constructed by Wilfred Reno under the supervision of the Road Commission for \$1,000. 424/

When, on May 4, 1927, the Alaska Governor signed a law providing for the construction of tramways and waterways on the Yukon-Kuskokwim portage, the Alaska Road Commission was again called upon to improve the route. According to the territorial law, the Road Commission was empowered and authorized, with the consent and approval of the territorial board of road commissioners, to construct and equip tramways and waterways, and to clean out the sloughs, lakes, and streams on the route, provided the Road Commission contributed not less than two-thirds of the funds necessary to accomplish the project. In

addition, the Road Commission was to manage, control, and regulate the tramways upon their completion. The legislature appropriated \$15,000 from the general funds of the territory for the project. 425/

Although it had not been consulted by the territory on the proposed project, the Road Commission decided to investigate the feasibility of improving the portage along the lines suggested by the legislature. Thus, on August 5, Major D. H. Gillette, chief engineer of the Road Commission, directed superintendent Hawley Sterling at Fairbanks to arrange for a reconnaissance trip over the portage with a view to determine the type and cost of tramways needed on the portage, and to determine what waterways needed to be cleared or dredged so that "a small gas propelled launch may be taken through at all stages of water." Sterling instructed Ike P. Taylor to execute the survey. 426/

Leaving Russian Mission with the regular mail carrier on September 8, Taylor descended the Yukon River six miles in a small gasoline-powered boat, and then proceeded up Tatlawuksuk Slough (Talviksok River) for thirty miles to what Taylor called Portage No. 1. In the last ten miles of the river, the water was not over one and one-half feet deep, wrote Taylor.

Leaving the boat at the foot of the portage trail, Taylor and the mail carrier followed the trail one-half mile to a small lake, where the shelter cabin built the previous year was located. In a rowboat equipped with an outboard motor, they crossed this lake and descended a narrow channel about three hundred feet long to enter a second lake. This lake was also crossed for a distance of one mile to a grass-filled slough that connected the lake with a third lake.

According to Taylor, "in the past it has been possible at times to drag a boat

through this slough, which at times had a little water in it." This time, however, the slough was "practically dry," requiring the two men to leave the rowboat and walk a distance of about four thousand feet to a fourth lake, where the mail carrier kept another rowboat with an outboard motor.

Crossing this lake a distance of two miles, and then following a winding channel a distance of one mile to cross a two-mile lake, the two men finally reached the head of a tributary to Crooked Creek. Taylor described both lakes as being large with shallow water. The fourth lake was not more than five feet deep and shallowed along the shore to a depth of not more than one foot for a distance of three hundred feet from the shore. The fifth lake was similar to the fourth one, except that the water was not more than four feet deep. The channel connecting the two lakes was very crooked and partly filled with grass and water lilies. Taylor noted a slight current and a controlling depth of one foot.

From the large lake Taylor descended a narrow and grass-filled stream, about four miles in length, to Crooked Creek and thence down Crooked Creek approximately twenty miles to Johnson Creek. The creek draining the lake, Taylor wrote, connected a series of small lakes, and had a "fairly good depth of water, 2 to 3 feet." He recommended that several branches of the creek be investigated as alternative water routes. Taylor described Crooked Creek as being narrow and filled with grass. Sharp turns and sweepers were impediments to navigation.

Upon reaching the mouth of Crooked Creek, Taylor ascended Johnson River for a distance of approximately eight miles to what he called Portage No. 2. Here the mail carriers left Johnson "Creek," and crossed a small, swampy, and very

shallow lake to a portage trail. This trail, about three thousand feet in length, led to another small lake where a shelter cabin constructed the previous year was located. Carriers crossed this lake in a rowboat a distance of three hundred feet to reach a two-hundred-foot trail leading to Mud Creek. After spending a short time in locating an alternative route from Johnson Creek to Mud Creek approximately one half mile below the Mud Creek end of the portage, Taylor accompanied the mail carrier over the established route to Mud Creek, and thence down that creek about five miles to a deep water slough of the Kuskokwim River, arriving there on September 10. Contrary to earlier reports, the trip down Mud Creek was, according to Taylor, "as troublesome as any of the water portion of the route." He found the water in the creek to be "very shallow the entire distance, in short sections the depth being not over six inches at the time of this trip. The channel is also very narrow in places and has some snags and brush. . . ." Near the mouth of the creek, he found the remains of an old brush and earth dam which someone had constructed years ago in order to float logs out, and later partly removed to allow the passage of boats.

In his report to the Road Commission, Taylor recommended the construction of a 2,500-foot tram on Portage No. 1 and a 3,700-foot tram on Portage No. 2 for a total estimated cost of \$12,652. Each tram would be of standard width steel rails, which cost more than wooden rails but would be cheaper in the long run if maintenance costs and fire hazards were considered. Timber was available in the area for hewed ties. On Portage No. 1, it would be necessary to lay poles longitudinally to support the ties over a six-hundred-foot section of soft ground. Poles would be needed for the entire distance on Portage No. 2. In order to load and unload boats on and off the hand-push cars on the trams, Taylor

recommended the installation of hand-powered windlasses and stiff-leg derricks, as the water was too shallow to submerge the cars so that boats could be floated onto the cars.

As far as waterway improvements were concerned, Taylor made six recommendations. First, and most important in his opinion, a canal six feet wide, three feet deep, and totaling four thousand lineal feet, should be constructed from the third lake on the portage route on the Yukon River side to the big lake (Kulik Lake). Based upon observations with a hand level, it appeared that these lakes were at or nearly the same elevation. Thus, the construction of a ditch large enough for the passage of small boats between the two lakes should not change the water level in either lake. If in fact there was a difference in elevation, the water levels could be maintained by use of a gate. Second, the three-hundred-foot channel between the first and second lakes on the Yukon River side should be widened and dredged. Third, Mud Creek should be cleared of brush, the channel widened in places, a dam constructed near its mouth to provide greater water depth, and provision made for passage of boats over the dam. Taylor believed that a dam of brush and earth, six to eight feet in height, would be sufficient to back the water up to the land portage trail. If the dam project proved feasible, a stiff-leg derrick with a hand winch should be installed to haul boats over the dam. If it was found impracticable to build a dam of sufficient height, the construction of a second or even a third dam on the creek at proper intervals would serve the same purpose.

Fourth, the channel between the fourth (Kulik Lake) and fifth lake (local name Grassy Lake) should be dredged, widened, and cleared of vegetation. Taylor expressed doubts about "how much of this work could safely be done without

increasing the flow and lowering the lake," but believed that a gate could be used to control the water levels. Finally, Crooked Creek should be widened, cleared of vegetation, and marked where necessary. Once the alternative channels from Grassy Lake to Crooked Creek were investigated, and the best route selected, the creek should be marked, widened, and cleared of vegetation to a limited extent so as not to increase significantly the flow of water from Grassy Lake. All in all, these waterway improvements would cost roughly \$11,369.

In discussing the question whether improvement of the portage route was worth the expense, Taylor was hardly sanguine. He predicted but a slight increase in the number of people crossing the route, and perhaps a small tonnage in perishables would be moved from the Yukon to lower Kuskokwim points. Little traffic went over the route at the time. The mail carrier crossed the portage twice a month, and transported perhaps as much as four thousand pounds of mail over the route each season. Aside from the mail carriers, probably forty people crossed the portage the previous season. Notwithstanding the small volume of traffic, the fact remained that the portage was one of the more practicable water routes between the Yukon and Kuskokwim rivers. As Taylor put it, "The present situation is such that anyone going into the Kuskokwim area can get in by water from the Yukon more easily than any other way except by plane." 427/

As far as the Road Commission was concerned, this was sufficient reason to improve the portage. Shortly after receiving Taylor's report, the commission contracted with J. A. Davidson of Bethel and Mathew Andrew of Fortuna Ledge to deliver ties and poles to the proposed tramway sites on Mud Creek and

Talbiksok River during the winter of 1927-28. 428/ At the suggestion of Hawley W. Sterling, who argued that the work was too indeterminate in nature to handle by contract, it was decided that construction of the tramways and derricks would be handled by force account in the Fairbanks district office, and that an engineer would be sent over the portage route to verify and correct where necessary Taylor's observations on needed improvements. Finally, the Road Commission entered into discussions with the territorial road commission on the need to amend the territorial law of 1927. On March 31, 1928, Malcolm Elliott, president of the commission, notified the territory that his office could not perform the tasks outlined in the law. According to his estimates, needed improvements on the portage would cost about \$24,000, about half of which would be needed for land improvements and the remainder for water improvements. As the commission was not empowered by law to undertake waterway improvements, the territorial law would have to be amended so as to permit the proper division of funds before the commission could undertake work on the waterways improvement project. 429/

On June 28, 1928, Major Douglas H. Gillette and Lieutenant Philip R. Garges left Russian Mission with mail carrier Charles E. Jacobsen on his two-day trip across the portage route to Bethel. By Gillette's estimate, the total distance from Russian Mission to the first portage was at least forty miles. As travelers were apt to wander off the river into branch sloughs, he recommended the erection of two signs on Talbiksok River -- one at mile 22 and one at mile 30. On the first portage, Gillette and Garges measured and marked a line 2,425 feet long with two curves for the tramway. Gillette inspected the three-hundred-foot channel between the first and second lakes, and recommended that it be widened and deepened. On the portage from the second lake to Kulik Lake, a distance

of three thousand feet, they found that the elevation difference between the two lakes to be about four feet. Gillette agreed with Taylor on the need to construct a ditch between the two lakes, but emphasized that the ditch not be extended into the lakes, particularly the second lake. If the ditch was extended into Kulik Lake, the winds would very soon build a natural dam where the ditch entered the lake. If the ditch was extended into the second lake, all of the water in the lake would drain into Kulik Lake and as a result "the whole project would be ruined." Gillette thus recommended that the ditch be constructed on the same level as Kulik Lake, leaving natural dams on both ends of the ditch which could be crossed by means of roller ramps and winches. The entire job could be done by three men in three weeks with dynamite, provided permafrost was not near the surface.

As concerns the streams connecting Kulik Lake with Grassy Lake (which Gillette called Kukaklik Lake), and Grassy Lake with Crooked Creek, Gillette recommended that little work be done so as not to increase the flow of water from the lakes. If a gate or dam were constructed in the stream connecting the two lakes, silt would tend to build up in the creek. Both creeks, as well as Crooked Creek, should be cleared of sweepers and in places the channels widened and deepened. Also, Crooked Creek and its tributary draining Grassy Lake should be marked with signs.

Due to the lack of time, Gillette did not locate an alternative route from Johnson River to Mud Creek as had been suggested by Taylor. He accepted Taylor's route, and measured and laid out a practically straight line about four thousand feet long, only changing the location of Taylor's line where necessary to obtain

better ground. He recommended that a derrick be installed on Johnson River, that the nearby shelter cabin be relocated to the derrick site, and that a roller ramp be placed on the Mud Creek end of the proposed tramway.

Taylor's recommendations for improvements on Mud Creek were also found to be entirely warranted. Gillette lost the instruments with which to measure the fall in Mud Creek, but believed in any case that the fall was negligible. According to the mail carrier, ice and current effects in the creek were negligible. The construction of a brush and earth dam with a crest elevation of four feet above that of the old dam would provide eighteen inches of water at all times at the Mud Creek end of the land portage, wrote Gillette. The dam might be provided with a gate or valve in order to regulate the water level, and a derrick should be installed for crossing the dam. In addition, two large snags in the creek should be removed, and the channel widened in places.

Gillette estimated that improvements to the land portions of the portage would cost about \$12,470; and the water portions, about \$12,050. The costs were, in his opinion, commensurate with the resulting benefits. Many people would cross the portage if it were improved. As a matter of fact, people desiring to leave the Kuskokwim River were "practically obliged" to take the portage route, as airplane fares to Anchorage and Fairbanks were \$500 and \$750, respectively. Most people could not afford these prices. Moreover, the steamship Tupper arrived at Bethel too late and left too early to do prospectors and trappers much good. By crossing the portage, people would be able to make connections with steamboats bound for Nenana on the Alaska Railroad. Convinced of the need to improve the portage, Gillette thus recommended that the Road Commission

cooperate with the Territory in the project, each party contributing half of the necessary funds. He recommended that \$30,000 be allotted for the project, for his figures were only estimates. 430/

On May 2, 1929, a territorial bill providing for the construction of tramways and improvement of waterways on the Yukon-Kuskokwim portage was enacted. The act authorized and empowered the Alaska Road Commission "to construct, equip and maintain tramways, dams, derricks and ramps and waterways, and to clean out and dredge the sloughs, lakes and streams" on the portage, provided the Road Commission contributed funds for the land improvements. Territorial funds were to be used for the waterway improvements. The act appropriated \$15,000 for the project, one half of the funds coming from the general funds of the Territory, the remainder diverted from the funds allotted to the fourth division for road and trail work. The act also provided that upon completion of the project, the Alaska Road Commission and the territorial road commission jointly were to maintain, repair or extend the improvements as needed with funds made available to the fourth division road fund. 431/

The way was now clear for the Alaska Road Commission to begin work on the portage. Anticipating the passage of the law, the Road Commission had plans, specifications, and instructions for the project prepared in the spring of 1929. On April 22, 1929, Gillette sent a draft set of instructions with four drawings to Charles Mayben, the foreman in charge of the project. The plans called for the construction of one ramp on Talbiksok River, and another ramp at the small lake with 2,325-feet of connecting tramway. One winch was to be installed at each ramp for hauling boats on and off the push car. On Portage No. 2, between the small lake and Kulik Lake, a distance of about 3,100 feet, a double

ramp about sixty feet long was to be placed from the small lake to the canal, a three-thousand-foot canal built, and a forty-foot double ramp installed from the canal to Kulik Lake. The foreman was to use his discretion as to whether the canal should be extended into Kulik Lake, thereby obviating the need for a ramp at that point. In any case, the canal must be flooded with water from Kulik Lake. Between Johnson River and Mud Creek, or Portage No. 3, a stiff-leg derrick was to be installed at Johnson River, a tramway four thousand feet long constructed, a ramp and three winches placed at Mud Creek, an earth-fill crib dam constructed at a point slightly above the site of the old dam on Mud Creek, and a second stiff-leg derrick erected at the dam site. In addition, the foreman was to arrange for the moving of the shelter cabin on the portage to the Johnson River derrick by contract during the winter. Finally, at the foreman's discretion, a few of the sharper turns in Crooked Creek were to be reduced, some of the narrow sections widened, and the brush along the water's edge cut. Some brush cutting and snag removal was also to be considered on Mud Creek. No work was contemplated between Kulik Lake and Grassy Lake or on Johnson River. 432/

In drawing up these plans, the Road Commission evidently used the mail carrier's boat as a standard. On April 17, 1929, the Road Commission wired Charles E. Jacobsen at Bethel for information about his boat, explaining that it was designing a small car to take such boats over the portage. Jacobsen replied that his boat was thirty feet long with a four-foot beam. Having a capacity load of 2,600 pounds, the boat weighed four hundred pounds when empty and three thousand pounds when loaded. The boat required eight inches of water when loaded.

433/

Little is presently known about the progress of the construction project. In late August 1929, Gillette met foreman Charles Mayben at Russian Mission, and together they went over the portage to inspect the work. Interviewed by a newspaper reporter upon his return to Fairbanks, Gillette stated that Mayben with a crew of five or six men had accomplished a great deal of work despite the poor weather conditions. He predicted that 80 percent of the project would be completed by the close of the season. Once the improvements were completed, it would be possible for a person to cross the portage in less than twelve hours without once having to unload the boat. 434/

By 1931, the Road Commission had completed construction of the two light steel trams, aggregating 5,943 feet in length, on Portages Nos. 1 and 3. On Portage No. 2, a canal three thousand feet long, seven feet wide, and three and one-half feet deep, had been excavated. Winches and derricks were installed; and two controlling dams on the canal and Mud Creek built. Direction signs were also placed at entrances to lakes and sloughs. 435/

The extent of the improvements made by the Road Commission in 1929 was described by anthropologist Ales Hrdlicka, who crossed the portage with Charles McGonigal, a U.S. Bureau of Fisheries agent, in the spring of 1930. From Nenana, Hrdlicka and McGonigal were taken to a point not far from the first portage in the steamboat Coot. Ascending the Tolovikak or "Portage Slough" [Talbioksok River], a large stream about two hundred yards wide with large bends, "like a big avenue lined with orchards," Hrdlicka noted several unoccupied Native camps along the slough, some of them partly submerged in water. The banks became lower and the channel narrower and more torturous as the steamboat proceeded upriver. At one place, Hrdlicka saw several "igloos"

and a cache, and farther upstream three empty "igloos" near a sign that read "nine miles to portage." About a mile beyond the sign, they passed another empty igloo and then made a sharp turn to the right into a very narrow channel with brushy low banks. The steamboat continued up this slough to a point within a mile of the portage before ice floes and driftwood completely blocking the channel halted its progress. Several hours later, after a downpour, the captain took the steamboat up the slough about a hundred yards before again encountering ice floes.

Early in the morning of May 31, the Coot was taken up the slough about three hundred yards around a big bend when it again encountered an ice pack. Deciding to investigate water conditions upriver and to see whether it was possible to reach the portage, Hrdlicka and McGonigal left the Coot in a canoe. After about an hour of difficult travel across moors, bogs, and swamps along the river, they found a trail and upon hearing dogs barking, saw a tent on the stream bank and a tram. It was, Hrdlicka wrote "a sort of narrow railway with winches, two flat cars and a steel cable, for pulling small boats upon the ridge that separates the slough from the lake." Following the tram to a small lake, they found three Native tents, a "government roadhouse," and many dogs. They entered the small cabin, and met Charlie Jacobsen, his son, and about eight Eskimos, most of them still in bed, "lying side by side in musty quilts, blankets and furs, on the bedstead and the floor." Hrdlicka was somewhat astonished by the sight, writing that the cabin was "[b]uilt simply of planks, with a little stove, a crude table and even cruder plank platform for bedding - nothing further. Fit for about four people."

After a brief visit with Jacobsen, who was en route to Russian Mission to meet the first mail of the season, Hrdlicka and McGonigal returned to the Coot and decided to cross the portage in the fourteen-foot canoe with an outboard motor. The captain managed to take the Coot up the slough another two hundred yards, and from that point the two men set out in the canoe. The trip to the portage was not an easy one, Hrdlicka wrote; "but by pushing floes away and slipping between, by pulling the canoe part of the way through the brush over the inundated shore, and by making a sport of our 'pushing through the blocked Delaware,' we finally got over." Upon reaching the muddy landing, they loaded everything including the canoe onto a flat car, which they pushed to the foot of the hill and then pulled up to the top of a ridge by means of a winch and cable. When they arrived at the cabin, Jacobsen was preparing to leave for the Yukon River. Hrdlicka and McGonigal decided to spend the night in the cabin.

On the morning of June 1, the two men started across the lake - "a shallow oval reedy body of water about two miles long," Hrdlicka described it. On the eastern shore of the lake, they ran down a narrow, deep channel across a low, two-hundred-foot strip of land to the second lake. Delayed a short time by motor problems and the breaking of a cotter pin on some object, they crossed the second lake to enter "a narrow artificial canal." By paddling and dragging the canoe down the canal, they reached 5-Mile Lake (Kulik Lake) to find it completely covered by ice. Reluctant to risk damage to the canoe in crossing the lake, McGonigal thought it best to return to the shelter cabin and await the return of Jacobsen who had a larger boat and Native help. They eventually reached the cabin in a state of virtual exhaustion, after pushing their heavily loaded canoe in icy water up the canal and paddling across the first lake.

Late that evening Jacobsen returned to the cabin from Russian Mission. Early in the morning of June 2, Hrdlicka and McGonigal, unable to sleep with Jacobsen's snoring, set out in the canoe for Kulik Lake to await the arrival of the mailman. At 10:00 A.M., Jacobsen arrived in his eighteen-foot boat with his son, two Eskimos, and three passengers on board. With the canoe and a kayak in tow, the combined party started across the lake. Jacobsen's son and an Eskimo, holding onto the prow of the big boat, waded in the water and broke the ice while Jacobsen in the big boat pushed forward with a pole. After about forty-five minutes, they reached an area clear of ice where they started their outboard motors. With Hrdlicka and McGonigal following in their canoe, Jacobsen descended a narrow creek to the second large lake, which was clear of ice except along its northwestern shore. By 1:00 P.M., they were across this lake and at the head of Crooked Creek.

This creek, wrote Hrdlicka, was "a fine, clear, deep, narrow (8-15 ft.) 'run' from the lake" and so crooked in places that the mailman sometimes had difficulty in making turns and in one place ran into the bank. An hour after leaving the lake, they reached a tent camp occupied by two Yukon and two Kuskowim Eskimos, the last with their families. While the mailman stopped here for lunch, Hrdlicka continued downstream in the canoe with an Eskimo in his own canoe to investigate a reportedly old site about six miles distant. The creek channel was narrow, he noted; "little more than a deep ditch in places, full of grass in others." Hrdlicka found signs of habitations on three grassy knolls, but no grave sites.

In a short while, Hrdlicka rejoined the main party, and by 7:00 P.M. the entire group reached the confluence of Crooked Creek and Johnson River. They met a number of Natives here, and Hrdlicka took advantage of the brief stop to

climb a nearby high knoll to examine a small but old archaeological site. As they ascended Johnson River, Hrdlicka observed that the lakes and marshes on both sides of the creek were closer. At 10:00 P.M., they finally arrived at the "portage cabin," a "[f]limsy frame structure surrounded by high brush and marshes." An Eskimo camp was located about a mile away.

Early the next morning Jacobsen guided his three passengers to the Kuskokwim River, and arranged to have several Eskimos assist McGonigal and Hrdlicka across the portage. Leaving the cabin at 10:00 A.M., they ascended the creek a short distance and crossed a small lake to a muddy landing. Here everything was unloaded and then packed "over a half a mile of slowly rising waste land and wooded ridge" to Mud Creek, a small stream "with brownish dirty water and unprintable name." By 11:00 A.M., everything had been packed to the creek, and Hrdlicka and McGonigal started down in their canoe. "No appreciable current, water flocculent, rusty-like in places, smelly, many small springs in bed, many snags," Hrdlicka described the creek. Despite the breaking of another cotter pin in the outboard motor on a snag, the two men successfully descended Mud Creek a distance of six miles to the Kuskokwim River. 436/

Once the project was completed, the Road Commission kept the portage in repair to a limited degree. Following a trip over the portage in the summer of 1932, Hawley W. Sterling, assistant superintendent of the Fairbanks district, reported to the Road Commission on the need to make repairs on the route. The sign at the mouth of Portage Creek needed to be replaced with a larger one, and a new sign placed on the opposite bank so that it could be seen by those traveling upstream. Signs were also needed on the creek where it splits about four miles above its mouth. Also a larger and new sign should be placed on the opposite

bank of the slough about three miles from the first portage as the existing sign was unintelligible. The route between the first and second portages needed more signs. Some had fallen down; and on one lake the sign on the opposite shore could not be seen at all because it was not large enough.

In addition, Portage Creek needed to be cleared of some brush; the rollers at the first portage needed to be extended ten feet as it was difficult to get a boat to the rollers at low water stage; the track on both portages needed to be aligned and leveled; and the track on the Mud Creek portage needed to be extended by one rail length. Also, the mouth of the channel coming into the big lake from the Yukon side was filled with decayed vegetation and other matter to such an extent that travelers had "to dig out the channel, unload the boat and 'hoss' it thru." Sterling recommended the construction of a wing dam about sixty-feet long with a narrow entrance to allow for the passage of boats on the windward side, so as to prevent the build-up of vegetation in the channel. Finally, he wrote that a small dam was especially needed near the mouth of Mud Creek to replace the former dam, which had been washed out reportedly because it was too high. During the summer months the creek was entirely dry or nearly so, requiring travelers to drag their boats over the soft mud bottom. He thus recommended that levels be run in order to determine the needed height of the dam, one that would withstand the pressure of water backed up by the Kuskokwim River. At high water, the Kuskokwim River backed water up the creek as far as the portage. If the proper type of dam was constructed, the stiff-leg derrick at the site would not be needed. The winch would prove to be adequate in moving boats over the dam.

Sterling recommended that an allotment of \$2,500 be made for the following season for the work. He had already allotted \$400 for repairs on the route and

had instructed Wilfred Reno to expend the money in aligning and leveling the tracks, and also in clearing the channel at the big lake. 437/

The Road Commission made a substantial allotment for repairs on the portage during the summer of 1933. In March of that year chief engineer Ike P. Taylor wrote to Frank Nash, superintendent of the Fairbanks district, that his office should handle the work, and recommended that Charles Mayben be detailed to perform the job as he was familiar with the route. The work to be accomplished included: the erection of two signs at the mouth of Portage Creek, one sign to read "Kuskokwim Water Portage"; the erection of one sign farther upstream and reading "3 miles to first portage"; the erection of poles with four-foot wooden arrows on each side of the big lakes and markers on Crooked Creek; the extension of the rollers at the first and third portages; the realignment and leveling of the tracks on both portages; and the construction of a dam on Mud Creek about three hundred feet above its mouth. 438/

For the next few years the Road Commission performed little or no maintenance work on the portage. In July 1938, however, Ted R. Lambert, a U.S. Bureau of Fisheries agent stationed at Bethel, appealed to the Road Commission to make repairs on the portage, and provided a detail description of conditions on the route. A number of signs on Portage Slough that had been washed away by high water, should be replaced, he wrote. These included the yellow signboard at the mouth of the slough that read "Entrance Yukon - Kuskokwim Water Portage" with an arrow pointing to the slough; as well as the signs located about five miles upstream where the slough splits into two equally-sized channels, one leading to the portage and the other to the Yukon River. Most of the other important signs on Portage Slough were still standing, but appeared to be ready to collapse. Where necessary the signs needed to be placed on tripods.

The three windlasses, cables, two cars, two rollers, and the track for the most part were in good condition. For a distance of about four to five hundred feet from Portage Slough, the track was, however, in very bad shape as it was sinking into the muskeg. If not repaired within a year or two, Lambert claimed, the tramway would probably not be usable. Timber for cross-ties, sills, and stringers was available on Portage Slough within eight to ten miles of the tramway, and could be rafted to the portage. The shelter cabin located on the south end of the tramway was also in good condition, and Natives from Russian Mission kept it clean.

The route from the tramway to Kulik Lake was also in need of repairs. The sign on the first lake marking the entrance to the "hidden, narrow canal" needed to be replaced with a larger sign. As it was, strangers on the portage found it easier to locate the entrance to the channel than the sign itself. The markers along the creek were still standing, but needed to be put on tripods. The dam, rollers, and winch on the south end of the second lake were in good condition, but the timber foundations of the winch were nearly rotted and need to be replaced. Finally, the canal leading into Kulik Lake needed to be cleared of moss and muskeg. In past years, travelers usually took along a shovel for invariably the canal was filled with several feet of moss. As a result of last year's high water, however, the southern end of the canal was plugged with debris for about two hundred feet. Travelers thus had to pack their boats overland that distance to Kulik Lake. Unless the obstruction was cleared soon, Lambert claimed, the entire canal would be plugged. He believed that two men could put the canal in good condition in two or three days.

Repairs to the signs on both Kulik and Kukaklik lakes were very important, wrote Lambert. As both lakes were large and shallow, averaging between five

and six feet deep and at no point greater than seven feet in depth, a squall could make them very rough in a matter of a few minutes. If caught on the lake at such a time, a boat would be swamped. Since travelers had to cross about three miles of Kulik Lake and about four miles of Kukaklik Lake, they did not have the time to explore the shoreline of the lakes for the entrances in bad weather conditions. Oftentimes, Lambert wrote, the entrance ways were the only places where one could find shelter during squalls. Because of the grass and brush, however, the entrance ways could seldom be found until one was almost in them. Lambert therefore urged that the marker at the entrance to the canal from Kulik Lake be re-erected and set on tripods; and the marker at the entrance to the creek from Kukaklik Lake be set on a tripod as it was leaning badly. The signs marking the entrance to the creek flowing from Kulik Lake and the entrance to Crooked Creek from Kukaklik Lake were satisfactory.

The upper reaches of Crooked Creek needed to be marked, for it was in this stretch of six or seven miles that travelers were most likely to become lost. Before the Road Commission marked the route, Lambert claimed, experienced guides and mail carriers often lost the route in this area. With most of the markers down, "it is nearly as hard to follow as formerly." There were about five or six strategic places on the creek where signs were needed. A sign was sorely needed at a place on the creek about two miles from Kukaklik Lake where most of the water of the creek flowed into a large lake and to "no-one-has-found-out-where." Here travelers must turn off to the right and pole their canoes down "this hidden stream" for some distance. The former marker at this point was down; it needed to be placed on a tripod. Other markers on this stretch of the creek were either down or leaning so much that they could not be seen from a distance. They too needed to be re-erected.

Once through this stretch of the creek, travelers should have no problem in following the well-defined channel of Crooked Creek to Johnson River, a distance of twenty-five or twenty-six miles. The two large signboards located at the junction of the two creeks were in good condition. Similarly, travelers had no problem in ascending Johnson River the sixteen miles to the second tramway.

The winch, cable, and derrick on this portage were in good condition, Lambert reported. The derrick had settled somewhat and some of the lagging had been taken out from the sills by high water. The tramway itself was in fair condition. About eight hundred feet of the tram was located in a swampy area, and consequently the foundation timbers were settling sidewise along this stretch. The tram needed to be shored up at this place and the track aligned in various places. The nearby shelter cabin was a "total wreck." According to Lambert, Natives from Kalskag used it as a trapping headquarters during the spring, and left it "in an indescribably filthy condition." Travelers seldom used the cabin, preferring to camp in timber on Mud Creek.

On the Mud Creek side of the tramway, the two cars and winch were in good condition. The set of wooden rollers had, however, been taken out by high water in the summer of 1937. The rollers floated down Mud Creek about a mile before becoming entangled in the brush. When he crossed the portage in June 1938, Lambert tied the undamaged rollers to a tree with a rope, which he planned to replace with a heavier rope later in the fall. Lambert recommended that the rollers be towed back to the tram, as "no heavier boat may be taken over the Portage than can be dragged by hand up over the steep bank from Mud Creek to the rails without these rollers being in place."

The Mud Creek dam and derrick were taken out by high water some years past, Lambert wrote. "Normally a shallow, sluggish stream with just enough water in it to float a goodsized boat down the five miles from the tramway to the Kuskokwim River," Mud Creek "rises rapidly on a freshet and it recedes as rapidly, fluctuating in depth on the average from three to twelve feet." As travelers in small boats "always find enough water in Mud Creek to get down it one way or another," Lambert did not believe that the dam should be reconstructed. The large signpost marking the entrance to Mud Creek was in good condition.

All in all, Lambert concluded, little work was necessary to put the portage in good condition for the benefit of many people still using the route. Those prospectors who could not afford the price of an airplane fare occasionally took their outfits over the portage. Their numbers appeared to fluctuate according to the amount of prospecting and mining being done on the lower ends of the Kuskokwim and Yukon rivers. When Lambert crossed the portage in early June 1938, he met only Natives. Only one other white man had crossed the portage before him, according to the Natives. In mid-June 1937, however, he met twenty-three men in five different parties on the portage. Most of the men were bound for Goodnews Bay where "prospecting was going strong." Lambert also noted that agents of the U.S. Bureau of Fisheries had crossed the route each year since 1926. Apparently the agents used poling boats, for Lambert wrote, "The largest boats now that go over the portage do not exceed 30 feet in length, 4 foot beam, and should not draw over a foot or fifteen inches of water at the most. One could take such a boat weighing 1,500 pounds "easily" over the portage, Lambert said. 439/

It is presently unknown whether or not the Road Commission performed any work on the portage along the lines suggested by Lambert. On August 10,

Hawley Sterling acknowledged receipt of Lambert's letter, and informed him that the commission's funds for the season had already been allotted. Perhaps, he wrote, the proper course would be to plan to make repairs -- principally replacing the signs and markers on the portage--during the summer of 1939. Sterling asked whether he or someone in the area would be interested in undertaking the repairs, and requested an estimate of the costs of the repairs. 440/ No record of Lambert's response has been found.

During and after World War II, when mining in the Kuskokwim basin came to a virtual halt, the portage was probably seldom traveled by white men. Few if any repairs were subsequently made on the route. Sometime in the early 1940s, Harmon "Bud" Helmericks and his wife Constance crossed the portage. Although filled with a number of factual inaccuracies and errors, Constance Helmericks' account of the fall journey provides insight into conditions on the route. From Russian Mission, Helmericks and his wife ascended the Talbiksok River in the company of a group of Indians and a priest on a twenty-five-foot "houseboat" towing the Helmericks' canoe, a one-man kayak, and a flat-bottomed rowboat with a three-horsepower outboard motor. After spending the night on the boats at the foot of the tramway, they loaded the small boats onto the two tram cars, and pushed these to the first lake. This lake, wrote Helmericks, "was too shallow, even with the high waters of this year, to do more than pole," which proved to be a difficult task as the lake bottom was exceedingly soft. The journey to Kulik Lake, which Helmericks called Grass Lake, was difficult as well, for the "canals" linking the lakes "became completely choked with mud and grass as we progressed, and when the water gave out, we got out and dragged our loads over the raw earth." The party crossed the Kulik Lake, and by means of a canal and rollers reached Round Lake or Kukaklik Lake.

Crossing this lake, they reached the head of Crooked Creek, "twenty-eight miles of which we would now have to traverse single file for intervals of small lakes." This creek, recalled Helmericks, was so narrow and twisted so much that they could barely make the turns. The motor on the rowboat could not be operated "because the creek and the small lakes were choked with grasses and water lilies." Due to their slow progress and the late season, their Indian guide decided to take a short cut. Helmericks abandoned any attempt to describe their route, writing that the guide "took one channel and then another, all of them overgrown and hidden so that we must push aside the willows to enter." Crossing one lake after another, they eventually reached Crooked Creek once again. "The creek continued doubling and twisting in undescribable contortions, but was growing larger and swifter, and each bend presented solid banks with admirable camping places for wood and fuel," she wrote. Late in the evening they reached Johnson River and there made camp for the night. According to their guide, Johnson River or as he called it, Crooked Creek, was many miles long and eventually came out far below Bethel.

In the following morning, the party ascended Johnson River. This creek was similar to the lower reaches of Crooked Creek, Helmericks wrote: "It was so winding that no person could think of crossing this hummocky country on foot, unless prepared to swim the deep icy channel countless times. Sunk down between high grassy banks, we could now see nothing but a few feet ahead at a time to the next bend." After about two hours on Johnson River, they reached the tramway to "Mud River." A rusted crane was used to haul the boats out of the water onto rail cars, which were then pushed to Mud Creek. This creek "was known to be extremely shallow," but at that time the water was high. With only one exception, when their canoe rammed into a sweeper, they had no problem in descending the creek to the Kuskokwim River. 441/

Beginning in 1959, the new State of Alaska periodically demonstrated interest in the old proposal to improve the Russian Mission portage as a canal route. The State legislature passed resolutions in 1959, 1961, and 1971, calling upon the U.S. Corps of Engineers to survey and construct the canal. In 1969, even the U.S. Senate passed a resolution in favor of a preliminary study of the canal project. In June 1963, Alaska Governor William A. Egan wrote Lieutenant General W. K. Wilson, Jr., Chief of Engineers, to request a preliminary study of the project. He pointed out that the canal would nearly double the shipping season in parts of Alaska to 150 days, and thus encourage mining developments in the Interior. In particular, he wrote, the canal would encourage the development of the rich copper deposits on the Kobuk River. If a road were constructed from the Kobuk to the Koyukuk River near the Hogatza River, copper ore could be shipped by barge to Bethel by way of the canal. 442/

Claiming that project costs would by far exceed the expected benefits, the Corps of Engineers never undertook a detailed study of the portage as a canal route during these years. It agreed, however, to make a reconnaissance of the route with the purpose of identifying the need for minor navigational improvements in connection with the Operation Mainstream project funded by the U.S. Department of Labor. In the late 1960s, the U.S. Bureau of Indian Affairs prepared a report entitled "Field Inspection of the Yukon - Kuskokwim Tramway, Operation Mainstream Project," which provided preliminary guidance to the Natives of Upper and Lower Kalskag and Russian Mission for the reconstruction of the tramways. In April 1969, Mary M. Gange of the Rural Alaska Community Action Program, Inc., provided the Corps with a brief description of the purpose of the project and requested the Corps for its approval. The Corps did not object. 443/

About a year later, on March 20, Gange arranged a meeting between Nick Passamika of Upper Kalskag, Sinka Williams of Lower Kalskag, Peter Alexie of Russian Mission, and Corps of Engineers' officials at Anchorage to discuss the possibility of the Corps providing assistance in making improvements to the portage. Both Gange and William Lloyd of the Corps prepared reports on the meeting. In general, the Natives desired the Corps to make improvements to the water portions of the route. During the summer of 1969, the Natives made repairs to the Talbiksok River tram so that the car could be moved over it, and worked on the Kulik Lake dam. The Mud Creek tram was moved to a different route where there was less marsh and water; it was not operable and a car was not available. The Natives could complete work on the tram, but required assistance in improving navigation on Mud Creek. Water had washed part of the dam away. When the water was very low, the Natives had to walk three to five hours to reach the mouth of the creek. The creek was deep at certain places, but in some places it was filled with debris. In the fall of 1969, the water was very low and so they used a cat to move mud out of the creek mouth. The Natives suggested that the dam be reconstructed with a spillway; a boom or lift provided to move boats over the dam; and the creek dredged about twenty feet wide and four to five feet deep for a distance of about three-quarters of a mile. Finally, the Natives recommended that Crooked Creek, short sections near Kulik Lake, and a section between two lakes be cleared of debris.

These improvements, the Natives claimed, would not only permit access to hunting, fishing, and trapping grounds but also facilitate travel between villages on the Yukon and the Kuskokwim. Lower Yukon residents would use the portage to travel to Lower Kalskag or Bethel to purchase supplies, as there

were cheaper on the Kuskokwim than on the Yukon. Also, lower Kuskokwim residents would travel the portage to engage in subsistence and commercial fishing on the lower Yukon. They estimated that three to four hundred people or about fifty families regularly used the portage. These numbers would increase if the portage were improved. 444/

Considering the possibility that the portage could be improved for local use at minimal cost, as well as the need for information to respond to the recent Senate resolution calling for a study of the proposed Yukon - Kuskokwim canal project, the Corps decided to make a reconnaissance trip over the portage. The Corps requested and received approval to expend \$14,800 in the preparation of a reconnaissance report. 445/

The reconnaissance party consisted of Harold S. Farney, James A. Tanaka, and Carl Watson of the Corps, and James Seidl of the U.S. Bureau of Commercial Fisheries. Arriving at Bethel on June 6, the party chartered a plane of the Samuelson's Flying Service to take them to Lower Kalskag where they met Sinka Williams. Watson, Farney, and Williams then made an aerial reconnaissance of the portage to Russian Mission where Peter Alexie joined the party. The men made a detailed aerial reconnaissance of the portage, taking photographs of the tramways, channels, and land sections. On June 7, Farney, Seidl, Tanaka, Watson, Williams, and Alexie left Lower Kalskag by boat to go over the portage as far as a tributary of Crooked Creek in Section 35, T. 18 N., R. 63 W., Seward Meridian, where low water forced their return. Upon their return to Lower Kalskag on June 8, Farney, Seidl, and Alexie again made an aerial reconnaissance of the portage, examining in detail the upper reaches of Crooked Creek and landing to inspect Talbiksok River tramway. The men then returned to Lower Kalskag.

Farney described the Mud Creek dam as being located near the mouth of the creek. The dam consisted of an earth embankment dozed across the creek during the fall of 1969. No outlet or overflow structure was provided with the result that the left abutment was eroding due to overflow. According to Farney, the waters of the Kuskokwim backed up the creek. As the river later fell below the dam crest, a pool was formed in Mud Creek providing a depth of eight to ten feet at the dam and two and one-half to three feet at the tram. Farney estimated the flow at the time of his visit to be about five cubic feet per second. Both he and James A. Tanaka recommended the construction of a wood flume spillway at the dam so as to reduce erosion. The spillway could be used to move boats over the dam by placing a winch upstream of the dam.

The Mud Creek tram was in poor condition. The Natives had relocated the tram about one-quarter mile up Mud Creek and had not yet extended the tram, about 1,500 feet in length, an additional two hundred feet north to a slough. Nails rather than spikes were used on the tram, and in many cases ties were not laid under rail joints. The Mud Creek end of the tram was about six feet above the creek elevation. Travelers were thus required to expend a considerable effort to haul boats to the tram car. Farney and Tanaka recommended that the nails be replaced with spikes, and additional ties laid. Also, rollers should be placed at Mud Creek at the fork of the tram.

The tram was supposed to terminate at a slough which leads to a small lake with a water connection with Johnson River. At the time of his visit, Farney wrote, the slough was practically dry, doubtlessly owing to a drought for the past several years. Alexie and Williams believed that a channel about one-half mile needed to be opened to the lake to eliminate the portage over the swampy

terrain. The lake itself was very shallow except in certain channels where the water was about one to two feet in depth. Alexie and Williams indicated that in the past water depths in the lake may have been two or more feet higher for long periods.

Upon reaching Johnson River, the party experienced no problems in descending the river to Crooked Creek. Farney wrote that the river was twenty to thirty feet wide and the stream flow was about two feet per second. However, Crooked Creek was very shallow, Tanaka writing that "the navigable depth and width of the water was marginal for the entire distance navigated." Farney recorded that the creek varied in width from five to twenty feet, and water depths three to four feet with occasional bars one to two feet. The stream flow was sluggish -- one to two feet per second. The party managed to reach a point in Section 35, T. 18 N., R. 63 W., Seward Meridian, located just above the mouth of a tributary, where the water was one to one and one-half feet deep. As the water was too shallow to continue farther, the party turned back at this point. Williams said that the water was even shallower up the creek, a condition which he attributed to a beaver dam diverting the flow. Farney and Tanaka agreed, but added that the drought was probably a contributing factor. Following an overflight of the upper reaches of the creek, Farney suspected that the beaver dam in Section 23, T. 18 N., R. 63 W., Seward Meridian, was backing up about two feet of water. He also observed that this section of the creek was "extremely sinuous," especially in its northernmost two miles. He wrote that significant work would be required to make it navigable.

As concerns the remainder of the portage, Farney observed that portions of the channel in Section 3, T. 18 N., R. 63 W., Seward Meridian, between Kulik Lake and the unnamed lake to the south would require rehabilitation. The

channel in Section 20, T. 19 N., R. 63 W., Seward Meridian, connecting an unnamed lake and Kulik Lake, was filled with weeds and needed to be rehabilitated. Farney noted the existence of the dam and winch at the southern end of the channel, but did not indicate whether they required rehabilitation. The connection between the two unnamed lakes in Section 19, T. 19 N., R. 63 W., Seward Meridian, was reported to be in good condition. The Talbiksok River tram was operable, the Natives having replaced ties and reconstructed the winch supports. However, the Natives recommended that a channel through the marsh at the lake edge be deepened for a distance of about one thousand feet. No recommendation was made for improving Talbiksok River for navigation, although Farney noted that navigation was difficult at extreme low water stages.

446/

During the trip, Farney found the Native leaders in agreement on the need for improvements on the portage. Norman Housler, president of the Russian Mission village council, stated that people on the Yukon as far as Fairbanks would use the portage if improved, and noted that Grant Pearson, state senator from Fairbanks, crossed the portage to the Kuskokwim in 1968. He stated that each family in his village spent \$2,000 to \$3,000 each year on gas, oil, groceries, and general merchandise, all of which could be purchased from Kuskokwim traders at a lesser cost. Nicaroff Evan, president of Lower Kalskag, also believed that lower Yukon residents would use the portage to purchase supplies on the Kuskokwim. Also people on both rivers would travel the portage to visit one another and to exploit berry-picking, hunting, and trapping grounds. He estimated that each family would make two trips across the portage each year. One trader located on the Kuskokwim about one-half mile above Lower Kalskag, thought that a road between the two rivers would be more beneficial. However,

Alexie pointed out that all of the people had boats and preferred improvements on the portage. Williams, according to Farney, saw benefits in a road and an improved portage. 447/

Releasing a report on its investigation in January 1971, the Corps determined that five sections of the portage were nonnavigable: Mud Creek; the slough about one-quarter mile in length from the northern terminus of the Mud Creek tramway to a lake providing water access to Johnson Creek; the upper reaches of Crooked Creek for a distance of three and three-fourths miles; the channel connecting Kulik Lake with the large unnamed lake; and finally the channel connecting the Talbiksok River tramway with the first lake. High water had eroded the left abutment of the Mud Creek dam to such an extent that there was not sufficient water in the creek to float boats. The slough connecting the Mud Creek tramway with Johnson Creek was dry in June 1970. According to the Natives, "the slough is normally flooded even though the depth is insufficient for use of outboard motors." 448/ The upper reaches of Crooked Creek were too shallow for navigation. In Section 35, T. 18 N., R. 63 W., the water was only one and one-half feet in depth. Finally, the channel connecting Kulik Lake with the large unnamed lake was filled with debris; and the channel from the northern tramway to the first lake was dry or nearly so. 449/

In order to restore the portage to use by boats with outboard motors, the Corps considered the damming of Mud Creek and the excavation of the non-navigable channels to be the most practicable plan of improvement. A dam might be constructed on Mud Creek just downstream from the original dam. If the dam was provided with a timber-flume spillway and a winch, local residents could use the spillway to gain access to Mud Creek. The other nonnavigable

sections of the route might be excavated by means of explosives, thereby providing a channel ten feet wide at the bottom with a "usable 4-foot navigation depth." The Corps estimated that these waterway improvements would cost \$750,000 if undertaken by contract, or \$290,000 if undertaken by force account and Native labor. 450/

The Corps determined that the cost of the waterway improvements far exceeded the benefits. Local residents estimated that sixty families (300 to 400 people) would use the portage route if the waterway improvements were made, not only to travel to and from the Yukon and Kuskokwim rivers but also to gain access to areas for picking berries, gathering wood, fishing, and hunting. In addition, the improved portage would allow residents of the lower Yukon River to travel to Lower Kalskag, where they could purchase goods at a cheaper rate than at their own village. Perhaps as many as twenty families on the Yukon River would cross the portage, each family making one round trip each season. Finally, the improved portage would allow Upper and Lower Kalskag residents to travel to the Yukon River and enter the commercial fishing business. The Corps estimated that the waterway improvement project would result in a total annual benefit of \$16,300 - considerably less than the average annual cost of the project at \$27,000 over a period of twenty-five years. It concluded that the proposed project was not economically justified at that time. 451/

By this time, the portage route was in very poor condition. In the summer of 1976, following a recreational float trip down the Yukon River, Arthur Pope and a woman attempted to cross the portage in a canoe. At Russian Mission, they learned something about the portage from an old Eskimo named Mike who had worked with the Road Commission crews on the route in the late 1920s or early

1930s. After a two-day trip up the Talbiksok River, Pope reached what was known as the High Portage, where they found a derailed tram car and a "wobbly pair of rusting rails" extending across "the shifting, sinking marsh." They managed to put one of the cars on the track, loaded their 350 pounds of gear on the car, pushed it over the marsh flat to the foot of the hill, and then used the winch and cable to haul the car to the top of the ridge. "The track led off through the brush along the ridge and we followed slowly, stopping for a hundred derailments," wrote Pope. At the southern edge of the ridge, they found another winch, and using this, lowered the car down the hill to the end of track at a small, clear lake. To their dismay, the end of the track was about two hundred feet from water.

Not finding any signposts to indicate the route, Pope walked along the lake and came upon a "low crease, green with a choking mass of waterweeds." He followed this channel to its end when there was "a short ramp leading to another canal on a lower level. Soon we found ourselves on the shore of an unruffled lake beneath a tottering tripod of poles propped with a dozen abandoned gas cans." Returning to their canoe, they attempted to paddle through the channels. In the end, they had to carry their gear to Kulik Lake.

Crossing Kulik Lake they eventually "stumbled on a small stream" and following that stream entered the large unnamed lake. For the remainder of the day, they paddled along the shore in search of Crooked Creek. Unable to find the creek, the two tramped across the country the next morning until they reached a stream "barely 10 feet wide but easily deep enough for a canoe." They followed the creek back to the lake and discovered why they had missed it. "The dry summer had dropped the lake's level until the meager runoff filtered

through a huge reed bed that offered no distinct channel." They pulled and pushed the canoe over "a floating mat of unpaddleable reeds" for about a half mile to reach the stream. Soon, however, they found themselves "paddling in circles and fruitlessly climbing ridges" as the creek became a "maze of small ponds and reed beds."

Tired and frustrated, Pope abandoned the attempt to locate the course of Crooked Creek and decided to make his way to Kukaklik Lake. For hours they tramped across the country with only a compass to guide them. Somehow they missed Kukaklik Lake, and came out on Arhymot Lake. Here began "a hellish game of hide-and-seek" as they paddled along the lake shore in search of an outlet. Eventually they found a stream, which Pope called Johnson Creek, and descending the stream found the last tram. Evidently they had to walk this distance, for Pope described the tram as being unusable:

The last portage was no different than the rest of the route. Grown over and stripped of usable items, it was difficult to determine where the tracks had rested. Traces of decayed ties led to the remains of an old cart rusting near the wreckage of a discarded snowmobile but, again, no traces of the old shelter cabin could be found. So completely had the portage been abandoned that only by the permanently sunken tracks of snowmobiles could parts of it even be followed.

At the southern end of the tram, they crossed "a small, clear pond," and then walked overland to Mud Creek.

By Pope's account, Mud Creek was extremely difficult to descend. He described the final leg of the portage crossing as follows:

We found our way to a slough of the Kuskokwim, clogged by years of silt and shrunk by the remarkably dry summer to the barest of trickles; a channel only 6 feet wide and 3 inches deep dribbling between slime-encrusted banks that oozed stinking rot and decay. The mucky bottom made it impossible to line or drag the canoe. In desperation we tried paddling and discovered the mud bottom was so soft that though the canoe sank well into the muck, we could still slide along.

Four miles of grueling slow travel in this stinking mosquito haven brought us to the last structure of the portage, a squat, regulating dam, massively built of beams and planks. Originally intended to hold water in Mud Creek, all it now held were yards of silt.

Pulling their canoe over the dam, they finally reached the Kuskokwim. 452/

The southern part of the portage is located in the area selected by Lower and Upper Kalskag villages. Johnson River, the lower reaches of Crooked Creek, and the upper reaches of Mud Creek are located on lands selected by Upper Kalskag Village. Approximately one mile of Mud Creek is located in the area selected by Lower Kalskag Village. In 1975, when the BLM first considered easements and navigability determinations for these village-selected lands, the BLM proposed to determine Mud Creek, Johnson River, and Crooked Creek to be navigable. In addition, the BLM proposed a continuous easement on the

banks and beds of these waterways. The proposed easement on Mud Creek extended only to the tramway in Section 22, T. 17 N., R. 62 W., Seward Meridian. Finally, an easement for a portage canal on the selection area was proposed. The streamside easement, considered to be recreational in nature, was deleted in 1978. 453/

With the issuance of new easement regulations, the BLM in 1980 reconsidered proposed easements and navigability determinations in the selection areas. Mud Creek, Johnson River, and Crooked Creek were recommended to be determined major and navigable waterways. In justification of the navigability recommendations, the BLM Anchorage District Office wrote, "Little use occurs today but the potential exists for reviving the portage crossing for small craft." In addition, the BLM proposed an easement for the Mud Creek tramway from Mud Creek to Johnson River. 454/ The BLM State Office subsequently recommended site easements on Mud Creek and Johnson River at the tramway. 455/

The Kuskokwim Corporation opposed the location of the proposed site and trail easement. According to Edward J. McNamara, the proposed site easement conflicted with a Native allotment. Also, the tramway was deteriorated and not used by local residents. He suggested that the easements be relocated a short distance up Mud Creek. The easements would include "the short portage in Sec. 26 to the series of navigable interconnecting lakes to the navigable Crooked Creek, which accesses public lands and the navigable Arhymot Lake." He indicated that the State of Alaska agreed with this recommendation, provided the BLM reserved two site easements on the portage. 456/

The BLM agreed with the recommendation in part. The site easement on Mud Creek was moved upstream to the SE $\frac{1}{4}$, Section 27, T. 17 N., R. 62 W., Seward

Meridian. From this point a trail easement extended northwesterly to another site easement on Crooked Creek (Johnson River) in SW $\frac{1}{4}$, Section 22, T. 17 N., R. 62 W., Seward Meridian. The easement skirted a Native allotment to the east. 457/

A short while later, the BLM questioned whether Mud Creek should be determined navigable in view of the evidence concerning the dam near its mouth and whether the lakes noted in McNamara's letter of July 20, 1982, should also be determined navigable. At a meeting with BLM officials on September 9, McNamara described the route and stated that he was unaware of the existence of a dam on the creek. In addition, he provided a statement signed by seven people, including George Nook, who described the use of boats on the creek. According to the statement, local residents and "downriver people" take boats ranging from fourteen to twenty feet in length and equipped with ten to seventy-five horsepower motors to Johnson River by way of Mud Creek during the spring and fall. In the spring about ten to fifteen families took the route to muskrat trapping and berry-picking grounds. Moose hunters also ascended the creek. Fuel and boats were taken over the route. In 1977 Lou Morgan transported two boats. The creek was used in the spring and fall, and sometimes in the summer. However, they noted, "always somebody going back there." 458/

Taking this information into consideration, the BLM decided that Mud Creek should be determined navigable to the NE $\frac{1}{4}$, NE $\frac{1}{4}$, Section 26, T. 17 N., R. 62 W., Seward Meridian. Also, the three unnamed lakes in Sections 22, 23, and 26, T. 17 N., R. 62 W., Seward Meridian, should be added to the list of navigable waters. On September 30, 1982, these waterways, as well as Johnson River and Crooked Creek in the conveyance area were determined to be navigable. 459/

THROAT CREEK

This creek, unnamed on USGS maps, enters the Kuskokwim from the north in Section 16, T. 15 N., R. 63 W., Seward Meridian. From 1975 to August 1982, the BLM considered the lower reaches of the creek located in the Lower Kalskag selection area to be nonnavigable. However, in late April 1982, Edward J. McNamara of The Kuskokwim Corporation objected to a proposed site easement on the south end of an oxbow lake in Section 33, T. 15 N., R. 63 W., Seward Meridian, and a trail bearing easterly from the site to public lands. McNamara claimed that the creek provided access to the public lands, and thus requested that the creek be determined navigable and the proposed site and trail easement be deleted. In support of the proposed navigability determination, McNamara later provided the BLM with a statement signed by seven people. These people claimed that "lots" of people used the creek in boats fourteen to thirty feet in length and equipped with ten- to seventy-five-horsepower motors. The creek drained a "great hunting area" and offered "great pike" fishing opportunities. Some trapping activity also occurred on the creek. In addition, McNamara submitted two photographs dated June 30, 1982 showing a water body. The photographs were labeled "Throat Creek." 460/

Considering McNamara's information and the State's position in support of The Kuskokwim Corporation's request to determine the creek navigable, the BLM decided to determine the creek to be navigable and to relocate the proposed site and trail easement. On August 20, 1982, the BLM informed The Kuskokwim Corporation of its decision to relocate the site and trail easement to a place outside the village-selected lands. The easement was not needed as Throat

Creek provided access to public lands. Accordingly, on September 30, 1982, the BLM determined that Throat Creek in the conveyance area was a major and navigable waterway. 461/

ISHRATORAK CREEK

As in the case of Throat Creek, the BLM learned that this creek may be navigable during a meeting with representatives of The Kuskokwim Corporation, Calista Corporation, and the State of Alaska in late April 1982. For a number of years the BLM considered the creek in the Lower Kalskag selection area to be nonnavigable, and proposed a site easement on the right bank of an unnamed slough of the Kuskokwim in Section 12, T. 15 N., R. 64 W., Seward Meridian, and a trail easement bearing westerly from the site to public lands. However, The Kuskokwim Corporation objected to the easement, claiming that the public lands were accessible by way of an unnamed slough of Ishratorak Creek which extends from Section 15 to the unnamed Kuskokwim slough in Section 12, T. 15 N., R. 64 W., Seward Meridian. (USGS maps do not portray this branch of the Ishratorak as heading in the Kuskokwim slough in Section 12.) Later, on July 9, Edward J. McNamara of The Kuskokwim Corporation formally requested the BLM to determine the Ishratorak to be navigable through the corporation's selected and over-selected lands. In support of the request, he submitted a statement signed by four people. These people claimed that "lots" of people frequently used the creek in boats fourteen to thirty feet in length and equipped with ten- to seventy-five-horsepower motors. People ascended the creek during the spring and winter for hunting, trapping, and berry-picking purposes. Finally, McNamara submitted three photographs dated from June 30, 1982 showing a waterbody. The photographs were labeled "Ishratorak Creek." One photograph was also labeled "Lee Morgan bringing up Ed McNamara up Ishratorak Creek 6/30/82." 462/

The BLM agreed with The Kuskokwim Corporation and the State of Alaska that the creek was navigable. The proposed site easement was relocated outside the conveyance area to the right bank of the Kuskokwim in the SE $\frac{1}{4}$, Section 19, T. 16 N., R. 63 W., Seward Meridian, with a trail easement bearing northwesterly from the site to public lands. On September 30, 1982, the BLM formally determined that a branch of Ishratorak Creek extending from the unnamed slough of the Kuskokwim in the S $\frac{1}{2}$, Section 31, to its confluence with the Ishratorak in Section 35, T. 15 N., R. 63 W., Seward Meridian, as well as the Ishratorak from the mouth of this branch to its confluence with the Kuskokwim in Section 11, T. 14 N., R. 64 W., Seward Meridian, was navigable. In addition, the BLM determined that the same branch of the Ishratorak in the conveyance area was a major waterway. 463/

BOGUS CREEK

From 1975 to 1981 the BLM considered the lower reaches of this creek in the area selected by Tuluksak Village (Tulkisarmute, Inc.) to be nonnavigable. However, during a meeting with the BLM on December 12, 1980, village residents claimed that the creek was navigable through the selection area, people with Native allotments on the creek using skiffs sixteen to twenty-four feet in length and equipped with twenty-five- to eighty-five-horsepower motors to reach the allotments. Most of this travel was done in connection with hunting and trapping activities. 464/

Upon receiving this information, the BLM Division of Resources recommended that the creek be determined navigable through the selection area as it was "used by boats capable of carrying in excess of 1,000 pounds and [was] used

to obtain access to seasonally used camps or native allotments." On March 3, 1982, the BLM formally determined the creek to be navigable through the conveyance area. 465/

UNNAMED CREEK

During a meeting with the BLM on December 12, 1980, residents of Tuluksak Village claimed that this creek and its lake source was navigable. The Natives stated that they used skiffs sixteen to twenty-four feet long and equipped with twenty-five to eighty-five horsepower motors on the creek and lake to reach Native allotments. On the basis of this information, the BLM determined on March 3, 1982, that the creek and lake was navigable. According to the Natives, the lake located in Sections 4, 5, 6, 7, and 8, T. 12 N., R. 66 W., Seward Meridian, is drained by a creek that empties into the Kuskokwim in Section 15 of the same township. Current USGS maps do not show the location of this creek. 466/

TULUKSAK RIVER

For nearly thirty years after the discovery of gold on Bear Creek in 1907, the Tuluksak River was an important summer route of travel for miners to the diggings. During the gold rush, an unknown number of stampedeers ascended the river in poling boats, and at least one steamboat was taken up the river. In early 1908, the shallow-draft steamboat Hattie B. was reported to be in winter quarters on the river at a place about thirty miles from the Bear Creek diggings. According to C. D. Scott, a prospector who joined the stampede from Nome to the Kuskokwim River in the winter of 1907-08 and spent about two

months on the headwaters of Tuluksak River, the Bear Creek diggings were located about seventy-five miles from the mouth of Tuluksak River. Prospectors bound for Bear Creek could ascend Tuluksak River in poling boats in ten to twelve days. "After you get up it about twenty-five miles," Scott warned prospectors, "it is as swift and snaggy a river you will find in Alaska (not excepting the Klondike and White Rivers)." 467/

In the early 1910s, a number of men were attracted to Bear Creek as a dredging proposition, and used the Tuluksak River to transport mining equipment to test the ground. In the spring of 1912, M. Anderson, the former captain of the U. S. Mercantile Company's schooner North Star, which was placed in winter quarters at the mouth of Tuluksak River in 1909, shipped a large mining outfit belonging to the Minneapolis Gold Mining Company on the schooner Abler to a point about "a mile or so" up the Tuluksak River. 468/ Given the season of the year and the difficulty of overland travel along the river, the outfit was probably shipped up the river in small boats. Two years later, R. S. Eskridge representing another syndicate interested in installing a dredge on Bear Creek, had the steamboat Alice land a large quantity of supplies and machinery at the mouth of Tuluksak River. A large force of men reportedly hauled the supplies and machinery to Bear Creek with two motor boats. 469/ Observing these developments from afar, the Iditarod Pioneer reported that winter the founding of Bear City at the mouth of Bear Creek. The "town" was said to have "good timber handy, plenty of fresh water . . . and good boating for poling boats and horse scows." 470/

In the summer of 1914, Alfred G. Maddren of the USGS went to Bear Creek by way of the Ophir Creek trail, and learned that most of the miners usually transported supplies to their prospects on Bear Creek from Bethel to Kolmakof

during the winter. From time to time, the miners ascended Tuluksak River in poling boats. Maddren wrote that these boats were also taken into the lower reaches of Bear Creek, or to a point within a few miles of the diggings. The journey was a long one; most miners wanted to spend the summer season on their properties. With time and luck, Maddren predicted, the mines on Bear Creek would become productive, and the need to make long journeys to Bethel would be eliminated with the establishment of a supply station on Tuluksak River. This station would not be difficult to maintain as shallow-draft steamboats could readily ascend the river to a point near the mouth of Fog River, a distance of about thirty miles. Poling boats could then be used to transport supplies up the river to Bear Creek. 471/ That steamboats could be taken up the river a considerable distance, was evidently common knowledge. In the summer of 1914, H. A. Cotton of the U.S. Coast and Geodetic Survey learned that both the Aniak and Tuluksak rivers were navigable for boats drawing three and one-half to four feet of water for a distance of about forty miles. 472/

In the early 1920s, the New York-Alaska Gold Dredging Company became interested in a number of claims on Bear Creek, and sent mining engineer Ralph T. Hirsh to supervise drilling operations on the claims. By 1924, Hirsh was convinced that the Bear Creek claims were of sufficient value to warrant the expense of installing a dredge on the creek, and in that year investigated the feasibility of transporting hundreds of tons of freight to the claims by way of Tuluksak River. In late September and early October 1924, Hirsh made a compass survey of the river. His map of the river, which was later provided to the Alaska Road Commission, illustrated the location of existing and possible riverboat landing sites, winter and summer overland routes from the landings to Bear Creek, and various cabins along the river. 473/

According to Hirsh's survey, Bear City or Nyac at the mouth of Bear Creek was located approximately ninety-two rivermiles from the village of Tuluksak on the north bank of the Tuluksak River at its mouth. Tin House Slough (Birch Slough), so named after an "Old Tin House" located on the north bank of the slough in its upper reaches, left the river at rivermile 46.6 and returned to the river at rivermile 32.5. Fog River entered Tuluksak River at rivermile 35.2; Otter Creek, at about rivermile 67. Few details about the character of Tuluksak River are revealed on the map. Hirsh indicated that the river was about two hundred feet wide at about rivermile 15, and about one hundred feet wide in rivermile 60. A log jam was located in the river above the confluence of Otter Creek at rivermile 67.4; and there was a short portage trail on the south bank of the river at rivermile 77. Cultural features along the river as far as the foothills included Tuluksak Village at the mouth of the river; "Upper Forks Cabin" near rivermile 46.6 where Tin House Slough left the Tuluksak River; a roadhouse on the north bank of the river near rivermile 65, a short distance upstream from a place on the river called the "Sluice Box"; and the "Foothills Cabin" on the north bank of the river where it left the foothills at rivermile 78.3.

Hirsh also illustrated the course of a winter trail from Tuluksak Village to Nyac. From Tuluksak Village, the trail extended southeasterly about one and one-half miles to Mishevik Slough, continued up that slough for about two miles, and then crossed the flats in a northeasterly direction a distance of about six miles to strike the Tuluksak River about a mile below the Lower Forks. From Mishevik Slough to Tuluksak River, the trail crossed two lakes, each one about one mile in length. From the Lower Forks, the trail continued in a northeasterly direction for about five and one-half miles, and thence southeasterly to the Upper Forks Cabin. The trail then extended easterly in a

straight line a distance of about seventeen miles to the Foothills Cabin. At that point, the trail crossed Tuluksak River, and then followed the course of the river to Nyac.

With a view to shipping freight by boat up the Tuluksak River as far as possible, and thence overland by dogsled or tractor to Nyac, Hirsh located a number of possible riverboat landing sites on the river. These included the Lower Forks site at rivermile 32.5; a "winter freight landing" site at rivermile 47.9; a site in rivermile 51.1; "Tony's Landing" (probably named after a Japanese trader at Tuluksak village) at rivermile 61.4; a "1922 Landing" site at rivermile 62.5; and finally a site located at rivermile 65. Hirsh evidently chose the Lower Forks or the "Lower Landing" and the rivermile 65 site or "Upper Landing" for the landing of company freight. From the Lower Landing, Hirsh projected a winter road to the Foothills Cabin; and from the Upper Landing, a summer road to the same cabin. From the Foothills Cabin, a winter tractor road was to cross Tuluksak River and then follow the existing winter trail to Nyac. Bridges were to be constructed over Birch Slough, which flowed into Tin House Slough, Tuluksak River about rivermile 78.3, Slate Creek, and Bear Creek.

In early 1925, the New York-Alaska Gold Dredging Company sent its first large shipment of mining machinery and supplies including a sixty-ton Best tractor to the Kuskokwim River. According to one report, the small steamboat Tacotna moved one hundred tons and the steamboat Alaskan transported four hundred tons of company freight from Bethel to "Tuluksak Landing," located about thirty-five miles above the mouth of the Tuluksak River. This landing was almost certainly the "Lower Landing" on Hirsh's map.

During the winter of 1925-26, a crew of about thirty-five men constructed a twenty-mile sled road from the Foothills Cabin to the dredging site on Bear Creek, and built a number of bridges on the road. The Best tractor was used to haul the freight, about thirty tons on each trip, over a winding trail from the landing on the Tuluksak River to the Foothills Cabin, a distance of about twenty miles, and thence over the new sled road to Bear Creek. The first load of twenty-five tons of freight arrived at Bear Creek on December 20. 474/

Evidently the company used this method of moving heavy freight to Bear Creek for many years. Whenever the water stage was high, the company also used small boats to transport freight farther upstream, perhaps beyond the Foothills Cabin. According to the U. S. Bureau of Mines in the 1940s, the company transported all supplies from Bethel to the Tuluksak River and thence up that river to one of several landing places, depending on the stage of water. Tractor trains were then used to transport the freight a distance of ten to thirty miles to Bear Creek. 475/

The BLM first considered the navigability of Tuluksak River in 1975 when identifying possible easements on lands selected by Tuliksarmute, Inc. (Tuluksak Village) under the Alaska Native Claims Settlement Act. In a report dated November 2, 1975, the BLM described the river as being fifty miles long, two hundred feet wide, and ten feet deep. The meandering river flowed between silt banks five to twenty-five feet in height. The river was subject to "heavy local use" and "intermittent use for commerce." Motorboats, barges, and skiffs had been used on the river as far as Nyac. A barge landing site was located on the river near the mouth of Fog River in Section 32, T. 12 N., R. 64 W., Seward Meridian. A haul road extended from the barge site to Nyac. 476/

The BLM subsequently proposed to determine the river to be navigable to the barge landing site, and to reserve continuous easements on the banks of the river, a site easement at the former barge landing, a trail easement from Tuluksak to the barge landing, and an easement for the barge landing - Nyac road. During a meeting with the BLM on October 24, 1975, Tuluksak residents objected only to the proposed road easement for it was not located in the selection area. In regards to the proposed streamside easement, they stated that "[m]ining operations at Nyac have altered the character of this stream. The river has . . . been used historically to barge supplies and equipment to the Nyac gold fields and presents an avenue of travel to public lands blocked by Native selections." 477/

On August 24, 1976, the BLM issued a notice of proposed easements on lands selected by Tuluksak River. Local residents expressed objections to the easements in general. Charles F. Hunt of Bethel objected to the size (5 acres) of the proposed site easement at the barge landing because "continuous landing of barges will cause erosion along the bank where the barge landing site will be located" and "continuous use of this location will disturb the migratory routes of salmon or injure them by their propellers." He also objected to the proposed Tuluksak-barge landing trail easement because the river was navigable for barges, the trail did not exist, and such a trail would damage the spawning grounds of blackfish, grayling, and broad whitefish as well as habitat for mink, otter, and beaver. Finally, Hunt opposed the proposed streamside easement with the comment that the river was a salmon-spawning stream. 478/

The BLM considered these comments and decided to retain the proposed easements. Subsequently, on June 10, 1978, three BLM employees ascended the Tuluksak in a boat to the barge landing site, where they found the remains of a dock,

fifty-five-gallon drums, machine parts, and a track. The three men then ascended Fog River to a point in Section 8, T. 11 N., R. 64 W., Seward Meridian, where the stream was about twenty-five feet wide, before returning to Tuluksak Village. 479/

Following the issuance of new easement regulations, the BLM reconsidered proposed easements and navigability determinations in the selection area. The BLM again proposed to determine the Tuluksak to be navigable to Section 32, T. 12 N., R. 64 W., Seward Meridian, and to be a major waterway through the selection area. The proposed streamside easement was deleted. The proposed trail easement for Tuluksak to the barge landing site was retained. 480/

Meeting with BLM officials at Tuluksak on December 12, 1980, representatives of the village and regional corporations agreed with the proposed navigability and major waterway determinations. However, they objected to the proposed trail easement from Tuluksak to the barge landing site, as the Tuluksak River provided access to the site and the barge landing no longer existed. The BLM decided to retain the easement. Subsequently, on March 3, 1982, the BLM determined the river to be navigable to the barge landing site and a major waterway through the conveyance area. 481/

Fog River

When, on December 12, 1980, the BLM officials met with representatives of Tuliksarmute, Inc., and Calista Corporation to discuss proposed easements and navigability determinations on village-selected lands, they were provided a great deal of information about use of waterways in the area for the purpose of

travel. The representatives indicated that the unnamed stream extending from the navigable unnamed lake tributary to Mishevik Slough in Sections 27, 28, 33, and 34, T. 12 N., R. 65 W., and Sections 2 and 3, T. 11 N., R. 65 W., Seward Meridian, to a branch of Fog River in Section 2, T. 11 N., R. 65 W., Seward Meridian, was a route of boat travel to Tuluksak River. Skiffs sixteen to twenty-four feet in length were used on the waterway system.

Upon receipt of this information, the BLM Division of Resources recommended that the branch of Fog River to and including the stream to the navigable unnamed lake be determined navigable. The waterway system was determined to be navigable on March 3, 1982. 482/

Little Bogus Creek

During a meeting with BLM officials on December 12, 1980, residents of Tuluksak Village stated that this creek and its tributary, Yukanilnik Creek, was a route of boat travel to various Native allotments. Skiffs ranging in length from sixteen- to twenty-four feet and equipped with twenty-five- to eighty-five-horse-power outboard motors were used on the creeks.

Upon receiving this information, the BLM Division of Resources recommended that the creeks be determined navigable to a point in the NE $\frac{1}{4}$, Section 35, T. 13 N., R. 64 W., Seward Meridian. On March 3, 1982, the BLM formally determined the creeks to be navigable and non-major waterways to the above-cited point. 483/

MISHEVIK SLOUGH

From 1975 to 1980 the BLM considered this slough to be nonnavigable but tidally influenced for an unknown distance. However, on December 12, 1980, residents of Tuluksak Village informed the BLM that the slough was "the heaviest used route" of boat travel in the local area, and that many of its branches were also used. Local residents used skiffs sixteen to twenty-four feet in length and equipped with outboard motors on the slough and its branches to reach various Native allotments. They stated too that a thirty-five-foot "commercial fishing boat" with a 175-horsepower motor was also used on the slough. 484/

Upon learning of this information and examining a USGS map on which the Natives located their camps and identified waterways they considered to be navigable, the BLM Division of Resources agreed that the slough and a number of its branches were navigable in part. The division recommended that Mishevik Slough to Section 36, T. 12 N., R. 66 W., Seward Meridian, and its branches be determined navigable. These branches included the unnamed stream and lake in Sections 32, 33, and 34, T. 12 N., R. 65 W., and Sections 2, 3, and 4, T. 11 N., R. 65 W., Seward Meridian; and the unnamed stream extending from Mishevik Slough in Section 22 to and including the unnamed lake in Section 26, T. 11 N., R. 66 W. (USGS maps do not portray this creek as heading in the lake), including its branch extending from Section 22, T. 11 N., R. 66 W., to Section 36, T. 12 N., R. 66 W., Seward Meridian. On March 3, 1982, the BLM determined the slough and its branches to be navigable and non-major waterways.

485/

UNNAMED LAKES

These three landlocked lakes are located between the Kuskokwim and Gweek rivers in Sections 20, 21, 22, 23, 26, and 27, T. 13 N., R. 65 W., Seward Meridian. During a meeting with BLM officials on December 12, 1980, residents of Tuluksak Village stated that they used skiffs sixteen to twenty-four feet in length with outboard motors on these lakes in connection with subsistence activities. No Native allotments were reported to be located on the lakes. 486/

Reviewing this information, the BLM Division of Resources recommended that the lakes be determined nonnavigable. According to the division, "There are no seasonal camps in the areas, which would denote use of the lakes and interconnected lineal water bodies as commercial routes of travel." Accordingly, on March 3, 1982, the BLM determined the lakes to be nonnavigable. 487/

KISARALIK RIVER

During the gold rush era, a number of prospectors explored the Kisaralik River basin. Little is definitely known about their modes of travel in the basin, but the available information indicates that boats were or could have been used. In August 1911, for example, a local newspaper reported that Herman W. Reeth had recently taken a big outfit up the Kisaralik River where he had some good quartz locations. 488/ In 1915, H. A. Cotton of the U.S. Coast and Geodetic Survey learned that the Kisaralik River offered "about the same advantages for navigation" as the Kwethluk River. 489/ There is moreover in existence a photograph taken in 1921 of two men rafting down a set of rapids at Golden Gate Falls. 490/

Prospectors are known to have prepared at least two maps of the river. In the spring of 1914, Charles Estmere drafted a map of the Kisaralik and Kwethluk rivers which he subsequently provided to Alfred A. Maddren of the USGS. ^{491/} This map is presently not available. A "Topographical Sketch Map of Kuskokwim Gold Belt," prepared by Herman W. Reeth in 1912, was recently found, and provides a considerable amount of information about the Kisaralik, Tuluksak, Kasigluk, and Kwethluk river basins. ^{492/} On the map the Kisaralik River is called the Reglugalic River; and the Kasigluk River is identified as the Kislalarik River. Reeth indicated the location of a Native fishing village called Nunalenhak on the south bank of the Kisaralik, a considerable distance downstream from the mouth of Nukluk Creek. The location of other camps or villages along the river above Nunalenhak to Cleary Creek or present-day Clear Creek, as well as reindeer herders' camps above Golden Gate Falls near Swift Creek, are also shown on the map.

Reeth reportedly entered the Kisaralik River basin in 1908, and located a number of quartz and placer claims in the area. The Royal group of quartz claims were located somewhere (perhaps on Quartz Creek) on the north side of the river between the Nukluk and Clear creeks; and the "Golden Gate Falls Quartz Mines" and placer claims as well as Reeth's headquarters were located near Golden Gate Falls on the north side of the river. Additional placer claims were located somewhere south of the river near Twin Falls, opposite the mouth of King Salmon Creek, which may be present-day Quicksilver Creek. Reeth located his supply camp on the river a short distance below Nunalenhak and on the same side of the river.

To what extent Reeth developed his mining claims is unknown, but if his map is any indication he believed that his properties were worth developing. On his

map he illustrated the route of a projected electric railroad from a point about twenty miles west of his supply camp to Golden Gate Falls and Twin Falls, the railroad generally following the course of the river. At a point beyond Twin Falls, the railroad was projected in two branches to the Tikchik Lake system in the Nushagak River basin.

Nothing ever came out of Reeth's railroad scheme, but he did attempt to persuade the Alaska Road Commission to construct a wagon road from Akiak to Canyon Creek by way of the Kisaralik River basin. Upon learning in 1922 that miners on Canyon Creek had petitioned the Alaska Road Commission to construct several bridges on the Akiak-Canyon Creek winter trail, specifically on two branches of the Kisaralik River about seven and ten miles from Akiak, on the Kasigluk River about fifteen miles from Akiak, and on Crooked Creek in the Kwethluk River basin, Reeth wrote to Alaska Governor Scott C. Bone that if the miners' petition was granted, the proposed bridge on the Kisaralik River should be built above the high water mark so as not to be an obstruction to navigation. The river was navigable for power boats carrying twenty tons and more for a long distance above the bridge site. Reeth considered the bridge site to be poorly located in any case, for every spring break-up the banks caved in ten feet or more. Considering too that the Akiak-Canyon Creek winter trail traversed a swampy, lake-studded lowland for about thirty or forty miles and thus could never become a summer trail, Reeth proposed that the government construct a wagon road from the fishing village of Nunalenhak to Golden Gate Falls, and thence to Canyon Creek, the road generally following the route of his proposed electric railway. Already there was a summer trail from Nunalenhak to Golden Gate Falls which was much used by the Natives, reindeer herders, and prospectors.

All that was needed to make the route practicable during the summer was the construction of bridges with eighty-foot spans across the lower end of Golden Gate Falls and across Swift Creek. If improved, Reeth claimed, the route could also be used by the miners on Bear Creek in the Tuluksak basin and would serve to stimulate development of the Royal group of quartz mines. 493/

The Governor referred Reeth's letter to the Alaska Road Commission for consideration. On March 15, 1923, Colonel James G. Steese, president of the Road Commission, advised Reeth that no bridges could be placed across navigable streams without a permit from the Secretary of the War which were issued only after a thorough investigation of the situation including the taking of testimony from all concerned navigation interests. The commission intended to investigate the situation as soon as possible, and if it was found that the bridges were needed, they would have to be placed at an elevation sufficiently high to allow clearance of the boats ordinarily used on the river. 494/

Steese made no mention of Reeth's proposed wagon road, and so in December 1924 Reeth wrote to the Road Commission urging its construction. In Reeth's mind, construction of the road from his supply camp to Golden Gate Falls presented few difficulties, for the road would be located on a high plateau which was almost as level as a floor for many miles and with a good gravel foundation. At Golden Gate Falls, where he had a hydraulic mine, one could cross the river in boats to reach the trail leading to the Canyon and Boulder Creek placer mines. If and when conditions warranted it, a bridge could be built across the river at the falls. The road would benefit not only the Canyon Creek miners but also the Royal group of quartz mines, which justified the construction of a 500-stamp mill. The proposed dredge for Bear Creek could

also be hauled over the road, and then transported to the dredging site by way of the Fog River valley. If, however, the Road Commission intended to build two footbridges across the Kisaralik and Kasigluk rivers below or near their mouths, he urged that they be built high enough for power boats like the Alaskan to clear. In 1919, Reeth wrote, he chartered Charles Nicollet's boat, the Alaskan, which successfully hauled a half dozen men and twenty tons of machinery and supplies up the Kasaralik River to his supply camp. 495/

There is no available record of the Road Commission ever responding to Reeth's letter, but there is no question that his objections to the proposed bridges on the Kisaralik River were not ignored. In 1926, the Road Commission placed ferry boats near the mouths of the Kisaralik and Kushluk rivers. 496/

Through the years Reeth continued to seek investors in his mining properties without success. In 1937, when in his seventies, he again appealed to the Territory for assistance in improving the Kisaralik River route to Canyon Creek. The matter was referred to the Alaska Road Commission, and on July 20, Fred J. Spach, assistant engineer, met Reeth to discuss the proposal. Contrary to local rumors that Reeth was a "looney old Finn," Spach found the man to be highly educated and with a talent for map-making. According to Spach, Reeth wanted a number of bridges constructed on the route. The route was practically due east from Akiak and about eighty miles in distance, three-quarters of this distance located on gravel flats. Bridges were needed across Otter Creek (mile 8), Nukluk Creek (mile 30), Clear Creek (mile 33), Swift Creek (mile 45), Pass Creek (mile 58) and Gold Creek (mile 73), each bridge averaging about forty feet in length. The route would tap Reeth's quartz claims on Clear Creek where the ore was assayed at \$2.00 to \$3.00 a ton and his Golden Gate Hydraulic

Mine at mile 53. The route would also tap the mines on Marvel Dome and Bear Creek. If Reeth was correct in his views, Spach wrote, a road could be built from Akiak to Canyon Creek at "very little expense" and "would open a highly mineralized section both in placer and quartz." 497/

The Road Commission subsequently decided not to pursue the idea of building a road up the Kisaralik River valley because mining developments in the general area had not developed to the point to warrant the expense. This decision was confirmed by H. M. "Big Hans" Hansen of Bethel who knew the section well. According to Hansen, there was little mining in the section, and the Canyon Creek miners relied upon airplanes to reach their property. In any case, he stated, the winter trail to Canyon Creek did not follow the Kisaralik River, but cut across the flats to Columbia Creek and thence up that creek before swinging around to Crooked Creek. He discounted Reeth's opinions on the need for a road, as he believed that Reeth did not own "a foot of ground in that vicinity." Hansen said that while it was true that Reeth had taken six or seven men into the section in 1919, he had not done any work in the area since 1921, although in 1924 he may have trapped there and in 1927 he did travel to the head of Togiak River to trap beaver. On this last trip, he took sick and had never returned to the hills. He was indeed an educated man, but to local residents he was "not only looney but a nuisance and a poor neighbor with a specialty of writing to people like President Roosevelt, Henry Ford and others in the same class." In 1930, he convinced the sister of a Navy admiral to visit his Golden Gate property. The visit was a disaster; "my such a headache She couldn't get the Tupper to leave fast enough," wrote Hansen. All the Canyon Creek miners needed and wanted, Hansen claimed, was a seventy-five-foot bridge across Crooked Creek. 498/

If present-day use is any indication, the Kisaralik River has long been used by local hunters, fishermen, and trappers. Little information about these activities surfaced until the late 1970s when the BLM initiated a study of the river as a potential candidate for inclusion in the National Wild and Scenic River system. According to Ross Kavanagh of the BLM who evidently obtained most of his information from Rae Baxter, a State Department of Fish and Game official at Bethel, the Kisaralik River attracts both subsistence and sport fishermen, as well as hunters. Certain residents of Kwethluk, Bethel, Akiak, Tuluksak, and Akiakchak have Native allotments along the lower reaches of the river. However, only the people of Kwethluk fish the river for salmon to an "appreciable extent," local residents preferring to fish the Kuskokwim River and tributaries nearer their villages. The people of Kwethluk use their allotments "primarily for recreational purposes such as sport fishing and to conduct other food gathering activities such as berry picking." Salmon fishing for subsistence purposes "commonly occurs at or near the river mouth and extends one or two miles upstream." The Natives seldom fished for salmon farther upriver.

According to Kavanagh, the main attraction of the river was sportfishing. Baxter claimed that the river was "the summer playground of a large number of Bethel and nearby village residents" who fish for Arctic char, Dolly Varden, and particularly rainbow trout. The river reportedly receives more sportfishing pressure than even the Kanektok River.

During the summer fishermen travel to the river by boat and airplane. People ascend the river in boats with outboard motors a considerable distance, perhaps as far as the stretch below Quartz Creek, which is considered to be the "prime rainbow trout habitat of the Kisaralik River drainage." Under average water

conditions, Kavanagh wrote, it is usually possible to ascend the river in a riverboat to the vicinity of an airplane landing strip and wanigan in the southeast corner of T. 8 N., R. 64 W., Seward Meridian. If the water stage was high, as is often the case in mid-June, a riverboat can be taken much further. Kavanagh referred to an "unconfirmed report" of one riverboat ascending the river to the "lower falls" beyond the Golden Gate Falls. Few if any jet boats had been operated on the river.

Sportsmen also used airplanes to reach various fishing spots on the river. Most airplanes on the order of Piper Super Cubs are believed to land on the short airstrip located in the southeast corner of T. 8 N., R. 64 W., Seward Meridian. The airstrip was once longer, but streambank erosion has considerably reduced its length. Floatplanes have also been used to ferry hunters and fishermen to Kisaralik Lake and to a small lake situated within one and one-half miles of the falls. According to Kavanagh, it was "common practice" for floatplanes to land on the small lake, where sportsmen could then hike down to the falls. Air charter operators at Bethel reported almost no floatplane landings on the river above the "upper falls," but believed it possible to land a floatplane on the river immediately above and for some distance below the airstrip. They indicated that floatplanes may have landed on the lower reaches of the river in order to pick up people who had floated down the river from the airstrip area.

Considering the level of recreation activities on the river, the current interest in identifying potential Wild and Scenic Rivers in Alaska, and an Alaska Power Administration proposal to construct a hydroelectric dam on the river, BLM officials decided that additional information about the river should be collected

to support a proposal that the river be nominated as a Wild and Scenic River. Thus, in August 7-14, 1976, Ross Kavanagh, Dennis L. Money, and other BLM officials descended the river from Kisaralik Lake for an unknown distance.

A day-by-day account of the BLM descent of the river is not available; but Kavanagh's report on the fisheries resources of the river provides some insight into the river character. Kavanagh described Kisaralik Lake as "a deep, transparent, clearwater lake, bordered by towering mountains." "Under the right light condition," he wrote, "the lake has a striking deep blue-green color and is quite beautiful." From the lake to the Upper Falls, the river consists mostly of rapids and "fast runs" with "very few large boulders or deep pools which would serve as holding areas and cover for fish." The river sometimes splits into multiple channels, and although the riverflow increases appreciably below the confluence of Gold Creek, which had nearly twice the flow of the Kisaralik River, the river tends to remain broad to the Upper Falls.

Several miles below the lake, Kavanagh spotted a large boulder in the river with "an aluminum canoe wrapped around it like a corkscrew." The two people in the canoe survived the accident, but were said to have required more than fifty days to walk to the airstrip area before they were finally rescued by an aircharter operator. Despite the unfortunate experience of these two people, Kavanagh maintained that "[i]t is quite possible, however, in fact probable, that there have been several successful undocumented float trips traversing the entire river drainage." 499/

Near the mouth of Gold Creek, Kavanagh left the river for a short time in order to explore "a high, rolling, tundra covered bluff area" overlooking the river where one could view the river valley for many miles. Kavanagh presumed

that if the Kisaralik River had once been a route of travel to the Wood River - Tikchik Lake system, Natives may have camped on the bluff where they could watch for game in the river valley. However, he found no obvious evidence of past human use on the bluff.

From the Upper Falls to the mouth of Quartz Creek, Kavanagh wrote, the river frequently shifted direction and flowed with a rapid current. He found "long, deep, boulder-streams runs" following short rapids areas. Deep pools were usually located behind the boulders. The Upper Falls actually consisted of two short falls, below which there was a very deep pool.

Leaving the foothills of the Kilbuck Mountains, the river exhibited a braided character until it reached the lowlands where the channels finally united to form a single, slow-moving, meandering channel. The upper half of this stretch was characterized by extensive boulders, cutbanks, pools below short rapids or riffles, eddies, and windfalls, making it "a prime rainbow habitat." The lower half of the river in this stretch flowed in braided channels through a forested floodplain. The middle portion of the section consisted of nearly equal stretches of riffles and pools.

The meandering section of the river, Kavanagh described as "being uninteresting esthetically, due to its slow moving water, lack of visibility from the river channel because of extensive riparian brush, and its lack of any gravel bars to relieve the tedium of floating." Evidently he had trouble locating the main channel, for he wrote that the river "is bordered by extensive slough areas which at times are indistinguishable from the river channel." 500/

Following the float trip, the BLM sponsored a number of raptor surveys in the basin. On June 14 and again on June 21, 1977, Clayton M. White and Douglas A. Boyce surveyed the river in helicopters, concentrating on the thirty-seven-mile stretch of the river bordered by bluffs from a point about eleven miles above the mouth of Quicksilver Creek to a point about two miles above the mouth of Nukluk Creek. At the time of the survey, they observed that the river "was running high and was filled from bank to bank," and that "the current was clearly faster than that of the rivers we examined in this region, and would have made a float trip hazardous." 501/ Sometime early in the summer of 1979, D. N. Weir and others also conducted a raptor survey in the same area, presumably in a helicopter. In July 25-31, Weir and others descended the river in a rubber boat, but details concerning the float trip are not available. 502/

Since the BLM's survey of the river in 1976, several government expeditions have floated down the Kisaralik River with the object of determining the suitability of the river for inclusion in the Wild and Scenic River system. The reports of these expeditions provide the most complete descriptions of the river in existence.

In July 10-19, 1978, the U. S. Heritage Conservation and Recreation Service sponsored a float trip down the river. Organized and led by David Dapkus of the Service, the expedition included Pat Beckley, Cary Brown, Bob Ward, and John Beck of the BLM, Robert Weinhold of the U. S. Fish and Wildlife Service, and Mike Rodak of the Alaska Division of Parks.

Flown from Anchorage to Kisaralik Lake in two amphibious planes chartered from Sea Airmotive, the party established camp on soft tundra on the north shore of the lake. With the rugged snowcapped Kilbuck Mountains, many of them with

sharp peaks, surrounding the lake, "the scenery . . . was no less than magnificent [sic]," wrote Dapkus; "the lake [was] blue-green with the river crystal clear." Many good campsites along the gravel shores of the lake and the first one-half mile of the river were available.

Using two thirteen-man Avon rafts, and with a strong wind (fifteen to twenty miles per hour) at their backs throughout the day, the party floated to a point about one-quarter of a mile below the mouth of the North Fork on the first day on the river. According to Dapkus, the river flowed in a braided course between banks lined with a dense growth of willow brush. Small boulders in the river as far as Gold Creek did not require the men to portage. At the mouth of Gold Creek, the various channels merged into a single channel about seventy-five feet wide. Numerous islands or gravel bars were seen below Gold Creek. By Dapkus' estimation, where the river left the lake, the channel was about fifty feet wide; the water was about four feet deep and flowed with a current of three miles per hour. Below the mouth of Gold Creek, the water was about two feet deep with occasional pools five feet deep and flowed at a rate of about five miles per hour. The river was clear, almost blue-green in color. Dapkus believed the river to the mouth of Gold Creek to be "easy Class I water on the International Whitewater Scale." Below Gold Creek, the river was a "mixture of Class I and II followed by all Class II and finally one Class III rapid" located upstream of the mouth of the North Fork. "The river offered good floating with a raft, kayak, or canoe for the intermediate to expert canoeist," Dapkus concluded.

On July 12, it rained most of the day as the party floated down to the Upper Falls. The river flowed in a channel about one hundred feet wide with a current ranging from three to five miles per hour. The water was on the average

about three feet deep; in some places, it was six feet deep. Dapkus wrote that the river was filled with large boulders--"the size of a kitchen stove." Apparently the party had no problems avoiding the boulders, for Dapkus classified this stretch of the river as Class I and II on the International Whitewater Scale.

At Upper Falls, however, the party had to make a "relatively easy portage" of approximately 350 feet over a tundra-covered hill on the south side of the river. The Upper Falls, wrote Dapkus, actually consisted of two falls about 150 feet apart in a stretch where the river cut through a ridge, forming vertical walls about one hundred feet high on the south side and about two hundred feet high on the north side. The first falls apparently dropped about six feet over boulders the size of "small cars." The second falls, which would not be visible to anyone on the river until the first falls were passed, consisted of two vertical drops--one four feet and the other six feet. Large boulders, the size of small cars, blocked the river at this point, forcing most of the water to flow through a six-foot wide chute. As Dapkus described the falls: "About half of the river's volume flows at right angles into a vertical rock wall on the left side of the canyon and bounces back into a group of rocks. The other half pours at right angles into the first half. Three very large rocks lie about six inches under all this water." Dapkus classified the first falls as Class II and believed it could be run with a unloaded boat. The second falls had some Class VI water, however.

On July 13, the party did not break camp until early afternoon. While Beck examined a housepit located near the falls, some members of the party hiked to the nearby hills while others surveyed the river in a helicopter, which the BLM had chartered for geological survey work in the area. Only about three hours

were necessary to descend the river to the mouth of Quicksilver Creek. Dapkus recalled that the party frequently passed rock bluffs up to seventy-five feet in height and encountered many boulders in the river. The river flowed in a channel ranging in width from seventy-five to one hundred feet, and the current was "fast." Water depths varied from two to six feet. Dapkus classified this stretch of the river as Class II on the International Whitewater Scale.

On July 14, the party floated down the river from the mouth of Quicksilver Creek to a point about three miles below Golden Gate Falls, near the Little Crow Hills. The river followed a twisting course, flowing through low rock canyons with fifty-foot high walls and receiving the clear waters of many tributaries ranging from four to ten feet in width and six to eighteen inches in depth. Beginning at a point about four miles below the mouth of Quicksilver Creek, stands of white spruce and tree-size willows and poplars lined the riverbanks. The river channel, occasionally broken by small islands, was about one hundred feet wide and the water about four feet deep with occasional pools of water ten feet deep.

About two miles before reaching the Golden Gate Falls, the party successfully floated an "easy Class III rapid." Apparently they had to portage around the Golden Gate Falls, although Dapkus' report is not clear on this point. At the falls, wrote Dapkus, the river constricted to a width of twenty-five feet as it flowed through a small gorge with vertical walls twenty-five feet high. The river made three very sharp bends in this reach, and large boulders -- "the size of small cars" -- were scattered in the river from bank to bank. The water was quite deep, about fifteen feet.

Once passage through the Golden Gate Falls was accomplished, the party came upon an old cabin in poor condition located on the right bank of the river. Shortly thereafter, they met two men and a woman in a twenty-foot Grumman canoe who had left Bethel on June 1 on a journey up the Kisaralik River to Kisaralik Lake. Once they reached the lake, they intended to portage to the Tikchik Lake system and proceed to Dillingham.

On July 15, the party floated about eight miles of the river before making camp somewhere in the area of Spein Mountain. Flowing through a picturesque area of low, rounded, treeless mountains, the river was bordered by a dense growth of white and black spruce trees and in some places willow trees. On occasion, Dapkus wrote, they passed rock bluffs with vertical faces twenty-five feet high. The river channel was 100 to 125 feet wide, with numerous islands and a few large boulders in the channel. The water, two to three feet deep with pools ten feet deep, flowed with a current of three miles per hour. The party experienced no difficulties in descending this stretch of the river. Dapkus classified this stretch of the river as Class I, but added that the occurrence of sweepers required caution.

From Spein Mountain it is difficult to follow the progress of the party for it is not known where their campsites were located. Dapkus wrote on July 16 that the river flowed in a braided course through several small channels twenty-five to fifty feet wide. Heavy spruce and willow stands bordered the gravel riverbanks, and large gravel bars appeared along the river. The party frequently encountered sweepers, especially twelve-foot willow trees in the river. Dapkus wrote, "A boater must be careful to avoid these sweepers, particularly on the

numerous tight turns in this section." The water was one to three feet deep with pools of water six or more feet, and the current was "fast," three to four miles per hour.

By July 17, the party had definitely reached the lowlands. Dapkus wrote that date, "It was difficult to locate where we were due to the lack of noticeable tributaries and other landmarks." Willow, poplar, and white and black spruce trees still bordered the riverbanks, but tundra vegetation was also evident in places. Sweepers were more numerous, and downed trees on gravel bars were seen. On the following day, Dapkus noted the river exhibited a meandering character, and the current slowed to about two miles per hour. Willow brush lined the river in most areas with an occasional black or white spruce stand for short distances. Sweepers continued to be a hazard.

On July 19, after paddling for about two hours, the party finally came upon a long straight stretch in the river where a floatplane could land. A pilot with Sea Airmotive landed a floatplane (Cessna 185) on the river, and told them that they were some fifteen miles below the planned rendezvous point. The party and their equipment were ferried to Bethel in three trips. Later that same evening, the party took a commercial flight to Anchorage.

The party had floated all but three miles of the river in "eight easy days." The trip could be accomplished in five days, Dapkus believed. He wrote that the river was best suited for rafts and kayaks, as the river offered "a variety of whitewater mostly Class II mixed with Class I, but also some Class III." The "only real hazards" to navigation, he noted, were the Upper Falls and sweepers on the lower stretches of the river. 503/

In early August 1981, another government party floated down the Kisaralik River for the purpose of collecting additional information about the potential Wild and Scenic River. Members of the expedition included Jack Mosby of the U. S. National Park Service, Tom and B. J. Aldrich, David Hesne, and Dave Dall of the U. S. Fish and Wildlife Service, and Rae Baxter of the Alaska Division of Fish and Game. Two rafts (twelve and thirteen feet) were used.

On August 3, most of the party was flown to Kisaralik Lake from Bethel in an OAS "Goose," with Tom and B. J. Aldrich arriving sometime later in a Cessna 185. They set camp on the north shore of the lake near its outlet. Like Kavanagh and Dapkus before him, Mosby was struck by the scenery. "Scenery is magnificent with open alpine ridges and rocky jagged snow capped mountains all reflected in the lake," he wrote. With Glesne, Tom and B. J. Aldrich, Mosby explored the northern lake shoreline in one of the rafts powered by an outboard motor (4½ horsepower) for about three miles. He observed that "[p]ortions of the shoreline and adjoining valleys are covered in 4' - 10' high willows and alder in the damper areas and grassy tussocks, dwarf willows, birch and numerous wildflowers in the dryers [sic] areas." At one point, they sighted "an unoccupied hunting camp" on the southwest shore of the lake.

On August 5, the party began the float trip down the river. According to Mosby, the river to the mouth of Gold Creek was generally braided. On two different occasions, they were forced to line the rafts so as to avoid shallow areas and willow sweepers. Continuing down the river, they encountered "a mixture of Class I and II whitewater" and about two miles below Gold Creek, where the river nearly doubled in size, they "entered an area of morainal

deposits with 15' - 30' high ridges lining both sides of the river for another three miles." It was not until they had passed the mouth of the North Fork that they found a suitable campsite.

On the following day, the party managed to reach the Upper Falls. A brief stop was made at a point about six miles above Upper Falls in order "to walk up above cliffs along river," and another stop was made at a USGS gauging station located about one mile upstream of the Upper Falls. From the station, they walked south about one-half mile to a lake which may have been used for floatplane landings as several barrels were located on the lakeshore. At the Upper Falls, the men made a portage on the left "about 400 feet up and over a fairly well used trail and put in just below the second rapid." The Upper Falls, described by Mosby, "consists of two rapids about 100 yards apart. The upstream drop (Class III) could be run but the downstream rapid pours onto a series of rocks making it impassable for boats." Several salmon and grayling were seen making their way through a secondary channel only one foot wide.

After spending the night below the Upper Falls, the party floated down the river to Golden Gate Falls. Below the mouth of Quicksilver Creek, where they stopped briefly to fish, the river entered what Mosby described as "a definite canyon area with 100-200 rocky bluffs and 500-600 foot ridges that rise directly from the rivers [sic] edge." The river, about 100 to 150 feet wide, flowed with a current of about four miles per hour. Water depths ranged from two to six feet. Near the Lower Falls ("no real falls at this water level," he wrote, "just a narrow constriction of the river corridor"), Mosby noted the occurrence of more spruce and birch trees on the side slopes of the canyon. The higher ridges were either bare of vegetation or "combined with tundra grasses." The

shoreline was heavily forested with spruce, birch, and willow trees. About one mile upstream of Swift Creek, the party floated through "an 'S' shaped Class II-III rapid." They also floated through the Golden Gate Falls, described by Mosby as "an 'S' shaped 25 yard long rapid (Class III) with 10' - 25' vertical rock walls."

In the vicinity of Spein Mountain, the party on August 8 left the foothills to float thirty miles down an extremely braided stretch of the river with numerous sweepers. Mosby wrote that day that there were numerous campsites in this section but if the water level had risen one foot most of the sites would have been inundated. On August 9, the party camped on what proved to be the last gravel bar on the river, located near rivermile 30. At this point the river was very muddy, perhaps a natural condition or a result of a recent heavy rainfall. Mosby noted that the river became muddy at about rivermile 40 where the river meandered across the lowlands cut into the mud banks. "It is difficult to tell where we are due to the surrounding flat terrain and numerous braids that change each year," wrote Mosby. The river was lined by willow stands and occasionally by birch and white spruce trees.

On August 10, the party reached a point about rivermile 25 where the various channels merged into one. About nine miles downstream the river split in two, with most of the water flowing in the left or south distributary. Using the outboard motor to drive the rafts the remaining distance to Bethel, this last stretch of the river was, according to Mosby "entrenched onto the surrounding tundra with a thin strip of riverine vegetation consisting of willow and grass to the waters [sic] edge while birch and spruce occurred [sic] on some of the drier locations." Some gravel and sand bars were observed on this stretch of the river.

Reflecting upon the six-day trip on the Kisaralik River, Mosby believed that the river basin offered "outstanding scenery in the Kilbuck Mountains, excellent off river hiking opportunities, moderate white water and excellent fishing." The upper section of the river was accessible by floatplane on Kisaralik Lake, and the lower reaches to Golden Gate Falls by riverboat. 504/

At the present writing, the Kisaralik River is still under consideration as a source of hydroelectric power for Bethel and villages in the Yukon-Kuskokwim delta. Following a reconnaissance survey of the river, an engineering firm identified the Lower Falls at rivermile 67 to be a suitable location for a rockfill dam 315 feet high with a crest at elevation 1,125 and a spillway crest at elevation 1,110. The dam could create a reservoir with a storage capacity of 716,000 acre-feet. If construction of the dam was approved, the firm recommended the construction of a winter road from the Kuskokwim River to the damsite for the transportation of construction equipment, materials, and supplies. The construction of an airstrip near the damsite would permit easy access to the site throughout the year. 505/ The firm did not envision use of the Kisaralik River in summer or winter for the transportation of people or freight to the damsite.

The BLM first considered the navigability of the Kisaralik River in 1975 when identifying possible easements on lands selected by Akiak Village. In a report dated November 3, 1975, the BLM described the river as one hundred miles long, one hundred feet wide, and ten feet deep. He reported that no improvements were located along the river, but that the river was subject to "heavy use" during the summer. Motorboats were used on the river in connection with recreation and subsistence activities. 506/ Taking this information into consideration, the BLM easement task force on November 13, 1975, recommended that

the river be determined nonnavigable. However, it noted that the river was tidally influenced to the fork in Section 13, T. 9 N., R. 67 W., Seward Meridian. Finally, the task force recommended an easement for an existing trail along the river from Akiak. 507/

The BLM State Office accepted these recommendations and added one of its own. It proposed a continuous easement on both banks of the river from its mouth to the fork in Section 13, T. 9 N., R. 67 W., Seward Meridian, and a linear easement on the banks and bed of the river from the forks upriver through the selection area. The purpose of this easement was "to provide public use on waters having highly significant present recreational use." 508/

Representatives of Kokarmiut Corporation (Akiak) objected to the proposed easements. They claimed that the streamside and bed easements if approved would result in damage to the spawning grounds of king, chum, and silver salmon and the habitat of mink, beaver, wolverine, fox, otter, muskrat, and other fur-bearing animals. They also objected to the proposed trail easement along the Kisaralik, claiming that the trail did not exist. 509/ The BLM considered these comments, but decided to retain the proposed easements. However, on the basis of information provided by the Alaska Department of Fish and Game, the BLM decided that the river was tidally influenced only to the east section line of Section 20, T. 9 N., R. 67 W., Seward Meridian. 510/

Reviewing the proposed easements in light of new easement regulations in 1980, the BLM continued to maintain that the river was navigable by reason of tidal influence to Section 20, T. 9 N., R. 67 W., Seward Meridian. However, the BLM proposed to determine the river to be a major waterway as it had been

identified for inclusion in the National Wild and Scenic River System. As required by regulation, the proposed streamside and bed easements were deleted. An easement for an existing trail for winter use only along the Kisaralik was again recommended.

On June 3, 1982, BLM officials met with Akiak residents to discuss the proposed easements, navigability, and major waterway determinations. According to a BLM employee, the Natives stated that there were numerous Native allotments on the Kisaralik that were reached by boat in high water conditions. Since these conditions were unpredictable, they agreed that the Kisaralik was navigable only to Section 20, T. 9 N., R. 67 W., Seward Meridian. In addition, the Natives again objected to the proposed trail easement, stating that it did not exist and that they traveled over the Kisaralik ice during the winter. 511/

The BLM has not yet made a formal navigability determination for the Kisaralik. As of June 22, 1982, the BLM considered the river to be major through the selection area, navigable to the forks in Section 13, T. 9 N., R. 67 W., Seward Meridian, and tidally influenced to Section 20, T. 9 N., R. 67 W., Seward Meridian. The proposed winter trail easement was deleted. 512/

KASIGLUK RIVER

The historic record reveals little direct evidence of the use of boats on Kasigluk River. Herman W. Reeth's sketch map of the "Kuskokwim Gold Belt" of 1912 shows the river with a native camp or village located on its north bank about forty-five miles east of Kuskokuak Slough. In late November 1922, miners on Canyon Creek appealed to the Alaska Road Commission for the construction of

footbridges across the Kisaralik and Kasigluk rivers on the Akiak-Canyon Creek trail. Ed Smith, the miners' spokesman, explained that a footbridge across Kasigluk River fifteen miles out of Akiak was needed because it was dangerous to cross the river ice during a warm spell. "The Natives, the Lapps and everyone else gets hung up there for days as you cant [sic] get around" the river, claimed Smith. About the same time Reeth sent a letter to the Alaska Governor Scott C. Bone in support of the miners' petition. He claimed, however, that if a bridge was constructed across the river, it would not last long for with each spring break-up large sections of the sand and silt banks fell into the river. The Road Commission subsequently placed ferry boats on the trail crossings of the Kisaralik and Kushluk rivers, but never on the Kasigluk River. 513/

Little information about this river was found in the BLM land records. In 1977, the BLM proposed that the river within the area selected by Akiak Village be determined navigable due to tidal influence to the west boundary of Section 36, T. 9 N., R. 67 W., Seward Meridian. The proposal was subsequently dropped. 514/ At the present time, the BLM considers the river to be nonnavigable, but a formal determination has not yet been made.

KWETHLUK RIVER

During the gold rush days, it was evidently common knowledge that the Kwethluk River was suitable for navigation. In July 1914, a local newspaper reported the departure of Andrew M. Johnson and a companion with a mining outfit from Aniak in a motor-powered boat. The two men were bound for the Canyon Creek diggings where Johnson intended to spend the summer. 515/ Later that

summer Alfred G. Maddren of the USGS learned from Frank Joaquin of Bethel that the Kwethluk River, or as he called it, the Kwikluk River, was the best route of travel to the newly discovered diggings on Eek River. By ascending the Kwethluk River a distance of about thirty miles, one could reach a trail leading to the Eek River diggings. 516/ In 1915, H. A. Cotton of the U. S. Coast and Geodetic Survey was told by local residents that one could take a fifty-ton steamboat up the "Kuethluk" River a distance of twenty-five miles. Small boats with a draft of about one foot could be taken an additional seventy-five miles up the river. 517/

According to recent reports, the river is heavily used by local residents for recreation and subsistence purposes. Residents of Kwethluk and Bethel are known to fish for grayling as well as rainbow and Dolly Varden trout in the river. Following an air reconnaissance flight over the upper half of the river, one BLM employee wrote that the river appeared to be "floatable," but noted statements made by his pilot to the effect that he knew of no one who had floated down the river or landed a floatplane on the river or on the lake at its head. 518/

The BLM first considered the navigability of Kwethluk River in 1975 when identifying possible easements on lands selected by Kwethluk Village. In a report dated November 4, 1975, the BLM described the river as one hundred miles long, two hundred feet wide, and fifteen feet deep with mud, silt, and gravel banks. He wrote that the river as far as the Kilbuck Mountains was heavily used by local residents in motorboats for subsistence and recreation purposes. Writing to the BLM on May 5, 1976, Lew Reece of Bethel claimed that many people fished for grayling, rainbow, and Dolly Varden trout in the

Kwethluk as it was only a four hour distance by boat from Bethel. He had traveled to the river, which he described as a "nice clear stream with some fast water." 519/

Partly on the basis of this information, the BLM proposed to determine the Kwethluk to be nonnavigable and to reserve continuous easements on the banks and bed of the river to Section 1, T. 5 N., R. 68 W., Seward Meridian, near Three Step Mountain. In addition, the BLM proposed a site easement on the left bank of the river in Section 10, T. 6 N., R. 68 W., Seward Meridian. These easements were intended "to provide for public use of waters having highly significant present recreational use," and to retain public access to public lands and resources. The proposed site easement was located about a day's travel on the river, apparently from the Kuskokwim. 520/

On March 7, 1979, the BLM issued a decision to convey lands to Kwethluk, Incorporated. The linear and site easements were reserved. The Kwethluk River was determined to be navigable due to tidal influence to Section 4, T. 8 N., R. 69 W., Seward Meridian; the remainder of the river in the conveyance area was determined to be nonnavigable. 521/

GWEEK RIVER

This river is located in the land selections of Bethel, Akiachak, Akiak, and Tuluksuk villages. The BLM first considered the navigability of the river in 1975 when identifying possible easements in the Akiachak selection area. On November 13, 1975, the BLM easement task force recommended that the river be determined navigable due to tidal influence to a point in Section 14, T. 11 N.,

R. 68 W., Seward Meridian. This point was estimated on the basis of information that the Kuskokwim was tidally influenced to Tuluksuk Village. 522/ Little information about the use of the river as a travel route was available to the BLM. In May 1976, Ignatius L. Andrew of Bethel wrote that the river provided access to tributary creeks and lakes. He did not indicate how far up the river local residents traveled, or the mode of transportation. However, he wrote that the river was accessible by boat in the spring and fall, and by snowmachine and dogteam in the winter. Airplanes were sometimes landed on the river. Ice-fishing occurred at the river mouth in winter, and sport fishing in the spring, summer, and fall. Burbot, sheefish, pike, whitefish, and blackfish were caught. Hunters and trappers also visited the river for moose, bear, waterfowl, ptarmigan, fox, otter, mink, muskrat, and beaver. Finally, he wrote that he had visited the river about forty times a year for the past fifteen years. 523/

In late 1978, the BLM issued a decision to convey lands to the Bethel Native Corporation. Gweek River was determined to be navigable due to tidal influence in the conveyance area. No easements were reserved along the river. 524/

In the case of the Akiachak selection area, the BLM proposed in 1976 to reserve a linear easement on the banks and bed of the river above the point in Section 14, T. 11 N., R. 68 W., Seward Meridian, which was considered to be the limit of tidal influence. In addition, it proposed an easement for the Akiachak - Yukon River trail, which crossed the Gweek River in Section 23, T. 11 N., R. 68 W., Seward Meridian. Upon learning of this proposal, Willie Kasayulie, chairman of Akiachak, Limited, wrote the BLM on November 26, 1976 that the trail no longer existed and was never used in the summer. "People use the Gweek River

during the summer by boats to go to this area of Akiachak," he wrote. The BLM nevertheless retained the trail easements as well as the streamside and bed easement on the Gweek. The latter easement was needed "to provide public use of waters having highly significant present recreational use." 525/

With the issuance of new easement regulations, the BLM deleted the proposed streamside and bed easement on Gweek River, and recommended that the entire length of the river be determined navigable as an interconnected slough of the Kuskokwim River. Representatives of Akiachak, Limited, did not object to the proposed navigability determination. Accordingly, on June 29, 1982, the BLM determined that Gweek River was a major and navigable waterway in the Akiachak conveyance area. 526/ The same determination for the river in the Tuluksak conveyance area was made on March 3, 1982. 527/ A determination for the river in the Akiak selection area has not yet been made.

Unnamed Lakes

During a meeting with BLM officials on June 3, 1982, representatives of Akiachak, Limited, stated that two unnamed lakes north of the Gweek River in the N $\frac{1}{2}$, T. 11 N., Rs. 69 and 70 W., Seward Meridian, were navigable. More specific information was not provided. On June 29, 1982, the BLM determined the lakes to be nonnavigable. 528/

TUBUNGALUK CREEK

This creek may be a route of boat travel to hunting and trapping grounds. In May 1976, Ignatius L. Andrew of Bethel wrote the BLM that many people visited the creek with outboard boats, kayaks, canoes, snowmachines, dog teams, and

sometimes airplanes, to fish for burbot, sheefish, whitefish, blackfish, and to hunt or trap fox, muskrat, mink, otter, and waterfowl. He indicated that the creek provided access to lakes. He had visited the creek on many occasions for the past fifteen years. 529/ In late 1978, the BLM determined the creek in the conveyance area of the Bethel Native Corporation to be nonnavigable. No easements on or along the creek were reserved. 530/

HANGAR LAKE

Located a short distance east of Bethel, this lake serves as a floatplane landing strip. The lake is accessible by road from Bethel. In 1975, the BLM proposed to reserve a site easement on the southwest shore of the lake and an easement for the road to the bridge over Brown Slough. An easement on the lake bed was later proposed and then deleted. In late 1978 the BLM determined that the lake was nonnavigable. The site and road easements were reserved. 531/

JOHNSON RIVER

Available records indicate that the lower reaches of the Johnson River have been used as a summer route of travel to villages, fish camps, and trapping headquarters located on lakes and sloughs tributary to the river. That stretch of the river between Kayigyalik Lake and the Russian Mission summer portage may once have been a route of boat travel, but there is little evidence to support that conclusion. In the summer of 1910, Anton Eide of the Alaska Road Commission noted that quite a few men crossing the Russian Mission summer portage from the Yukon River "get tangled up among the sloughs, high grass and willows in the lowlands near the Kuskokwim, and wander around finally

coming out about 25 miles below Bethel." 532/ It is quite possible that travelers on the portage, not knowing that they were to ascend Johnson River to reach Mud Creek portage, descended Johnson River to its mouth by mistake.

There is evidence too of a water route from Johnson River to Baird Inlet. Various early maps of the delta region illustrate the location of three villages called Kvigatluk, Nunochok, and Nanvogalogalak on the Johnson River system. The locations of Kvigatluk and Nunochok on modern USGS maps (the location of Nanvogalogalak is unknown) do not correspond at all to those shown on the early maps--which is not surprising considering the state of geographical knowledge of the delta prior to the day of the airplane and aerial photography. In any case, the early maps show Johnson River bearing north and thence west through a series of lakes. According to a USGS party in the mid-1950s, "Small boat travel to Bethel is along an interior waterway that leaves the north side of Baird Inlet and follows a torturous route of sloughs, lakes, and streams to a reported short tramway connecting with the Kuskokwim via the Kvichavak River [Johnson River]." 533/ The exact location of the route is unknown at present. However, in 1976, Pat Beckley of the BLM reported that a fifty-foot long tramway was located in Section 2, T. 11 N., R. 76 W., Seward Meridian, between Takslesluk Lake and some unnamed lakes to the east. 534/

Both Nunapitchuk and Kasigluk villages have long relied upon Johnson River as a route of travel. In early 1945, Samuel Anaruk, a government teacher at Nunapitchuk, wrote that Johnson River, the main transportation route to the village during the open season from May 15 to October 1, was deep enough for the use of "barges, scows and lighter" regardless of the stage of tide, which raised the water level by three or four feet. While the village lacked docking

facilities, barges with thirty to fifty tons of freight had been unloaded at the village in less than a day. Moreover, small boats were used to carry the mail from Bethel to Nunapitchuk once or twice a month, and logs from the Kuskokwim River were rafted to the village for use as building material and firewood. 535/

Boat traffic between the villages of Nunapitchuk and Kasigluk has doubtlessly been substantial, despite the absence of documentary evidence to support that view. About 1959, a Russian Orthodox church was moved from Nunachuk to Kasigluk on a log raft towed by a boat. In addition, the McGrath and Kuskokwim Freight Service, Inc., included Kasigluk as well as Nunapitchuk, in a list of villages served by it. 536/

The BLM considered Johnson River to be a potentially navigable waterway as early as 1975. On November 5, 1975, a BLM realty specialist reported on the basis of personal observations as well as discussions with local residents that Johnson River, which he described as being 150 miles long, one thousand feet wide, and twenty feet deep with mud and silt banks, was navigable for barges to the village of Kasigluk. Local residents also made considerable use of the river for subsistence fishing and intervillage travel during the summer season. 537/

Subsequently, on January 15, 1976, BLM officials met with residents of Nunapitchuk to discuss proposed easement and navigability determinations. On the basis of the information presented at this meeting, a BLM realty specialist recommended that Johnson River from its confluence with the Kuskokwim River to the villages of Nunapitchuk and Kasigluk, and "a canal (slough) system" between the two villages be determined navigable. He described Johnson River as being "a

highly significant river for recreation, substance [sic] and general travel in the area"; and the canal system between Nunapitchuk and Kasigluk was "heavily used by both villages for all purposes of travel." He noted the existence of a water route from Kasigluk to Baird Inlet by way of Kayigyalik and Takslesluk lakes, but for some reason considered the Johnson River beyond Nunapitchuk and Kasigluk to be nonnavigable. On October 12, the State Director concurred with these recommendations. 538/

In early 1979, following a series of meetings at Nunapitchuk, Atmautluak, and Kasigluk, the BLM reconsidered previous navigability recommendations for waterways in the Johnson River area. It was again recommended that Johnson River in the area selected by the three village corporations be determined navigable, as the river was heavily traveled to and between the villages and to public lands and other waterways, and in addition was "a main access route to the Yukon River." 539/

In late January 1980, the BLM Division of Resources reviewed these recommendations in light of a recent decision by the Alaska Native Claims Appeal Board on a navigability issue. The division determined that the recommendations were proper, and identified a number of other waterways in the area that appeared to be navigable in the belief that Johnson River to the Russian Mission summer portage was a practicable route of water travel. Specifically, the division considered the following waterways and their interconnecting sloughs to be navigable: 1) Johnson River through the selection areas; 2) Nunavakanukakslak Lake; 3) Kayigyalik Lake; 4) an unnamed lake in T. 10 N., R. 74 W., Seward Meridian; 5) an unnamed lake in T. 10 N., R. 75 W., Seward Meridian; and 6) an unnamed lake in Sections 31-33, T. 10 N., R. 74 W., Sections 5-6, T. 10 N., R. 75 W., and Sections 1, 12-13, T. 10 N., R. 75 W., Seward Meridian. 540/

On March 27, 1980, a BLM official met with village corporation leaders at Nunapitchuk to discuss among other things proposed navigability determinations. The village leaders did not object to the proposals, but indicated that an extremely crooked slough extending from Johnson River to Nunavakpak Lake should also be determined navigable. The slough ranges from twenty to forty feet in width and twenty to thirty feet in depth. Nunavakpak Lake itself was said to be fifteen to twenty feet in depth and at one place apparently "bottomless." During the summer months, residents of Nunapitchuk and Kasigluk, mostly those from Kasigluk, made as many as ten trips a week to the lake, transporting supplies to camps on the lake in preparation for the winter trapping season. In addition, local residents used skiffs on several lakes and sloughs south of Nunavakpak Lake in connection with subsistence activities. These boats ranged from twenty to thirty feet in length and were powered by outboard motors.

541/

Upon receipt of this information, the BLM Division of Resources recommended that Nunavakpak Lake and the slough linking the lake with Johnson River be determined navigable. Noting the existence of several camps as well as a grave site on the lake, the division wrote that travel on the route was "similar to traffic between villages." Finally, it recommended that the slough entering Nunavakpak Lake in Section 26, T. 8 N., R. 76 W., Seward Meridian and the lake and slough system entering Nunavakpak Lake in Section 27, T. 8 N., R. 76 W., Seward Meridian, be determined navigable. The existence of seasonal camps on these waterways indicated use of the waterways as a water route of travel. 542/

On July 25, 1980, the BLM issued a decision to convey lands to Nunapitchuk, Limited. The following waterways were identified as navigable within the selection

area: 1) Johnson River and interconnecting sloughs; 2) Nunavakanukakslak Lake; 3) Nunavakpak Lake; 4) an unnamed lake in Sections 4-8, 18, T. 10 N., R. 74 W., Seward Meridian and the unnamed slough connecting the lake with Johnson River in Sections 7, 8, and 17, T. 10 N., R. 74 W., Seward Meridian; 5) an unnamed lake in Sections 19-20, 29-32, T. 10 N., R. 74 W., which is drained by the branch of the Johnson River on which Nunapitchuk is situated; 6) an unnamed slough flowing from Nunavakanukakslak Lake to Johnson River and traversing Sections 28, 32, 33, T. 10 N., R. 74 W., and Section 5, T. 9 N., R. 74 W., Seward Meridian; 7) an unnamed slough (canal) and lake system extending from the unnamed slough near Nunapitchuk to the confluence with Johnson River at Kasigluk which is located in Section 6, T. 9 N., R. 74 W., and Sections 1 and 12, T. 9 N., R. 75 W., Seward Meridian; 8) an unnamed lake system between Nunavakanukakslak Lake in Section 31, T. 10 N., R. 73 W., Sections 34-36, T. 10 N., R. 74 W., and Sections 1-3, 10-15, 23-26, 36, T. 9 N., R. 74 W., Seward Meridian; and 9) an unnamed slough extending from Section 1, T. 7 N., R. 76 W., to empty into Nunavakpak Lake in Section 26, T. 8 N., R. 76 W., Seward Meridian. 543/

Issuance of the decision sparked two appeals to the Alaska Native Claims Appeal Board on the issue of navigability. On August 25, 1980, the State Attorney General Office claimed that the BLM erred in determining as nonnavigable more than fifteen lakes in the Nunapitchuk selection area. On September 15, Nunapitchuk, Limited appealed the BLM's determination of nonnavigability for three lakes: 1) an unnamed lake and interconnecting sloughs in Sections 33-34, T. 10 N., R. 74 W., and Sections 3-5, 8-10, T. 9 N., R. 74 W., Seward Meridian, designated as Lake A; 2) an unnamed lake in Sections 15-16, T. 9 N., R. 74 W., Seward Meridian, designated as Lake B; and 3) an unnamed lake in Sections 3,

4, 9, and 10, T. 9 N., R. 74 W., Seward Meridian, designated as Lake C.

According to the corporation, Lake A constituted "a link in an important waterway between the villages of Nunapitchuk and Atmautluak"; Lake B was a landlocked lake of sufficient size and depth with suitable shorelines for waterborne commerce; Lake C was "by its physical characteristics and historical use . . . a body of water navigable in fact and law." The corporation claimed that local residents used kayaks and canoes on Lake B to hunt muskrats in May. 544/

On September 10, a BLM representative met with officials of Calista Corporation to discuss the waterways in dispute. According to his notes of the meeting, the officials said that local residents used Lakes A and C in connection with travel between Nunapitchuk and Atmautluak. As many as ten to fifteen boats crossed the lakes each day during the open season. Local residents used kayaks and canoes on Lake B for trapping and other subsistence activities mostly during the month of May. Finally, Nunapitchuk residents used the unnamed lake and interconnecting slough south of Nunavakpak Lake for subsistence purposes. These waterbodies are located in Sections 27-33, T. 8 N., R. 76 W.; Sections 25-26, 35-36, T. 8 N., R. 77 W., Section 1, T. 7 N., R. 77 W.; and Sections 4-6, T. 7 N., R. 76 W., Seward Meridian. 545/

Reviewing this information, the BLM Division of Resources recommended that Lakes A and C be determined navigable as the two waterways constituted a link in a chain of waterbodies previously determined navigable even though the two lakes were not shown as connecting with other waterways on USGS maps.

Lake B and the lake and slough system south of Nunavakpak Lake were considered to be nonnavigable. Only small boats were used on the waterways.

The State Director concurred with these recommendations on October 14, 1980.

546/

Subsequently, the BLM and Nunapitchuck, Limited filed a stipulation before the Alaska Native Claims Appeal Board to the findings of the BLM Division of Resources. The board determined that Lake A was navigable. As the parties agreed that Lake B was nonnavigable, the board dismissed the issue. 547/

In the spring of 1982, the BLM Division of Resources again reviewed navigability recommendations for the selection area. It recommended that the two waterway systems be added to the list of navigable waters: an unnamed slough and lake system in Sections 16, 17, 20, 21, 28, and 29, T. 10 N., R. 74 W.; and an unnamed lake and slough in Sections 3-10, T. 8 N., R. 75 W., Seward Meridian. The BLM formally determined these waterways to be navigable on March 23, 1982. 548/

Additional determinations of navigability were made in connection with land conveyances to Kasigluk Village. On October 21, 1980, the BLM proposed that the following waterways be determined navigable: 1) Johnson River and inter-connecting sloughs; 2) Kayigyalik Lake; 3) Nunavakpak Lake; 4) the unnamed slough and lake system extending from Kasigluk to Kayigyalik Lake; 6) the unnamed slough and lake system between the two branches of Johnson River in Sections 14, 21-23, 25-28, 34-35, T. 10 N., R. 75 W., Seward Meridian; 7) the unnamed slough and lake system in Sections 25 and 36, T. 10 N., R. 75 W., and Section 1, T. 9 N., R. 75 W., Seward Meridian; and 8) the unnamed slough and lake system between Nunapitchuk and Kasigluk. 549/ On December 10, Martin L. Karstetter met with residents of Kasigluk to discuss among other things the proposed navigability determinations. According to Karstetter, the residents had "no major problems" with the navigability section in the draft Decision to Issue Conveyance. Accordingly, on March 2, 1982, the BLM determined these waterways in the conveyance area to be navigable. 550/

Pikmiktalik River

In response to an inquiry from the BLM about potentially navigable waterways in the Atmautluak selection area, Joshua Nick of Atmautluak provided copies of shipping invoices from the United Transportation, Inc., the McGrath and Kuskokwim Freight Service, Inc., and the United Transportation, Inc. One McGrath and Kuskokwim Freight Service invoice dated October 14, 1973 was for the shipment of twenty thousand board feet of lumber from Aniak to Atmautluak at a cost of \$2,352. Two invoices, dated September 26, 1974, were for the shipment of steel tanks, power pumps, a generator, and pipe from Bethel to Atmautluak on the MV Bethel; another invoice for the shipment of twelve thousand pounds of lumber to Atmautluak at a cost of \$215 on MV Kwethluk. The final invoice, dated October 3, 1974, was for the shipment on October 4 of 13,100 gallons of stove oil to Atmautluak on MV Judy at a cost of \$6,550. In addition, Nick wrote in his letter, "Our village does not have a landing strip but our mail services are provided by bush planes that have pontoons and they use the river as their landing site." 551/

The BLM subsequently recommended that Pikmiktalik River be determined navigable as far as the village of Atmautluak. The Atmautluak, Ltd. board of directors supported this recommendation, for in protesting proposed streamside easements along Pikmiktalik River above Atmautluak they claimed that the river was nonnavigable. This view was, however, apparently based not on the river as a potential highway of commerce but on the fear that the streamside easements would contribute to an increase of visitors on the river and thus result in adverse impacts on the local subsistence life style. 552/

In the course of a meeting at Nunapitchuk on March 27, 1980, a BLM official was informed that the residents of Nunapitchuk and Atmautluak believed the Pikmiktalik River to be navigable throughout both selection areas, for they used the river to reach public lands north of the Nunapitchuk selection area for fishing, hunting, trapping, berry picking, and other related activities. Noting that the river above Atmautluak was connected with Johnson River by several slough and lake systems, he believed it possible that the Pikmiktalik River in this area could be considered navigable as an interconnecting slough system of Johnson River. In addition, local residents told him of a water route from Atmautluak to Nunapitchuk. Arthur Jenkins, a store-owner in Atmautluak, used the water route to transport goods to Nunapitchuk, and as many as twenty people went over the route each day during the open season. 553/

The BLM Division of Resources subsequently reviewed this information, and concurred with the recommendation that Pikmiktalik River to Atmautluak was navigable. In addition, the division recommended that the Pikmiktalik River where it connects with the unnamed lake system between Nunavakanukakslak Lake and Johnson River in Section 12, T. 9 N., R. 74 W., Seward Meridian, be determined navigable. 554/

In December 1980, the BLM official met with Atmautluak Limited to discuss among other things proposed navigability determinations. Local residents indicated on a blue line easement map those waterways they considered to be navigable for the purpose of the travel. According to the official, local residents normally used boats ranging from sixteen to thirty feet in length and powered by outboard motors from twenty-five to 115 horsepower. He reported

that Pikmiktalik River was heavily used by people from both Atmautluak and Akiachak. Some people from Akiachak with Native allotments on Pikmiktalik River in T. 12 N., R. 72 W., Seward Meridian, transported their goods and supplies obtained in Akmautluak to the allotments by way of the river. He also noted that the two unnamed lakes in T. 9 N., R. 73 W., Seward Meridian, located northeast and east of Atmautluak were considerably smaller in area than shown on USGS maps because much of the lake areas consisted of "shallow grassy swamp." 555/

On the blue line easement map, residents of Atmautluak indicated use of boats on the following waterways: 1) the slough and lake system about one mile east of Atmautluak in Sections 16-17, 20-21, T. 9 N., R. 34 W., Seward Meridian, interconnecting with Pikmiktalik River; 2) a water route leaving the Pikmiktalik River in Section 17, T. 9 N., R. 34 W., Seward Meridian, and returning to the river in Section 4, T. 9 N., R. 73 W., Seward Meridian, which includes the large lake about one mile northeast of Akmautluak; 3) a water route from the above lake southeast to a smaller lake located mostly in Sections 22, 23, 26, 27, T. 9 N., R. 73 W., Seward Meridian by way of the slough in Sections 10 and 14, T. 9 N., R. 73 W., Seward Meridian; 4) a water route from Pikmiktalik River via a number of sloughs in Section 4, T. 9 N., R. 73 W., and Section 33, T. 10 N., R. 73 W., to a lake inlet in Section 34, T. 10 N., R. 73 W., and thence up the slough to the large lake in Sections 24, 25, 35, T. 10 N., R. 73 W. and Sections 9, 10, 19-31, T. 10 N., R. 72 W., and thence to the smaller lake located to the northwest in Sections 10-15, T. 10 N., R. 73 W., and thence to the Pikmiktalik River by way of an overland portage in Section 15, T. 10 N., R. 73 W., Seward Meridian; 5) a water route leaving the Pikmiktalik River by way of one of the sloughs in Sections 4, 5, 8, T. 10 N., R. 73 W.,

and thence to the large lake in Sections 5, 6, T. 10 N., R. 73 W., Sections 29-32, T. 11 N., R. 73 W., Section 1, T. 10 N., R. 74 W., Section 36, T. 11 N., R. 74 W., and thence to a slough of the Kvichavak River by way of a "deep channel" in Section 25, T. 11 N., R. 74 W., or to the lake in Sections 14-16, 20-23, 26-28, T. 11 N., R. 73 W., and thence to the Pikmiktalik River by way of the slough in Sections 23-24, T. 11 N., R. 73 W., Seward Meridian; and 6) a water route from the Pikmiktalik River to the Kvichavak River by way of a slough in Sections 17, 18, 20, T. 12 N., R. 72 W., Seward Meridian.

Reviewing this map and other information collected during the meeting at Atmautluak, the BLM Division of Resources recommended that the Pikmiktalik River throughout the selection area and the lake and slough system from Pikmiktalik River to Johnson River in T. 10 N., R. 74 W., and T. 11 N., R. 74 W., Seward Meridian, be determined navigable. It recommended that the other waterways be determined nonnavigable "because of the absence of seasonal camps and native allotments. Use of the areas is probably for subsistence purposes on a basis less intensive than in the other cases." 556/

As of May 28, 1981, the BLM considered only the following waterways in the Atmautluak selection area to be navigable: 1) Johnson River; 2) the unnamed slough and lake system between Johnson and Pikmiktalik rivers which joins Johnson River in Section 25, T. 11 N., R. 74 W., and the Pikmiktalik River in Section 24, T. 11 N., R. 73 W. and Sections 4 and 8, T. 10 N., R. 73 W., Seward Meridian. These waterways were determined to be navigable on September 14, 1981. 557/

Kongeruk River

According to certain residents of Atmautluak, the Kongeruk River serves as an alternative route to Atmautluak whenever stormy weather presents a danger to travelers on the Johnson and Pikmiktalik rivers. From the forks in Section 29, T. 8 N., R. 73 W., Seward Meridian, one may continue up Kongeruk River to the lake in Sections 3 and 10, T. 8 N., R. 73 W., Seward Meridian, and thence up a slough and lake system in Sections 3-5, T. 8 N., R. 73 W., Seward Meridian to reach Pikmiktalik River. Another route begins in Section 29, T. 8 N., R. 73 W., Seward Meridian, and follows a slough and lake system in Sections 5, 8, 17-20, T. 8 N., R. 73 W., Seward Meridian, to a slough tributary to the Pikmiktalik River. 558/

The BLM Division of Resources recommended that this water route system be determined navigable: "The use of lineal waterways in the southerly portion of the [Atmautluak] selection area during periods of storms by craft capable of carrying in excess of 1,000 pounds to the village of Atmautluak is indicative of their susceptibility to commerce, if not navigable in fact." The BLM determined the system to be navigable on September 14, 1981. 559/

UNNAMED RIVER

This unnamed river enters Lomavik Slough from the west in Section 1, T. 6 N., R. 73 W., Seward Meridian. It traverses land selected by the villages of Napakiak, Napaskiak, and Oscarville. The BLM determined the river to be nonnavigable in the Napaskiak and Oscarville conveyances on March 31, 1982. 560/

The BLM reconsidered the navigability at the request of the State of Alaska. On June 24, 1982, Dan Nelson of Napaskiak called the BLM in response to its letter dated June 16 requesting information about the river flowing westerly from a number of tundra lakes near Kwethluk River to the head of Lomavik Slough. According to Nelson, "quite a few" residents ascend the slough, known locally as the Unuyagtuli (his spelling) in "skiffs" in connection with subsistence activities, mostly berry picking and muskrat hunting, in the early spring and later in the summer. At high tide, he said, one can "go up all the way." At low tide, one cannot ascend the slough very far. He described the crafts used on the waterway as being wooden boats about twenty-four feet long with twenty-five to fifty horsepower outboard motors (propeller). Nelson said that he had ascended the slough several times in such a boat into T. 7 N., R. 69 W., Seward Meridian, near the source of the slough. He refused to answer the question whether any of the Native allotment claimants on the slough reached their land by boat.

On June 25, a BLM official contacted Richard Larson, a land planner with the Napaskiak village corporation. Larson stated that local residents ascended the slough in twenty-one foot boats with outboard motors. The slough can be ascended anytime in the spring, he said. The slough is tidally influenced, but he could not give an opinion on the extent of tidal influence. He said that he had been on the slough several times at high water stages for a distance of about ten miles, but had never attempted to ascend the waterway at low tide. He stated that the slough was shallow at its mouth, but one could find "good water" farther upstream.

When asked why people ascended the slough, Larson replied that the slough was a shorter, alternative route to the Kuskokwim River. (USGS maps did not illustrate the slough or its branches heading in the Kuskokwim River.) Larson could not describe where the slough or its branches headed in Kuskokwim River for he did not have any maps before him. Given Larson's statement, the BLM official assumed that USGS maps do not illustrate the current location of the slough or that Larson confused this slough with another. Like Nelson, Larson could not identify anyone else who had first-hand knowledge of the slough.

On June 28, the BLM official contacted Rae Baxter, an employee of the Alaska Department of Fish and Game at Bethel for the past sixteen years. Baxter stated that he ascended the slough about 1971 to a point located almost directly south of Napaskiak in connection with resource inventory work. At that time he used a Grumman Sportboat, which he described as an aluminum boat 15'3" long, 42" wide, 18" deep, 135 pounds in weight, with a 22-inch square stern and powered by a 9.8 horsepower outboard motor (propeller). Whitefish, pike, blackfish, and burbot are found in the slough, he said.

Baxter stated that the slough was tidally influenced, but could not offer an opinion on the extent of the tides running up the slough. However, he said that the slough was suitable for the use of boats up to thirty feet in length and powered by outboard motors with jet units or propellers. The slough contains deep water, although its mouth is shallow. Access to the slough is best accomplished at moderate water stages as Lomavik Slough is difficult to navigate at low water, and it is difficult to locate the mouth of the slough at high water stages. Once entry is made, no problems are encountered in proceeding up the slough.

According to Baxter, certain residents of Napaskiak and Napakiak ascend the slough for unknown distances in wooden boats twenty-six feet long with a four-foot beam and powered by seventy-horsepower outboard motors (propeller). These people ascend the slough in order to reach salmon berry picking grounds. No fish camps are located along the slough, and to the best of his knowledge, no one lives permanently along the water body. People simply camp in tents when on the slough. He noted, however, that people may have once lived on the slough, for he discovered two archeological sites (house pits) along the waterway. One site is located on the slough almost due south of Napaskiak. He failed to record the location of the other site. He did not believe any archeologist had ever located or investigated the sites.

Statements made by area residents in their applications for Native allotments along the unnamed slough supported the claims of Nelson, Larson, and Baxter that people do in fact ascend the slough in boats in order to reach berry picking grounds. At least nine people have filed applications with the BLM for Native allotments on the slough. As several of the files were missing or not readily available for examination, the BLM official examined only seven of the case files.

Considering the applicants' statements as a whole, the BLM official concluded that people had long used the area drained by the slough for the purpose of berry picking. In her application dated November 9, 1970 for an allotment in Section 8, T. 6 N., R. 72 W., Seward Meridian, Alice H. Anvil (F-13873) claimed use of the land during the months of August and September of every year since 1946. She wrote "My husband and I first went to Loomavik in 1946 to pick berries. We go there every fall." In his application dated

November 16, 1970 for a parcel of land in Sections 7 and 8, T. 6 N., R. 72 W., Seward Meridian, Owen David (deceased) (F-16905) wrote: "I have been picking berries [there] since I moved to Bethel more than 10 years ago . . . I have no tent frames [there] because I sleep in the boat when I go there." In her application dated November 24, 1970 for a parcel in Sections 10 and 11, T. 6 N., R. 72 W., Seward Meridian, Maggie Kinegak claimed use of the land for berry picking since 1937. Finally, in her application of June 24, 1971 for a parcel in Section 12, T. 6 N., R. 72 W., Seward Meridian, Annie Nansen (F-15830) wrote: "My family and I go there every year to pick various berries when they are ripe." She claimed use of the land since 1923.

Only three Native allotment claims along the slough had been inspected by a BLM official. These claims are held by Zachariah Steven (F-18223), Marie M. Maxie (F-17516), and David A. Maxie (F-15672), all of Napaskiak. In his application dated December 14, 1970 for lands in Sections 27 and 34, T. 7 N., R. 71 W., Seward Meridian, Steven wrote that he had "been going to this area every year since I was fifteen years for trapping and berry picking" Since 1942, he wrote, he had a tent frame and fish racks on the land. In her application of December 14, 1979 for lands in Sections 24-26, T. 7 N., R. 71 W., Seward Meridian, Marie M. Maxie wrote that she had "been going to Alirenaq every spring and fall since 1958" and used the land for a spring camp and for berry picking. She claimed a tent frame and fish racks on the land. In his application of the same date for lands in Section 26, T. 7 N., R. 71 W., Seward Meridian, David A. Maxie, Marie's husband, wrote that he had used the land as a spring camp and for berry picking since April 1934. "I have been going to this place as long as I can remember," he wrote. In addition, he claimed use of a tent frame and fish racks at the place since 1934.

A BLM land law examiner inspected these three Native allotment claims on August 30, 1975, traveling to each claim by small helicopter. She inspected Steven's claim in the company of Steven and Golga Jacob, who acted as an interpreter. According to the examiner, Steven said that he used the land for muskrat hunting, trapping, fishing, and berry picking and had been traveling to the land "every spring of his life." Cultural features on the land included a tent fram, stove, a fish rack, a net rack, and a grave, which Steven said was that of a relative. These features were photographed.

The examiner inspected the Maxie claims in the company of David Maxie. No evidence of use was found on the claim of Marie Maxie. According to her husband, she used his camp on the other side of the slough, but had used the claim for thirty years. On the land claimed by David Maxie, Marion found tent frames, a bath house, a barrel stove, a sled, and a canoe. She noted that the "applicant travels by river to the land and then camps," and that Maxie used the land every year for the past thirty years for berry picking, fishing, hunting, and trapping.

The BLM concluded that the unnamed slough was and continued to be the customary route of boat travel from the Kuskokwim River to berry and trapping grounds in the area. So far as it could determine, the slough was the only summer surface route to the area. If claimants of Native allotments on the slough and Baxter were to be believed, the slough had been used as a route of boat travel for at least sixty years. Boats used on the slough were similar to those used in the lower Kuskokwim area at the time of Statehood. In the late 1950s, while conducting anthropological studies at Napaskiak, Wendell L. Oswalt

noted that most men traveled in "plank boats," which he described as being approximately twenty-four feet long with a three-foot beam and powered by outboard motors ranging from one and one-half to twenty-two horsepower.

The BLM official recommended the unnamed river as far as David Maxie's landing site in Section 26, T. 7 N., R. 71 W., Seward Meridian, met Departmental criteria of navigability as modified by the Alaska Native Claims Appeal Board decision of December 14, 1979 on the navigability of the Nation and Kandik rivers. The location of Maxie's landing site was assumed to be the mouth of the unnamed tributary entering the slough from the north in the NE $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 26. He recommended that this point and the extent of tidal influence be verified by Cadastral Survey at the time of survey. He also reported that as far as it is known, the slough was in its natural and ordinary condition in 1959. 560/

Following a review of the BLM's land status plats, another BLM official recommended that the river be determined navigable to the easterly range line of T. 7 N., R. 70 W., Seward Meridian. He wrote that six or nine Native allotments were located on the river from its mouth to that point. Accordingly, on October 26, 1982, the BLM determined that the river was navigable to the easterly boundary of the SE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 25, T. 7 N., R. 70 W., Seward Meridian. 561/

KIALIK RIVER

In 1975, when considering lands to be conveyed to Tuntutuliak Village, the BLM learned of a fisheries research station on the river near the confluence of the Kutukhun and Meroyuk rivers. The station had been maintained year-round since

1969. Then, in 1980, residents of Tuntutuliak Village reported to BLM officials that Kialik and Meroyuk rivers formed part of a route of water travel between Tuntutuliak and Bethel. Local residents traveled the route whenever weather conditions made it dangerous to operate boats on the Kuskokwim River. 562/

Meroyuk River

During a meeting on August 21, 1975 with residents of Tuntutuliak to discuss proposed easements on village-selected lands, a BLM employee learned that the Meroyuk River was tidally influenced to Section 7, T. 5 N., R. 76 W., Seward Meridian. No information about the use of boats on the river was reported. Subsequently, the BLM easement task force recommended that the limit of tidal influence be extended only to the north section line of Section 18, T. 5 N., R. 76 W., Seward Meridian. 563/

At a second meeting held on March 6, 1980 with BLM officials, residents of Tuntutuliak provided a considerable amount of information about the use of the river and requested that the BLM determine navigable all water bodies claimed by the State of Alaska to be navigable. According to a BLM employee at the meeting, the Natives stated that the Meroyuk River and its easterly branch was an integral part of a water route of travel between their village and Bethel, and in addition afforded access to various hunting and trapping grounds. Three water routes to the lake system northwest of Tuntutuliak began on the eastern branch of the Meroyuk River: 1) the slough extending from the Meroyuk River branch in Section 14, T. 5 N., R. 77 W., Seward Meridian, to the large lake in Section 15, T. 5 N., R. 77 W., Seward Meridian; 2) the slough extending from the Meroyuk River branch in Section 23, T. 5 N., R. 77 W., Seward

Meridian, to the forks in Section 21, and thence north across a small lake in Section 16 to the larger lake in Section 23, T. 5 N., R. 77 W., Seward Meridian; and finally 3) the slough leaving the Meroyuk branch in Section 6, T. 4 N., R. 77 W., Seward Meridian. Other than the fact that it strikes the Kinak River in Section 24, T. 4 N., R. 78 W., Seward Meridian, little is known about this third route. In addition, the Natives reported use of the lake in Sections 8-10, 15-17, T. 4 N., R. 77 W., Seward Meridian. The lake is accessible by way of a meandering slough leaving the easterly branch of the Meroyuk River in Section 6, T. 4 N., R. 77 W., Seward Meridian, and entering the lake in Section 5, T. 4 N., R. 77 W., Seward Meridian. 564/

The BLM employee later submitted this information to the BLM Division of Resources with a request for navigability recommendations and a map illustrating in green those waterways considered to be navigable by the Natives. Also he noted that Nelson Agnapak of Calista Corporation confirmed the existence of the water routes to the Kinak River. These waterways were used by the Natives whenever weather conditions made it dangerous to navigate the Kuskokwim. The Natives used skiffs fifteen to thirty-two feet in length and equipped with outboard motors. 565/

After reviewing the information, the BLM Division of Resources recommended that all of the subject waterways be determined navigable. It wrote that "the types of boats used, their carrying capacity, and the presence of seasonal camps in the area, as well as use of some of the waterways . . . as an alternative route of access to the village of Tuntutuliak from the Kuskokwim, are sufficient evidence . . . to show that the waterways are navigable in fact." On July 15, 1980, the BLM determined that the river and lake systems in the conveyance area were navigable. 566/

NINGLICK RIVER

Local residents use this waterway to travel to various villages in the area as well as to hunting, fishing, and trapping grounds. On October 16, 1975, BLM representatives met with residents of Newtok to discuss proposed easements in the area selected by the village. Protesting a proposed easement for a trail from Newtok to Nightmute for the simple reason that the trail did not exist, village leaders claimed that travel in the area was ordinarily done on water in the summer and on ice in the winter. On June 30, 1982, the BLM determined the river in the Newtok conveyance area to be a major and navigable waterway.

567/

Kealavik River

This river is the principal route of summer travel to Newtok, a small village located in Section 24, T. 10 N., R. 87 W., Seward Meridian. Also known as New Kealavik, the village was established about 1949 by the people of Old Kealavik, a "sod hut village" located somewhere on Kealavik River near Newtok. 568/ In August 1975, BLM officials learned from local residents that boats and floatplanes were docked on the river behind Newtok. The BLM easement task force subsequently recommended that the river be determined nonnavigable. However, it considered the river to be tidally influenced to an unspecified point. 569/

In 1979, the BLM recommended that the river be determined a major waterway as far as Newtok, and navigable through the Newtok selection area. At a meeting with BLM officials on November 16, 1982, representatives of Newtok

Corporation agreed with the proposed determinations. Thus, on June 30, 1982, the BLM determined the river to be a major waterway to Newtok, and navigable through the conveyance area. 570/

Kaghasuk Lake

This lake, a northerly extension of Baird Inlet, may have been part of a water route of travel to the Eskimo camps or villages of Chiloghmut and Chiftak. Both places were reported in 1949 by the U.S. Coast and Geodetic Survey. 571/ The site of Chiloghmut is located in the southeast extremity of Section 4 or the northerly extremity of Section 9, T. 10 N., R. 82 W., Seward Meridian. The site of Chiftak, reported to have a population of fifty in 1950, is located in Section 14, T. 10 N., R. 80 W., Seward Meridian on a slough which enters Kaghasuk Lake in Section 36, T. 10 N., R. 81 W., Seward Meridian.

The lake is located in the selection area of Newtok Village. On December 21, 1979, a BLM realty specialist reported that Kaghasuk Lake "receives significant use from the local people for hunting and fishing and provides access to major waterways and public lands," and recommended that the lake be determined a major waterway and navigable on the basis of tidal influence. At a meeting with BLM officials on November 16, 1981, representatives of Newtok Corporation agreed with the proposed determination. However, they stated that a slough and lake system in T. 10 N., Rs. 82-83 W., Seward Meridian, was too shallow to be considered navigable. On June 30, 1982, the BLM determined the lake to be a major and navigable waterway. 572/

Unnamed Slough on Nelson Island

On November 17, 1981, residents of Tanunak Village reported to the BLM that the unnamed slough entering Ninglick River in Section 34, T. 9 N., R. 88 W., Seward Meridian, just south of a place called Nunakak Camp on USGS maps (Baird Inlet D-8, 1954), provided water access to a fall camp located on the slough in Section 6, T. 8 N., R. 87 W., Seward Meridian. It was possible, they claimed, to ascend the slough to the unnamed lake in Section 9, T. 8 N., R. 87 W., Seward Meridian. Given the existence of the fall camp and at least one Native allotment above the camp, the BLM Division of Resources recommended the slough to the lake be determined navigable. Only the mid-reaches of the slough (T. 8 N., R. 88 W., Seward Meridian) fall within the area selected by Tanunak Village. On June 30, 1982, the BLM determined the slough to be navigable from its mouth to the unnamed lake. 573/

Nunakukamiute Summer Camp Slough

This unnamed slough enters Hazen Bay in Section 6, T. 7 N., R. 89 W., Seward Meridian. The slough may have been a water route of travel to the former Eskimo village of Ukak, located at the base of Erchakrtuk Mountain. The village was known to have been inhabited from the late 1870s to 1939, at which time fifteen people lived there; it was abandoned sometime before 1945. According to one report, however, the village was inhabited during the summer in the late 1960s. A trail is shown on USGS maps as extending from the former village to the slough in Section 5, T. 7 N., R. 89 W., Seward Meridian. 574/

On November 17, 1981, residents of Tanunak Village reported to the BLM that people bound for the Nunakukamiute Summer Camp and three Native allotments

ascend the slough as far as the SW $\frac{1}{4}$, Section 32, T. 8 N., R. 89 W., Seward Meridian. After reviewing this information, the BLM Division of Resources recommended that the slough be determined navigable to the southwest corner of Section 32, and noted that the slough was probably tidally affected to that point, if not farther upstream. On June 30, 1982, the BLM determined the slough to be navigable from its mouth to Nunakukamiute Summer Camp. 575/

TANUNAK RIVER

According to BLM records, residents of Tanunak Village have used skiffs on the lower two miles of Tanunak River. Floatplanes also have landed on the river near the village. The BLM proposed to determine the river to be a major waterway, and in addition to consider the extent of tidal influence as far as the south edge of Section 28, T. 6 N., R. 92 W., Seward Meridian. Meeting with BLM officials at Tanunak on November 11, 1980, village leaders expressed agreement with these proposals. On June 30, 1982, the BLM determined the river to be tidally influenced to the south line of Section 28, T. 6 N., R. 91 W., Seward Meridian. The river was determined to be nonnavigable for travel, trade, and commerce at the same time. 576/

TOKSOOK RIVER

Records of the BLM indicate that local residents have relied upon Toksook River for the purpose of travel between Nightmute and Toksook Bay, a village founded in 1964 by the people of Nightmute. Before the recent construction of a landing strip at Nightmute, nonresidents generally reached Nightmute Village by landing airplanes directly on the river in front of the village. 577/

In 1978, the BLM proposed to determine the river to be a major waterway from its mouth to Nightmute, and to designate a point approximately three miles above Nightmute in Section 2, T. 4 N., R. 89 W., Seward Meridian, as the extent of tidal influence and navigability. On December 16, 1981, BLM officials met with residents of Toksook Bay to discuss proposed easement designations and navigability determinations. When asked to comment on the State of Alaska's position that the river may be navigable as far as public lands in T. 6 N., R. 89 W., Seward Meridian, the villagers stated that the river was not navigable beyond the point proposed by BLM as it was "too shallow" beyond that point. However, when the same question was raised at a meeting at Nightmute on the following day, the villagers said that they used boats sixteen to twenty feet long with motors up to fifty horsepower in traveling up the river to Native allotments as far as Section 10, T. 5 N., R. 88 W., Seward Meridian. Upon receipt of this information, the BLM Division of Resources examined the land records and found that twelve Native allotments were scattered along the river to the point indicated by the people of Nightmute. Thus, on January 6, 1982, he recommended that the river be determined navigable to the SE $\frac{1}{4}$, Section 10, T. 5 N., R. 88 W., Seward Meridian, where the river changed from a double-lined to a single-lined waterway on USGS maps. On March 31, 1982, the BLM determined the river to be navigable to the point recommended by the Division of Resources. The river was also determined to be a major waterway in the Toksook Bay and Nightmute conveyance areas, and tidally influenced to the east boundary of Section 3, T. 4 N., R. 89 W., Seward Meridian. 578/

Shortly after the BLM issued a decision to convey lands to Toksook Bay, Dennis P. Daigger of the State wrote the BLM to reconsider its position that the unnamed stream emptying into Toksook River from the south in Section 33, T. 5 N.,

R. 88 W., Seward Meridian, and the unnamed stream emptying into Kangirlvar Bay in Section 18, T. 5 N., R. 89 W., Seward Meridian, were nonnavigable. Daigger pointed out that seventeen Native allotments were located on the former stream, and two Native allotments on the latter stream. Local residents may reach the allotments by boat. 579/

The BLM subsequently sent a letter to the village corporation requesting information about the two streams. When no response was received from the corporation, the BLM notified the State that it would continue to consider the two streams to be nonnavigable. 580/

NUNGTOK RIVER

U.S. Geological Survey maps dated 1954 (Baird Inlet B-4) illustrate the location of Knugormiut summer camp in Sections 10 and 15, T. 4 N., R. 90 W., Seward Meridian. The camp is located on the banks of a river known to Toksook Bay residents as Nungtok River, which empties into Kangirlvar Bay in Section 36, T. 5 N., R. 90 W., Seward Meridian. Some people of Toksook Bay and Tanunak still use the summer camp, for in meetings with BLM officials on November 17-18, 1981, village residents identified the river as one that they believed to be navigable. According to Tanunak residents, people ascend the river in skiffs eighteen to twenty feet in length with motors up to seventy horsepower to the summer camp and beyond for about one mile. At high tide, they said, it was possible to continue farther up the river. Considering the camp to be essentially a summer village, BLM Division of Resources recommended on January 7, 1982 that the river be determined a navigable waterway to the summer camp. On June 30, 1982, the BLM determined the river to be navigable to Knugormiut Summer Camp. 581/

KOLAVINARAK RIVER

While it is known that two Eskimo villages or camps called Monrak and Aguikchuk (both located in T. 5 N., R. 86 W., Seward Meridian) were once situated on this river, no documentary evidence of use of the river for the purpose of travel has been found. On March 31, 1982, the BLM determined the river in the Nightmute and Toksook Bay conveyance areas to be a tidally influenced major and navigable waterway. Interconnected sloughs in T. 3 N., Rs. 88-89 W., Seward Meridian, where located in the area selected by Toksook Bay Village, are considered to be an integral part of the main river, and are probably tidally affected. 582/

Chakchak Creek

This creek may have been a water route of travel to Chakchak, an Eskimo village or camp located in Section 4, T. 7 N., R. 86 W., Seward Meridian, near a small lake. In 1949, the U.S. Coast and Geodetic Survey reported the village as abandoned with only two or three graves at the site. The place was said to be sometimes used as a summer camp. 583/

In 1975, a BLM realty specialist noted during the course of an easement task force meeting considering the Nightmute selection area, that local residents used the creek with a "skiff type of boat." The task force did not discover "evidence of commercial use" of the river, but believed that the creek, owing to its low gradient, to be tidally influenced for an unknown distance. 584/ When, on March 19, 1981, BLM officials asked village leaders of Nightmute to comment on the State of Alaska's position that Chakchak Creek and its tributary, Isiktok

Creek, may be navigable, they stated that neither waterway was navigable. They did not explain why they believed the creeks to be nonnavigable. On January 6, 1982, the BLM Division of Resources reviewed this information, and recommended that the BLM continue to regard both creeks as nonnavigable. In taking this position, it explained, "The use cited by Beckley may have been incidental or sporadic use, and I believe that the members of the corporation would have given evidence of use if they were commonly used." On March 31, 1982, the BLM determined the creek to be nonnavigable in the Nightmute conveyance area. 585/

Urumangnak River

According to a BLM employee in 1975, local residents ascend this river in skiffs only. The BLM thus proposed to determine the upper reaches of the river (NW $\frac{1}{4}$, T. 6 N., R. 86 W., Seward Meridian) located in the area selected by Nightmute to be nonnavigable. 586/ Meeting with BLM officials on November 19, 1981, the village leaders of Nightmute agreed with the BLM's recommendation that the river be determined nonnavigable. The river in the conveyance area was determined to be nonnavigable on March 31, 1982. 587/

Talarhun River

In 1975, a BLM employee reported that local residents sometimes ascended this river in skiffs for a distance of four to five miles. 588/ The BLM subsequently proposed that the river be determined a nonnavigable river. On November 19, 1981, village leaders at Nightmute agreed with the BLM that the river was nonnavigable. The BLM determined the river in the Nightmute conveyance area to be nonnavigable on March 31, 1982. 589/

Nvortulermiut Summer Camp Slough

In 1951, the U.S. Coast and Geodetic Survey reported the existence of a former Eskimo village (Section 3, T. 3 N., R. 89 W., Seward Meridian), on the banks of a slough which empties into Kolavinarak River in Section 2, T. 3 N., R. 89 W., Seward Meridian. At that time the fish camp consisted of two or three sod huts. 590/

The camp is probably still in use, for during a meeting with BLM officials on November 18, 1981 residents of Toksook Bay stated that the slough to the camp should be determined navigable. On January 7, 1982, the BLM Division of Resources recommended that the slough be determined navigable. On March 31, 1982, the BLM determined the slough to be navigable to the camp. 591/

AQUIKCHUK RIVER

This river, unnamed on most maps, empties into Etolin Strait in T. 2 N., R. 88 W., Seward Meridian. In 1975, a BLM official noted that local residents used this river, but did not describe what he meant by "use." 592/ Nevertheless, the BLM recommended that the river be determined nonnavigable. In 1976, however, a BLM employee wrote that the river was tidally influenced to a point in Section 10, T. 2 N., R. 88 W., Seward Meridian. On June 29, 1982, the BLM determined the river to be nonnavigable and tidally influenced to an unspecified point. 593/

KINIA RIVER

According to BLM records, residents of Chefnak, an Eskimo village located at the confluence of Keguk and Kinia rivers, have traveled the entire length of Kinia River and Dall Lake in skiffs to reach hunting and berry-picking grounds. Larger boats as well as barges reportedly have been taken up Kinia River for a distance of three or four miles above Chefnak Village, and floatplanes have landed on the river near the village. The BLM proposed in 1976 to determine the river navigable as far as Chefnak Village, and tidally influenced to and including Dall Lake. On June 29, 1982, the BLM determined that the river was a major, navigable, and tidally influenced waterway through the Chefnak conveyance area. 594/

Keguk River

In 1975, a BLM employee reported that local residents use this river for unknown purposes. In any case, the river was said to be tidally influenced through the Chefnak selection area. According to one BLM employee, the river is tidally influenced to the point where the river forks in Section 22, T. 2 N., R. 86 W., Seward Meridian. On June 29, 1982, the BLM determined the river to be non-navigable and tidally influenced to an unspecified point. 595/

CHECHING SLOUGH

The former village of Cheching or Cheeching was located on an unnamed slough in Section 27, T. 1 S., R. 87 W., Seward Meridian. Emptying in Kinak Bay in

Section 3, T. 2 S., R. 87 W., Seward Meridian, the slough may have been the primary summer route of travel to the former village. The village was occupied as late as 1950. 596/

KINAK RIVER

The Kinak River may have been the primary travel route during the summer months to the village of Kinak, located on the south bank of the river in Section 9, T. 2 S., R. 86 W., Seward Meridian. In 1949, the U.S. Coast and Geodetic Survey reported Kinak to be an abandoned village or camp, although some buildings remained at the site. 597/

In 1975, the BLM considered the river to be navigable and tidally influenced through the area selected by the village of Kipnuk. One BLM employee reported that thirty-foot boats were used on the river and another wrote that the river was tidally influenced to some point in T. 1 S., R. 85 W., Seward Meridian. 598/ According to Peter White, Sr., of Kipnuk, however, the river had "never been used for commercial traveling nor for fuel or other resources due to the fact there is no village or existing human life there, which could provide itself with energy." 599/

On August 19, 1980, a BLM official met with the people of Kipnuk to discuss proposed easement and navigability recommendations. Local residents reported that a cabin used in the fall was located on the river in Section 12, T. 1 S., R. 85 W., Seward Meridian. Skiffs ranging in length from sixteen to twenty feet in length and powered by twenty-five to fifty-horsepower outboard motors were taken up the river to the camp. 600/ On the basis of this information,

the BLM Division of Resources recommended that the river be determined navigable as far as the fall camp. The BLM determined the river to the fall camp to be navigable on September 30, 1980. 601/

KUGUKLIK RIVER

Two villages are known to have existed on Kuguklik River. The village of Chalit, located on the south bank of the river in Section 34, T. 2 S. R. 85 W., Seward Meridian, was first reported by Edward W. Nelson in 1878. It is not known at present when the village was abandoned. Reportedly the village site was a summer camp in the 1960s. The village of Kipnuk was reported in the late 1930s, and is presently the only village on the river that is occupied the year-round. 602/

BLM records indicate that barges have been taken up the river as far as the village of Kipnuk. 603/ In 1977, Peter White, Sr., of Kipnuk wrote that "the only navigable water in the river is the village, the barges don't go beyond the village to deliver any fuel or [other] sources due to the fact its [sic] narrow and shallow in most areas. [T]he only way to pass is on high water. [T]hats [sic] why we don't consider navigable beyond the village itself." 604/

In the summer of 1980, however, local residents informed the BLM of the existence of a water route of travel to Kwigillingok by way of the Kuguklik and Kwigillingok rivers and an interconnecting lake and slough system. On August 19, a BLM official met with Kipnuk residents to discuss proposed easement and navigability recommendations. The route was said to be practicable for the sixteen to twenty-foot skiffs ordinarily used in the area. The villagers also ascended the river to fishing, hunting, and trapping grounds. 605/

The BLM Division of Resources reviewed this information, and recommended that the river be determined navigable through the Kipnuk selection area. The river was so determined on September 30, 1980. 606/

Unnamed River

According to residents of Kipnuk, some people in skiffs ascend the unnamed river entering the Kuguklik River from the north in Section 33, T. 2 S., R. 85 W., Seward Meridian, as far as a fall camp located on the river in Section 22, T. 1 S., R. 84 W., Seward Meridian, a distance of approximately eighteen miles. The BLM Division of Resources subsequently recommended on the basis of this information that the unnamed river be determined navigable to the fall camp. On September 30, 1980, the BLM determined the river to be navigable to the fall camp. 607/

Unnamed Slough

U.S. Geological Survey maps illustrate a cluster of cabins on the banks of a slough that empties into Kinak Bay in Section 35, T. 2 S., R. 87 W., and into Kuguklik River in Section 32, T. 2 S., R. 86 W., Seward Meridian. The cabins are located approximately two miles southwest of Kipnuk in Section 9, T. 2 S., R. 86 W., Seward Meridian. If this site was the location of a summer camp, it is quite possible that access to the camp was by way of the slough. 608/

KWIGILLINGOK RIVER

According to residents of Kwigillingok, this river is an important route of travel not only to various hunting, fishing, and trapping grounds in the area,

but also to the villages of Kipnuk and Kongiganak. When, in 1975, the BLM first considered easement and navigability recommendations in the area, it was reported that the river was tidally influenced up to and including Kolekfikpuk Lake. In addition, a small lake near the village in Tps. 3 and 4 S., R. 81 W., Seward Meridian, was reported by the Alaska Department of Fish and Game to be used for floatplane landings. 609/ In a notice of proposed easements for the village, the BLM proposed a campsite easement on the lake and to determine the river to be tidally influenced to Kolekfikpuk Lake. 610/

Residents of Kipnuk protested both proposals. The land committee of Kwik, Inc., opposed the campsite easement because most floatplanes landed on the river in front of the village, because the lake was a waterfowl nesting area, and because it was used as a year-round source of water. 611/ As far as the river was concerned, the committee reversed its position of August 1975, when it informed a BLM employee that certain unnamed lakes forming the headwaters of Kuguklik River in Sections 18-20, 30, T. 2 S., R. 81 W., and Sections 20-29, T. 2 S., R. 82 W., Seward Meridian, were tidally influenced. 612/

In reference to a proposed easement along the Kwigillingok River, David O. David, chairman of the land committee, wrote:

We have been living here all our lives and we know how far the tide goes up Kwigillingok River. The tide never goes as far as Kolekfikpuk Lake, and we can't even go to Kolekfikpuk lake with our skiffs. We do not see any use of haveing [sic] 25 foot easement that goes [as] far as Kolekfikpuk and some places along Kwigillingok River it is only

about 4 to 6 feet wide. If any one wants to go up river they will have to use small boats. And along the shore line who wants to get stuck in the mud. 613/

Nevertheless, the BLM considered the river to be tidally influenced to and including Kolekfikpuk Lake. In addition, the BLM proposed to determine the small lake near the village to be a major waterway as floatplanes landed on the lake. 614/

As the BLM prepared final conveyance documents for the village of Kwigillingok, David O. David contributed additional information about use of the Kwigillingok River and an interconnecting lake and slough system between the heads of the Kwigillingok and Kuguklik rivers for the purpose of hunting, fishing, and trapping. On February 12, 1980, David reported that the channels between the lakes were approximately one hundred feet wide and seven feet deep, although there were variations from one point to another. People from Chefnak, Kwigillingok, Kongiganak, and Kipnuk, especially people from Kipnuk, used the lake system "solely for subsistence uses and purposes." Local residents used flat-bottomed boats up to twenty-four feet in length on the lake and slough system. 615/ During a visit with BLM officials in Anchorage on March 5, David stated that certain people of Kwigillingok had a trapping cabin on the system in Section 29, T. 2 S., R. 83 W., Seward Meridian, and planned to build another cabin somewhere in Section 8, T. 2 S., R. 82 W., Seward Meridian. He noted that people had traplines in the selection area in T. 2 S., Rs. 80-83 W., Seward Meridian, and used the frozen Kuguklik River to transport their furs to the villages. 616/

The BLM considered David's information and decided that it was insufficient to change prior navigability recommendations. Accordingly, the BLM issued a draft decision to convey lands containing the note that Kwigillingok River was considered to be tidally influenced as far as the north section line of Section 8, T. 3 S., R. 80 W., Seward Meridian, a considerable distance below Kolekfikpuk Lake. No other waterways in the selection area were considered to be navigable. 617/

On April 28, a BLM official met with the residents of Kwigillingok to discuss proposed easement and navigability recommendations. Again, local residents protested a proposed easement for a campsite on the small lake just west of the village, pointing out that the lake was seldom used as a floatplane landing place and that boats were not used on the landlocked lake. In addition, local residents protested the proposed decision that Kwigillingok River was not tidally influenced to and including Kolekfikpuk Lake. The BLM employee wrote: "All who use the river and lake, it was stated, know that the waterway is affected by the tides, especially during higher-than-normal tides when driven by southeast winds." 618/ In any case, the villagers pointed out that the river was the sole summer route of travel to hunting, fishing, and trapping camps and served as an alternative route of travel to Kongiganak. People ascended the river and a connecting lake and slough system in skiffs many times during the summer to camps located northwest of the village in Section 24, T. 2 S., R. 82 W., Seward Meridian. A water route to the Kongnignanohk River was also used. Ranging in length from fifteen to twenty-four feet in length and powered by outboard motors (25-100 horsepower), the skiffs could be used to transport up to five barrels of marine and heating fuel at a time. 619/

Several weeks after the meeting, Felix Hess, a land planner of Calista Corporation, wrote to the BLM in regards to use of Kwigillingok River as a route of travel to seasonal camps and villages. According to Willi Atti, a member of the Kwik, Inc., land committee, Hess wrote, the Kwigillingok River has long been used for travel to trapping sites, Native allotments, "subsistence camps," and villages. He noted the existence of a lake and slough system between the heads of Kuguklik and Kwigillingok rivers in Sections 5 and 6, T. 2 S., R. 80 W., Sections 1, 2, 10, 16, 19, and 20, T. 2 S., R. 81 W., and Sections 13, 23, and 24, T. 2 S., R. 82 W., Seward Meridian. This waterway system was regularly used in the past and continues to be used today although not to the same degree as in former days. However, the route remains important during periods of bad weather. The people generally used a fourteen-foot boat with an outboard motor up to seventy horsepower on the route during the spring and summer seasons. 620/

In early June 1980, a BLM employee met with Peter C. Nagel of Calista Corporation to discuss use of the water route between the Kuguklik and Kongnignanohk rivers. Nagel presented a map of the area showing the location of the water route. As he traced the route onto an easement map, the employee noted that Nagel's map showed interconnecting sloughs in some places that were not shown on USGS maps. Nagel explained that the USGS maps did "not portray waterways as they exist today." Following his meeting with Nagel, the BLM employee concluded that the water route was a highway of commerce. He wrote: "The use of waterways is in the northerly and easterly portions of the selection area. Inhabitants of the villages of Kwigillingok and Kongiganek [sic] use those in the easterly area, and those in the northerly portion by the residents of the village of Kipnuk. The waterways are used for access to

subsistence areas and as routes of travel between villages. Seasonal camps are reached by use of the waterways. Boats or skiffs in the 14' to 24' range are used in the area, and they are capable of carrying substantial loads, up to a maximum of approximately 1,500 pounds." 621/

The employee recommended and the BLM determined that the following waterways were navigable: 1) Kwigillingok River to Kolekfikpuk Lake; 2) the interconnecting slough and lake system between Kolekfikpuk Lake and the upper reaches of Kongnignanohk River in Sections 22, 26, 27, 33-35, T. 1 S., R. 80 W., and Sections 3 and 4, T. 2 S., R. 80 W., Seward Meridian; 3) the interconnecting slough and lake system between the Kwigillingok and Kongnignanohk rivers in Sections 26-29, 32, T. 2 S., R. 80 W., Seward Meridian; 4) the interconnecting slough and lake system between Kolekfikpuk Lake and the upper reaches of Kuguklik River in Section 31, T. 1 S., R. 80 W., Section 36, T. 1 S., R. 81 W., Sections 35 and 36, T. 1 S., R. 82 W., Sections 5 and 6, T. 2 S., R. 80 W., Sections 1-3, 9-12, 15-22, T. 2 S., R. 81 W., Sections 1-4, 7-9, 11-14, 17-20, 23-24, 30, T. 2 S., R. 82 W., and Sections 13-17, 19-26, 28-30, T. 2 S., R. 83 W., Seward Meridian. 622/

Upon learning of the BLM's navigability determinations, David O. David notified the BLM of an error. According to David, the branch of the Kwigillingok River draining Kolekfikpuk Lake in Sections 30-32, T. 2 S., R. 80 W., Seward Meridian, was "deteriorated" and "no longer used" as a route of travel. David did not indicate when local residents ceased to use the slough to reach the lake. On an attached map, he illustrated the route used by local residents: an unnamed slough and lake system flowing from Kolekfikpuk Lake in Section 16, T. 2 S., R. 80 W., Seward Meridian to an unnamed slough in Section 28, T. 2 S.,

R. 80 W., Seward Meridian, and traversing Sections 16, 21, and 28, T. 2 S., R. 80 W., Seward Meridian. (USGS maps do not illustrate this waterway system.) The BLM Division of Resources recommended that previous determinations of navigability for these waterways be changed in accordance with David's recommendations. On August 15, 1980, the BLM determined the former slough to be nonnavigable, and the latter waterway system to be navigable. 623/

When, on August 20, 1980, BLM representatives met with board members of Qemirtalek Coast Corporation at Kongiganak to discuss proposed easement and navigability recommendations, they encountered doubts on the part of the board members that the waterway system north and west of Kongiganak, specifically an unnamed slough linking the Kwigillingok and Kongnignanohk rivers, was navigable. The board members pointed out that the water in the system was shallow -- in some places no more than knee-deep -- and was impassable during dry spells. In addition, a segment of the unnamed slough located in Sections 26-28, T. 2 S., R. 80 W., Seward Meridian, was "chopped through" or improved for the passage of skiffs. Local residents had discussed the possibility of "blocking the system to make it impassable again." 624/

The BLM officials took no action on the basis of the board members' comments in the belief that the waterway system had simply been cleared of sweepers or vegetation. In mid-November, however, representatives of the village corporation and Calista Corporation informed Sherman F. Berg that a canal had in fact been constructed. Adolph Jimmie and Tommy J. Andrew of Kongiganak wrote that the unnamed slough shown on USGS maps in Sections 26 and 27, T. 2 S., R. 80 W., Seward Meridian, was locally known as Tunuliq Slough. The slough was actually a canal system constructed by the people of Kongiganak in August

1966. The canal system dried up seasonally and was seldom used for "commerical [sic] traffic." 625/ Peter C. Nagel of Calista Corporation wrote that prior to the construction of the canal system, the route consisted of "several lakes and chains of lakes separated from each other and the rivers by dry land." The route was seldom traveled, he wrote. Local residents were considering methods to block the system as water from Kongnignanohk River tended to flow into the Kwigillingok River and thus posed a threat to the navigability of Kongnignanohk River. 626/

On the basis of this information, the BLM Division of Resources recommended that Tunuliq Slough be redetermined as nonnavigable. On April 1, 1981, the State Director determined that that portion of the slough "from its confluence with an unnamed slough in Sec. 28, T. 2 S., R. 80 W., Seward Meridian easterly to its confluence with the Kongnignanohk River in Section 26, T. 2 N., R. 80 W., Seward Meridian," was nonnavigable as of January 3, 1959. 627/

KONGNIGNANOHK RIVER

Until recently, the BLM considered this river to be navigable as far as the village of Kongiganak only and to be affected by the tides as far as Section 26, T. 1 S., R. 80 W., Seward Meridian. Barges were reportedly taken up the river to the village. Evan Azean of Kongiganak reported that people from his village as well as Tuntutuliak and Kwigillingok used the river extensively in connection with subsistence activities. 628/

On August 20, 1980, during a meeting with residents of Kwigillingok, a BLM employee learned of the existence of a water route of travel from the Kongnignanohk River to the Kwigillingok River by way of Tunuliq Slough. Residents

of Kongiganak confirmed the existence of the route, stating that it was used for the purpose of inter-village travel whenever weather conditions made it hazardous to travel on Kuskokwim Bay. Using skiffs ranging in length from sixteen to twenty-six feet and powered by outboard motors from twenty-five to seventy-horsepower, one could travel the route in three hours. The Kuskokwim Bay route required about forty-five minutes. Village corporation leaders pointed out that the canal system was constructed in 1966, and therefore nonnavigable by law. 629/

The BLM subsequently determined Tunuliq Slough to be nonnavigable. The entire length of the Kongnignanohk River in the selection area was determined navigable. Other waterways determined to be navigable included an unnamed slough and lake system between the upper reaches of Kongnignanohk River and Kolekfikpuk Lake in Sections 19 and 30, T. 1 S., R. 79 W., Sections 22, 23, 25-28, 33, 34, T. 1 S., R. 80 W., and Sections 3, 4, and 10, T. 2 S., R. 80 W., Seward Meridian. 630/

ISHKOWIK RIVER

Little is known about use of this river for the purpose of travel. In 1975, the BLM considered the river to be tidally influenced to a major fork of the river in Section 28, T. 1 N., R. 79 W., Seward Meridian, and proposed a campsite easement at that site. 631/ Representatives of Qemirtalek Coast Corporation of Kongiganak protested the proposed easement, for the people of the village fished the lakes in the area for blackfish, and hunted, trapped, and picked berries along the river. People from villages on the Kuskokwim River also camped along the river. 632/

Meeting with board members of the corporation on August 20, 1980, a BLM official learned that the Ishkowik River, locally known as the Ilkivik River, formed part of a water route of travel to the Kuskowim River. People in skiffs ascended the unnamed slough entering Ishkowik River in Section 1, T. 1 S., R. 79 W., Seward Meridian, to a portage in Section 7, T. 1 S., R. 77 W., Seward Meridian, and then traversed an interconnecting lake and slough system which empties into Kuskokwim Bay in Section 10, T. 1 S., R. 77 W., Seward Meridian. Local residents used this water route to reach commercial and subsistence fishing sites along the Kuskokwim River apparently whenever bad weather conditions prevented travel on Kuskokwim Bay. In addition, the official was informed that Ishkowik River had changed channels at one place. The local residents now used the new channel for travel as it was shorter than the old channel. The waterway route as well as the new channel were illustrated in green on an easement map. 633/

On July 23, 1981, the BLM issued a decision to convey lands to the village corporation. The Ishkowik River to the mouth of an unnamed slough in Section 1, T. 1 S., R. 79 W., Seward Meridian, and that part of the unnamed slough and lake system to Kuskokwim Bay, were determined to be navigable for the purpose of travel, trade, and commerce. 634/

TAGAYARAK RIVER

Three Eskimo villages or camps are known to have once existed on Tagayarak River and its principal tributary, Jewn River. Abandoned by 1951, Tagayarak was located near the mouth of an unnamed slough in Section 2, T. 2 N., R. 78 W., Seward Meridian. In 1949, the U.S. Coast and Geodetic Survey reported that a

small camp or village called Moroyak once existed on the upper reaches of the Tagayarak River. The exact location of the place is not presently known.

U.S. Geological Survey maps illustrate the location of the site in Section 1, T. 2 N., R. 80 W., Seward Meridian. Also reported by the U.S. Coast and Geodetic Survey in 1949, the Eskimo camp called Gufmut was located on Jewn River in Section 9, T. 2 N., R. 77 W., Seward Meridian. 635/

When, in 1975, the BLM first considered the river, it proposed that the river be determined navigable and tidally influenced as far as the site of Tagayarak. However, in early March 1980, residents of Tuntutuliak reported that they ascended the river in skiffs to fall camps located on the upper reaches of the river, near the supposed location of Moroyak. Nelson Agnapak of Calista Corporation stated that people used skiffs twenty-five feet or more in length and capable of carrying five to ten barrels of marine and heating fuel to a fall camp in Section 1, T. 2 N., R 80 W., Seward Meridian. The river is suitable for travel at any stage of the tide, he claimed. 636/

After reviewing this information, the BLM Division of Resources on April 15, 1980 recommended that the river be determined navigable into Section 1, T. 2 N., R. 80 W., Seward Meridian. On July 15, 1980, the BLM determined the river to be navigable to the approximate center of Section 1, T. 2 N., R. 80 W., Seward Meridian. The river was determined to be a major waterway to the forks in Section 5, T. 2 N., R. 78 W., Seward Meridian. 637/

Jewn River

In 1975 the BLM easement task force recommended that this river be determined navigable due to tidal influence to the center of Section 6, T. 2 N., R. 77 W.,

Seward Meridian. In early March 1980, residents of Tuntutuliak stated that the river was tidally influenced farther upstream and that they used boats on the river in connection with subsistence activities. Thus, on June 15, 1980, the BLM determined Jewn River to be navigable to the approximate center of Section 1, T. 2 N., R. 78 W., Seward Meridian. An unnamed branch of the river extending from the south boundary of Section 1, T. 2 N., R. 78 W., Seward Meridian, northeasterly and downstream to its confluence with the main stem of the river near the east boundary of the same section, was also determined to be navigable. In addition, the river was determined to be tidally influenced to the east boundary of Section 6, T. 2 N., R. 77 W., Seward Meridian, and a major waterway to the section line between Sections 4 and 5, T. 2 N., R. 77 W., Seward Meridian.

638/

KINAK RIVER

In 1975, the BLM considered Kinak River to be navigable to Tuntutuliak and tidally influenced to the north boundary of T. 3 N., R. 78 W., Seward Meridian. 639/ However, in early March 1980, residents of Tuntutuliak informed the BLM that Kinak River was an important route of travel to various hunting, fishing, and trapping grounds located northeast of the village and, together with the Kialik River, served as an alternative route of travel to the Kuskokwim River. They requested that the BLM determine these rivers and many of their tributaries to be navigable, and pointed out that the State of Alaska also considered the water bodies to be navigable.

According to the villagers, they ascended the river in skiffs to seasonal camps located on the river in Section 28, T. 4 N., R. 78 W., Seward Meridian, and on the lake in Section 15, T. 4 N., R. 78 W., Seward Meridian. Also, they

traveled in boats to the unnamed lake in Sections 15, 16, 21, and 22, T. 4 N., R. 78 W., Seward Meridian, where they hunted birds. Access to the lake was made by way of the smaller lake in Sections 22 and 27, T. 4 N., R. 78 W., Seward Meridian.

In order to reach the Kialik River, the villagers followed an intricate lake and slough system. From a small lake at the head of Kinak River in Sections 22 and 27, T. 4 N., R. 78 W., Seward Meridian, the route bore northeast a short distance to a large lake, and thence northwest to a slough in the NE $\frac{1}{4}$, Section 9, T. 4 N., R. 78 W., Seward Meridian, and thence westerly to a chain of lakes which trend to the north. The route continued up these lakes to a slough in Section 12, T. 5 N., R. 78 W., Seward Meridian, and thence up the slough to a small lake in Sections 1 and 12, T. 5 N., R. 78 W., Seward Meridian, and thence east to a smaller lake in Section 7, T. 5 N., R. 78 W., Seward Meridian, and thence northeast to a circular lake in Sections 5, 6, and 8, T. 5 N., R. 77 W., Seward Meridian. Leaving this lake by way of a slough in NE $\frac{1}{4}$, Section 5, T. 5 N., R. 77 W., Seward Meridian, the route continued southeast to a small lake in Section 4, and thence to a larger lake in Sections 4 and 9, and finally to an even larger lake in Sections 3, 4, 9, 10, 15, and 16, T. 5 N., R. 77 W., Seward Meridian. From the southern part of this lake, two sloughs lead to a major branch of the Meroyuk River, a tributary of Kialik River. One slough extends easterly from the lake in Section 15 to join the Meroyuk River branch in the eastern portion of Section 14. The other slough also leaves the lake in Section 15 but trends southwest to two small lakes in Sections 15 and 16 before connecting with a slough in Section 21 that extends easterly to the Meroyuk River branch.

In addition, the villagers claimed use of another water route to Meroyuk River. According to a BLM employee, the route began in Section 25, T. 4 N., R. 78 W., Seward Meridian and ran southerly from that point to a point on the Kinak River just above the village. The precise location of the route is not presently known.

Finally, the villagers claimed use of a number of waterbodies in connection with hunting, trapping, and fishing activities. These included: the unnamed slough entering an unnamed lake in Section 7, T. 4 N., R. 79 W., Seward Meridian, from the southwest; the unnamed slough entering the unnamed lake from the west in Section 35, T. 5 N., R. 79 W., Seward Meridian; an unnamed lake in Sections 13, 14, 23, 24, T. 4 N., R. 78 W., Seward Meridian; an unnamed lake in Sections 11-14, T. 4 N., R. 78 W., Seward Meridian; an unnamed slough entering a lake from the southwest in Section 14, T. 5 N., R. 78 W., Seward Meridian; and an unnamed lake in Sections 17-20, T. 4 N., R. 77 W., Seward Meridian. According to Nelson Angapak, all of these waterways are used by local residents with skiffs ranging in length from fifteen to thirty-two feet in length and capable of carrying five to ten barrels of marine and heating fuel at a time. 640/

In April 1980, a BLM employee made navigability recommendations for the area selected by the village corporation on the basis of information provided by local residents. Briefly stated, he recommended that the waterways used for travel between villages or to seasonal camps be determined navigable. The only waterway specifically mentioned as being nonnavigable was an unnamed slough in Sections 23 and 24, and an unnamed lake in Sections 23 and 26, T. 3 N., R. 78 W., Seward Meridian. Noting that the Natives had not indicated the

existence of seasonal camps on the slough or lake, he concluded that they were not susceptible to navigation "since once access to the lake is had, there is no place to go except back to the Kinak River." On July 15, 1980, the BLM determined all water bodies claimed to be used by the Natives excepting the unnamed lake and slough to be navigable. Only the Kinak River to Tuntutuliak was determined to be a major waterway. 641/

EENAYARAK RIVER

The Eenayarak River forms part of a water route of travel for residents of Eek village to hunting, fishing, and trapping grounds, commercial whitefish fisheries on Eek Lake, and villages on the lower Kuskowim River. Local residents may have long used the so-called Eek-Eenayarak-Kuskokwim Portage. In the late 1950s, while conducting anthropological studies at Napaskiak, Wendell H. Oswalt noted that most men preferred to travel in a "plank boat." These boats were approximately twenty-four feet long with a three-foot beam which were powered by outboard motors ranging from one and one-half to twenty-two horsepower. Nearly every fall, however, one old man traveled in a kayak to Eek via a series of sloughs rather than on Kuskokwim River. 642/

Little else was known about the river until the late 1970s when the BLM considered navigable waterways in the areas selected by the villages of Eek, Napaskiak, and Oscarville. In the fall of 1975, a BLM employee reported that skiffs were used on the river in the Eek village selection area. 643/ Several months later, the BLM proposed to determine the river to be navigable due to tidal influence to Section 19, T. 3 N., R. 74 W., Seward Meridian. 644/ Reviewing the proposed navigability determinations and easements for the area

selected by Napaskiak, Frank A. Stefanich of the Alaska Department of Fish and Game recommended in 1977 that a streamside easement be made along the portage route. According to Stefanich, the Eenayarak River was widely used whenever bad weather made it impractical to travel on Kuskokwim Bay. Local residents used flat-bottomed skiffs up to thirty-two feet in length on the portage route as well as to hunting and berry-picking grounds on Eek Lake. 645/

Two years later, in a conversation with Rae Baxter of the Alaska Department of Fish and Game at Bethel, a BLM official determined the location of the portage route. Baxter informed him that the Natives of Eek, Napaskiak, and Napakiak used the route for fishing, hunting, and berry-picking purposes. The route was primarily used by Natives of Eek for travel to and from Bethel whenever bad weather prevented travel along the coast. In addition, he stated that a commercial whitefish fishery had been in operation for three or four years on the river in Sections 18 and 33, T. 4 N., R. 72 W., Seward Meridian. Fishermen transported loads of whitefish, up to 1,000 pounds, over the route to Bethel. He claimed to have seen a skiff carrying five or six barrels of fuel travel on the waterway, and believed that boats carrying up to three thousand pounds could be used on the route with success. Finally, he pointed out that the route was an all-water route. Some of the lakes on the route had "pretty much dried up" but a channel still existed for the passage of boats. At certain times the water in the channel was low in some places, but local residents still managed to effect a passage even if the boats had to be pulled through the low spots. On the basis of this information, the BLM employee recommended that the Eenayarak River portage route in the Napaskiak selection area be determined navigable. On March 31, 1982, the BLM determined that the waterway system in the Napaskiak conveyance area was major and navigable. 646/

In late 1981 the BLM received additional information about use of Eek Lake and its outlet in T. 5 N., R. 71 N., and T. 4 N., R. 72 W., Seward Meridian. As early as 1976, the BLM proposed to determine Eek Lake nonnavigable. 647/ In December 1981, however, two BLM officials learned from a number of people familiar with the area that the lake and its outlet were used for the purpose of travel. A biologist employed by the Alaska Department of Fish and Game at Bethel reported that men operating three commercial whitefish fisheries on Eek Lake and its interconnecting sloughs and streams traveled to and from the area by way of the Kuskokwim River, Lomavik Slough, and the Eek-Eenayarak-Kuskokwim Portage in boats up to thirty-two feet in length and powered by outboard motors ranging from fifty to seventy horsepower. Most of the boats were about twenty-six feet long, he said. Each year the men caught on the average of one to three tons of whitefish with nets stretched across the mouths of sloughs and streams flowing into Eek Lake. The fish were transported to the Bethel market in boats. 648/ A BLM realty specialist formerly stationed at Bethel believed that Eek Lake was affected by high tides and was used by local residents. 649/ Several air charter operators confirmed that local residents used the lake. Jerry Drake of Executive Charter Service at Bethel said that the waterway was used "extensively for travel." He had seen boats with motors on the sloughs and lakes; he noted too that he had landed an airplane on the lake. 650/

Jim Culbertson of the Alaska Department of Natural Resources stated that commercial fishing "takes place all over - in all sloughs, lakes, ponds that interconnect with the Eek-Eenayarak-Kuskokwim Portage." Culbertson reported that the lake was about two and one-half feet deep, while the sloughs ranged in depth from eight to nine feet. 651/ After a review of this information, the

BLM Division of Resources recommended that Eek Lake, which "may in fact be tidally influenced," be determined navigable. On March 31, 1982, the BLM determined that Eek Lake and its outlet to the Eenayarak River in Section 18, T. 4 N., R. 72 W., Seward Meridian, were navigable and non-major waterways in the Oscarville conveyance area. 652/

EEK RIVER

The historic record suggests that miners may have ascended Eek River in boats before the advent of aviation. In the summer of 1912 three prospectors named Macpherson, McDonald, and Bush discovered coal of reported high grade in a canyon on Eek River. A local newspaper, observing the coal outcrops were quite common along the Eek and Kwethluk rivers, stated that prospectors burned the coal in its offices in a Yukon store and found that it left little ash. The reporter believed that "the proximity of the deposit to water, and the accessibility of Kuskokwim Bay, are factors which should make for rapid development, and the discovery is on that account, likely to have a far-reaching effect upon the future prosperity of the region." 653/ In the summer of 1914 the same newspaper noted the arrival in Iditarod of two prospectors named King and Smith with samples of platinum found on a tributary of Eek River. Both men were to return to the stream with a large outfit, planning to work the property with a force of men that summer. 654/

Miners on Rainy Creek (T. 2 S., R. 63 W., Seward Meridian) on the uppermost reaches of Eek River may have reached their property by boat. However, in the summer of 1914, Alfred G. Maddren of the USGS was told by Frank Joaquin

of the Kuskokwim Commercial Company that the best way to reach the diggings was to ascend the Kwethluk River for more than thirty miles and then travel overland by trail, along which coal outcrops were located. 655/ In the 1940s, F. A. Rutledge of the U.S. Bureau of Mines reported that it "would be possible to reach this area [Rainy Creek] during high water by ascending Eek River from the Kuskokwim. This would not be practical because of the time required and the necessity for using a canoe or small poling boat on the upper reaches of the river." 656/ By this time the miners had established a "winter tractor trail," about 120 miles in length, from Bethel to Rainy Creek. 657/

The only available first-hand account of a boat trip on Eek River comes from a BLM employee. During the week of July 10, 1978, two BLM employees made a trip in a riverboat along the coast from Platinum to Eek, arriving there about July 17. After obtaining fuel, they proceeded up the river as far as the "forks." Early in the morning of July 18, they returned to Eek. According to the employee, "This river is a medium to heavily used one by the Eskimos for travel and subsistence fishing as was evidenced by numerous net piles and fishing camps. Beaver are also in abundance." He recorded no difficulties in navigating the river, although he mentioned that they ran the boat aground on the return trip due to "poor visibility." 658/

In the late 1970s, the BLM considered the navigability of Eek on lands selected by Eek Village. Making a survey of the lower half of the river by helicopter on August 12, 1975, a BLM official described the river as being "very winding" with small sweepers, sharp turns, and shallow water. The helicopter landed the official at some point on the lower one-third of the river. He reported that the river flow rate at that point was three and one-half feet per second. He

fished for about one hour in "relatively fast water" and caught three grayling and one Arctic char. He observed a few chum salmon carcasses along the banks, leading him to believe that the river received a small run of salmon.

The Alaska Department of Fish and Game reported that the potential for commercial fisheries on the river was significant. Although no use of the river was observed, he concluded that the site was accessible by motor boat or helicopter. On the following day, the official made a fixed-wing survey of the river. The only observation that he recorded was that the Middle Fork of Eek at its mouth appeared to be very similar to the main stream of Eek River, with perhaps a slower flow rate. 659/

Little additional information about use of the river for travel purposes was obtained by the BLM. Residents of Eek Village supplied little information to a BLM official when he met with them on August 12, 1975. Approximately a month later, Knik Kanoers and Kayakers, demanding streamside easements on Native-selected lands, reported that Carl Lensink, a former resident of Bethel, knew of a party that floated down Eek River that summer. Frank A. Stefanich of the Alaska Department of Fish and Game reported that Eek River supported runs of chum, pink, silver, and king salmon, and Arctic char. 660/

On November 16, 1976, the BLM easement task force recommended that Eek River be "considered navigable to the village of Eek based on travel, trade, commerce, and tidal influence." Also, it recommended that the river be "considered navigable beyond the village and throughout the remainder of the selection area based upon susceptibility to travel, trade, or commerce." Observing that the river in the selection area had "a highly significant present

recreational use" with salmon runs, the task force proposed a twenty-five-foot streamside easement on both sides of the river through the selection area. 661/

Public reaction to the proposed determinations was mixed. Rae Baxter of the Alaska Department of Fish and Game reported that the river had been historically used for its entire length, and that it was tidally influenced to Section 25, T. 2 N., R. 73 W., Seward Meridian. 662/ Russell J. Gallagher, an attorney representing a number of village corporations, protested the proposed streamside easement in strong terms. "For BLM to suggest," he wrote, "that the Eek River has had a significant present recreational use by the public at large is ridiculous." He indicated, however, that the local residents "rely upon the fish in the river for their daily and yearly subsistence needs." 663/

On the basis of these comments, the BLM proposed to determine the river to be tidally influenced to the point identified by Rae Baxter. As "the remainder of the river lacks documentation as to the existing uses," the BLM concluded that there was "no justification for the streamside easement." 664/ As of this writing, the BLM has not made a determination of navigability for Eek River.

KANEKTOK RIVER

Besides the historic Spurr expedition, a number of government parties have used boats on this river. In 1973, the U.S. Bureau of Outdoor Recreation sponsored a float trip down the river; in 1977 two scientists descended a thirty-three-mile stretch in connection with a raptor survey; and in 1978 a BLM party ascended the river to inspect proposed easement sites. The reports

of these expeditions, in addition to information provided to the BLM by residents of Quinhagak and other people familiar with the river, indicate that the river has been used for travel to fish camps and for recreational purposes.

Under the aegis of the U.S. Bureau of Outdoor Recreation, a government expedition consisting of Noel P. Granzow of the bureau, Lou Waller of the BLM, Jerry Hout of the U.S. Bureau of Sports Fisheries and Wildlife, and Bill Gasaway of the Alaska Department of Fish and Game descended the entire length of the river in two canoes in early August 1973. The men were flown by floatplane from Anchorage to Kagati Lake on August 3, a flight that took about four hours. Their two canoes were ferried by amphibious plane (Beaver) to the lake.

On August 4, a cloudy day with some wind, the party descended the river a distance of about twelve miles. According to Granzow, the river from the lake to about Mile 68, where they stopped for lunch, "was quite shallow in the upper reach and we spent much of the morning dragging the canoes over rocks and gravel bars, covering approximately 7 miles in 3½ hours." Upon reaching a point below Paiyun Creek, where the water was deeper, they were able to remain in the canoes and paddle downstream. The river exhibited a braided character and flowed swiftly, wrote Granzow, requiring the men to exercise caution in avoiding the sweepers along the riverbanks. The marshy terrain as well as the rain, which began to fall in mid-afternoon, discouraged any attempt to explore the tributaries.

Rain and sometimes wind besieged the men for the remainder of the journey. As they descended the swollen river, they observed that the sweepers became

more numerous. In the morning of August 5, Granzow wrote, "The number of sweepers increased as we continued downstream and, by Mile 58, they were found on the banks of the river and in every bend. This is not a river for novice canoeists as much maneuvering is required," a difficult task in the wind. Not long after passing an island near the mouth of Nakailingak Creek, unable to avoid the sweepers, Granzow and Waller were forced to abandon their canoe to save themselves, and climbed onto the sweepers. They retrieved their canoe a short distance downstream. This incident, claimed Granger, "increased our respect for the force of the tributary streams emptying into the Kanektok." Having traveled about fifteen and one-half miles miles, they made camp at some point below Klak Creek.

The men managed to avoid a serious accident of August 5; they were not to be so lucky on the following day. Less than one and one-half miles below their camp, as they were maneuvering through a "S" bend in the river, the stern of Granzow's canoe struck a submerged gravel bar. The swift river, flowing at a rate of nine knots by Granzow's estimate, swung the canoe about and with great force swept it into and under the sweepers. Waller managed to scramble out of the canoe and onto a downed tree, but Granzow struck a sweeper and fell overboard. Hanging onto a tree limb for dear life, Granzow described his predicament as follows:

My body was under water beneath the tree with the exception of my head, left shoulder and arm which were upstream of the sweeper. My hip boots filled with water and my legs were dragged straight downstream with the current. I held on for five minutes and was truly convinced I would any second be pulled under the sweepers completely. Water was surging

around my ears and the cold was getting to me so that I could not hold on much longer. Finally the other canoe team had lined through, crossed the river below and come back upstream through the woods. Just as I was about to lose my grip from the tremendous pressure of the current and the cold, Bill Gasaway was able to get a line out to me. I got it with my right arm and let go the sweeper with my left. Immediately I was swept under the sweeper but was pulled out to shore before I was swept into the next tree.

Fortunately, Granzow was uninjured. Retrieving the canoe, they found that all of their gear was soaked, and Granzow's maps and field notes were lost. The camera, tape recorder, and radio were inoperative. After a hot lunch, the party continued down the river for an unknown distance before making camp.

"It was a cold, wet, miserable night," wrote Granzow.

In view of the dangerous river conditions, the men attempted to contact the BLM offices at Anchorage, McGrath, and King Salmon by radio with hopes that a helicopter would be sent to ferry them farther downriver and beyond the braided stretch. It soon became obvious that the radio was not in working condition, however; and so they launched their canoes, this time determined to exercise greater caution. The heavy rainfall had raised the water level significantly, so much so that the river had left its banks and was flowing in many channels through the woods. Under the circumstances, the men had difficulty in following the main channel, and shortly found themselves on a wrong channel that "ran through a tunnel of sweepers with great force." Here they landed the canoes, and walked through the woods until they found the main channel of the river. Returning to the landing site, the men spent the next hour and a

half portaging their gear and canoes to the main river. No sooner had they launched the canoes, however, they ran into trouble. Again, in Granzow's words:

Upon putting in on the main channel on the left bank we had to immediately ferry across the surging current to the right bank to avoid sweepers just below. The other canoe began to ferry across and was instantly turned about by the current and was going downriver backwards. Fortunately they were able to pull the bow into an eddy and swing the stern in and out of danger. In order to avoid their predicament, we began to ferry across and put great power into our strokes. Unable to swing us about the river simply swept up over the sides and swamped the canoe.

This time Granzow and his companion had no difficulty in reaching shore. Their canoe was again retrieved, and ignoring the fact that they were soaked to the skin, decided to continue the trip down the river. It was only after discovering that they were again on a side channel that the men decided to make camp.

On August 8, with only the vaguest notion of their location, the men found travel on the river to be somewhat more pleasant as the rain had ceased. They continued to have "trouble picking the correct channel several times, resulting in much lining to get to decent water." In mid-afternoon, they reached a Native fish camp where they learned that they were only twelve miles from Quinhagak. Four hours later, just as the sun broke through the clouds, they paddled into the village, and made camp at the airstrip, located about a mile from the village.

Early in the afternoon of August 9, the men returned to Anchorage by airplane (Widgeon). An amphibious airplane landed on the river at the village and hauled the canoes to Anchorage. Four days after his return to Anchorage with his experiences on the river still fresh in his mind, Granzow summarized his major findings: "that the river is not suited to novice canoeists; that the topographic maps are 'out of date' as they do not show the new channels; that the river can be run but it should not be attempted by one canoe as there are literally hundreds of sweepers waiting to clutch a canoe and hold it fast; that the prospective traveler should be prepared to line and even portage often; that there are adequate campsites all along the river; that the most scenic segment is the upper half of the river where it flows through the mountains; and finally that the river is an excellent fishery and one can depend on fish for every camp dinner." 665/

In a pamphlet entitled Alaska Float Trips-Southwest Region, the U.S. Heritage Conservation and Recreation Service described Kanektok River as suitable for the use of canoes, rafts, and kayaks. From Kagati Lake, where floatplanes land, one could float down the river in four to five days. The service classified the first twenty-five miles of the river from Kagati Lake as Whitewater I, followed by thirty miles of Whitewater I-II, and finally thirty miles of flatwater. There were no rapids in the middle section of the river, but sweepers were "particularly abundant and combined with a moderately swift current and twisting course require[s] frequent maneuvering." 666/

Conducting a raptor survey for the BLM, Clayton M. White and Douglas A. Boyce, Jr., descended about thirty-three miles of the river in mid-June 1977. On June 16, the two scientists were landed by floatplane (Cessna 185) on a lake

in Section 21, T. 3 S., R. 64 W., Seward Meridian. From the lake, the two men portaged to a point on Kanektok River about five miles downstream from Kagati Lake, assembled their raft, and at 10:00 P.M. began floating down the river. After about two hours on the river, they reached a suitable campsite about one mile upstream of the mouth of Paiyun Creek. On June 17, after exploring Paiyun Creek, the two men continued down the river to a point about one-half mile above the mouth of Nakailingak Creek, having traveled about thirteen rivermiles in about five and one-half hours. On the following day, they floated down the river about a mile before portaging to a lake in Section 20, T. 5 S., R. 68 W., Seward Meridian. They had previously arranged with a pilot to pick them up at this lake, which they named Otter Lake. The pilot arrived about noon on June 20. 667/

Conditions during the trip were characterized by sunny weather in the morning and rain in the afternoon and evening. River conditions were described as "poor." By this, they explained: "Water was high and the islands, adjacent river bars, and banks were flooded to depths of 2-4 feet. The gradient drop over the 33 miles traveled was about 20 feet per mile. The combined conditions made boat work difficult." 668/ Sweepers were not mentioned as a problem in the descent. White and Boyce observed that willows bordered the upper three to five miles of the river. As the valley widened below Paiyun Creek, the willows as well as poplars became larger, a trend that continued as they went farther downstream. In addition, they observed the appearance of dense stands of alders. Oxbows were also said to be numerous. 669/

Little is known about the riverboat ascent made by two BLM officials on July 13 and 14, 1978. One of the officials wrote that they ascended the river about ten

miles before shallow water prevented them from continuing up the river. In the stretch, he said, the river "is beautiful, clear, and deep." 670/

In the course of identifying easements on lands selected by the village of Quinhagak, the BLM collected additional information about use of Kanektok River for the purpose of travel. Recommending an easement for a boat landing and campsite somewhere on the middle reaches of the river, Gordon W. Watson of the U.S. Fish and Wildlife Service claimed that the river "has been used in the past and is used presently for boat travel both ascending and descending, by residents of Quinhagak, Goodnews, and Platinum, and has been used by other Natives and visitors for access to the headwaters of the Kanektok River primarily for subsistence hunting and fishing." 671/ Ed Swanson of the Knik Kanoers and Kayakers reported that Rae Baxter of the Alaska Department of Fish and Game had descended the river in a boat. 672/ Edwin W. Seiler of King Salmon, proprietor of Enchanted Lake Lodge, wrote that each year since 1964 a number of parties, with five people in each party, had descended the river in rubber rafts and canoes from Kagati Lake to Quinhagak. Flowing through a scenic area and providing excellent fishing opportunities for rainbow and Dolly Varden trout, and king, chum, and coho salmon, the river attracted a considerable number of tourists, fishermen, and photographers. Seiler noted that the river was also used by Tikchik Narrows Lodge, Bethel residents, and a Dr. Sedwick. 673/ In 1976 alone, according to one report, eight parties from Anchorage were scheduled to float the river. In addition, some people landed floatplanes on the lower reaches of the river where they fished for salmon and trout. 674/

On September 12, 1975, a BLM official met with residents of Quinhagak to discuss proposed easements in the area. The villagers protested any easements

on their lands, and in November 1975, sent a petition signed by forty residents to the BLM in protest of the proposed easements. They claimed that the Kanektok River received very little use by sportsmen and that it was dangerous to land airplanes on the river as it was extremely crooked. 675/

The BLM subsequently recommended that Kanektok River be determined navigable on the basis of "susceptibility to travel, trade, or commerce," and that a twenty-five-foot easement along both banks of the river be reserved. In justification of the easement, the BLM explained: "This river is considered to have highly significant recreational use and has been nominated as a wild and scenic river. It has runs of rainbow trout, chum, king, and silver salmon." 676/ A campsite easement was also proposed on the river in Section 32, T. 5 S., R. 73 W., Seward Meridian. The village corporation protested the proposed streamside and campsite easements, arguing that the existence of easements on their lands would tend to encourage recreational use of the river. This use, they believed, would not only result in pollution of the river, but also conflict with subsistence activities along the river. 677/

With the issuance of new easement regulations, the BLM in 1979 reconsidered proposed easements in the village selection area. As both were recreational in nature, the streamside and campsite easements were eliminated and suspended, respectively. The proposal to determine the river as a navigable and major waterway was retained. The BLM subsequently determined Kanektok River to be navigable through T. 4 S., R. 72 W., Seward Meridian, and on June 25, 1980 the BLM excluded the riverbed from the conveyance of lands to the village corporation. 678/

AROLIK RIVER

Available information suggests that Arolik River may have been used for the purpose of travel. In 1976, a BLM employee noted that the State of Alaska claimed that Arolik River and several lakes in the area were navigable waterways. However, residents of Quinhagak told him that the waterways "had little public use." The employee subsequently recommended a campsite easement on the North Mouth Arolik River as well as on Bessie Creek and Magaktlek Creek. In addition, the BLM proposed a linear easement on both banks and the bed of Arolik River, the South Mouth to Section 11, T. 6 S., R. 74 W., Seward Meridian, the North Mouth, Bessie Creek, and Magaktlek Creek, and a campsite easement on the right bank of Arolik River in Section 29, T. 6 S., R. 72 W., Seward Meridian. These waterways were "considered to have highly significant present recreational use." 679/

Public reaction to these recommendations was mixed. Frank A. Stefanich of the Alaska Department of Fish and Game recommended a campsite easement on the right bank of the North Mouth Arolik River in Section 33, T. 4 S., R. 74 W., Seward Meridian. 680/ Dean J. Nation of the Alaska Division of Lands recommended a campsite easement at the mouth of Bessie Creek in Section 29, T. 5 S., R. 73 W., Seward Meridian, "from a standpoint of reasonable travel intervals, recreational use, as well as stream access to public land." 681/ Russell J. Gallagher protested the proposed easements, arguing first that the Arolik River had not been designated as navigable, and second that the river was used for subsistence purposes. He quoted local residents as follows: "We do not want any kind of recreation activity because it will deplete our only source of subsis-

tence." He strongly protested easements on Bessie and Magaktlek Creeks as both creeks were "very shallow" and nobody ascended the creeks during the summer. 682/

Upon reviewing public comments, the BLM deleted proposed streamside and bed easements for Bessie and Magaktlek creeks as there was "no documentation in the file that would indicate significant use of these creeks." Proposed easements for Arolik River were retained, however. The basis for this decision was as follows: "The Arolik River has good runs of chum, pink, silver, and red salmon. In addition to the use by sports fishermen and subsistence fishermen, the river has also been used by canoers and kayakers for recreational boating." Easements for the South Mouth were also retained as the river "receives good salmon runs and is used for sports fishing, subsistence fishing, and boating." A proposed site easement at the mouth of Bessie Creek was also retained. 683/

As required by regulation, the BLM subsequently deleted proposed streamside, bed, and site easements on the Arolik River. The river was determined to be nonnavigable, and the bed of the river was included in the conveyance of lands to the village corporation. 684/

TUNULIK RIVER

In 1920, George L. Harrington of the USGS included this river in a list of others in the Goodnews Bay area that were tidally influenced in their lower courses. He noted as well that "in ascending them advantage is usually taken of the flood tide, as there is appreciable current on the ebb or slack tide." Harrington did not ascend the river. 685/

Since 1975 the BLM has considered the river to be nonnavigable. At a meeting with BLM officials on October 5, 1982, representatives of Kuitsaruk, Incorporated (Goodnews Bay Village) stated that the first one-half mile of the river was useable by "normal water craft." The BLM is currently reconsidering its position on the navigability of the river. 686/

GOODNEWS RIVER

At one time Goodnews River formed part of a route of travel from Kuskokwim Bay to Nushagak on Nushagak River. Among the white travelers known to have taken the Goodnews River route are the Moravian missionaries J. A. H. Hartmann and W. H. Weinland in 1884; the naturalist Warburton Pike in 1888; and the parties of Alfred B. Schanz and E. Hazard Wells in 1890. Doubtlessly other men ascended the river in later years, but no record of their experiences has been found.

During the 1910s and perhaps in earlier years, Natives as well as white prospectors may have traveled on the river to and from Barnum Village, located on the river near the mouth of the Barnum Creek. Following the discovery of gold on Wattamuse Creek in 1917, miners used poling boats and kayaks to transport supplies up Goodnews River to a landing place located about three miles from the diggings. From the landing, the miners lined and poled a small scow the remaining distance to the mining camp. 687/ In the summer of 1919, a USGS party consisting of George L. Harrington, R. H. Sargent, a cook, and a station assistant reached the diggings by ascending Goodnews River an unknown distance in a thirty-foot poling boat with a two-horsepower gasoline engine. In a published account of the expedition, Harrington wrote that the river, like the Tunulik

River and to a lesser extent the Arolik and Kanektok rivers, was tidally influenced. People usually took advantage of the flood tide in ascending the river. The lower courses of the rivers were "relatively sluggish" and the channels were "torturous." Doubtlessly referring to Goodnews River as this was the only river in the area that was ascended in the poling boat, Harrington wrote: "Farther upstream the current quickens but is by no means uniform, as it alternately accelerates on the riffles and slackens in the stretches between. It was necessary to line the boat up some of these riffles, and it was judged that the current was running at a rate of 7 to 8 miles an hour." 688/

In the 1970s, the BLM collected additional information about Goodnews River. Ed Swanson of the Knik Kanoers and Kayakers reported in 1975 that an Alaska Department of Fish and Game party floated down the river that year, and referred to statements made by Rae Baxter, a biologist with Alaska Department of Fish and Game, and Cal Lensink, a former resident of Bethel, that the river "is run quite often." 689/ In 1976, Edwin W. Seiler, proprietor of the Enchanted Lake Lodge, claimed to have guided parties down the river from Goodnews Lake since 1965. Each year he or his employees guided six parties, each party consisting of five people, down the river in inflatable rafts from Goodnews Lake, where floatplanes landed. He claimed to have met numerous people on the river. Residents of Dillingham and Platinum also used the river, he wrote. 690/

In July 1978, a BLM party consisting of William M. Peake, Sandy Dunn, and Russ Blome ascended the river in a jet boat for the purpose of inspecting possible campsite easements on lands selected by Goodnews Village. On July 4, they left Goodnews Village about noon to ascend the river. In the evening,

they met five men in two rafts descending the river. The men had been on the river for four days, having started the trip from Goodnews Lake where Armstrong Air Service of Dillingham had landed them. After a brief visit with the men, Peake and his companions continued their journey upriver to make camp on a gravel bar in Section 21, T. 11 N., R. 72 W., Seward Meridian. 691/

About noon on the following day, Peake met Ron Hyde, Jr. of Alaska River Safaris with two clients. Hyde warned Peake that he would encounter some shallow spots on the river, and that he should soon meet several of his employees descending the river in a twenty-five-foot Duckworth jet boat. Not long after leaving Hyde, Peake met the remainder of Hyde's party of four or five people in two or three rafts, one of them with an outboard motor. Shortly after passing this party, the BLM group ran aground. As they assessed the situation, three employees of Alaska River Safaris arrived in a Duckworth jet boat, which also ran aground. Peake assisted the men in getting their boat off the gravel bar, and they in turn assisted Peake in getting his boat free by using planks as levers. They warned Peake that he "could probably get within about six miles of the lake [Goodnews Lake] before running out of water." Peake continued up the river for an unknown distance before making an early camp, partly because the boat motor was overheating, and partly because all were tired from the day's experience.

The party broke camp early on July 6, and continued up the river. They sighted set nets and an occasional campsite of tent-frame poles on the river banks. Eventually they reached a point where "the river broke down into what looked like several small creeks." Peake landed the boat, and walked upstream to determine whether conditions were any better. Upon determining that a

suitable channel was available, they continued upriver. Their progress was very slow as they "were having to start and stop the engine in shallow ($2\frac{1}{2}'$ - $1\frac{1}{2}'$) water and this could have contributed to our overheating problems." They succeeded in making their way through the braided stretch and "had clear sailing for awhile" before they ran the boat aground in a "rock garden." Nearly two hours were required to free the boat. They then "made another run at the rock garden and this time made it unscattered." At 6:30 P.M. they finally reached the lake. After a brief stop at the camp of an archeologist from Washington State University, they went to the cabin owned by Alaska River Safaris and there met the caretakers Mike and Nina Burnham.

Late in the afternoon of July 7, Peake's group left Goodnews Lake on the jet boat down the river. They had traveled only a few miles before Peake by his own account "made an error in river reading" and ran the boat onto a gravel bar. Peake and Dunn worked late that night and early the next morning before they were able to move the boat into deeper water with the use of a winch. In describing the trip down the river, Peake wrote: "Great concentration is necessary when going downstream because the additional speed of the boat due to the current shortens decision making time in reading the river. Many hours can be lost if the incorrect channel or slough is chosen, although a certain amount is unavoidable."

They reached the camp of Ron Hyde, Jr., and spent the night there. The next day a helicopter chartered by the BLM arrived with Russ Blome. Considering "the low water and the tricky places in the river ahead," Peake decided that Dunn should return to Platinum on the helicopter, and hired Hyde to guide him and Blome down the river. The party apparently encountered no difficulties in descending the remainder of the river. 692/

Peake's report as well as information provided by the sports recreation groups was considered by the BLM in making navigability and easement recommendations. On September 11, 1975, a BLM employee met with the residents of Goodnews Village to discuss proposed easements. These included streamside easements on Goodnews River as well as its South and Middle Forks in the selection area. The U.S. Fish and Wildlife Service recommended a campsite easement on the Middle Fork, as it was "a favorite fishing spot where the two streams join and directly opposite a Native allotment," and another on Goodnews River itself adjacent to the Wattamuse Creek trail about midway through the selection area. The Alaska Department of Fish and Game recommended a campsite easement near Slate Creek as it was a good location for travelers making the one- to two-day trip up the river to Goodnews Lake. The BLM itself recommended a campsite easement about midway through the selection area. The village corporation opposed all streamside and campsite easements because they did "not wish to have competing use along the river that bisects their land," and did "not care for campsites along their main fishing river." In any case, the corporation pointed out "factors of weather and boat operations determine stopping areas along the river." 693/

In November 1976, BLM officials recommended to the State Director that Goodnews River through the selection area and Slate Creek to the "old Wattamuse Mining Camp" be determined navigable. In addition, it was recommended that streamside easements be located on both banks of Goodnews River and on both banks and the bed of the Middle Fork. The Goodnews River was considered "to have a highly significant present recreational use" and "has runs of king, chum, pink, silver, red salmon, rainbow trout, and arctic char." The Middle Fork was considered "to have high significant present recreational use" and "has runs of

chum and red salmon and arctic char." Finally, four campsite easements were recommended in Section 21, T. 10 S., R. 71 W., Section 21, T. 11 S., R. 72 W., Section 2, T. 11 S., R. 72 W., Seward Meridian, and near the confluence of the Goodnews River and the Middle Fork. 694/

With the issuance of easement regulations, the proposed streamside and riverbed easements, as well as two proposed campsite easements in the selection area were deleted. Site easements at the mouth of the Middle Fork and on the Goodnews in Section 2, T. 11 N., R. 72 W., Seward Meridian, were again recommended. The BLM also proposed to determine Goodnews River to be a major waterway and, with Slate Creek, navigable waterways. In support of the navigability recommendations, the BLM noted that the "former Wattamuse mining area had used these waterways to obtain supplies by boat." 695/

On October 5, 1982, BLM officials met with representatives of Kuitsaruk, Inc., Calista Corporation, and the State of Alaska to discuss the proposed major waterway, navigability, and easement determinations. According to a BLM employee at the meeting, the village corporation leaders were "in complete agreement" with the proposed major waterway and navigability determinations despite the fact that the State considered the Middle and South forks of the Goodnews, Barnum Creek, Carter Creek, Tunulik River, Puyulik Creek, and the Ilanik lakes to be navigable as well. They stated that "large skiffs could not readily travel" on the water bodies. One would have to pull the boat over riffles. The Ilanik lakes were described as only swamps and pools with no outlets. Finally, they stated that "normal water craft" could be used on the Middle and South forks of the Goodnews at high water stages, and that small boats with ten- to fifteen-horsepower outboard motors could be used on the first mile of Indian River.

The Native leaders objected to the proposed easement for the Goodnews - Wattamuse Creek trail and the proposed site easement at the mouth of the Middle Fork of the Goodnews River. As concerned the proposed trail easement, they agreed that Goodnews River provided adequate access to public lands. Mining equipment, groceries, and fuel were transported up the river. No one used the trail except during the winter season. The Native leaders stated that the site easement was located in an important subsistence area and, if approved, would result in additional timber cutting and littering by river travelers. They recommended that the site easement be relocated to an island in Section 15, T. 11 S., R. 72 W., Seward Meridian. Other locations were not available due to the existence of Native allotments and fish camps. 696/

Shortly after the village meeting, the State of Alaska requested the BLM to reserve an easement for the Goodnews - Wattamuse Creek trail as well as site easements on the Goodnews River and its Middle Fork for the benefit of river travelers. In support of the request, James E. Culbertson of the Alaska Division of Research and Development wrote that he contacted Ron Hyde, the owner of Alaska River Safaris for the past eleven years and who had guided, trapped, and hunted in the area for many years. According to Culbertson, Hyde stated that he was surprised to learn that the Natives believed that "large skiffs could not readily travel up the Middle Fork of the Goodnews River because he has been taking rafting parties up it by power boat for years." In addition, Hyde stated that Alaska River Safaris guided each season on the average eighty clients on rafting trips and about one hundred people on power boat trips on the Goodnews River. Depending on weather conditions, float trips down the Goodnews in the selection area took two to four days. Sometimes they encountered a strong headwind up to thirty-five miles per hour and heavy rain.

Finally, Hyde noted that fifty to sixty other people floated the river during the summer. As many as thirty-five may be on the river at the same time during the peak of the season.

Culbertson maintained that the Goodnews - Wattamuse Creek trail was used the year-round by trappers, teachers, and the Natives of Togiak, Quinhagak, and Platinum, and that Clyde Hoffman of Bethel and other miners needed to use the trail to reach mining ground. He claimed that the Goodnews River did not provide adequate access to public land. The river was dangerous to use during the winter due to "fast moving water, overflow, and unstable beaver houses." Moreover, he wrote, "The Goodnews River cannot, and has not, been used for the transport of heavy equipment to the Wattamuse Mine." 697/

The BLM has not yet made a formal determination of navigability for the Goodnews River in the village selection area.

Chapter Six -- Water Transportation

1. U.S. Coast and Geodetic Survey, Report of Superintendent . . . Fiscal Year 1916 (Washington, D.C.: Government Printing Office, 1917), pp. 130-132. See also R. R. Lukens, "Report for Season 1915, Steamer Yukon," and Harold A. Cotton, "Descriptive Report for Reconnaissance Survey of Kuskokwim River, Bethel to McGrath," 1916, Records of the National Ocean Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland, hereafter referred to as NOAA Records. Copies of the reports are available at the Navigability Section, BLM Alaska State Office, Anchorage.
2. Wendell H. Oswalt, "Kolmakovskiy Redoubt: The Ethnoarchaeology of a Russian Fort in Alaska," (unpublished manuscript, 1980), pp. 86, 88-89.
3. Ibid., pp. 87-88; James W. VanStone, Eskimos of the Nushagak River (Seattle: University of Washington Press, 1967), pp. 51-52.
4. Oswalt, "Kolmakovskiy Redoubt," pp. 179-180; Robert P. Porter, Report on Population and Resources of Alaska at the Eleventh Census, 1890 (Washington, D.C.: GPO, 1893), p. 101; U.S. Congress, House of Representatives, Committee on Merchant Marine and Fisheries, Investigation of the Fur-Seal and Other Fisheries of Alaska, 50th Cong., 2d sess., H. Rept. No. 3883 (Washington, D.C.: GPO, 1899), p. 325.
5. Nome Nugget, September 20, 1902; Iditarod Pioneer, July 31, 1910; Alfred G. Maddren, The Innoko Gold-Placer District, With

Accounts of the Central Kuskokwim Valley and the Ruby Creek and Gold Hill Placers, U.S. Geological Survey Bulletin 410 (Washington, D.C.: GPO, 1910), pp. 33-34; Alfred H. Brooks, The Geography and Geology of Alaska, a Summary of Existing Knowledge, U.S. Geological Survey Professional Paper 45 (Washington, D.C.: GPO, 1906), p. 64.

6. Ibid.; Nome Nugget, September 20, 1902.
7. Alaska Prospector, September 17, 23, 1905; Nome Semi-Weekly Nugget, August 26, 1905; Fairbanks Evening News, September 10, 1906; Wendell H. Oswalt, Historic Settlements Along the Kuskokwim River, Alaska, Alaska State Library, Historical Monograph No. 7 (Juneau: Alaska Division of State Libraries and Museums, 1980), pp. 8, 30.
8. Alaska Prospector, February 1, 1906, January 3, 1907; Fairbanks Daily Times, July 18, 1906.
9. Alaska Prospector, July 12, October 11, 1906; Fairbanks Daily Times, July 7, 1906, October 10, 1908; Central Alaska Company, "Steamers on the Kuskokwim," 1906, University of Alaska Archives, Fairbanks; "Steamer Nunivak for the Kuskokwim," Alaska's Magazine, 2 (April, 1906): 47.
10. Adolph Stecker, "The Mission in Alaska: Report of the Mission at Bethel, Alaska, July-December 1906," Proceedings of the General

- Meeting of the Society of the United Brethren for Propagating the Gospel Among the Heathen (Bethlehem, Pennsylvania: The Moravian Press, 1907), pp. 62-63.
11. Fairbanks Evening News, September 10, 1906; Tom Odale, "Some Alaskan Adventures," Alaska Journal, 4 (Winter, 1974): 44-45; George Byron Gordon, In the Alaska Wilderness (New York: AMS Press, 1978), pp. 127-128, 142-144.
 12. Maddren, The Innoko Gold-Placer District (Bull. 410), p. 38.
 13. Ibid., p. 34; Kusko Times, June 28, 1924.
 14. Oswalt, Historic Settlements, p. 80.
 15. David H. Sleem, "Great Kuskokwim, A New Land of Promise," Alaska-Yukon Magazine, 10 (November, 1910): 296.
 16. Fairbanks Weekly Times, October 12, 1910.
 17. Omar J. Humphrey to Captain J. C. Downing, May 20, 1911; Memorandum, President of Northern Navigation Company and Secretary of Alaska Commercial Company, April 12, 1911, file 49/278, Box 9, Alaska Commercial Company Records, Stanford University, Palo Alto, California, hereafter referred to as the Alaska Commercial Company Records.

18. Iditarod Nugget, August 2, 16, 1911; Iditarod Pioneer, June 3, 8, 1911.
19. Iditarod Pioneer, January 15, 1916; Kusko Times, June 28, 1930.
20. Fairbanks Weekly Times, October 12, 1910.
21. Iditarod Pioneer, April 22, July 29, 1911.
22. Alfred G. Maddren, "Gold Placers of the Lower Kuskokwim, With a Note on Copper in the Russian Mountains," in Philip S. Smith, Mineral Resources of the Lake Clark - Iditarod Region, U.S. Geological Survey Bulletin 622-H (Washington, D.C.: GPO, 1915), p. 303.
23. Iditarod Pioneer, June 3, July 22, 1916.
24. Iditarod Pioneer, January 20, April 29, August 5, September 16, 30, 1916.
25. Iditarod Pioneer, September 1, 1917.
26. Kusko Times, May 25, 1921, September 13, 1922.
27. January 13, March 9, April 13, 1920 entries, Minutes of the Board of Directors of the Northern Navigation Company, Box 59, Alaska Commercial Company Records.
28. Kusko Times, July 14, 1923, July 4, 1925.

29. "From Ketchikan to Barrow," Alaska Sportsman, 2 (March 1936): 6.
30. U.S. Army Corps of Engineers, Alaska District, Interim Report No. 7, Yukon and Kuskokwim River Basins, Alaska, 88th Cong., 2d sess., H. Doc. No. 218 (Washington, D.C.: GPO, 1964), pp. 107-108; Richard A. Berg, "The Economic Base and Development of Alaska's Kuskokwim Basin With Particular Emphasis on the Period 1950 to 1964" (M.A. thesis, University of Alaska, 1965), p. 18.
31. N.C. Flag, June 1954; Lado A. Kozely, Over-All Economic Development Plan Relating to the Yukon - Kuskokwim River Basins Within the Jurisdiction of the Bureau of Indian Affairs, Bethel District Office (Bethel: Bureau of Indian Affairs, 1964), p. 149.
32. Ibid.
33. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, Alaska Native Village Selection Applications, U.S. Bureau of Land Management, Alaska State Office, Anchorage, hereafter referred to as ANCSA file.
34. Odale, "Some Alaskan Adventures," pp. 44-45.
35. Alfred G. Maddren, "Gold Placers of the Innoko District," in Alfred H. Brooks, et al., Mineral Resources of Alaska . . . 1908, U.S. Geological Survey Bulletin 379 (Washington, D.C.: GPO, 1909), p. 248; Oswalt, Historic Settlements, p. 80.

36. Maddren, "Gold Placers of the Innoko District" (Bull. 379), pp. 247-249.
37. Anton Eide to Alaska Road Commission, August 18, 1910, Historical Documents Geologic File, U.S. Geological Survey, Menlo Park, California, hereafter referred to as USGS Records.
38. Kusko Times, June 1, July 6, September 17, 1921, May 24, June 17, September 7, 1922, October 6, 1923, July 5, 14, October 30, 1924, May 23, 30, September 5, 1925, February 5, September 17, November 19, 1937.
39. Kusko Times, July 13, 1921.
40. U.S. Board of Road Commissioners for Alaska, Annual Report of the Alaska Road Commission, Fiscal Year 1926 (Juneau: Alaska Daily Empire Print, 1923), II, p. 88; U.S. Board of Road Commissioners for Alaska, Annual Report . . . FY-1924, (Juneau: Alaska Daily Empire Print, 1924), II, p. 132.
41. Kusko Times, June 15, 1921, May 30, September 5, 1925.
42. Kusko Times, September 7, 1922.
43. Kusko Times, September 17, 1937.
44. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.

45. Iditarod Pioneer, August 5, 1911.
46. Iditarod Pioneer, June 10, 1916.
47. Diane Gudge-Holmes, Ethnohistory of Four Interior Alaskan Waterbodies (Boulder, Colorado: Western Interstate Commission for Higher Education, 1980), p. 51.
48. Ibid., pp. 51-54.
49. Clifford D. Ells, "Navigability Field Report - Takotna River," June 6, 1977, Clifford D. Ells to Richard Tindall, November 4, 1977, Curtis V. McVee, "Notice of Proposed Easement Recommendations for the Village of Takotna," June 27, 1978, file F-14942-EE, ANCSA file.
50. Clifford D. Ells to State Director, February 1979, Robert Arnold to President, MTNT, Ltd., March 8, 1979, Curtis V. McVee to Chief, Division of ANCSA Operations, March 28, 1979, Decision to Issue Conveyance, March 30, 1979, file F-14942-EE, ANCSA file.
51. Interim Conveyance No. 327, June 11, 1980, file F-14942-EE; C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
52. John S. Brown, "The Nixon Fork Country," in P. S. Smith, et al., Mineral Resources of Alaska . . . 1924, U.S. Geological Survey Bulletin 783 (Washington, D.C.: GPO, 1926), pp. 98-99.

53. Odale, "Some Alaskan Adventures," pp. 45-46.
54. Kusko Times, June 25, 1932.
55. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records; Iditarod Pioneer, July 1, 1911.
56. Kusko Times, May 25, 30, 1925.
57. Kusko Times, May 12, 1928.
58. Iditarod Pioneer, July 1, 1911; Kusko Times, August 8, 1931.
59. Kusko Times, June 24, 1933.
60. Kusko Times, August 12, 1933.
61. Ibid.
62. Kusko Times, October 15, 1937.
63. Gudgel-Holmes, Ethnohistory, pp. 54-56.
64. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
65. Steve Durkee, "Navigability Report, Sleetmute Quadrangle - FY 81, Report No. 1," August 11, 1981, Jules V. Tileston to State Director,

- September 3, 1981, Report Files, Navigability Section, U.S. Bureau of Land Management, Alaska State Office, Anchorage.
66. Kusko Times, May 31, 1922.
67. Gudgel-Holmes, Ethnohistory, pp. 55-56.
68. Clifford D. Ells to Richard W. Tindall, November 4, 1977, Clifford D. Ells, "Navigability Field Report - Tatalina River," June 7, 1977, Curtis V. McVee, "Notice of Proposed Easement . . . McGrath," file F-14889-EE, ANCSA file.
69. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
70. Edward H. Hosley, "The McGrath Ingalik," Anthropological Papers of the University of Alaska, 9 (May 1961): 101-102.
71. Edward H. Hosley, "Factionalism and Acculturation in an Alaskan Athapascan Community" (Ph.D. dissertation, University of California, Los Angeles, 1966), pp. 194-196.
72. Josiah Edward Spurr, "A Reconnaissance in Southwestern Alaska in 1898," in U.S. Geological Survey, Twentieth Annual Report . . . 1898-1899, Part VII (Washington, D.C.: GPO, 1900), p. 51.
73. Ibid.

74. Ibid., pp. 51-52.
75. Ibid., p. 64.
76. Ibid., p. 68.
77. Ibid., p. 122.
78. Edward H. Hosley, "Factionalism and Acculturation," pp. 168-169.
79. Gordon, In the Alaska Wilderness, pp. 90-91, 101-102.
80. Odale, "Some Alaskan Adventures," pp. 43-44, 46.
81. Maddren, "Gold Placers of the Innoko District" (Bull. 379), pp. 247-248.
82. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
83. Iditarod Pioneer, January 22, 1911.
84. Iditarod Pioneer, July 29, 1911.
85. Hosley, "Factionalism and Acculturation," p. 175.
86. Ibid., p. 229.
87. U.S. Army Corps of Engineers, Interim Report No. 7, pp. 107-108.

88. Hosley, "The McGrath Ingalik," p. 99.
89. Iditarod Pioneer, June 15, 1918.
90. Hosley, "Factionalism and Acculturation," pp. 104, 265.
91. Gudgel-Holmes, Ethnohistory, pp. 35-38.
92. Clifford D. Ells to File, February 9, 1978, file F-14906-EE, ANCSA file.
93. Joe Labay, "Navigability Field Report - South Fork Kuskokwim," June 6, 1977, file F-14906-EE, ANCSA file.
94. Clifford D. Ells to R. W. Tindall, November 1, 1977, file F-14906-EE, ANCSA file.
95. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
96. Ron Huntsinger, "Navigability Report, Medfra Quadrangle - FY 81, Report No. 1," August 3, 1981, Report Files, Navigability Section, BLM Alaska State Office, Anchorage.
97. Jules V. Tileston to State Director, August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.

98. Huntsinger, "Navigability Report," August 3, 1981; Jules V. Tileston to State Director, August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.
99. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, C. M. Brown to Files, October 28, 1982, file F-14906-EE, ANCSA file.
100. Joseph S. Herron, Explorations in Alaska, 1899, For An All-American Overland Route from Cook Inlet, Pacific Ocean, to the Yukon, U.S. War Department, Adjutant General's Office, No. 31, 60th Cong., 2d sess., S. Doc. No. 689 (Washington, D.C.: GPO, 1909), map.
101. Hosley, "Factionalism and Acculturation," pp. 104, 195, 265.
102. Elizabeth F. Andrews, Report on the Cultural Resources of the Doyon Region, Central Alaska, Occasional Paper No. 5, Vol. II (Fairbanks: Cooperative Parks Study Unit, 1977), p. 380.
103. Gudgel-Holmes, Ethnohistory, p. 38.
104. Miska Alexia, "Alaska Native Allotment Application and Evidence of Occupancy", March 2, 1971, file F-17262, Alaska Native Allotment Applications, U.S. Bureau of Land Management, Alaska State Office, Anchorage, hereafter referred to as Native allotment file.
105. Ralph J. Korn, "Native Allotment Field Report," January 18, 1974, file F-17262, Native allotment file.

106. "Statement of Miska Alexia," May 22, 1975, file F-17262, Native allotment file.
107. Philip Esai, "Statement of Witness," May 22, 1975; Nick Alexia, "Statement of Witness," May 22, 1975, file F-17262, Native allotment file.
108. Anna Alexia, "Alaska Native Allotment and Evidence of Occupancy," March 2, 1971, file F-17261, Native allotment file.
109. Ralph J. Korn, "Native Allotment Field Report," January 18, 1974, file F-17261, Native allotment file.
110. Anna Alexia, "Statement," May 22, 1975, file F-17261, Native allotment file.
111. Nick Alexia, Statement of Witness, n.d. (BLM received October 15, 1974); Olive Petruska, "Statement of Witness," n.d. (BLM received October 15, 1974); Miska Alexia, "Statement of Witness," May 22, 1975; Nick Alexia, Statement of Witness, May 24, 1975, Nick Dennis, "Statement of Witness," May 22, 1975, file F-17261, Native allotment file.
112. C. M. Brown to Files, October 28, 1982, file F-14906-EE, ANCSA file.
113. Hosley, "The McGrath Ingalik," p. 101.
114. Iditarod Pioneer, July 1, 1911.

115. Iditarod Pioneer, August 7, 1915.
116. Kusko Times, May 25, June 18, 22, October 19, 1921.
117. Kusko Times, June 10, 16, July 24, October 11, 1922.
118. Kusko Times, May 25, August 6, September 28, October 15, 1921.
119. Kusko Times, August 23, September 10, October 18, 1922.
120. Kusko Times, June 4, October 6, 1921, May 31, 1922.
121. Kusko Times, May 18, 1921.
122. Kusko Times, May 10, 1924, August 7, 1926, June 2, July 7, 1928, May 10, 17, 1930, October 15, 1937.
123. Alice T. Lynch, "Preliminary Inventory of Cultural Resources Along the Iditarod Trail; Rainy Pass and Unalakleet," 1978, unpublished manuscript, U.S. Bureau of Land Management, Anchorage District Office.
124. Hosley, "Factionalism and Acculturation," p. 269.
125. A. T. Fernald, Geomorphology of the Upper Kuskokwim Region, U.S. Geological Survey Bulletin 1071-G (Washington, D.C.: GPO, 1960), p. 195.

126. Gudgel-Holmes, Ethnohistory, pp. 46-50.
127. C. Ells, "Navigability Field Report - Middle Fork," June 7, 1977,
C. Ells, "Navigability Field Report - Pitka Fork River," June 7, 1977,
file F-14906-EE, ANCSA file.
128. C. M. Brown to Chief, Division of Resources, May 6, 1980; H. W.
Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
129. Huntsinger, "Navigability Field Report," August 3, 1981, Report
Files, Navigability Section, BLM Alaska State Office.
130. Jules V. Tileston to State Director, August 11, 1981, Report Files,
Navigability Section, BLM Alaska State Office.
131. Huntsinger, "Navigability Report," August 3, 1981, Jules V. Tileston
to State Director, August 11, 1981, Report files, Navigability Section,
BLM Alaska State Office.
132. Spurr, "A Reconnaissance in Southwestern Alaska in 1898," p. 96.
133. Herron, Explorations in Alaska, pp. 49-50.
134. Hosley, "Factionalism and Acculturation," p. 161.
135. Ibid., pp. 161-162.

136. Seward Weekly Gateway, March 23, 1907. See also Alaska Prospector, January 16, 1908.
137. Gordon, In the Alaska Wilderness, pp. 23-26, 66-107, 127-128.
138. Lee Raymond Dice manuscript, Dice Collection, University of Alaska Archives, Fairbanks.
139. Iditarod Pioneer, August 8, 1914.
140. Iditarod Pioneer, November 14, 1914.
141. Iditarod Pioneer, January 16, 1915.
142. Kusko Times, May 25, 1921.
143. Kusko Times, June 29, July 23, 1921.
144. Kusko Times, August 16, 1921.
145. Kusko Times, September 6, October 4, 7, 1922.
146. Kusko Times, January 19, 1921.
147. Ibid.
148. Kusko Times, September 7, 1921.

149. Kusko Times, November 2, 5, 1921.
150. Kusko Times, January 24, 1925.
151. Kusko Times, August 30, November 29, 1924.
152. Kusko Times, January 24, 1925.
153. Kusko Times, April 24, 1925.
154. Kusko Times, April 11, 1925.
155. Kusko Times, June 6, 27, 1925.
156. Kusko Times, June 6, 27, 1925.
157. Kusko Times, July 4, 1925; U.S. Board of Road Commissioners for Alaska, Annual Report . . . FY 1926, Part II (Juneau: Alaska Daily Empire Print, 1926), p. 72.
158. Kusko Times, September 5, 1925.
159. Kusko Times, September 3, 1927.
160. Gudgel-Holmes, Ethnohistory, pp. 42, 44.
161. C. Ells, "Navigability Field Report - North Fork," June 6, 1977, file F-14906-EE, ANCSA file.

162. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
163. Gudgel-Holmes, Ethnohistory, pp. 44-45.
164. C. Ells, "Navigability Field Report - Swift Fork," June 6, 1977,
C. Ells, "Navigability Field Report - Highpower Creek," June 6, 1977, file F-14945-EE, ANCSA file.
165. Clifford D. Ells to R. W. Tindall, November 4, 1977, Deacon Nikolai to State Office [BLM], April 4, 1975, file F-14945-EE, ANCSA file.
166. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
167. Lance Lockard, "Navigability Report, Medfra and Mt. McKinley Quadrangles - FY 81, Report No. 2," August 21, 1981, Sherman F. Berg to Files, September 15, 1981, Report Files, Navigability Section, BLM Alaska State Office.
168. Joe J. Labay, "Navigability Field Report - Upper Telida Lake," June 6, 1977, file F-14945-EE; C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA files.
169. Joe J. Labay, "Navigability Field Report - Lower Telida Lake," June 6, 1977, file F-14945-EE; C. M. Brown to Chief, Division of Resources,

- May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA files.
170. Joe J. Labay, "Navigability Field Report - Bear Island Lake," June 7, 1977, file F-14945-EE; C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA files.
171. Joe J. Labay, "Navigability Field Report - Shisnona Lake," June 7, 1977, file F-14945-EE; C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA files.
172. Joe J. Labay, "Navigability Field Report - Spruce Lake," June 6, 1977, file F-14945-EE; C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA files.
173. Joe J. Labay, "Navigability Field Report - Bellen Lake," June 6, 1977, file F-14945-EE; C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA files.
174. Herron, Explorations in Alaska, pp. 35, 46.
175. Kusko Times, July 14, 1923, September 20, 1930, June 6, 1931.
176. Gudgel-Holmes, Ethnohistory, pp. 39, 41.

177. Joe J. Labay, "Navigability Field Report - East Fork," June 6, 1977, file F-14906-EE, ANCSA file.
178. Joe J. Labay, "Navigability Field Report - Slow Fork," June 6, 1977, C. Ells, "Navigability Field Report - Tonzona River," June 6, 1977, file F-14945-EE, ANCSA file.
179. Clifford D. Ells to R. W. Tindall, November 1, 1977, file F-14906-EE, ANCSA file.
180. C. M. Brown to Chief, Division of Resources, May 6, 1980, H. W. Gabriel to State Director, May 6, 1980, file F-14906-EE, ANCSA file.
181. Lockard, "Navigability Report," August 21, 1981, Report Files, BLM Alaska State Office.
182. Ibid.; Sherman F. Berg to Files, September 15, 1981, Report Files, BLM Alaska State Office.
183. Joe J. Labay, "Navigability Field Report - Grayling Lake," June 6, 1977, file F-14945-EE, ANCSA file.
184. Joe J. Labay, "Navigability Field Report - Denagiemina Lake," June 6, 1977, file F-14906-EE, ANCSA file.
185. C. Ells, "Navigability Field Report - Smitty's Lake," June 6, 1977, file F-14889-EE, ANCSA file.

186. C. Ells, "Navigability Field Report - Katlitna River," June 7, 1977, Clifford D. Ells to Richard W. Tindall, November 4, 1977, Curtis V. McVee, "Notice of Proposed Easement . . . McGrath," June 27, 1978, file F-14889-EE, ANCSA file.
187. Durkee, "Navigability Report," August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.
188. Ibid.; Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
189. Durkee, "Navigability Report," August 11, 1981, Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
190. Gudgel-Holmes, Ethnohistory, p. 63.
191. C. Ells, "Navigability Field Report - Wilson Lake," June 6, 1977, file F-14889-EE, ANCSA file.
192. Clifford D. Ells to Richard W. Tindall, November 4, 1977, Curtis V. McVee, "Notice of Proposed Easement . . . McGrath," June 27, 1978, file F-14889-EE, ANCSA file.
193. Larry A. Wiggins to Charles Naughton, August 9, 1978, file F-14889-EE, ANCSA file.
194. Gudgel-Holmes, Ethnohistory, p. 59.

195. Durkee, "Navigability Report," August 11, 1981, Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
196. Gudgel-Holmes, Ethnohistory, p. 63.
197. Ibid., p. 59.
198. Durkee, "Navigability Report," August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.
199. Ibid.; Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
200. Gudgel-Holmes, Ethnohistory, p. 59; Durkee, "Navigability Report," August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.
201. Ibid.; Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
202. Richard A. Dotson and David P. Mindell, Raptor Surveys and River Profiles in the Kuskokwim, Unalakleet, and Yukon River Drainages, Alaska, U.S. Bureau of Land Management Open File Report (Anchorage: Bureau of Land Management, 1979), pp. 4, 5.
203. Gudgel-Holmes, Ethnohistory, p. 61.

204. Durkee, "Navigability Report," August 11, 1981, Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
205. Gudgel-Holmes, Ethnohistory, p. 59.
206. Ibid.
207. Ibid.
208. Ibid.
209. Ibid.
210. Ibid.
211. Ibid.
212. Durkee, "Navigability Report," August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.
213. Ibid.; Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
214. Durkee, "Navigability Report," August 11, 1981, Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.

215. Dotson and Mindell, Raptor Surveys, pp. 4, 6.
216. Patrick C. Beckley to Files, January 6, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Stony River, Limited," December 23, 1976, Curtis V. McVee to Chief, Division of Technical Services, February 3, 1978, file F-14941-EE, ANCSA file; C. M. Brown to Chief, Division of ANCSA and State Conveyances, August 6, 1982, Robert W. Faithful to Robert D. Arnold, August 6, 1982, Report Files, Navigability Section, BLM Alaska State Office.
217. Monna L. Ivey to State Director, April 4, 1980, Terry R. Hassett to President, Calista Corporation, June 12, 1981, file F-14941-EE, ANCSA file.
218. Durkee, "Navigability Report," August 11, 1981, Report Files, Navigability Section, BLM Alaska State Office.
219. Ibid.; Jules V. Tileston to State Director, September 3, 1981, Report Files, Navigability Section, BLM Alaska State Office.
220. Susan Eaton, "Navigability Report, McGrath Quadrangle - FY 82, Report No. 1," June 21, 1982, Report Files, Navigability Section, BLM Alaska State Office.
221. C. M. Brown to Chief, Division of ANCSA and State Conveyances, August 6, 1982, Robert W. Faithful to Robert D. Arnold, August 6, 1982, Report Files, Navigability Section, BLM Alaska State Office.

222. Nome Semi-Weekly Nugget, December 24, 1904.
223. C. L. Sainsbury and E. M. MacKevett, Jr., Quicksilver Deposits of Southwestern Alaska, U.S. Geological Survey Bulletin 1187 (Washington, D.C.: GPO, 1965), p. 21.
224. Dotson and Mindell, Raptor Surveys, pp. 4, 6-7; Monna L. Ivey, "Navigability Report, Lime Hills Quadrangle - FY 81, Report No. 2," May 27, 1981, Report Files, Navigability Section, BLM Alaska State Office.
225. Ibid.
226. "ETF minutes," December 5, 1975, file F-14941-EE, ANCSA file.
227. Ivey, "Navigability Report," May 27, 1981, Report Files, Navigability Section, BLM Alaska State Office.
228. Monna L. Ivey to State Director, April 4, 1980, Terry R. Hassett to President, Calista Corporation, June 12, 1981, file F-14941-EE, ANCSA file.
229. Ivey, "Navigability Report," May 27, 1981, Report Files, Navigability Section, BLM Alaska State Office. There is a question as to how far Alt ascended the river, for he reviewed Ivey's report and replied, " . . . I didn't go nearly as far up the Swift River as you had indicated." See Monna L. Ivey, "Explanatory Remarks," n.d. (1981), file F-14887-EE, ANCSA file.

230. Ivey, "Navigability Report," May 27, 1981, Report Files, Navigability Section, BLM Alaska State Office.
231. Ibid.
232. Sherman F. Berg to State Director, June 19, 1981, Report Files, Navigability Section, BLM Alaska State Office.
233. Eaton, "Navigability Report," June 21, 1982, Report Files, Navigability Section, BLM Alaska State Office.
234. C. M. Brown to Chief, Division of ANCSA and State Conveyances, August 6, 1982, Robert W. Faithful to Robert D. Arnold, August 6, 1982, Report Files, Navigability Section, BLM Alaska State Office.
235. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
236. Iditarod Nugget, August 23, 1911.
237. Kusko Times, April 11, 1925.
238. Kusko Times, August 20, 1932.
239. P. S. Smith, The Lake Clark - Central Kuskokwim Region, Alaska, U.S. Geological Survey Bulletin 655 (Washington, D.C. GPO, 1917), p. 31.
240. Ibid., p. 18.

241. Kusko Times, April 11, 1925; Stephen R. Capps, The Chakachamna-Stony Region, U.S. Geological Survey Bulletin 813-B (Washington, D.C.: GPO, 1930), p. 100.
242. Ibid., pp. 100, 106, 107.
243. Ibid., pp. 100, 107.
244. Jessen's Weekly, 1950.
245. Kevin Apgar to Files, November 6, 1978, Report Files, U.S. National Park Service, Anchorage, hereafter referred to as NPS Records. Copy of report available at Navigability Section, BLM Alaska State Office.
246. U.S. Heritage Conservation and Recreation Service, Alaska Area Office, "Stony, Telequana, Necon Rivers: A Wild and Scenic River Analysis," April 1979, revised October 1979, p. 3, NPS Records.
247. Ibid., p. 40.
248. Ibid., pp. 19, 41.
249. "Public Access and Use Recommendations," n.d. [1975], Easement Task Force Minutes - Lime Village, November 26, 1975, Rhett S. Wise to File, November 25, 1975, Patrick C. Beckley to Files, November 28, 1975, December 2, 1975, Lime Village Company Resolution No. 76-10,

April 2, 1975 (1976), Curtis V. McVee, "Notice of Proposed Easement . . . Lime Village," June 10, 1976, Ron Dagon to John Hall, July 21, 1976, Clair Whitlock to Chief, Division of Technical Services, November 10, 1976, Robert W. Arndorfer to Chief, Division of ANCSA Operations, August 1978, file F-14887-EE, ANCSA file.

250. Monna L. Ivey to State Director, April 4, 1980, file F-14887-EE, ANCSA file.
251. Monna L. Ivey to Files, December 14, 1981, file F-14887-EE, ANCSA file. O'Donnell opposed the conveyance of lake bottoms to private ownership. According to Ivey: "Bud also states that there is hardly a lake west of the range that he hasn't landed on for the purpose of hunting, fishing, and trapping. Lakes as small as a fourth mile in length may be landed on with a super cub with floats or skis. Lakes up to a mile in length for Cessna 180's on floats or skis, depending on the load the craft is carrying He feels that all lakes over one-fourth mile in length should be considered major and/or navigable. He feels if a super cub is capable of landing on these waterbodies they should be considered thus. He does not like the idea of all these lakes being tied up by village and regional corporations and believes many Alaskans share these sentiments."
252. Chief, Division of ANCSA and State Conveyances to State Director, February 12, 1982, file F-14887-EE, ANCSA file.
253. Robert E. Hiller, Jr., to Files, July 21, 1982, file F-14887-EE, ANCSA file.

254. Robert D. Arnold to Pauline Bobby, September 10, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, September 10, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE; Decision to Issue Conveyance, September 29, 1982, file F-14941-EE, ANCSA files.
255. Steve Durkee, "Navigability Report, Lime Hills Quadrangle - FY 81, Report No. 3," May 28, 1981, Report Files, Navigability Section, BLM Alaska State Office.
256. Ibid.; Jules V. Tileston to State Director, June 19, 1981, Report Files, Navigability Section, BLM Alaska State Office.
257. U.S. Heritage Conservation and Recreation Service, "Stony, Telaquana, Necons Rivers," p. 40.
258. Ibid., pp. 4, 12.
259. Kevin Apgar to Files, November 6, 1978, NPS Records.
260. U.S. Department of the Interior, Alaska Planning Group, Proposed Lake Clark National Park: Final Environment Statement (Washington, D.C.: GPO, 1974), pp. 514-517.
261. U.S. Heritage Conservation and Recreation Service, "Stony, Telaquana, Necons Rivers," pp. 12, 43.
262. Kevin Apgar to Files, November 6, 1978, NPS Records.

263. Durkee, "Navigability Report," May 28, 1981, Sherman F. Berg to Chief, Division of Resources, n.d. [June 1981], Jules V. Tileston to State Director, June 19, 1981, Report Files, Navigability Section, BLM Alaska State Office.
264. Dennis P. Daigger to Sherman Berg, June 24, 1982, file F-14887-EE, ANCSA file.
265. Robert E. Hiller, Jr., to Files, July 21, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.
266. Dennis P. Daigger to Sherman Berg, June 24, 1982, Robert E. Hiller, Jr., to Files, July 21, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.
267. Rhett S. Wise to File, November 25, 1975, ETF Minutes - Lime Village, November 26, 1975, Patrick C. Beckley to Files, December 2, 1975, Lime Village Company Resolution No. 76-10, April 2, 1975 (1976), Curtis V. McVee, "Notice of Proposed Easement . . . Lime Village," June 10, 1976, Ron Dagon to John Hall, July 21, 1976, file F-14887-EE, ANCSA file.
268. Durkee, "Navigability Report," May 28, 1981, Report Files, Navigability Section, BLM Alaska State Office.
269. Dennis P. Daigger to Sherman Berg, June 24, 1982, file F-14887-EE, ANCSA file.

270. Robert E. Hiller, Jr., to Files, July 21, 1982, file F-14887-EE, ANCSA file.
271. Robert D. Arnold to Pauline Bobby, September 10, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, September 10, 1982, Robert W. Faithful to Chief, Division of ANCSA and State Conveyances, September 22, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.
272. Dennis P. Daigger to Sherman Berg, June 24, 1982, Dennis P. Daigger to Bob Arnold, July 19, 1982, file F-14887-EE, ANCSA file.
273. Robert E. Hiller, Jr., to Files, July 21, 1982, file F-14887-EE, ANCSA file.
274. Robert D. Arnold to Pauline Bobby, September 10, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, September 10, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.
275. Robert E. Hiller, Jr., to Files, July 21, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.
276. Dennis P. Daigger to Sherman Berg, June 24, 1982, Robert E. Hiller, Jr., to Files, July 21, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.

277. Patrick C. Beckley to Files, December 2, 1975, Lime Village Company Resolution No. 76-10, April 2, 1975 (1976), Curtis V. McVee, "Notice of Proposed Easement . . . Lime Village," June 10, 1976, Ron Dagon to John Hall, July 21, 1976, Clair Whitlock to Chief, Division of Technical Services, November 10, 1976, file F-14887-EE, ANCSA file.
278. Monna L. Ivey to State Director, April 4, 1980, Monna L. Ivey to Files, December 14, 1981, Chief, Division of ANCSA and State Conveyances to State Director, February 12, 1981, Dennis P. Daigger to Sherman Berg, June 24, 1982, Robert E. Hiller, Jr., to Files, July 21, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, September 10, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14887-EE, ANCSA file.
279. Durkee, "Navigability Report," May 28, 1981, Report Files, Navigability Section, BLM Alaska State Office.
280. Ibid.; Jules V. Tileston to State Director, June 19, 1981, Report Files, Navigability Section, BLM Alaska State Office.
281. Monna L. Ivey to State Director, April 4, 1980, Terry R. Hassett to President, Calista Corporation, June 12, 1981, Decision to Issue Conveyance, September 29, 1982, file F-14941-EE, ANCSA file.
282. Patrick C. Beckley to Files, January 6, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Stony River, Limited," December 23, 1976, Curtis V. McVee to Chief, Division of Technical Services, February 3, 1978, file F-14941-EE, ANCSA file.

283. Monna L. Ivey to State Director, April 4, 1980, Terry R. Hassett to President, Calista Corporation, June 12, 1981, Decision to Issue Conveyance, September 29, 1982, file F-14941-EE, ANCSA file.
284. Dennis P. Daigger to Bob Arnold, July 19, 1982, file F-14941-EE, ANCSA file.
285. C. M. Brown to File, October 6, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, September 13, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14936-EE, ANCSA file.
286. Lavrentiy A. Zagoskin, Lieutenant Zagoskin's Travels in Russian America, 1842-1844, Henry N. Michael, ed. (Toronto: Arctic Institute of North America, 1967), pp. 253-254; VanStone, Eskimos of the Nushagak River, p. 51.
287. Porter, Report on Population and Resources of Alaska, 1890, p. 97.
288. Alaska Prospector, January 16, 1908; Fairbanks Sunday Times, August 30, 1908.
289. Nome Semi-Weekly Nugget, December 24, 1904.
290. Iditarod Pioneer, June 24, 1911.
291. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.

292. Harold A. Cotton, "Descriptive Report for Reconnaissance Survey of Kuskokwim River, Bethel to McGrath," July 30, 1916, NOAA Records.
293. Smith, The Lake Clark - Central Kuskokwim Region (Bull. 655), p. 15.
294. Ibid., pp. 30, 135.
295. Burr S. Webber, et al., Mercury Deposits of Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4065 (Washington, D.C.: GPO, 1947), p. 43.
296. F. A. Rutledge, Investigation of Mercury Deposits, Cinnabar Creek Area, Georgetown and Aniak District, Kuskokwim Region, Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4719 (Washington, D.C.: GPO, 1950), p. 2.
297. Wallace M. Cady, et al., The Central Kuskokwim Region, Alaska: An Account of Its Geography, Geology, Geomorphology, and Mineral Resources Including the Occurrence and Mining of Quicksilver, U.S. Geological Survey Professional Paper 268 (Washington, D.C.: GPO, 1955), pp. 10, 113-114.
298. Richard W. Tindall to State Director, January 16, 1980, Report Files, Navigability Section, BLM Alaska State Office.
299. Garold T. McWilliams, "Navigability Report: Holitna and Hoholitna Rivers," November 2, 1979 and "Supplemental Report," December 21, 1979, Report Files, Navigability Section, BLM Alaska State Office.

300. Sherman F. Berg to Ron Swanson, January 25, 1980, Sherman F. Berg to File, January 31, 1980, Herman W. Gabriel to Curtis V. McVee, February 8, 1980, Report Files, Navigability Section, BLM Alaska State Office.
301. Rhett S. Wise to File, November 25, 1975, Horace D. Sanders to File, December 5, 1975, file F-14936-EE, ANCSA file.
302. Horace D. Sanders to File, April 20, 1976, Curtis V. McVee to Chief, Division of Technical Services, February 23, 1978, file F-14936-EE, ANCSA file. In June 1978, Chuck Drummond and Carol Shobe of the BLM inspected the proposed easement sites on the Holitna. Their mode of travel is not presently known. Near the site in Section 25, T. 18 N., R. 43 W., Seward Meridian, they noted evidence of logging. See Site Inventory and Evaluation Reports, June 19, 1978, file F-14936-EE, ANCSA file.
303. Garold T. McWilliams to State Director, May 7, 1980, Martin L. Karstetter to President, The Kuskokwim Corporation, October 1, 1981, file F-14936-EE, ANCSA file.
304. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert W. Faithful to Glenn Fredericks, August 24, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14936-EE, ANCSA file.

305. Sherman F. Berg to Chief, Branch of Conveyance Support, November 8, 1982, Robert W. Faithful to Robert D. Arnold, November 17, 1982, Report Files, Navigability Section, BLM Alaska State Office.
306. Richard H. Bishop, "Beaver Report," Vol. 10 (Juneau: Alaska Department of Fish and Game, 1970), p. 9; and Vol. 11 (1971), p. 7.
307. Nancy Lethcoe, "Alaska Perspective Wild and Scenic Rivers," January 25, 1972, Correspondence, Memoranda and Case Files of the Fairbanks District Office, Box 21138, Records of the U.S. Bureau of Land Management, Record Group (RG) 49, Federal Archives and Records Center, Seattle, Washington. See also notes on aerial reconnaissance, June 22, 1972, NPS Records.
308. Garold T. McWilliams, "Navigability Report," November 2, 1979, and "Supplemental Report," December 21, 1979, Report Files, Navigability Section, BLM Alaska State Office.
309. Sherman F. Berg to Ron Swanson, January 25, 1980, Sherman F. Berg to File, January 31, 1980, Herman W. Gabriel to Curtis V. McVee, February 8, 1980, Report Files, Navigability Section, BLM Alaska State Office.
310. Carl Neufelder, "Navigability Report, Lake Clark and Lime Hills Quadrangle - FY 81, Report No. 1," March 31, 1981, Report Files, Navigability Section, BLM Alaska State Office.

311. Jules V. Tileston to State Director, April 27, 1981, Report Files, Navigability Section, BLM Alaska State Office.
312. Edward J. McNamara to Bob Arnold, July 9, 1982, file F-14396-EE, ANCSA file.
313. Dennis P. Daigger to Bob Arnold, July 19, 1982, Robert W. Faithful to Glenn Fredericks, August 24, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, September 23, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14936-EE, ANCSA file.
314. Edward J. McNamara to Bob Arnold, July 9, 1982, file F-14936-EE, ANCSA file.
315. Dennis P. Daigger to Bob Arnold, July 19, 1982, Robert W. Faithful to Glenn Fredericks, August 24, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, September 23, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14936-EE, ANCSA file.
316. Sleem, "Great Kuskokwim," p. 298; Iditarod Pioneer, September 18, 1910.
317. Smith, The Lake Clark - Central Kuskokwim Region (Bull. 655), p. 33.

318. Stephen R. Capps, The Southern Alaska Range, U.S. Geological Survey Bulletin 862 (Washington, D.C.: GPO, 1935), p. 19.
319. Dotson and Mindell, Raptor Surveys, pp. 4, 11.
320. Gudgel-Holmes, Ethnohistory, p. 63.
321. Rhett S. Wise, "Navigability Field Report - George River," November 25, 1975, file F-14860-EE, ANCSA file.
322. Rhett S. Wise to File, November 25, 1975, Patrick C. Beckley to Files, January 6, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Georgetown," March 28, 1977, file F-14860-EE, ANCSA file.
323. Glenn W. Fredericks to Land Use Planning Commission, April 16, 1977, file F-14860-EE, ANCSA file.
324. Terry R. Hassett to Ron Swanson, April 30, 1981, file F-14860-EE, ANCSA file.
325. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Decision to Issue Conveyance, September 29, 1982, file F-14860-EE, ANCSA file.
326. Horace D. Sanders to Files, April 19, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Red Devil," December 23, 1976, Garold T.

McWilliams to State Director, May 7, 1980, Terry R. Hassett to President, The Kuskokwim Corporation, June 22, 1981, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 27, 1982, file F-14924-EE, ANCSA file.

327. Webber, Mercury Deposits in Southwestern Alaska, p. 29.
328. William T. Lyman to Bureau of Land Management, February 13, 1975, Elizabeth T. Lyman to Easement Coordinator, BLM, Anchorage District Office, January 28, 1976, file F-14990-EE, ANCSA file.
329. John A. Miscovich to Richard LeDosquet, February 19, 1975, Henry W. Waterfield to Bureau of Land Management, February 24, 1975, file F-14990-EE, ANCSA file.
330. Rhett S. Wise to Files, January 9, 1976, Patrick C. Beckley to Files, January 9, 1976, file F-14990-EE, ANCSA file.
331. Glenn W. Fredericks to Joint Federal-State Land Use Planning Commission, April 20, 1977, file F-14990-EE, ANCSA file.
332. "Draft Final Easements for the Village of Crooked Creek," n.d. [1980], Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14990-EE, ANCSA file.

333. "Village Meeting Notes," September 5, 1975, Bedusha Sakar to BLM, October 1, 1975, Rhett S. Wise to File, November 25, 1975, Rhett S. Wise, "Navigability Field Report - Oskawalik River," November 25, 1975, file F-14990-EE, ANCSA file.
334. Patrick C. Beckley to Files, January 9, 1976, file F-14990-EE, ANCSA file.
335. Curtis V. McVee, "Notice of Proposed Easement . . . Crooked Creek," March 11, 1977, file F-14990-EE, ANCSA file.
336. Alvin D. Pack to Bill Peake and Jon Dolak, January 17, 1977 [1978?], Curtis V. McVee to Co-Chairmen, Federal-State Land Use Planning Commission, February 9, 1978, Curtis V. McVee to Chief, Division of Technical Services, February 9, 1978, file F-14990-EE, ANCSA file.
337. "Draft Final Easements for the Village of Crooked Creek," n.d. [1980], file F-14990-EE, ANCSA file.
338. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14990-EE, ANCSA file.
339. Cady, The Central Kuskokwim Region, pp. 5, 7.

340. "ETF Minutes," December 23, 1975, Patrick C. Beckley to Files, January 2, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Napaimute," April 21, 1977, file F-14900-EE, ANCSA file.
341. Curtis V. McVee to Chief, Division of Technical Services, February 13, 1978, file F-14900-EE, ANCSA file.
342. Monna L. Ivey to State Director, April 4, 1980, Martin L. Karstetter to Kuskokwim Native Corporation, October 1, 1981, file F-14900-EE, ANCSA file.
343. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14900-EE, ANCSA file.
344. "ETF Minutes," December 23, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Napaimute," April 21, 1977, Curtis V. McVee to Chief, Division of Technical Services, February 13, 1978, file F-14900-EE, ANCSA file.
345. Monna L. Ivey to State Director, April 4, 1980, Martin L. Karstetter to Kuskokwim Native Corporation, October 1, 1981, file F-14900-EE, ANCSA file.

346. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14900-EE, ANCSA file.
347. "ETF Meeting Minutes," December 23, 1975, Garold T. McWilliams to Files, n.d. [1975?], Horace D. Sanders to Files, April 20, 1976, file F-14926-EE, ANCSA file.
348. Curtis V. McVee, "Notice of Proposed Easement . . . Little Russian Mission (Chuathbaluk)," April 19, 1977, Curtis V. McVee to Chief, Division of Technical Services, February 9, 1978, William M. Peake and Al Pack, "Site Inventory and Evaluation - Owhat River," June 12, 1978, file F-14926-EE, ANCSA file.
349. Cliff D. Ells to State Director, May 5, 1980, file F-14926-EE, ANCSA file. See also Martin L. Karstetter to Glenn Fredericks, September 29, 1981, file F-14926-EE, ANCSA file.
350. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 23, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14926-EE, ANCSA file. The lowest reach of the river in the Aniak Village

conveyance area was also determined to be navigable on September 30, 1982. See Decision to Issue Conveyance of same date, file F-14831-EE, ANCSA file.

- 351. Zagoskin, Travels in Russian America, p. 207.
- 352. Nome Semi-Weekly Nugget, December 24, 1904.
- 353. Iditarod Pioneer, September 9, 1911.
- 354. Iditarod Pioneer, February 10, 1912.
- 355. Iditarod Pioneer, July 13, 1912.
- 356. Ibid.
- 357. Ibid.
- 358. Harold and Zora Peckenpaugh, Nuggets and Beans (New York: Carlton Press, n.d.), p. 70.
- 359. Iditarod Pioneer, July 18, 1914, January 9, 1915.
- 360. Kusko Times, March 19, 1937.
- 361. Cady, The Central Kuskokwim Region, p. 11.

362. Sepp Weber, "1,000 Miles by Kayak," Alaska Magazine, 37 (August, 1971): 33-36, 56-58. For additional information about the physical character and contemporary uses of the Aniak, see Kenneth T. Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska, Federal Aid in Fish Restoration Study G-I-P, Vol. 18 (Juneau: Alaska Department of Fish and Game, 1977).
363. Garold T. McWilliams to File, n.d. [1975], file F-14831-EE, ANCSA file.
364. "Notes," December 23, 1975, Patrick C. Beckley to Files, April 2, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Aniak," April 18, 1977, file F-14831-EE, ANCSA file.
365. Glenn W. Fredericks to Joint Federal-State Land Use Planning Commission, May 31, 1977, file F-14831-EE, ANCSA file.
366. Clifford D. Ells to State Director, May 5, 1980, file F-14831-EE, ANCSA file.
367. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, file F-14831-EE, ANCSA file.
368. Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 23, 1982, Decision to Issue Conveyance, September 23, 1982, file F-14831-EE, ANCSA file.

369. Cliff D. Ells to State Director, May 5, 1980, Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 23, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14926-EE, ANCSA file.
370. Patrick C. Beckley to Files, April 2, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Aniak," April 18, 1977, Curtis V. McVee to Chief, Division of Technical Services, January 20, 1978, file F-14831-EE, ANCSA file.
371. Edward J. McNamara to Bob Arnold, July 9, 1982, file F-14831-EE, ANCSA file.
372. Dennis P. Daigger to Bob Arnold, July 19, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 23, 1982, Decision to Issue Conveyance, September 23, 1982, file F-14831-EE, ANCSA file.
373. William Peake, "Notes," June 13, 1978, file F-14888-EE; Decision to Issue Conveyance, September 30, 1982, file F-14871-EE, ANCSA files.
374. Alfred G. Maddren, Fieldbook 408-A, No. 3, pp. 43-53, Fieldbook 407, No. 1, USGS Records; Alfred G. Maddren, "Gold Placers of the Lower Kuskokwim," pp. 293-295; Iditarod Pioneer, January 9, 1915.
375. Maddren, "Gold Placers of the Lower Kuskokwim," p. 336.

376. Iditarod Pioneer, July 21, 1917.
377. Horace D. Sanders to Files, April 21, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Lower Kalskag, Incorporated," April 18, 1977, Glenn W. Fredericks to Joint Federal-State Land Use Planning Commission, n.d. [1977], Al Pack to Jon Dolak, February 9, 1978, Curtis V. McVee to Chief, Division of Technical Services, February 14, 1978, file F-14888-EE, ANCSA file.
378. Clifford D. Ells to State Director, May 5, 1980, file F-14888-EE, ANCSA file. See also Martin L. Karstetter to Glenn Fredericks, September 28, 1981, file F-14888-EE, ANCSA file.
379. Edward J. McNamara to Bob Arnold, July 9, July 20, 1982, Dennis P. Daigger to Bob Arnold, July 19, 1982, file F-14888-EE, ANCSA file.
380. Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14888-EE, ANCSA file.
381. Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, November 8, 1982, file F-14888-EE, ANCSA file.
382. Walter W. Lukens to Engineer Officer of the Board, February 9, 1924, file 13/136-2, Box 65637, Records of the Federal Highway Administration, Record Group (RG) 30, Federal Records Center, Seattle, Washington.

383. Walter W. Lukens to Engineer Officer of the Board, February 26, 1924, file 13/136-2, Box 65637, RG 30.
384. Garold T. McWilliams to Files, n.d. [1975], file F-14871-EE, ANCSA file.
385. Patrick C. Beckley to Files, January 13, 1976, file F-14871-EE, ANCSA file.
386. Curtis V. McVee, "Notice of Proposed Easement . . . Upper Kalskag," May 27, 1977, file F-14871-EE, ANCSA file.
387. Dean J. Nation to Joint Federal-State Land Use Planning Commission, July 8, 1977, Curtis V. McVee to Chief, Division of Technical Services, February 10, 1978, file F-14871-EE, ANCSA file.
388. Clifford D. Ells to State Director, May 5, 1980, Mary J. Bonin to William Mattice, October 6, 1981, file F-14871-EE, ANCSA file.
389. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, file F-14871-EE, ANCSA file.
390. Ibid.; Edward J. McNamara to Bob Arnold, July 20, 1982, file F-14871-EE, ANCSA file.
391. Robert W. Faithful to Glenn Fredericks, August 20, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14871-EE, ANCSA file.

392. Zagoskin, Travels in Russian America, pp. 273-274.
393. U.S. Congress, Senate, Compilation of Narratives of Explorations in Alaska, 56th Cong., 1st sess., Rept. No. 1023 (Washington, D.C.: GPO, 1900), p. 31.
394. Henry W. Elliot, Our Arctic Province: Alaska and the Seal Islands (New York: Charles Scribner's Sons, 1886), p. 408.
395. E. H. Wells, "From St. Michael to Katmai," The Alaska Journal, 5 (Spring, 1975): 111.
396. Porter, Report on Population and Resources of Alaska, p. 106.
397. Warburton Pike, Through the Subarctic Forest: A Record of a Canoe Journey from Port Wrangel to the Pelly Lakes and Down the Yukon River to the Bering Sea (New York: Edward Arnold, 1896), pp. 246-250.
398. Spurr, "A Reconnaissance in Southwestern Alaska in 1898," p. 97.
399. Ibid., pp. 98-99.
400. Ibid., p. 99.
401. Nome Nugget, December 2, 1908.
402. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.

403. Adolph Stecker, "Traveling in Alaska," Proceedings of the General Meeting of the Society of the United Brethren for Propagating the Gospel Among the Heathen, 1910 (Bethlehem, Pennsylvania: The Moravian Press, 1910), p. 75.
404. Lee R. Dice manuscript, pp. 114-116, Dice Collection, University of Alaska Archives, Fairbanks.
405. Ibid.
406. Walter L. Goodwin to Alaska Road Commission, April 16, 1908, USGS Records.
407. Oscar Samuelson to Gov. Thomas Riggs, Jr., January 12, 1920, General Correspondence of the Alaska Territorial Governors, National Archives Microfilm Publication M939, roll 79, frames 326-327.
408. James G. Steese to Chief of Engineers, May 20, 1921, file 1517-08, Survey Report Files, Yukon River Portage Preliminary Examinations, 1921-1925, Box R-3-B-II, Records of the U.S. Corps of Engineers, Alaska District, Elmendorf Air Force Base.
409. D. E. Stubbs to Gov. of Alaska, June 22, 1921, General Correspondence of the Alaskan Territorial Governors, roll 82, frame 585.
410. James G. Steese to Chief of Engineers, January 1, 1923, Survey Report Files, Corps of Engineers Records.

411. Oscar Samuelson to Col. Steese, April 10, 1922, Gotwals to Oscar Samuelson, July 25, 1922, Oscar Samuelson to John C. Gotwals, October 12, 1922, file 13/136-1, Box 65637, RG 30; James G. Steese to Gov. Scott C. Bone, October 20, 1922, General Correspondence of the Alaskan Territorial Governors, roll 93, frame 174.
412. C. D. Garfield to Col. James G. Steese, November 7, 1922, J. W. Felder to Colonel Steese, November 30, 1922, Survey Report Files, Corps of Engineers Records. Felder enclosed a map of the portage prepared by Ralph T. Hirsh, who crossed the portage with Felder in the spring of 1922. See Hirsh, "Sketch Traverse of Russian Mission Portage Between Yukon and Kuskokwim Rivers," June 1922, scale 1" = 4 miles, file 13/136-6, Box 65637, RG 30.
413. George F. Marsh and H. Ray Hunter statement, n.d. [1922], Survey Report Files, Corps of Engineers Records. The tonnage figure cited by Marsh and Hunter included a dredge moved from Ruby to Ganes Creek.
414. Chris Betsch to Father P. I. Delon, November 13, 1922, Survey Report Files, Corps of Engineers Records.
415. P. I. Delon to Col. Steese, November 23, 1922, Survey Report Files, Corps of Engineers Records.
416. James G. Steese, "Preliminary Examination of Yukon - Kuskokwim Portage, Alaska," January 1, 1923, Survey Report Files, Corps of Engineers.

417. James G. Steese to Chief of Engineers, January 1, March 10, 1923, James G. Steese to General Harry Taylor, March 13, 1923, Survey Report Files, Corps of Engineers Records.
418. Steese to Walter W. Lukens, May 28, 1923, file 13/136, Box 65637, RG 30.
419. Walter W. Lukens to Col. James G. Steese, January 31, 1924, Survey Report Files, Corps of Engineers Records.
420. The Board of Engineers for Rivers and Harbors, "Public Notice Relative to Proposed Improvement of Yukon - Kuskokwim Portage, Alaska," January 8, 1925, General Correspondence of the Alaska Territorial Governors, roll 120, frame 631. See also James G. Steese, "Preliminary Examination of Yukon - Kuskokwim Portage, Alaska," September 15, 1924, Steese to Chief of Engineers, September 15, 1924, Major General Harry Taylor to the Secretary of War, December 11, 1925, Brigadier General Edgar Jadwin to Chief of Engineers, April 6, 1925, Survey Report Files, Corps of Engineers Records.
421. Chief Clerk, Railway Mail Service to W. C. Vandervoort, August 18, 1923, John C. Gotwals to Scott C. Bone, September 22, 1923, file 13/136-1, Box 65637, RG 30.
422. Walter W. Lukens to Engineer Officer of the Board, February 9, 1924, file 13/136-2, Box 65637, RG 30.

423. Ibid.; Walter W. Lukens to Engineer Officer of the Board, February 26, 1924, file 13/136-2, Box 65637, RG 30. In the last letter Lukens estimated that the waterway improvements would cost \$4,000; and the shelter cabins, \$1,050.
424. Alaska Road Commission to Forrest, March 10, 1924, Forrest to ARC, April 8, 1924, Steese to Earl M. Forrest, April 22, 1924, file 13/136-1, Box 65637, RG 30. See also Forrest to Steese, October 4, 1926, file 13/150-11, Box 65432, RG 30. In early October 1924, Gordon Bettles and Oscar Samuelson were storm-bound on Kukaklik Lake for twelve hours. See Kusko Times, November 29, 1924.
425. Chapter 51, Laws of Alaska, 1927.
426. D. H. Gillette to Hawley Sterling, August 25, 1927, file 13/136-4, Box 65637, RG 30.
427. Ike P. Taylor to Major D. H. Gillette, October 21, 1927, file 13/136-6, Box 65637, RG 30.
428. J. A. Davidson to ARC, December 19, 1927, Mathew Arnold to ARC, January 17, 1928, file 13/136-5, Box 65637, RG 30. The contractors apparently did not satisfy the terms of their contracts until the following winter. See Nash to Alaska Road Commission, February 27, 1929, file 13/136-7, Box 65637, RG 30.

429. Hawley W. Sterling to Major D. H. Gillette, November 3, 1927, Malcolm Elliot to Territorial Board of Road Commissioners, March 31, 1928, file 13/136-4, Box 65637, RG 30.
430. D. H. Gillette to the President of the Board, July 26, 1928, file 13/136-6, Box 65637, RG 30. An account of the trip appeared in the Kusko Times, September 22, 1928.
431. Chapter 106, Laws of Alaska, 1929.
432. D. H. Gillette, "Draft Instructions to Foreman--Yukon - Kuskokwim Portage," April 22, 1929, file 13/136-7, Box 65637, RG 30. See also D. H. Gillette to J. G. Christiansen, November 28, 1928, Donald McDonald, "Yukon Kuskokwim Russian Mission Portage," February 1929, file 13/136-7, and D. H. Gillette to Donald McDonald, February 16, 1929, file 13/136-6, Box 65637, RG 30.
433. Alaska Road Commission to Charlie Jacobsen, April 17, 1929, Charles E. Jacobhon [sic] to Alaska Road Commission, April 19, 1929, file 13/136-7, Box 65637, RG 30.
434. Fairbanks News-Miner clipping, August 1929, file 13/136-7, Box 65637, RG 30.
435. U.S. Board of Road Commissioners for Alaska, Annual Report . . . FY-1930, Part II (Juneau: Alaska Daily Empire Print, 1930), p. 51; and Annual Report . . . FY-1931, Part II (Juneau: Alaska Daily Empire Print, 1931), pp. 55-56.

436. Ales Hrdlicka, Alaska Diary, 1926-1931 (Lancaster, Pennsylvania: The Jaques Cattell Press, 1943), pp. 273-284.
437. Hawley Sterling to Alaska Road Commission, August 23, 1932, file 13/136-9, Box 65637, RG 30.
438. Ike P. Taylor to Frank Nash, March 9, 1933, file 13/136-7, Box 65637, RG 30. The Commission allotted \$1,900 for the work. See Taylor to Nash, May 5, 1933, file 13/136-7, Box 65637, RG 30.
439. Ted R. Lambert to Hawley Sterling, July 10, 1938, file 13/136-9, Box 65637, RG 30.
440. Hawley Sterling to Ted R. Lambert, August 10, 1938, file 13/136-9, Box 65637, RG 30.
441. Constance Helmericks, We Live in Alaska (Boston: Little, Brown, and Co., 1944), pp. 209-223.
442. State House Joint Resolution No. 7, 1959, State Joint Resolution No. 21, 1961, Survey Report Files, Correspondence Relative to the Interim Report No. 7, Yukon - Kuskokwim Rivers, 1956-61; William A. Egan to Lt. General W. K. Wilson, Jr., June 25, 1963, Survey Report Files, Correspondence Regarding Survey Report, 1962-63; Senator Jennings Randolph to Chief of Engineers, December 1, 1969, State House Resolution No. 2, April 24, 1971, Survey Report Files, Canal Study, Corps of Engineers Records.

443. Mary M. Gange to Colonel E. L. Hardin, Jr., April 3, 1969, Col. E. L. Hardin, Jr., to Mary M. Gange, April 8, 1969, Survey Report Files, Canal Study, Corps of Engineers Records.
444. William D. Floyd to Plan and Report Files, March 26, 1970, Mary M. Gange, "Yukon - Kuskokwim Canal/Tramway Meeting," March 20, 1970, Survey Report Files, Canal Study, Corps of Engineers.
445. Warren George to Division Engineer, North Pacific, April 16, 1970, Irwin Reisler to Division Engineer, September 11, 1970, Survey Report Files, Canal Study, Corps of Engineers Records.
446. Harold S. Farney to File, July 27, 1970, Jim Tanaka to Files, August 13, 1970, Survey Report Files, Navigation Studies Between Yukon and Kuskokwim, 1967-71, Corps of Engineers Records.
447. Harold S. Farney to File, July 27, 1970, Survey Report Files, Navigation Studies, Corps of Engineers Records.
448. U.S. Corps of Engineers, Alaska District, "Reconnaissance Report: Yukon - Kuskokwim Portage, Yukon - Kuskokwim Rivers, Alaska" (unpublished manuscript, January 31, 1971), p. 7. Copy on file at Navigability Section, BLM Alaska State Office.
449. Ibid., pp. 7-8.
450. Ibid., pp. 8-10.

451. Ibid., pp. 10-12.
452. Arthur Pope, "The Yukon Portage," Alaska Magazine, 43 (August 1977): 42-46, 85-86.
453. Garold T. McWilliams to Files, n.d. [1975], Patrick C. Beckley to Files, January 13, 1976, Joe J. Labay to Horace Sanders, July 19, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Upper Kalskag," May 27, 1977, Curtis V. McVee to Chief, Division of Technical Services, February 10, 1978, file F-14871-EE; Garold T. McWilliams to File, n.d. [1975], Horace D. Sanders to Files, April 21, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Lower Kalskag, Incorporated," April 18, 1977, Curtis V. McVee to Chief, Division of Technical Services, February 14, 1978, file F-14888-EE, ANCSA files.
454. Clifford D. Ells to State Director, May 5, 1980, files F-14888-EE and F-14871-EE, ANCSA files.
455. Mary J. Bonin to William Mattice, October 6, 1981, file F-14871-EE, ANCSA file.
456. Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, file F-14871-EE, ANCSA file.
457. Robert W. Faithful to Glenn Fredericks, August 20, 1982, file F-14871-EE, ANCSA file.

458. C. M. Brown notes, September 9, 1982, in writer's possession. See also Edward J. McNamara notes (from Dennis P. Daigger) dated June 1982 and provided to BLM at September 9, 1982 meeting, file F-14871-EE, ANCSA file.
459. Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, September 15, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14871-EE; Decision to Issue Conveyance, September 30, 1982, file F-14888-EE, ANCSA files.
460. Horace D. Sanders to Files, April 21, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Lower Kalskag, Incorporated," April 18, 1977, Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 9, July 20, 1982, file F-14888-EEE, ANCSA files.
461. Dennis P. Daigger to Bob Arnold, July 19, 1982, Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14888-EE, ANCSA file.
462. Curtis V. McVee to Chief, Division of Technical Services, February 14, 1978, Clifford D. Ells to State Director, May 5, 1980, Martin L. Karstetter to Glenn Fredericks, September 28, 1981, Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 9, July 20, 1982, file F-14888-EE, ANCSA file.

463. Dennis P. Daigger to Bob Arnold, July 19, 1982, Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 25, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14888-EE, ANCSA file.
464. Marty Karstetter to Files, January 5, 1981, Marty Karstetter to [Division of] Resources, December 30, 1980, file F-14949-EE, ANCSA file.
465. Sherman F. Berg to Files, January 28, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
466. Marty Karstetter to Files, January 5, 1981, Marty Karstetter to [Division of] Resources, December 30, 1980, Sherman F. Berg to Files, January 28, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
467. C. D. Scott, "Opportunities of the Kuskokwim," Alaska - Yukon Magazine, 8 (September-October, 1909): 424. See also Fairbanks Weekly Times, January 9, 1908 and Seward Weekly Gateway, November 13, 1909.
468. Nome Daily Nugget, June 25, 1910; Iditarod Pioneer, July 13, 1912.
469. Iditarod Pioneer, July 18, 1914.

470. Iditarod Pioneer, January 9, 1915.
471. Maddren, "Gold Placers of the Lower Kuskokwim," (Bull. 622-H), p. 328.
472. Harold A. Cotton, "Descriptive Report for Reconnaissance Survey of Kuskokwim River," July 30, 1916, NOAA Records.
473. Ralph T. Hirsch, "Tuluksak River Compass Survey," October 1924, scale 1" = 1 mile, file 13/150, Box 65637, RG 30.
474. Kusko Times, September 19, 1925, January 2, 1926.
475. Webber, Mercury Deposits of Southwestern Alaska (RI 4065), p. 43. For additional information about the physical character and contemporary use of the Tuluksak, see Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska.
476. WRD, "Navigability Field Report - Tuluksak River," November 2, 1975, file F-14949-EE, ANCSA file.
477. Garold T. McWilliams to File, November 21, 1975, Patrick C. Beckley to Files, January 2, 1976, F-14949-EE.
478. Curtis V. McVee, "Notice of Proposed Easement . . . Tuluksak," August 24, 1976, Andrew B. Alexie, et al., to State Office [BLM],

September 16, 1976, Charles F. Hunt to Federal-State Land Use Planning Commission, September 28, 1976, file F-14949-EE, ANCSA file.

479. William Peake, "Notes," June 13, 1978, file F-14888-EE; William M. Peake and Al Pack, "Site Inventory and Evaluation - Nyac Barge Landing Site," June 10, 1978, file F-14949-EE, ANCSA files.
480. Robert D. Arnold to Oscar Kawagley, November 26, 1980, file F-14949-EE, ANCSA file.
481. Martin L. Karstetter to [Division of] Resources, December 30, 1980, Sherman F. Berg to Files, January 13, 1981, Marty Karstetter to Files, January 5, 1981, Terry R. Hassett to Pete Napoka, Sr., April 10, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
482. Marty L. Karstetter to [Division of] Resources, December 30, 1980, Sherman F. Berg to Files, January 13, 1981, annotated map in file, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
483. Martin L. Karstetter to [Division of] Resources, December 30, 1980, Sherman F. Berg to Files, January 13, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.

484. Martin L. Karstetter to [Division of] Resources, December 30, 1980, Patrick C. Beckley to Files, December 17, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Tuluksak," August 24, 1976, file F-14949-EE, ANCSA file.
485. Sherman F. Berg to Files, January 13, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
486. Martin L. Karstetter to [Division of] Resources, December 30, 1980, file F-14949-EE, ANCSA file.
487. Sherman F. Berg to Files, January 13, 1981, Terry Hassett to Peter Napoka, Sr., April 10, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
488. Iditarod Nugget, August 23, 1981.
489. Harold A. Cotton, "Descriptive Report for Reconnaissance Survey of Kuskokwim River," July 30, 1916, NOAA Records.
490. Photograph files, Alaska Historical Library, Juneau.
491. Maddren, "Gold Placers of the Lower Kuskokwim," (Bull. 622-H), p. 293.

492. Herman W, Reeth, "Topographical Sketch Map of Kuskokwim Gold Belt," 1912, file 13/150-2, Box 65637, RG 30.
493. Ed Smith to Karl Theile, November 15, 1922, H. W. Reeth to Governor Scott C. Bone, November 15, 1922, file 13/150-2, Box 65637, RG 30.
494. James G. Steese to H. W. Reeth, March 15, 1923, James. G Steese to Ed Smith, March 15, 1923, file 13/150-2, Box 65637, RG 30.
495. H. W. Reeth to Road Commission, Takotna, December 18, 1924, file 13/150-2, Box 65637, RG 30.
496. Grace Edman, Alice Hudson, and Sam Johnson, "Fifty Years of Highways" (unpublished manuscript, University of Alaska, Fairbanks, 1960), p. 46. Copy on file at Navigability Section, BLM Alaska State Office.
497. Ike P. Taylor to Fred J. Spach, July 2, 1937, Fred J. Spach to Ike P. Taylor, July 24, 1937, file 13/150-2, Box 65637, RG 30.
498. Fred J. Spach to Ike P. Taylor, November 7, 1937, file 13/150-2, Box 65637, RG 30.
499. According to an unsigned BLM report, two sons of Carl Lundy, a teacher at Bethel, successfully rafted the Kisaralik in 1973. In 1974 they attempted to descend the river in a canoe and lost everything.

They reportedly ate spawning salmon to survive and were rescued three or four weeks after the accident. See typewritten notes, n.d., p. 6, file F-14885-EE, ANCSA file.

500. Ross Kavanagh to Area Manager - McGrath, March 8, 1977, Report Files, Navigability Section, BLM Alaska State Office. See also Dennis L. Money, "Observed Wildlife Values Along the Kisaralik from August 7 through August 14, 1976 - A Bureau of Land Management Float Trip Report," ca. 1976.
501. Clayton M. White and Douglas A. Boyce, Jr., A Profile of Various Rivers and Their Raptor Populations in Western Alaska, 1977 (Anchorage: BLM, 1978), p. 6.
502. D. N. Weir, "Cliff Nesting Raptors of the Kisaralik River, Western Alaska" (Anchorage: BLM, in press).
503. David Dapkus to Files, October 18, 1978, NPS Records. Copy on file at Navigability Section, BLM Alaska State Office.
504. Jack Mosby to Files, October 15, 1981, NPS Records. Copy on file at Navigability Section, BLM Alaska State Office.
505. Robert W. Retherford Associates, Reconnaissance Study of the Kisaralik River Hydroelectric Power Potential and Alternate Electric Energy Resources in the Bethel Area (Anchorage: Retherford Associates, 1980), pp. III - 2, 5, 13-14. For additional information

about the physical character and contemporary uses of the Kisaralik, see Alt, Inventory and Cataloging of Sport Fish Waters in Western Alaska.

506. WRD, "Navigability Field Report - Kisaralik River," November 3, 1975, file F-14824-EE, ANCSA file.
507. Patrick C. Beckley to Files, December 10, 1975, file F-14824-EE, ANCSA file.
508. Curtis V. McVee, "Notice of Proposed Easement . . . Akiak," May 17, 1977, file F-14824-EE, ANCSA file.
509. Ivan M. Ivan, et al., to F/S Land Use Planning Commission, July 1, 1977, file F-14824-EE, ANCSA file.
510. Curtis V. McVee to Chief, Division of Technical Services, March 8, 1978, file F-14824-EE, ANCSA file.
511. Paul O. Johnson to Files, June 11, 1982, file F-14824-EE, ANCSA file.
For information concerning the trail, see Chuck F. Hunt to Paul Johnson, July 26, 1982, in the same file.
512. Harold E. Wolverton to President, Kokarmiut Corporation, June 17, 1982, Fred Wolf to Chief, Division of ANCSA and State Conveyances, June 22, 1982, file F-14824-EE, ANCSA file.

513. Ed Smith to Karl Theile, November 15, 1922, H. W. Reeth to Governor Scott C. Bone, November 15, 1922, file 13/150-2, Box 65637, RG 30. For additional information about the physical character and contemporary uses of the Kasigluk, see Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska.
514. Patrick C. Beckley to Files, December 10, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Akiak," May 17, 1977, Fred Wolf to Chief, Division of ANCSA and State Conveyances, June 22, 1982, file F-14824-EE, ANCSA file.
515. Iditarod Pioneer, July 18, 1914.
516. Maddren, Fieldbook 408, USGS Records.
517. Harold A. Cotton, "Descriptive Report for Reconnaissance Survey of Kuskokwim River," July 30, 1916, NOAA Records. For additional information about the physical character and contemporary uses of the Kwethluk, see Alt, Inventory and Cataloging of Sport Fish Waters in Western Alaska.
518. Curtis V. McVee to Chief, Division of ANCSA Operations, October 11, 1978, Bob Faithful to File, December 10, 1979, file F-14833-EE; unsigned typewritten notes, n.d., p. 6, file F-14885-EE, ANCSA files.
519. Lew Reece to BLM, May 5, 1976, WRD, "Navigability Field Report - Kwethluk River," November 4, 1975, file F-14883-EE, ANCSA file.

520. Curtis V. McVee, "Notice of Proposed Easement . . . Kwethluk," October 13, 1976, Curtis V. McVee to Chief, Division of Technical Services, March 24, 1977, Curtis V. McVee to Chief, Division of ANCSA Operations, September 22, 1978, file F-14883-EE, ANCSA file.
521. Clair Whitlock to Chief, Division of ANCSA Operations, October 11, 1978, J. Michael Robbins to M. Jane Clawson, January 30, 1979, Decision to Issue Conveyance, March 7, 1979, file F-14883-EE, ANCSA file.
522. Patrick C. Beckley to Files, December 12, 1975, file F-14823-EE, ANCSA file.
523. Ignatius L. Andrew to Bureau of Land Management, n.d. [May 1976], file F-14838-EE, ANCSA file.
524. Decision to Issue Conveyance, August 30, 1978, file F-14838-EE, ANCSA file.
525. Curtis V. McVee, "Notice of Proposed Easement . . . Akiachak," October 13, 1976, Willie Kasayulie to Joint Federal-State Land Use Planning Commission, November 26, 1976, Clair Whitlock to Chief, Division of Technical Services, April 4, 1977, file F-14823-EE, ANCSA file.
526. Garold T. McWilliams to State Director, July 21, 1980, Paul O. Johnson to Files, June 14, 1982, Fred Wolf to Chief, Division of ANCSA and State Conveyances, June 22, 1982, Decision to Issue Conveyance, June 29, 1982, file F-14823-EE, ANCSA file.

527. Martin L. Karstetter to Oscar Kawagley, November 26, 1980, Martin L. Karstetter to Files, January 5, 1981, Curtis V. McVee to Chief, Division of ANCSA Operations, June 9, 1981, Decision to Issue Conveyance, March 3, 1982, file F-14949-EE, ANCSA file.
528. Paul O. Johnson to Files, June 14, 1982, Decision to Issue Conveyance, June 29, 1982, file F-14823-EE, ANCSA file.
529. Ignatius L. Andrew to Bureau of Land Management, n.d. [May 1976], file F-14838-EE, ANCSA file.
530. Federal Register, Vol. 43, September 1, 1978, pp. 39183-39188, Decision to Issue Conveyance, August 30, 1978, file F-14838-EE, ANCSA file.
531. Patrick C. Beckley to Files, December 17, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Bethel," May 18, 1977, Curtis V. McVee to Chief, Division of Technical Services, March 15, 1978, Decision to Issue Conveyance, August 30, 1978, file F-14838-EE, ANCSA file.
532. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
533. W. L. Coonrad, "Geologic Reconnaissance in the Yukon - Kuskokwim Delta Region, Alaska," U.S. Geological Survey Miscellaneous Investigations Series I-223 (Washington, D.C.: GPO, 1957), scale 1:500,000.

534. P. C. Beckley to Files, January 27, 1976, file F-14914-EE, ANCSA file.
535. Samuel Anaruk, "Post-War Planning Survey - Nunapitchuk," February 1, 1945, Box 1610, Records of the Bureau of Indian Affairs, Record Group 75, Federal Records Center, Seattle, Washington.
536. Tundra Drums, April 15, 1974.
537. WRD, "Navigability Field Report - Johnson River," November 5, 1975, file F-14914-EE, ANCSA file.
538. Patrick C. Beckley to Files, January 27, 1976, Curtis V. McVee to Chief, Division of Technical Services, October 12, 1977, file F-14914-EE, ANCSA file.
539. Dorothy Tideman to Sherm Berg, April 30, 1979, file F-14914-EE, ANCSA file.
540. Jo Antonson-Mohr to Martin L. Karstetter, January 21, 1980, Jo Antonson-Mohr to Files, January 28, 1980, file F-14914-EE, ANCSA file.
541. Martin L. Karstetter to Sherm Berg, March 28, 1980, Martin L. Karstetter to Files, April 11, 1980, file F-14914-EE, ANCSA file.
542. Sherman Berg to Files, April 8, 1980, file F-14914-EE, ANCSA file.

543. Robert D. Arnold to Robert Nick, April 15, 1980, Curtis V. McVee to Chief, Division of ANCSA Operations, May 22, 1980, July 25, 1980, file F-14914-EE, ANCSA file.
544. James T. Brennan to Alaska Native Claims Appeal Board, September 15, 1980, file F-14914-EE, ANCSA file.
545. M. Karstetter to Files, September 15, 1980, file F-14914-EE, ANCSA file.
546. Chief, Division of Resources to State Director, October 14, 1980, file F-14914-EE, ANCSA file.
547. Alaska Native Claims Appeal Board, VLS 80-40, December 18, 1980, file F-14914-EE, ANCSA file.
548. Curtis V. McVee to Chief, Division of ANCSA and State Conveyances, March 10, 1982, Decision to Issue Conveyance - Amendment, March 23, 1982, file F-14914-EE, ANCSA file.
549. "Draft Final Easements for Kasigluk Village," October 21, 1980, file F-14873-EE, ANCSA file.
550. Marty Karstetter to Files, December 24, 1980, Fred Wolf to Chief, Division of ANCSA Operations, May 26, 1981, Decision to Issue Conveyance, March 2, 1982, file F-14873-EE, ANCSA file.

551. Dennis O'Conner to Robert E. Sorenson, September 8, 1975, Joshua Nick to Tony Burns, September 4, 1975, file F-14835-EE, ANCSA file.
552. Patrick C. Beckley to Files, January 27, 1976, file F-14914-EE; Horace D. Sanders to Files, May 7, 1976, Atmautluak, Limited, Board of Directors to Federal-State Land Use Planning Commission, February 18, 1977, file F-14835-EE, ANCSA files.
553. Marty Karstetter to Files, March 27, 1980, file F-14914-EE, ANCSA file.
554. Robert D. Arnold to Robert Nick, April 15, 1980, Curtis V. McVee to Chief, Division of ANCSA Operations, May 22, 1980, file F-14914-EE, ANCSA file.
555. Martin L. Karstetter to [Division of] Resources, December 30, 1980, file F-14835-EE, ANCSA file.
556. Sherman F. Berg to Files, January 28, 1981, file F-14835-EE, ANCSA file.
557. Terry Hassett to President, Atmautluak, Limited, April 10, 1981, Fred Wolf to Chief, Division of ANCSA Operations, May 28, 1981, Decision to Issue Conveyance, September 14, 1981, file F-14835-EE, ANCSA file.
558. Martin L. Karstetter to [Division of] Resources, December 30, 1980, file F-14835-EE, ANCSA file.

559. Sherman F. Berg to Files, January 28, 1981, Decision to Issue Conveyance, September 14, 1981, file F-14835-EE, ANCSA file.
560. C. M. Brown to Files, July 16, 1982, Report Files, Navigability Section, BLM Alaska State Office.
561. Sherman F. Berg memorandum, n.d. [October 1982], Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, October 26, 1982, file F-14901-EE, ANCSA file.
562. "Public Access and Use Recommendations - 5 D9," n.d. [1975], Martin L. Karstetter to Sherm Berg, April 7, 1980, file F-14950-EE, ANCSA file. There is an unconfirmed report that a drilling rig was barged up the Kialik and Meroyuk rivers to a site above the selection area known as Napakiak No. 1, Pan-Am oil exploration site. See Frank A. Stefanich to Federal-State Land Use Planning Commission, March 31, 1977, file F-14901-EE, ANCSA file.
563. Rhett S. Wise to File, December 23, 1975, Patrick C. Beckley to Files, January 2, 1976, file F-14950-EE, ANCSA file.
564. Martin L. Karstetter to Sherman Berg, April 7, 1980, file F-14950-EE, ANCSA file.
565. Ibid.

566. Sherman F. Berg to File, April 15, 1980, Robert W. Arndorfer to Chief, Division of ANCSA Operations, June 17, 1980, Decision to Issue Conveyance, July 15, 1980, file F-14950-EE, ANCSA file.
567. Patrick C. Beckley to Files, November 4, 1975, Dorothy A. Tideman to State Director, December 21, 1979, Sherman F. Berg to File, January 15, 1980, Michelle Ward to Files, December 11, 1981, Decision to Issue Conveyance, June 30, 1982, file F-14904-EE, ANCSA file.
568. Donald J. Orth, Dictionary of Alaska Place Names, U.S. Geological Survey Professional Paper 567 (Washington, D.C.: GPO, 1967), pp. 685, 720.
569. Garold T. McWilliams to File, October 23, 1975, Patrick C. Beckley to Files, November 4, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Newtok," January 27, 1977, file F-14904-EE, ANCSA file.
570. Michelle Ward to Files, December 11, 1981, Decision to Issue Conveyance, June 30, 1982, file F-14904-EE, ANCSA file. After reviewing easement recommendations, the State recommended a one-acre easement on the left bank of the river at its mouth in the belief that the site was an existing seaplane base. Local residents reported that they had never seen a seaplane land at the place and considered it unsafe for seaplane landings. The village corporation opposed the proposed easement. See James E. Culbertson to Robert Arnold, April 20, 1981, Marty Karstetter's notes on Newtok meeting, November 16, 1981, in same file.

571. Orth, Dictionary, pp. 208, 210.
572. Dorothy A. Tideman to State Director, December 21, 1979, Michelle Ward to Files, December 11, 1981, Decision to Issue Conveyance, June 30, 1982, file F-14904-EE, ANCSA file.
573. Michelle Ward to Sherm Berg, January 6, 1982, Sherman F. Berg to Michelle Ward, January 7, 1982, Decision to Issue Conveyance, June 30, 1982, file F-14951-EE, ANCSA file.
574. Orth, Dictionary, p. 1004.
575. Michelle Ward to Sherm Berg, January 6, 1982, Sherman F. Berg to Michelle Ward, January 7, 1982, Decision to Issue Conveyance, June 30, 1982, file F-14951-EE, ANCSA file.
576. Unsigned "Navigability Field Report - Tanunak River," n.d. [1975], Patrick C. Beckley to Files, October 1975, Garold T. McWilliams to Files, October 23, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Tanunak," March 2, 1977, Dorothy Tideman to State Director, December 12, 1979, Michelle Ward to Files, December 22, 1981, file F-14951-EE, ANCSA file.
577. Federal Aviation Administration, "Nightmute Airport Environmental Impact Assessment" (unpublished manuscript, February 25, 1974), pp. 16-17. Copy on file at Alaska Resources Library, Anchorage.

578. Patrick C. Beckley to Files, October 23, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Toksook Bay," August 10, 1978, "Draft Final Easements for the Village of Toksook Bay," 1981, Marty Karstetter's notes on Toksook Bay meeting, November 18, 1981, Michelle Ward to Files, December 16, 1981, file F-14948-EE; Patrick C. Beckley to Files, December 8, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Nightmute," July 18, 1976, Marty Karstetter's notes on Nightmute meeting, November 19, 1981, file F-14885-EE; Michelle Ward to Files, December 17, 1981, Michelle Ward to Sherm Berg, December 22, 1981, Sherman F. Berg to Michelle Ward, January 6, 1982, file F-14905-EE, ANCSA files.
579. Dennis P. Daigger to Sherman Berg, April 15, 1982, file F-14948-EE, ANCSA file.
580. Robert D. Arnold to Nunakaviak Yupik Corporation, June 16, 1982, Robert W. Faithful to Dennis P. Daigger, August 5, 1982, file F-14948-EE, ANCSA file.
581. Michelle Ward to Sherm Berg, January 6, 1982, Sherman F. Berg to Michelle Ward, January 7, 1982, file F-14948-EE; Michelle Ward to Files, December 22, 1981, Sherman F. Berg to Michelle Ward, January 7, 1982, file F-14951-EE, ANCSA files.
582. Patrick C. Beckley to Files, December 8, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Nightmute," July 18, 1976, file F-14885-EE; Sherman F. Berg to Michelle Ward, January 7, 1982, file F-14948-EE, ANCSA files.

583. Orth, Dictionary, p. 197.
584. Patrick C. Beckley to Files, December 8, 1975, file F-14885-EE, ANCSA file.
585. Michelle Ward to Files, December 17, 1981, Sherman F. Berg to Michelle Ward, January 6, 1982, file F-14905-EE, ANCSA file.
586. Patrick C. Beckley to Files, December 8, 1975, file F-14885-EE, ANCSA file.
587. Michelle Ward to Files, December 17, 1981, file F-14905-EE, ANCSA file.
588. Patrick C. Beckley to Files, December 8, 1975, file F-14885-EE, ANCSA file.
589. Michelle Ward to Files, December 17, 1981, file F-14905-EE, ANCSA file.
590. Orth, Dictionary, p. 713.
591. Michelle Ward to Sherm Berg, January 6, 1982, Sherman F. Berg to Michelle Ward, January 7, 1982, file F-14948-EE, ANCSA file.
592. Patrick C. Beckley, "Notes," October 16, 1975, Patrick C. Beckley to Files, November 28, 1975, file F-14848-EE, ANCSA file.

593. Joe J. Labay, "Note to Easement Files," May 4, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Chefnak," June 10, 1976, Paul O. Johnson to Files, June 15, 1982, Fred E. Wolf to Chief, Division of ANCSA and State Conveyances, June 17, 1982, Decision to Issue Conveyance, June 29, 1982, file F-14848-EE, ANCSA file.
594. Patrick C. Beckley, "Notes," October 16, 1975, Garold T. McWilliams to File, October 23, 1975, Patrick C. Beckley to Files, November 28, 1975, Joe J. Labay, "Note to Easement Files," May 4, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Chefnak," June 10, 1976, Decision to Issue Conveyance, June 29, 1982, file F-14848-EE, ANCSA file.
595. Patrick C. Beckley, "Notes," October 16, 1975, Patrick C. Beckley to Files, November 28, 1975, Joe J. Labay, "Note to Easement Files," May 4, 1976, Decision to Issue Conveyance, June 29, 1982, file F-14848-EE, ANCSA file.
596. Orth, Dictionary, p. 202.
597. Ibid., p. 521.
598. Rhett S. Wise to File, December 11, 1975, Patrick C. Beckley to Files, December 19, 1975, file F-14875-EE, ANCSA file.
599. Peter White, Sr., to Land Use Planning Commission, March 22, 1977, file F-14875-EE, ANCSA file.

600. Martin L. Karstetter to [Division of] Resources, September 9, 1980, file F-14875-EE, ANCSA file.
601. Sherman F. Berg to Martin L. Karstetter, September 10, 1980, Fred E. Wolf to Chief, Division of ANCSA Operations, n.d. [September 1980], Decision to Issue Conveyance, September 30, 1980, file F-14875-EE, ANCSA file.
602. Orth, Dictionary, pp. 197, 525.
603. Rhett S. Wise to File, December 11, 1975, Patrick C. Beckley to Files, December 19, 1975, file F-14875-EE, ANCSA file.
604. Peter White, Sr., to Land Use Planning Commission, March 22, 1977, file F-14875-EE, ANCSA file.
605. Martin L. Karstetter to [Division of] Resources, September 9, 1980, file F-14875-EE, ANCSA file.
606. Sherman F. Berg to Martin L. Karstetter, September 10, 1980, Fred E. Wolf to Chief, Division of ANCSA Operations, n.d. [September 1980], Decision to Issue Conveyance, September 30, 1980, file F-14875-EE, ANCSA file.
607. Sherman F. Berg to Martin L. Karstetter, September 10, 1980, Fred E. Wolf to Chief, Division of ANCSA Operations, n.d. [September 1980], Decision to Issue Conveyance, September 30, 1980, file F-14875-EE, ANCSA file.

608. See U.S. Geological Survey, Kuskokwim Bay Quadrangle (D-6), 1954, scale 1:63,360.
609. Rhett S. Wise to File, December 11, 1975, Patrick C. Beckley to Files, December 19, 1975, file F-14884-EE, ANCSA file.
610. Curtis V. McVee, "Notice of Proposed Easement . . . Kwigillingok," August 10, 1976, file F-14884-EE, ANCSA file.
611. Charles F. Hunt to Joint Federal-State Land Use Planning Commission, August 27, 1976, file F-14884-EE, ANCSA file.
612. Carlene M. Welfelt to Chief, Branch of Easement Identification, August 29, 1975, file F-14884-EE, ANCSA file.
613. David O. David, et al., to Joint Federal-State Land Use Planning Commission, n.d. [BLM received August 25, 1976], file F-14884-EE, ANCSA file.
614. Curtis V. McVee to Chief, Division of Technical Services, n.d. [March 23, 1979], file F-14884-EE, ANCSA file.
615. David O. David to Bob Arnold, February 12, 1980, file F-14884-EE, ANCSA file.
616. Ibid. See handwritten notes on this document.

617. Carlene Welfelt to David O. David, March 11, 1980, Lynn O'Brien to Casefiles, March 11, 1980, file F-14884-EE, ANCSA file.
618. Martin L. Karstetter to Files, May 2, 1980, file F-14884-EE, ANCSA file.
619. Martin L. Karstetter to Sherm Berg, May 1, 1980, file F-14884-EE, ANCSA file.
620. Felix Hess to Sherman Berg, May 29, 1980, file F-14884-EE, ANCSA file.
621. Sherman F. Berg to File, June 2, 1980, file F-14884-EE, ANCSA file.
622. Robert W. Arndorfer to Chief, Division of ANCSA Operations, June 20, 1980, file F-14884-EE, ANCSA file.
623. David O. David to Carlene Welfelt, July 27, 1980, Robert W. Arndorfer to Chief, Division of ANCSA Operations, August 15, 1980, file F-14884-EE, ANCSA file.
624. Village meeting notes, August 20, 1980, file F-14884-EE, ANCSA file.
625. Adolph Jimmie and Tommy J. Andrew to Sherman Berg, November 12, 1980, file F-14884-EE, ANCSA file.
626. Peter C. Nagel to Sherman Berg, November 13, 1980, file F-14884-EE, ANCSA file.

627. Jules V. Tileston to Curtis V. McVee, December 12, 1980, Fred Wolf to Chief, Division of ANCSA Operations, April 1, 1981, file F-14884-EE, ANCSA file.
628. Patrick C. Beckley to Files, December 19, 1975, Curtis V. McVee, "Notice of Proposed Easement . . . Kongiganak," August 10, 1976, Evan Azean, et al., to Joint Federal-State Land Use Planning Commission, September 15, 1976, file F-14878-EE, ANCSA file.
629. Village meeting notes, August 20, 1980, Martin L. Karstetter to Files, September 11, 1980, file F-14878-EE, ANCSA file.
630. See "Final Easements for the Village of Kongiganak," March 26, 1981, and Decision to Issue Conveyance, July 23, 1981, file F-14878-EE, ANCSA file.
631. Patrick C. Beckley to Files, December 19, 1975, file F-14878-EE, ANCSA file.
632. Evan Azean, et al., to Joint Federal-State Land Use Planning Commission, September 15, 1976, file F-14878-EE, ANCSA file.
633. Village meeting notes, August 20, 1980, Martin L. Karstetter to Files, September 11, 1980, file F-14878-EE, ANCSA file.
634. See "Final Easements for the Village of Kongiganak," March 26, 1981, and Decision to Issue Conveyance, July 31, 1981, file F-14878-EE, ANCSA file.

635. Orth, Dictionary, pp. 395, 940.
636. Patrick C. Beckley to Files, January 2, 1976, Martin L. Karstetter to [Division of] Resources, March 12, 1980, to Files, March 20, 1980, to Sherm Berg, April 7, 1980, file F-14950-EE, ANCSA file.
637. Sherman F. Berg to File, April 15, 1980, Robert W. Arndorfer to Chief, Division of ANCSA Operations, June 17, 1980, Decision to Issue Conveyance, July 15, 1980, file F-14950-EE.
638. Patrick C. Beckley to Files, January 2, 1976, Sherman F. Berg to Files, April 15, 1980, Robert W. Arndorfer to Chief, Division of ANCSA Operations, June 17, 1980, Decision to Issue Conveyance, July 15, 1980, file F-14950-EE, ANCSA file.
639. PCB, "Notes," December 23, 1975, Patrick C. Beckley to Files, January 2, 1976, file F-14950-EE, ANCSA file. See also Martin L. Karstetter to [Division of] Resources, February 4, March 12, 1980, and Sherman F. Berg to File, February 4, March 12, 1980, in same file.
640. Marty Karstetter to Files, March 20, 1980, M. L. Karstetter to Sherman Berg, April 7, 1980, file F-14950-EE, ANCSA file.
641. Sherman Berg to File, April 15, 1980, Decision to Issue Conveyance, July 15, 1980, file F-14950-EE, ANCSA file.

642. Wendell H. Oswalt, Napaskiak: An Alaskan Eskimo Community (Tucson: University of Arizona Press, 1963), pp. 134, 141.
643. Cliff Ells, "Navigability Field Report," September 29, 1975, file F-14854-EE, ANCSA file.
644. Stanley H. Bronczyk to Files, January 27, 1977, Curtis V. McVee, "Notice of Proposed Easement . . . Eek," March 24, 1977, file F-14854-EE, ANCSA file.
645. F. A. Stefanich to Federal-State Land Use Planning Commission, March 11, 1977, file F-14902-EE, ANCSA file. See also W. B. Parker to Curtis V. McVee, June 17, 1977, file F-14854-EE, ANCSA file. Stefanich indicated that the river was tidally influenced to approximately Section 1, T. 3 N., R. 73 W., Seward Meridian. He later informed the BLM that, according to Rae Baxter, the river was historically used for its entire length and that tidal influence extended to Section 25, T. 2 N., R. 73 W., Seward Meridian. See Frank A. Stefanich to Federal-State Land Use Planning Commission, May 5, 1977, and to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.
646. Sherm Berg to Files, November 26, 1979, Decision to Issue Conveyance, March 31, 1982, file F-14902-EE, ANCSA file.
647. Curtis V. McVee, "Notice of Proposed Easement . . . Oscarville," December 23, 1976, file F-14916-EE, ANCSA file.

648. Paul O. Johnson to Files, December 22, 1981, file F-14916-EE, ANCSA file.
649. R. E. Huer to Steve Durkee, December 23, 1981, file F-14916-EE, ANCSA file.
650. R. E. Huer to "Bill of Bush Air," Bethel, R. E. Huer to Jerry Drake, December 24, 1981, file F-14916-EE, ANCSA file.
651. R. E. Huer to Jim Culbertson, December 23, 1981, file F-14916-EE, ANCSA file.
652. Handwritten notes dated December 30, 1981 on Huer to Culbertson, December 23, 1981, Decision to Issue Conveyance, March 31, 1982, file F-14916-EE, ANCSA file.
653. Iditarod Pioneer, January 18, 1913.
654. Iditarod Pioneer, July 18, 1914.
655. Maddren, Fieldbook No. 408, USGS Records.
656. F. A. Rutledge, "Investigation of the Rainy Creek Mercury Prospect, Bethel District, Kuskokwim Region, Southwestern Alaska," U.S. Bureau of Mines Report of Investigation 4361, October 1948, p. 2.
657. Ibid.; Webber, Mercury Deposits of Southwestern Alaska, pp. 50-51. For additional information about the physical character of the Eek,

see Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska.

- 658. Robert E. Hiller, Jr., to Chief, Branch of Adjudication, July 25, 1978, file F-14831-EE, ANCSA file.
- 659. Unsigned notes dated August 12 and August 13, 1975, file F-14854-EE, ANCSA file.
- 660. Cliff D. Ells to Files, November 15, 1976, Ed Swanson to Dick Thompson, September 18, 1975, Frank A. Stefanich to Horace Sanders, November 19, 1976, file F-14854-EE, ANCSA file.
- 661. Stanley H. Bronczyk to Files, January 27, 1977, Curtis V. McVee, "Notice of Proposed Easement . . . Eek," March 24, 1977, file F-14854-EE, ANCSA file.
- 662. Frank A. Stefanich to Horace Sanders, May 9, 1977, file F-14854-EE, ANCSA file.
- 663. Russell J. Gallagher to Joint Federal-State Land Use Planning Commission, May 16, 1977, file F-14854-EE, ANCSA file.
- 664. Curtis V. McVee to Chief, Division of Technical Services, April 4, 1978, file F-14854-EE, ANCSA file.

665. Noel A. Granzow to Jules Tileston, August 13, 1978, NPS Records.
Copy on file at Navigability Section, BLM Alaska State Office.
666. U.S. Heritage Conservation and Recreation Service, Alaska Float Trips-Southwest Region, n.d., p. 13.
667. White and Boyce, A Profile on Various Rivers, pp. 4, 7, 51.
668. Ibid., p. 4.
669. Ibid., p. 5.
670. Robert E. Hiller, Jr., to Chief, Branch of Adjudication, July 25, 1978, file F-14831-EE, ANCSA file. For additional information about the physical character and contemporary uses of the Kanektok, see Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska.
671. Gordon W. Watson to District Manager, Anchorage [BLM], June 17, 1975, file F-14885-EE, ANCSA file.
672. Ed Swanson to Dick Thompson, September 18, 1975, file F-14885-EE, ANCSA file.
673. Edwin W. Seiler to Anchorage District Office [BLM], May 29, 1976, file F-14885-EE, ANCSA file.
674. Jerry ?, "Present Recreational Use on Alaskan Waters - Kanektok River," June 4, 1976, file F-14885-EE, ANCSA file.

675. Cliff D. Ells to Files, November 15, 1976, Joshua Cleveland, et al., to Curtis V. McVee, November 7, 1975, file F-14885-EE, ANCSA file.
676. Stanley H. Bronczyk to Files, February 1, 1977, file F-14885-EE, ANCSA file.
677. Russel J. Gallagher to Joint Federal-State Land Use Planning Commission, May 16, 1977, Curtis V. McVee to Chief, Division of Technical Services, March 24, 1978, file F-14885-EE, ANCSA file.
678. "Draft Final Easements for the Village of Quinhagak," September 19, 1979, Robert D. Arnold to Alexie Pleasant, October 19, 1979, Interim Conveyance Nos. 342 and 343, June 25, 1980, file F-14885-EE, ANCSA file.
679. Cliff D. Ells to Files, November 15, 1976, Stanley H. Bronczyk to Files, February 1, 1977, file F-14885-EE, ANCSA file.
680. Frank A. Stefanich to Federal-State Land Use Planning Commission, May 5, 1977, file F-14885-EE, ANCSA file.
681. Dean J. Nation to Joint Federal-State Land Use Planning Commission, May 6, 1977, file F-14885-EE, ANCSA file.
682. Russell J. Gallagher to Joint Federal-State Land Use Planning Commission, May 16, 1977, file F-14885-EE, ANCSA file.

683. Curtis V. McVee to Chief, Division of Technical Services, March 24, 1978, file F-14885-EE, ANCSA file.
684. "Draft Final Easements for the Village of Quinhagak," September 19, 1979, Interim Conveyance Nos. 342 and 343, June 25, 1980, file F-14885-EE, ANCSA file. For more information on the physical character and contemporary uses of the Arolik, see Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska.
685. George L. Harrington, Mineral Resources of the Goodnews Bay Region, U.S. Geological Survey Bulletin 714-E (Washington, D.C.: GPO, 1921), p. 208.
686. Martin L. Karstetter to Files, October 18, 1982, file F-14862-EE, ANCSA file.
687. Harrington, Goodnews Bay Region (Bull. 714-E), p. 211.
688. Ibid., pp. 208-209.
689. Ed Swanson to Dick Thompson, September 18, 1975, file F-14862-EE, ANCSA file.
690. Edwin W. Seiler to Anchorage District Office [BLM], May 29, 1976, file F-14862-EE, ANCSA file.
691. For a description of the site, see William M. Peake, "Site Inventory and Evaluation," July 5, 1981, file F-14862-EE, ANCSA file.

692. William M. Peake to Area Manager - McGrath, n.d., file F-14862-EE, ANCSA file. For more additional information about the physical character and contemporary uses of the Goodnews, see Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska.
693. Cliff D. Ells to Files, November 15, 1976, file F-14862-EE, ANCSA file.
694. Stanley H. Bronczyk to Files, January 31, 1977, Curtis V. McVee to Chief, Division of Technical Services, April 4, 1978, file F-14862-EE, ANCSA file.
695. "Draft Final Easements for the Village of Goodnews Bay," n.d. (c. 1979), Michelle Ward to Sherm Berg, December 30, 1981, Sherman F. Berg to Michelle Ward, December 30, 1981, file F-14862-EE, ANCSA file.
696. Martin L. Karstetter to Files, October 18, 1982, file F-14862-EE, ANCSA file.
697. James E. Culbertson to Robert Arnold, October 26, 1982, file F-14862-EE, ANCSA file. Upon receiving a copy of Culbertson's letter, Calista Corporation reiterated its objection to the proposed trail easement. See Felix P. Hess to Robert Arnold, October 29, 1982, in same file.

CHAPTER SEVEN

ROADS AND TRAILS

During the Klondike Gold Rush and for several years thereafter, maritime and inland navigation companies, mining companies, and commercial organizations appealed to the federal government for assistance in constructing roads and trails in Alaska. The government responded immediately by dispatching numerous Army and Geological Survey expeditions to report on the natural and human resources, and water and land transportation routes. Following its own investigation of conditions in Alaska in 1903, Congress created a Board of Road Commissioners for Alaska, otherwise known as the Alaska Road Commission, to locate and construct roads and trails between unincorporated towns of a permanent nature, and to provide access to these communities from navigable streams or ice-free ports. Organized in 1905, the Alaska Road Commission was directed to give special attention to the improvement of the Valdez-Fairbanks gold rush trail to wagon road standard. Many people believed that this trail was destined to be the route of a railroad linking the navigable rivers of interior Alaska with an ice-free port.

By concentrating its funds on the improvement of the Valdez-Fairbanks trail, the Alaska Road Commission came under attack by numerous Alaska commercial organizations and local residents for neglecting the needs of their communities for roads and trails. The criticism from Nome was particularly loud and sharp. This town, serving one of the most extensive gold fields in Alaska, demanded a winter outlet to ice-free southern Alaska ports, one shorter in distance than the Valdez-Fairbanks-Nome mail route. With the gold rushes to Ganes Creek and Ophir Creek in 1907-08, the prospectors on the upper Innoko River joined

Nome in demanding a winter outlet to tidewater. Not unaware of the fact that the gold rushes signaled the development of the Kuskokwim basin, and highly sensitive to demands for better mail service, the Alaska Road Commission looked to the Rainy Pass route as a potential transportation artery for western Alaska.

RAINY PASS TRAIL

The decision of the Alaska Road Commission in 1907 to investigate the Rainy Pass winter route to Nome was not fortuitous. The expeditions of Spurr in 1898, Herron in 1899, and Brooks in 1902, had resulted in favorable recommendations that the passes at the head of Yentna River were practicable for the location of roads and railroads. Even before the gold rush to Ganes Creek in 1907, a number of prospectors, hunters, and trappers had crossed the passes to the Kuskokwim River. Many more were to follow. The experiences of the Odale party in the winter of 1906-07, was probably a familiar one to other parties that made the journey in these years.

While on Cook Inlet during the summer of 1906, Tom Odale and Jack Clouse heard favorable reports about the Kuskokwim region, and decided to go there. In October, they purchased a boat at Susitna Station and ascended the Yentna and Skwentna rivers. On the headwaters of Skwentna River, they met two prospectors named Jim Ward and Mike Stagner, who decided to join the Odale party. Constructing sleds out of their boats, the men began the five-month journey to the headwaters of the South Fork of the Kuskokwim River by way of Rainy Pass. In early February, they established camp on a high bench covered with spruce trees on the east bank of the South Fork, several miles below the mouth of Post River. There they remained for several months, hunting and

perhaps trapping. In April, they built a twenty-six-foot boat, six feet wide, from native timber, and in the following month, followed the ice down the river in their scow.

Upon reaching Nikolai Village, which Odale recalled was located about twenty miles above the confluence of the South and North Forks, they learned from the Indians that prospectors had discovered gold on Ganes Creek and that Peter McGrath had established a trading post at the mouth of the Takotna River. The Odale party rushed to the Takotna River, ascended that river to Berry's Landing (Takotna), and then crossed the portage to Ganes Creek.

For the remainder of the summer, the Odale party prospected on the upper Innoko River, freighted supplies on the Takotna River, and even participated in a small rush to the headwaters of Nixon Fork. In the fall, disappointed with the district, they decided to return to Cook Inlet. Ascending the South Fork in the scow, and prospecting along the way, the Odale party eventually towed their boat to a point within ten miles of their campsite of the previous winter. They then built three sleds from the boat, and with the first major snowfall in November, began the long, arduous journey to the Susitna River. 1/

In the winter of 1907-08, the Alaska Road Commission expedition to Ophir was to take practically the same route as the Odale party. On January 31, 1908, the expedition, consisting of Walter L. Goodwin, Ross J. Kinney, George Pulham, and Frank Jackson, departed Seward on two sleds. Following the line of the Alaska Central Railway to Glacier Creek on Turnagain Arm, the party crossed Crow Creek Pass to the headwaters of Eagle River, followed that river for some distance, and then crossed the flats to Old Knik and New Knik, where they

exchanged their sleds for four Yukon sleds. The Goodwin party then went to Susitna Station, ascended the Susitna, Yentna, Skwentna, and Happy rivers to Pass Creek, crossed Rainy Pass, and then went down Dalzell Creek and Tatina River to the South Fork.

Reaching Tatina River, then known as Rohn River, in early March, the Goodwin party met two men named Powell and Ramar who were headed for Seward. The two men had left McGrath on February 21 and followed a trapper's trail for some distance before losing the trail. The men had been lost for twelve days, although one had taken the route to Seward before; they finally reached the South Fork at Farewell Mountain. The experience of these two men may have influenced Goodwin's decision to follow the South Fork to the main Kuskokwim River.

From the mouth of Tatina River, the Goodwin expedition took their sleds down the glare ice of the South Fork for a distance of about forty-nine miles or to a point near the mouth of the Dillinger River. Goodwin was to describe this a "dangerous part of the trip as the ice was so smooth and the wind so strong that the sleds were broadside on or ahead of the dogs much of the time and the many snags sticking through the ice caused us many 'tip-overs' but no serious accidents or breakage."

Continuing down or along the South Fork, the Goodwin party eventually found a small Indian camp on the river where the Little Tonzona River supposedly emptied. Chief Nicholai and two women were at the camp. Nicholai guided Goodwin and his men across the "low swamp tamarack and unmarked country" for about twenty miles to another Indian village called Nicholomas, located on the Kuskokwim River opposite the mouth of Big River. There they met a man

named Wilson breaking a trail from McGrath with snowshoes. Goodwin and his men followed Wilson's trail in the direction of Takotna Mountain through, as Goodwin described it, "sloughs, lakes, tamarack, and spruce swamps."

After spending a day at McGrath, the Goodwin party followed the Takotna River to Takotna, crossed the divide to Ganes Creek, and then went to Ophir Creek, where gold had been discovered only several weeks prior to their arrival. Goodwin and his men then traveled across country to Dishkakiet on the Innoko River, and thence to the Kaiyuh Slough on the Yukon River. Ascending the Yukon River to Kaltag, they crossed Kaltag Portage to Unalakleet, and continued to Nome, arriving there on April 5, 1908. According to Goodwin, the party required sixty-six days to travel the so-called Seward-Nome trail, estimated to be 875 miles in distance.

In his report to the Road Commission, Goodwin judged the Rainy Pass route entirely practicable for winter travel. With the exception of twelve miles over Rainy Pass, the route was located in timber throughout its length. The Road Commission could, however, expect to perform a considerable amount of work on the route if it were to become a winter mail route "as it would be impracticable to follow the broad open river flood plains and valleys as was done by the expedition, on account of overflows and open water which would render the trail, impracticable except at the season of the winter when this expedition came through."

Nevertheless, Goodwin recommended against the adoption of the Rainy Pass route for winter mail service to Ganes Creek or Nome. The route traversed a vast, unexplored region, where game was scarce and settlements were few. A

few prospectors had in fact taken the route to Seward, but at great risk and hardship. Goodwin estimated that some twenty men, disappointed with the prospects on the upper Innoko River, went over the route to Cook Inlet during the early winter months. Some reached Susitna Station in a terrible condition, having traveled for twenty-four to thirty-five days without blankets or tents in the dead of winter. Until the route become a popular thoroughfare, and road-houses were established along the winter trail, travel would not be safe. He believed that the Rainy Pass route was not likely to come into general use until the Alaska Central Railway was completed and in operation, and the Susitna, Yentna, Kuskokwim, and Innoko districts had passed beyond the first stages of development. 2/

The gold rushes to Iditarod in 1909 and 1910 were probably the single most important event that influenced the decision of the Alaska Road Commission to improve the Rainy Pass trail, and in 1909 ask Congress for \$50,000 for the project. 3/ As more than one thousand people congregated on the Iditarod River and its tributaries, and as the extensive low-grade placer field promised many years of mining, the need for mail service and a winter outlet to southern ports was readily apparent. Already large mining companies were moving into the district. And in 1910, the powerful Northern Navigation Company established steamboat service on the Kuskokwim River, while its subsidiary, the Northern Commercial Company, established several trading posts on the river to supply new mining camps on Tuluksak River, George River, and Takotna River.

The Iditarod gold camp and the Rainy Pass trail received a considerable amount of publicity in the Alaska and Pacific Coast press. For many writers, the Iditarod strike signaled the development of the Kuskokwim River basin, and the

Rainy Pass trail was to figure importantly in that development as the Valdez-Fairbanks trail had in the Fairbanks gold field. The articles of W. E. Priestley and D. H. Sleem in 1909 and 1911 in the Alaska-Yukon Magazine, a journal published in Seattle, are representative.

In the winter of 1909-10, W. E. Priestley traveled by dogsled from the Yukon River to Ophir. Leaving Ophir on March 22, Priestley went to McGrath, and then ascended the Big River with an Indian guide named Esi. He followed a tributary of the Big River to its head and found outcroppings of a very fine grade of coal. Priestley then returned to the Kuskokwim River and took a thirty-mile winter trail to Nikolai, where he met the chief Old Nikolai. The chief told Priestley that he had once traveled to the Susitna River, and that it would take "six sleeps" to reach the river. Priestley obtained a map of the route from the Indian, and began the journey. He required more than a week to reach the Susitna River.

Priestley's account of his journey was published in July 1909, and reprinted in November 1911. Claiming that the trail was a practicable route to Cook Inlet, he wrote that the trail passed through a country with plentiful game and high potential for mineral resources. One Indian, he said, killed twelve moose in two weeks. Already prospectors were working on Big River and Hartman River. 4/

In November 1910, the Alaska-Yukon Magazine published D. H. Sleem's account of his journey up the Kuskokwim River. In the summer of 1910, Sleem, a surgeon employed by the Alaska Northern Railway, ascended the Kuskokwim River on the steamboat Quickstep. He described the river and its tributaries,

the mineral resources, the communities, and available transportation facilities. He too believed the Rainy Pass trail was destined to be the major winter route to the Innoko and Iditarod districts, and prepared a copyrighted map of the Kuskokwim River and Susitna River basins which illustrated the course of the trail. 5/

Considering the magnitude of the Iditarod rush and the extensive publicity given to the Rainy Pass trail, the Alaska Road Commission decided to improve the trail. In the summer of 1910, Major Wilds Preston Richardson, president of the Alaska Road Commission, journeyed to Iditarod, and announced that Walter L. Goodwin was to perform work on the trail during the coming winter. 6/

Instructed to investigate practicable trail routes from the Innoko district to Iditarod, Anton Eide of the Road Commission reached Takotna on July 25, following a trip up the Kuskokwim River on the steamboat Quickstep. Eide crossed the portage to Ganes Creek, and then followed the high, bare ridges westward to Bonanza and Iditarod, where he obtained passage on the steamboat Tana to Holy Cross on the Yukon River. Submitting a lengthy report to the commission on August 18, Eide recommended the improvement of the gold rush trail from Takotna to Iditarod via Moose Creek and Bonanza Creek and suggested several alternatives to the Goodwin survey of 1908. While Goodwin had recommended a trail from Takotna to McGrath via Candle Creek, Eide believed that a trail should be constructed from the mouth of Nixon Fork to the mouth of Big River passing Appel Mountain to the north. This trail, about twenty-eight miles in length, would avoid the hills above McGrath and shorten the route by eight or ten miles. From Berry's post at the mouth of Big River, the trail

would extend overland to Nikolai near the mouth of Little Tonzona River. From Nixon Fork to Takotna, travelers could follow a horse trail constructed by the Kuskokwim Commercial Company in the fall of 1909. 7/

Anticipating the work of the Alaska Road Commission, residents of Ophir raised \$400 to hire R. H. Brown to locate a trail from Ophir to Iditarod. Also, several people located and built roadhouses along the trail between Ophir and Cook Inlet. 8/

By all accounts, travel on the Rainy Pass trail during the winter of 1910-11 was heavy and fraught with hardships. It is not known at present as to which trail the prospectors followed from Takotna to Berry's post. It is known, however, that from Berry's post they took the trail to Nikolai's Village, and then followed the South Fork to Guggenheim Roadhouse, Snug Roadhouse, and finally "Big John's" Roadhouse at the mouth of Tatina River. At that point, they followed Tatina River and Dalzell Creek to Rainy Pass. 9/ There may have been more than one trail from Big River to the South Fork, however. During the small gold rush to Hartman River in January 1911, some prospectors took a thirty-five-mile trail from Berry's post directly to the steamboat May D., which was wintering on the South Fork. The diggings on Hartman River were said to be located eighty miles by trail from the steamboat. 10/

In any case, many people who went over the Rainy Pass trail in the winter of 1910-11, complained that the trail was not suitable for travel due to the deep snow. In December 1910, Dave Clough and Billy Lodge left Ophir for Seward

with a team of horses, but were forced to turn back at some point beyond Takotna. 11/ About the same time, Bob Griffis and several other men left Iditarod with a shipment of gold, valued at \$200,000, for the Miner's and Merchant's Bank. They arrived at Seward thirty-seven days later, a feat that was reported in the Seattle Times on December 30. Griffis left Seward on January 6, and after forty-one days on the trail finally reached Dikeman in the Iditarod district. He pronounced the trail a failure, claiming that he was forced to break the trail with snowshoes for his two dogteams through snow six to eight feet deep. 12/ Other parties voiced similar complaints. George Dreibelbis, for example, required twenty-two days on the trail, but had to break trail for his dogs for ten days. 13/

In late 1910, the Alaska Road Commission notified Walter L. Goodwin to begin work on the location and construction of the Rainy Pass trail. Adopting Eide's recommendations of 1910, the Goodwin party cut a trail directly from the mouth of Nixon Fork to Crooked Creek. Crossing the Kuskokwim River, they then cut a two-mile trail across one of the big river bends and headed directly to Berry's post at the mouth of Big River. From Berry's post, the trail followed the Kuskokwim River for six miles, and then the trail to Nikolai for two miles. At that point, the Goodwin crew cut a straight line through timber for six and one-half miles to an open stretch, which they followed for three miles to the mouth of Salmon River.

At the mouth of Salmon River, Goodwin lined up a tangent for Farewell Mountain, thirty-seven miles distant. Reaching the mountain in late January, he described this section of the trail as follows: " . . . except for several short stretches around some hill or to cross a creek, the trail is all the time on this straight

and narrow path. In the language of a native who chanced into camp a few days ago, it is 'All same bullet.' Thus the great unknown is conquered, and there is no question of the location of the trail, and not a foot of it is lost work or to be relocated." 14/ Goodwin claimed that horse teams could be used on the trail but for the deep snow. He also noted that several men had followed his party, locating and in some cases beginning to build roadhouses.

The Road Commission continued work on the Seward-Iditarod trail during the summer of 1911. Under the supervision of R. S. Giddings, a crew worked on the Rainy Pass-Flat section, clearing, staking, and widening the trail to eight feet. The crew improved the trail for double-ender traffic by November 1911.

15/

In deciding to improve the Rainy Pass trail, the Alaska Road Commission hoped that the Post Office Department would adopt it as a winter mail route. The department agreed to accept bids for mail service on the route, but in late 1911, it rejected all bids as excessive. The trail could not compete with the Cordova-Fairbanks-Nulato-Iditarod route. Nevertheless, before making a final assessment of the route, the department agreed to dispatch several consignments of second-class material over the Rainy Pass trail as an experiment. 16/

Although the Rainy Pass trail was not adopted as a mail route in 1911, it did become an important outlet for miners in the Innoko and Iditarod districts. With a number of roadhouses established on the new trail, traffic was heavier than in earlier years. A. A. "Tony" Zimmerman, for example, met about one hundred people on the trail as he traveled from Knik to Iditarod, a journey that required thirteen days actual travel. 17/ Two men who required twenty-four days on

the trail to Iditarod due to lack of snow and river overflows, met 150 men going to Cook Inlet. 18/ Another shipment of gold from Iditarod was taken over the trail. 19/ In January 1912, it was reported that 174 people from Iditarod, all en route to Seward, had passed over the trail. 20/ Clearly, more people went over the trail in the winter of 1911-12 than in the previous winter, and required less time to reach their destination.

Nineteen-twelve was an important year in the history of Alaska, for it was in that year that Alaska became a territory, and the Government tackled the question of Alaska transportation development. President Taft established the Alaska Railway Commission to investigate and recommend routes for trunkline railroads that would facilitate the economic development of the territory. In early 1913, the Railway Commission submitted its report to the President, recommending the extension of the Copper River & Northwestern Railway to Fairbanks and the Alaska Northern Railway from its terminus at Kern Creek to McGrath, then considered to be the head of steamboat navigation on the Kuskokwim River. President Taft was unable to secure action on the commission's recommendations during the remaining days of his administration.

In 1914, however, President Wilson decided to send the Alaska Engineering Commission to Alaska to investigate the feasibility of constructing a railroad from the terminus of the Alaska Northern Railway to Fairbanks via the Susitna River valley. The commission spent most of the summer of 1914 surveying railroad routes along the Susitna River, but did send one party to make a reconnaissance of the Susitna-Kuskokwim route. A well-known civil engineer, J. L. McPherson, was placed in charge of the party.

Leaving Cook Inlet with packhorses in late June 1914, the McPherson expedition followed the Susitna, Yentna, Skwentna, and Happy River valleys to the headwaters of latter stream in the Alaska Range. Crossing Rainy Pass on August 17, the party spent the next several weeks searching the mountains for passes, and eventually discovered Houston Pass. They then returned to the South Fork and following that stream to Farewell Mountain, headed westward to cross Pitka Divide to the Big River basin. Travel in the basin was very difficult, the "tundra-covered marshes and overflowed creek valleys" working a great hardship on the horses. On September 5, having traveled only ten miles in three days, they finally reached Bear Creek.

Inasmuch as the men and horses were exhausted, McPherson took advantage of high water to transport the outfits down the creek and Pitka Fork to the mouth of Salmon River in a collapsible canoe. His men followed overland with the horses. Finding the winter trail to the Kuskokwim River "absolutely impassable for horses," which in any case were too weak to travel far, McPherson directed his men to construct three rafts, and with these the men and horses descended Pitka Fork, Big River, and Kuskokwim River to McGrath. They arrived at McGrath on September 14, having spent three days on the rafts. McPherson continued to Takotna, where he awaited the arrival of C. P. Dexter, who had been assigned the task of surveying a direct line from Salmon River to McGrath. With Dexter's arrival on September 18, McPherson's party walked the winter trail to Flat and Iditarod. There they were able to obtain passage on a boat to St. Michael.

In his report to the Alaska Engineering Commission, McPherson described the expedition of 1914 as one of extreme hardship. The terrain in the country was difficult to traverse, and weather conditions did not make for easier travel. Of

the ninety-eight days on the trail, they were subject to forty days of rain and eight days of heavy storms. As a result, the rivers and creeks were high throughout the entire distance, many of them overflowing into the swamps. The Kuskokwim River itself was found to be twelve feet higher than ever known at that time of the year.

McPherson believed that a railroad could be constructed from the Susitna River basin to McGrath via Houston Pass. Construction costs would be high, especially on Houston Pass and over a seven-mile canyon on the upper South Fork. And the line would require a large number of bridges. On the other hand, as both ends of the line were accessible by boat, construction could proceed on both ends at the same time. If the railroad were constructed, McPherson concluded, it would be "ideal from a development standpoint as it supplements water transportation." 21/

McPherson's report and many others were sent to President Wilson for consideration. In early 1915, the President announced his selection of the Seward-Fairbanks route, and directed the Alaska Engineering Commission to begin construction of the government railroad. In the early summer of 1915, the commission established its construction base on Ship Creek, and began constructing port facilities. Hundreds of people rushed to Ship Creek, many in search of employment on the railroad, some to establish farms in the Susitna and Matanuska River valleys.

It would take the Alaska Engineering Commission eight years to build the railroad from Seward to Fairbanks. Before 1918, the commission concentrated its forces in completing the Seward-Anchorage line. After 1918, the commission began to push the end of steel northward up the Susitna River valley, while a small force constructed the railroad south from Nenana. As the end of steel inched

northward, the Alaska Road Commission attempted to develop traffic for the railroad with the construction of feeder roads and trails. The construction of roads and trails from the Kuskokwim basin to the railroad was to become a major concern of the commission.

During the early years of the railroad construction project, the Rainy Pass trail was the established winter mail route to the Kuskokwim River basin. In early January 1914, the Post Office Department awarded a four-year contract to Harry E. Revell of Seward to deliver mail, not to exceed 475 pounds, to points between Seward and Iditarod. He was to provide a twenty-five-day service from November 1 to April 1 of each year, for which he was to receive \$25,000 annually. Revell subsequently went over the trail, and made arrangements for subcontracts. He announced that he would be able to provide a twenty-day service, and that horses would be used from French Joe's Roadhouse to Iditarod. Horse feed could be delivered by boat on the Kuskokwim and Iditarod rivers.

22/

In anticipation of the mail service, a number of improvements were made to the Rainy Pass trail. The Northern Commercial Company employed a crew to improve the McGrath-Takotna trail, and a crew under Captain William E. Geiger cut a trail from McGrath toward the Salmon River Roadhouse, planning to meet another crew working from Salmon River. 23/ On October 21, 1914, mail carrier Robert Boyd departed Iditarod for Takotna with the first consignment of mail. Another carrier would relay the mail to the next transfer point. In late November, the first mail over the Rainy Pass trail arrived at Iditarod. Joe Blanchell, proprietor of the Farewell Mountain Roadhouse, had the distinction of carrying the first consignment of mail over Rainy Pass, consisting of two hundred pounds of mail for Takotna, seven sacks for Iditarod, and two sacks for Discovery. 24/

The mail carriers were required to make a number of improvements to the Rainy Pass trail. During the summer of 1915, one carrier transported horse feed by boat to Salmon River and subsequently performed some work on the trail between Takotna and French Joe's Roadhouse. A new trail was also staked on the high ridges between Iditarod and Ophir by Tom Boyd, a subcontractor who had found the old trail up the Takotna River valley often blocked by deep snow during the winter of 1914-15. 25/ In addition, Revell appealed to the Alaska Road Commission to improve certain sections of the trail between Seward and Tatina River, particularly the Rainy Pass-Tatina River section. Writing to Anton Eide of the commission on July 9, 1915, Revell observed that the trail from Tatina River to Iditarod was in fair shape. However, there was no trail from the head of Dalzell Creek to the mouth of Tatina River, a distance of twelve miles. Transmitting Revell's letter to the Road Commission's office at Valdez, Eide wrote that he had received many complaints about the trail in Dalzell Canyon, which had very steep benches and was exposed to snowslides.

26/

Evidently the Road Commission did not perform any work on the trail, for in January 1919 O. G. Herning, secretary of the Wasilla Commercial Club, referred numerous complaints about the trail to the Road Commission. He stated that there was a need to erect tripods in Rainy Pass, and to remove windfalls on the trail. Anton Eide subsequently wrote a letter to a roadhouse proprietor near Rainy Pass, requesting information about the condition of the trail and to submit a bid for furnishing and setting up tripods in the pass. The proprietor submitted a bid, but it is not presently known whether the Road Commission accepted it. 27/

In 1919, the Post Office Department decided to abandon the Rainy Pass trail as a winter mail route. Responding to an inquiry from Alaska Governor Thomas Riggs, Jr., a former member of the Alaska Engineering Commission, R. Knox of the department explained that mail service on the trail was discontinued for the simple reason that the trail was almost impassable. For the past two years, he wrote, the mail carriers encountered numerous obstacles on the trail, and the mail contractor alone was keeping the trail open at considerable personal expense. The department decided, therefore, to establish a route with the same frequency of service from Ruby on the Yukon River to Flat via McGrath. Mail was scheduled to be delivered at McGrath four days later than had been the case on the Rainy Pass route. Knox closed his letter with the advice that the department would consider re-establishment of the mail service on the Rainy Pass route if the trail were improved. 28/

The decision of the Post Office Department to abandon the Rainy Pass trail for the Ruby-Ophir trail infuriated residents of Iditarod and McGrath, and some sent telegrams of protest to the Governor. Writing to the Iditarod Commercial Club, the McGrath Chamber of Commerce, and various individuals, Governor Riggs agreed that the discontinuation of mail service on the Rainy Pass route would discourage travel and prospecting in that section. However, he hoped that the Talkeetna-Cache Creek road would be ultimately extended to McGrath. In any case, Riggs assured the protesters, he and the Alaska delegate to Congress would try to have the mail service on the Rainy Pass trail restored in another year. 29/ Evidently the Governor was unable to persuade officials of the department to reconsider their decision, for mail to McGrath, Takotna, and Iditarod was again routed by way of the Ruby-Ophir trail during the winter of 1920-21.

The introduction of dredges on Candle Creek and Yankee Creek in the late 1910s and early 1920s, and most important, the development of hard-rock mining in the Nixon Fork country, brought to the forefront the need for better winter transportation facilities from the Kuskokwim basin to an ice-free port. Greatly dissatisfied with the mail service, citizens of the Mt. McKinley, Innoko, and Iditarod districts agitated for the re-establishment of mail service on the Rainy Pass trail, and failing that, the establishment of year-round service from the upper Kuskokwim River to Nenana on the nearly completed government railroad.

30/

Now receiving increased appropriations as pressure mounted for construction of feeders to the government railroad, the Alaska Road Commission established a separate administrative district for the Kuskokwim basin in 1921, and located its district headquarters at Takotna. This action was taken upon the advice of Major John C. Gotwals, who was sent to the area in the winter of 1920-21 to investigate recent developments in the Kuskokwim basin and identify the need for roads and trails. Accompanied by Anton Eide and Leonhard Seppala, Gotwals reached McGrath on February 7, 1921. Interviewed by a local newspaper reporter, Gotwals stated that it was the intention of the Road Commission to continue construction of the Takotna-Ophir wagon road, and ultimately extend it to McGrath. In addition, it planned to maintain the winter trails, particularly the Rainy Pass trail, as it was the shortest route to the government railroad. Sometime in the future, the Road Commission planned to construct a summer road from McGrath to the railroad, but no decision had yet been made as to whether the road would go to Talkeetna via Rainy Pass or to Healy. While the road could not compete with the Kuskokwim River in the transportation of

heavy freight, it would serve to stimulate mining activity in the Kuskokwim basin. The road would be passable throughout the year, and would with time serve to reduce freight rates in the basin. Until the road was constructed, the Rainy Pass trail would remain "the important line of travel to the upper Kuskokwim."

31/

Returning to Anchorage by way of the Rainy Pass trail, Gotwals subsequently wrote to Major James G. Steese, president of the Road Commission, who was then in Washington, D.C., that the trail was well located and in fair condition, and should be improved. The roadhouse proprietors on the trail were greatly discouraged by the decision of the Post Office Department to route mail for upper Kuskokwim points over the Ruby-Ophir trail, and would close their businesses if mail service on the Rainy Pass trail was not soon restored. In that event, the trail would surely become an impracticable line of travel. Observing that the present mail route to McGrath was unpopular, Gotwals recommended that Steese inform the Post Office Department of the situation, and that the Road Commission could promise to improve the Rainy Pass trail for travel. 32/

In the months that followed, officials of the Road Commission, Alaska Engineering Commission, and the Territory petitioned the Post Office Department to restore mail service to the upper Kuskokwim basin by way of Rainy Pass. In June 1921, the department bowed to the pressure, and solicited bids for mail service over the trail. On October 4, 1921, the department announced that Harry H. Stockman had been awarded a one-year contract to carry mail from Nancy on the government railroad to McGrath, Takotna, Ophir, Iditarod, and Flat via the Rainy Pass trail. Stockman was to make the round trip on a weekly basis,

carrying on each trip no more than four hundred pounds of mail. The contract period was to extend from November 1 to March 31. 33/

Evidently anticipating that the trail would be re-established as a mail route, the Road Commission had already begun to make improvements to the trail. In the fall of 1921, Walter W. Lukens with a crew of men from McGrath went over the trail to make repairs where necessary, and to assess the need for additional work. During the winter of 1921-22, the Road Commission erected a twelve-mile telephone line between roadhouses near Rainy Pass so that travelers could be forewarned of trail conditions in Dalzell Canyon. And in the summer of 1922, the Road Commission awarded a contract to W. J. Davidson and R. R. Jones, proprietors of the Rhon River (Tatina River) Roadhouse, to cut a new trail in Dalzell Canyon, and to straighten the trail near Tatina River. 34/

Traffic on the Rainy Pass trail was considerable during the winter of 1921-22. According to the Road Commission, about five hundred people went over the trail, substantially more than the number in the previous winter. In the months January to April 1921, 193 people, 10 tons of freight, and 103 sleds passed Susitna on the trail. According to Owen Gray, who went over the trail from Cook Inlet to Takotna in six days, the trail was in excellent condition. 35/

The Road Commission expected the mail would again be routed over the Rainy Pass trail in the winter of 1922-23, and therefore was not overly concerned when, in early 1922, the Post Office Department asked for bids for mail service to the upper Kuskokwim over the Rainy Pass, Healy, and Kobe routes. In 1921 and 1922, the Road Commission had sent several expeditions to investigate possible trail routes from Nenana to McGrath via the Kantishna River valley,

and did not plan to stake a trail until the winter of 1923-24. It was with great surprise, then, that the Road Commission learned in early September 1922 that the Post Office Department had just awarded the contract to E. Coke Hill to carry the mail from Nenana to McGrath, Takotna, and other points. According to Alaska Delegate in Congress, Dan Sutherland, the contract was let upon the recommendation of local postal inspectors for a one-year period in order to test the practicality of the route. 36/

The Road Commission, the Territory, and various commercial organizations protested the decision of the Post Office Department in the strongest terms. Writing to Governor Scott C. Bone on September 25, 1922, Major Gotwals stated that he expected the department to use the Rainy Pass route for the winter of 1922-23 at least. The Road Commission had informed local postal inspectors of a number of improvements being made on Rainy Pass and that every measure was being taken to maintain the trail until another trail could be located and constructed from Nenana to McGrath. Time was needed to explore alternative routes, to determine climatic conditions, and to cut the trail in a deliberate manner. Roadhouse proprietors on the Rainy Pass trail needed time to relocate their businesses to the Nenana-McGrath trail. With the mail contractor breaking trail on the Nenana-McGrath route, the Kuskokwim basin would have two winter outlets, neither of them properly supported. The Governor agreed with Gotwals, and personally intervened in the controversy, but to no avail. 37/

The mail contractor, E. Coke Hill, successfully located a winter trail from Nenana to McGrath in the winter of 1922-23. The Road Commission subsequently moved into the field to make a number of improvements, and a number of roadhouses were quickly established on the new trail. Travel conditions on

the Nenana-McGrath trail proved to be better than on the Rainy Pass trail, and so in the summer of 1923, E. Coke Hill won a three-year contract from the Post Office Department for a weekly mail service from Nenana to Flat. 38/

Once the mail service was diverted to the Nenana-McGrath trail, the Rainy Pass trail quickly fell into disuse as a general route of travel to and from Cook Inlet. Roadhouses along the trail were abandoned, the cabins becoming shelter cabins or winter houses of hunters, trappers, and prospectors. In the early 1940s, the Civil Aeronautics Administration established Farewell Station, and transported fuel to the station by tractor from Pitka Fork, presumably on the old Rainy Pass trail. 39/

Since 1973, the trail has been used by participants in the annual Iditarod Sled Dog Race from Anchorage to Nome. In recognition of its historical significance, the trail was formally designated in 1978 as National Historic Trail, to be managed jointly by various federal and state government agencies. During the summers of 1976 and 1977, the BLM conducted low level aerial surveys of the trail. According to one report, most of the trail from Rainy Pass and Takotna is visible. The section in the canyon of the South Fork is obscure. The trail from Pioneer Roadhouse to Salmon River is quite visible, perhaps as a result of tractor and snowmobile traffic over the years. Between Salmon River and McGrath, the trail is obscure. 40/

NENANA-MCGRATH TRAIL

The existence of summer and winter routes of travel between the upper Kuskokwim and lower Tanana rivers was confirmed by the Spurr, Herron, and Brooks expeditions. Observing the country from the headwaters of the South

Fork in 1898, Josiah Edward Spurr wrote, "The divide between the upper Kuskokwim and the lower Tanana consists of low mountains which offer few obstacles; indeed, a native route to the Kuskokwim is by way of the Toclat River, which enters the Lower Tanana and which communicates with a tributary of the Kuskokwim." He believed it probable that a wagon road or railroad across this divide could be easily located and constructed over this route. 41/ In the winter of 1899-1900, Lieutenant Joseph S. Herron learned from the Indians of Telida Village of the location of the summer portage from Lake Minchumina to the North Fork of the Kuskokwim River, and the winter trail from Telida Village to Coschaget on the Tanana River. 42/ Two years later, the expedition of Alfred Hulse Brooks followed the foothills of the Alaska Range from Rainy Pass into the Tanana River valley.

Following the various gold rushes to the Kantishna and Kuskokwim rivers, the Minchumina portage became an important summer route of travel. In contrast, the winter route was seldom traveled, most prospectors in the Tanana and Yukon valleys preferring the shorter winter trails from Nulato and Ruby to Ophir and Iditarod. Only a few people were willing to traverse the largely unexplored area between the North Fork and the Tanana River. In the winter of 1910-11, Hudson Stuck, an Episcopalian missionary, blazed a trail from Lake Minchumina to Takotna in twenty-two days, visiting several Indian villages en route. He repeated the journey in the winter of 1914-15. 43/

While other men may have taken the Nenana-McGrath winter route in the 1910s, it was not until the early 1920s that serious consideration was given to the route as major thoroughfare. As construction of the government railroad neared completion, residents of Iditarod, Ophir, and McGrath, greatly dissatisfied with

the mail service, suggested that the mail be routed from Nenana to McGrath. During the summer months, mail could be transported up the Tanana and Kantishna rivers to Lake Minchumina by steamboat, carried across the Minchumina portage by horse, and then sent down the North Fork to McGrath by launch. During the winter months, mail carriers could take one of two routes to Nenana. According to the Kusko Times, a local newspaper published in McGrath, one trail led from McGrath to the mines on Nixon Fork, and thence in a northeastly direction to Kantishna, connecting there with a sled road to the railroad. Another route was that taken by Thomas P. Aitken, who hired Indians to guide him from Big River to Birch Creek, a tributary of the Kantishna River. According to one of his guides, Aitken reached Nenana in six days. Dave Clough, a long-time resident of the area, reported that J. W. Berry, who knew the country well, informed the Post Office Department that the trail was about 150 miles in distance, and that a number of men had traveled from Kantishna to McGrath in five days. 44/

Visiting McGrath in early 1921, Major John C. Gotwals, the Engineer Officer on the Alaska Road Commission, announced plans to improve the Rainy Pass trail, it being the shortest and more important route to the upper Kuskokwim River, and to press for the restoration of mail service on the trail. Gotwals had little to say about the Nenana-McGrath route, except that the Road Commission planned to investigate it, among others, in connection with plans for a winter road to McGrath from Talkeetna, Healy, or Kantishna. 45/

With the restoration of mail service on the Rainy Pass trail, the Road Commission sent several expeditions to investigate the Nenana-McGrath route. In the summer of 1921, Major Gotwals ascended Kantishna River to Lake Minchumina, crossed the

portage to the North Fork, and descended that stream to McGrath. In January 1922, Hawley W. Sterling left Nenana for Berry's Landing (Medfra) with his wife, intending to explore and map the country, and to locate practicable winter trail routes. Erecting shelter tents along the way, Sterling was able to reach Telida Village only with much difficulty, having to break trail from Moose Creek, a tributary of the Kantishna River, to the village. Nevertheless, upon his return to Nenana, he reported favorably on the route as the divides on the trail were very low. 46/

The Road Commission intended to continue its investigations in the winter of 1922-23, and to begin trail construction in the following winter season. However, the Post Office Department forced the commission to revise its schedule when an emergency contract was let to E. Coke Hill to carry the mail from Kobe to Flat. Hill's contract called for a weekly service from November 1922 to April 1923.

47/

When awarded the contract, E. Coke Hill, a former assistant attorney at Fairbanks and a future district judge, had never been over the Nenana-McGrath trail. It is likely, however, that he had learned something about the location of and conditions on the route from someone who had been on the trail, perhaps from the engineer, Livingston Wernecke, or the naturalist, Olaus J. Murie, both of whom went over the trail at different times in March 1922. 48/

Hill planned to start the mail carriers at Kobe and Flat at the same time. In early November 1922, Chester Brink left Flat for Big River with about one hundred pounds of mail. He continued to Nikolai Village, where he expected to meet the carrier, Charles E. Armour, from Kobe. However,

Armour never arrived, having lost the trail somewhere on Lake Minchumina. E. Coke Hill personally carried the second lot of mail from Kobe to Big River, arriving there on December 4. He then went to McGrath, returning to Big River on the same day to start the Indian drivers on the trail with the accumulated mail and a gold shipment valued at \$200,000. 49/

Interviewed by the Kusko Times while in McGrath, Hill described the Nenana-McGrath trail entirely practicable for the transportation of mail and freight. He said, "There is no stretch of over 21 miles without a cabin, cooking stove, and cooking utensils, and at least at times occupied by natives, except between Telida and Lake Minchumina." 50/ Principal stops on the trail included New Telida, Slow Fork, East Fork, Nikolai, and Big River, all of which had roadhouse accommodations. As concerned Armour's failure to reach Nikolai Village, Hill explained that he had safely reached Lake Minchumina, but was unable to locate the trail to Telida. Most of the Indians on the lake were hunting in the mountains, and those that remained were preparing for hunting trips as well. Armour was unable to find anyone to guide him to Telida. However, Hill located an excellent trail to the village, and did not foresee any problems in delivering the mail in the future. 51/

Once the mail carrier broke the trail, many people began to go over it. The records of the Alaska Road Commission indicate that as many as 650 people may have gone over the trail during the winter of 1922-23. In November-December 1922, more than two hundred people in as many sleds transported about seventy tons of freight over the trail. One man named M. A. "Mike" O'Malley traveled from Big River to Kobe in six and one half days, and described the trail as a "boulevard." 52/

In view of the heavy traffic on the trail, the Road Commission immediately sent crews into the field to make improvements where necessary. In Seattle, Major Gotwals declared on December 11, 1922 that the Kuskokwim valley would be opened by spring with a road from McGrath to Kobe. 53/ Sam Sanderson was placed in charge of the work. Working from Kobe, Sanderson with a crew of about ten men slashed a trail, eight feet wide, as far as New Telida. In February 1923, he went over the trail as far as McGrath, measuring distances with a cyclometer attached to his dogsled. 54/

In the following winter, the Road Commission concentrated its forces on the trail from New Telida southward. The trail was cut along the course of the East Fork, and thence directly to Medfra. A new trail was constructed from McGrath to the north side of Appel Mountain, and thence up the valley of Crooked Creek before crossing a low ridge to Medfra. Completed in December 1923 by Ross J. Kinney and a ten-man crew, the trail was suitable for bobsleds drawn by four-horse teams. From Medfra, the trail followed the North Fork for two and one-half miles, and then crossed the flats south of the East Fork to Telida. The trail was located mostly in timber and crossed few rivers. The old trail from Big River to Medfra, a distance of twelve miles, was also improved, Kinney's men removing windfalls, widening the trail, and setting tripods. One man was also employed for about a month in improving the trail from Big River to the East Fork and eastward. 55/

In early 1923, the Post Office Department again solicited bids for the mail contract to the upper Kuskokwim basin from Nancy, Kobe, or Nenana on the government railroad. The contract was awarded to E. Coke Hill, who agreed to provide weekly service from Nenana to Flat for three years (November 1,

1923 to April 3, 1926) at a rate of \$1,022 per round trip. Using five carriers in a relay system, Hill adopted the new trail constructed by the Alaska Road Commission from East Fork to Medfra and McGrath. According to the Fairbanks Daily News-Miner, Hill was able to reduce the time for each trip by one or two days, and carried nearly twice as much weight over the previous service. While the East Fork cut-off to McGrath became the established route for the mail carriers, the older trail to McGrath by way of Nikolai Village and Big River continued to be used by many travelers. 56/

Until 1930, when the Post Office Department awarded the mail contract to an airline company, traffic on the trail was heavy. The records of the Alaska Road Commission indicate that between 350 and 500 people traveled over the trail each year in the years 1925 to 1930. Between thirty and forty tons of freight were transported annually during the same time period. Much of this traffic was probably related to the mail service. For the months January to December 1931, the Alaska Road Commission estimated that only forty-seven people and thirty-eight sleds passed Nikolai Village on the McGrath-Telida trail. 57/

Like the Rainy Pass trail, the Nenana-McGrath trail was gradually abandoned. A few prospectors, hunters, and trappers continued to use sections of the trail; but it is doubtful if anyone ever traveled the entire length of the trail, most people preferring to travel in and out of the basin by airplane. Not all people in the upper Kuskokwim basin welcomed the airplane as a mode of transportation. In 1933, some residents of the upper Kuskokwim basin circulated a petition, which was to be sent to Alaska's Delegate to Congress Anthony J. Dimond, for the re-establishment of the Nenana-McGrath trail as a winter mail route. The

petitioners argued that the mail carriers, by keeping the trails open for travel, had played an important role in developing the country. Now trappers and prospectors were forced to break trails for many miles; roadhouse proprietors were forced to abandon their businesses; the Indians, who had sold fish for dog feed were left without a means of livelihood; the prospectors and trappers along the trail did not receive mail for many months; and finally, the airline companies did not circulate revenues received from the mail contracts in the district. 58/ Mail service on the trail was not re-established; and with time, the people in the upper Kuskokwim basin adjusted to the fact that the day of the dogsled was over and that of the airplane was beginning.

If people in the Mt. McKinley and Innoko districts were dependent upon the Rainy Pass and Nenana-McGrath trails for access to southern Alaska ports during the winter months, they were even more dependent upon the Kuskokwim River for the transportation of supplies, equipment, and mail during the summer months. With opening of navigation, steamboats pushed heavily loaded barges up the Kuskokwim River to McGrath, Takotna, and Medfra, where connections were made with a system of roads and trails to various communities and mining operations in the upper Kuskokwim basin and on the Innoko River. Providing year-round access to the Kuskokwim River, the Takotna-Ophir road, the Sterling Landing-Takotna road, and the Medfra-Nixon road served the principal mining operations in the area.

TAKOTNA-OPHIR ROAD

During the gold rushes to Ganes Creek in 1907 and Ophir Creek in 1908, many stampedeers ascended the Kuskokwim River to the Takotna River and up that stream a considerable distance before crossing the low divides to the headwaters

of the Innoko River. When, in 1908, Alfred G. Maddren of the USGS visited the district, he found that the Kuskokwim Commercial Company had already established two trading posts on the Takotna River, each post marking the head of navigation for certain types of boats and both at the foot of trails to the new diggings. One post was located near the mouth of Big Creek, the ordinary head of navigation for poling boats. At that point, travelers followed a twelve-mile trail across a divide to Glacier Gulch and Ganes Creek. The other post was located near present-day Takotna, the ordinary head of navigation for small steamboats and launches; it marked the beginning of a twenty-two-mile trail across a lower divide to the mouth of Ganes Creek. Both trails were suitable for the transportation of supplies by man or horse in the summer, or by sled in the winter.

Studying the relative merits of the Yukon and Kuskokwim summer routes to the upper Innoko River, Maddren concluded that the Kuskokwim River was destined to become the principal route for the transportation of freight to the Innoko district. With a view to reducing freight transportation rates, he recommended the construction of a wagon road from some point on the lower Takotna River, fifteen to twenty-five miles above its mouth, to Takotna and the mouth of Ganes Creek. Steamboats operating on the Kuskokwim River could ascend the Takotna River to the terminus of the wagon road, where freight could be discharged for transport over the road at any time of the year to Ganes Creek and Ophir. Maddren estimated the length of the road to be thirty to thirty-five miles. 59/

The Kuskokwim Commerical Company evidently came to the same conclusion, for in the fall of 1909, the company constructed a sled road, twenty-two miles long and twenty feet wide, from Takotna to Ophir, as well as an eighteen-mile winter

trail from the mouth of Nixon Fork to Takotna which was suitable for double horse teams. In addition, a dogsled trail was brushed out from McGrath to Takotna, twenty miles distant. Visiting Takotna in the summer of 1910 to investigate trail routes from McGrath to Iditarod, Anton Eide of the Alaska Road Commission recommended inclusion of the Nixon Fork-Takotna trail and the Takotna-Iditarod trail, which extended up the Takotna River valley, in the proposed Seward-Iditarod trail system. He described the Nixon Fork-Takotna trail, which had been used heavily in the winter of 1909-10, as being located in small timber and following open places and sloughs whenever possible. The trail was on level ground, which was very wet in summer. The Takotna-Ophir summer trail followed the sled road for only three miles out of Takotna, before leaving the road to follow the high, bare ridges to Ophir. With a view to shortening the length of the Rainy Pass trail and to avoid the high hills above McGrath, Eide also recommended the construction of a trail from Nixon Fork to Big River passing to the north of Appel Mountain. 60/

The Road Commission subsequently performed a great deal of work on the Nixon Fork-Takotna trail and the Takotna-Iditarod trail, both of which were integral sections of the Rainy Pass mail trail. Many people and a great deal of freight went over the Nixon Fork-Takotna trail in these years, as the Kuskokwim Commercial Company sledged freight to Takotna, and thence over the divide to Ophir. The mail carriers used the Takotna-Iditarod trail in the winter of 1914-15, but upon finding that that trail was subject to deep snows, they subsequently adopted the Ophir-Iditarod trail. Located in the fall of 1910 on high ridges, the trail was suitable for year-round travel. 61/

Once the Nixon Fork-Ophir trail became the mail route, it was only a matter of time before local residents began appealing to the Road Commission for improvement of the trail. The spark was apparently Major Wilds P. Richardson's announcement in 1916 that he was considering the construction of a wagon road from Ruby on the Yukon River to Ophir and Takotna, and thence to Anchorage via Rainy Pass. 62/ In addition, mining operators preparing to transport dredges to the Innoko district required wagon or sled roads from navigable waters. In the winter of 1916-17, residents of Ophir circulated a petition to the Governor of Alaska, calling for the improvement of the Takotna-Ophir sled road to wagon road standard, and for the staking of the Takotna-Ophir-Iditarod trail. The petitioners stated that miners in the Innoko district relied mainly upon steamboats on the Takotna River to transport their supplies to Takotna. The supplies were then taken over the divide by pack horse to Ophir at an average cost of ten cents per pound. Noting that the road would eventually be incorporated into the Ruby-Anchorage road, the petitioners estimated that the construction of a year-round road from Takotna to Ophir would cost about \$20,000. Wilbur F. Green, the U.S. commissioner at Takotna, sent the petition to Governor J. F. A. Strong, who once resided at Iditarod, adding that a road should also be constructed from the Kuskokwim River to Candle Creek, as the Kimbal Flume Dredging Company planned to transport a dredge over the route to Yankee Creek in the spring of 1917. 63/

The petition found a ready response. In 1917, the territorial road commission performed some work on the Candle Creek road; and in July of that year, the Alaska Road Commission sent R. S. Giddings to investigate the proposed Takotna-Ophir road project. According to the local newspaper, the Road Commission

had set aside \$20,000 for the project. This report was probably based upon rumors, for Road Commission records do not indicate any expenditures on the route prior to World War I. 64/

After the war, however, the Road Commission established a separate administrative district for the Kuskokwim basin with district headquarters at Takotna, and made the Takotna-Ophir road its most important construction project in the district. In the spring of 1920, the territory and federal road commissions agreed to allot \$8,000 and \$22,000, respectively, to the project, with the federal agency directing the work. By June 1920, work on the road was well underway. 65/ During the season of 1920, the Road Commission constructed a winter trail along the wagon road survey on the Innoko side of the divide, and performed some work on the Nixon Fork-Takotna trail to facilitate the transporting of freight in the winter. Due to a labor shortage, the commission was only able to clear, grub, and grade four miles of the Takotna-Ophir road. 66/

Each year the commission allotted additional funds to the project. By late August 1923, the road was practically completed to Yankee Creek, a distance of eleven miles from Takotna. For the next several years, work continued on the road on the Innoko side of the divide, as well as on several branches to mining operations. The road was finally completed in the season of 1926. 67/

Even before the road was completed, mining operators in the Innoko district were using the road to transport heavy equipment and fuel to Yankee, Ganes, and Little creeks. In the summer of 1923, the Guinan and Ames Dredging Corporation shipped dredge material to Takotna by boat, and in the following winter transported the dredge from Takotna to Ganes Creek by team. 68/

The Innoko Dredging Company also transported a dredge over the road in the winter of 1922-23. 69/ The dredging companies generally used the road during the winter months, but in 1925, they were prepared to transport supplies and equipment over the road during the summer. In 1925, Ross J. Kinney of the Road Commission reported to his supervisor that Frank Joaquin, who had leased the Innoko Dredging Company's dredge on Ganes Creek, planned to move his supplies over the road next summer instead of during the winter as had been done previously. 70/

For a few years after 1926, the Takotna-Ophir sled road, which paralleled the wagon road as far as the summit of the divide, continued to be heavily used. By 1928, however, the Road Commission had placed a gravel surface on the entire length of the wagon road, making it suitable for the passage of trucks and automobiles. As the following table illustrates, the wagon road was subject to heavy traffic.

TABLE NO. 3. TRAFFIC CENSUS, TAKOTNA-OPHIR ROAD, 1925-1930 71/

	<u>1925*</u>	<u>1926</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>
Passengers	267	516	1220	1278	1298
Automobiles	89	212	183	285	273
Wagons	36	87	40	15	45
Sleds			432	542	603
Horses	54				
Tonnage	70	245	255	320	246

*June-September

As construction of the Takotna-Ophir wagon road neared completion, local residents began to appeal for an extension of the road to the mouth of Nixon Fork, and ultimately to McGrath. Favoring the proposed extension, the editor of the Kusko Times observed that during low stages of water the larger power boats were unable to reach Takotna. Operators of the three dredges in the Innoko district were thus forced to ship oil from Nixon Fork to Takotna in small boats at high rates for many weeks. If the road was extended to Nixon Fork, a distance of about sixteen miles, freight could be transported to Takotna without delay. Freight rates on the road would be somewhat higher than the water haul, but, the editor argued, they would be by "no means as high as that by small craft carrying only a few hundred pounds and unable to take care of the demands." 72/

The Road Commission had made plans as early as 1921 to construct a road from Nixon Fork to Takotna once the Takotna-Ophir road was completed. In 1923 or 1924, the commission constructed or improved a wagon road (one and one-half miles) from Takotna to a landing place on the river for steamboats at low water stages. The landing was located about four miles by river below Takotna. 73/ Little or nothing was subsequently done to extend the road to Nixon Fork.

Whenever the water in the Takotna River was too low for boat traffic, local residents appealed to the Road Commission to construct a road to Nixon Fork. When, in 1929, the Road Commission received a petition for the road, Malcolm Elliott replied that while the road was worthy of consideration, the Road Commission lacked the funds to undertake the project. 74/

In the summer of 1933, water in the Takotna River was again abnormally low, and local residents sent another petition to the commission, this time calling for

the construction of a road from McGrath to Takotna. John B. Mertie, Jr., of the USGS was working in the district at the time, and observed that many people were forced to freight supplies by airplane between McGrath and Takotna at an average cost of \$25 per ton. From Takotna the freight was moved by truck to Ophir at \$25 per ton, and from Takotna to the head of Ganes Creek at \$30 a ton. As the aviation field at Ophir was in poor condition, most travelers took an airplane to Takotna, and continued by automobile to Ophir. Mertie noted that some mail was also taken to Takotna and Ophir by the same means.

75/

On August 24, 1933, Fred J. Spach, district superintendent of the Road Commission, sent the petition to his supervisor in Juneau, advising him that low water in the Takotna River forced many people to transport foodstuffs from McGrath to Takotna by airplane at a cost of \$60 to \$80 a ton, and that the petition had been signed by 141 people, or nearly every adult at McGrath, Takotna, Ophir, and nearby creeks. Spach wrote that he was in favor of the project, and proposed to make a reconnaissance of a route from Takotna to Nixon Fork, where the river was always navigable for the steamboat Tana. Ike P. Taylor, president of the Road Commission, endorsed the project, and wrote a letter to the petitioners, which was published in the Kusko Times, stating that an estimate of the construction costs of the road had been included in the Governor's report to the Public Works Administration for additional funds. 76/

The proposed Takotna-Nixon Fork road was on the approved list of construction projects for several years. Receiving another petition dated June 26, 1936, calling for the construction of the road, acting Governor Edward W. Griffin replied that the Territory had insufficient funds for the project. 77/ One

year later, Frank Speljack, a signer of the 1936 petition, wrote an article for the Kusko Times, arguing the need for a road from Takotna to Nixon Fork as well as a road from Takotna to McGrath via Candle Creek. He stated that the present means of transporting freight from McGrath to Takotna was "exceedingly high and undependable," as the Takotna River was "un navigable at low water" and the transportation of freight over the winter trail was "slow and unsatisfactory." "In fact," he wrote, "the bulk of mining machinery cannot be transported that way but has to lay in McGrath until such time as the water level is suitable for safe navigation. Sometimes this wait drags into months and by the time the equipment lands at its point of destination, the season is nearly gone and another year is lost along with the freight which costs around \$75 a ton." Until the Innoko district was linked by road to the Kuskokwim River, mining activities in the district would be "seriously handicapped." 78/

In the spring of 1937, federal relief funds amounting to \$30,000 were finally allotted for the proposed Nixon Fork-Takotna road. With orders to construct a summer tractor road during the season of 1937, Road Commission forces had by July 1937 cleared the right-of-way from Takotna to Shorty Creek and a short distance beyond the creek for a total distance of six and one-half miles. Inspecting the work, Hawley Sterling, the assistant chief engineer, wrote that construction supplies were brought up the river from McGrath and landed at the mouth of Shorty Creek, about twenty rivermiles below Takotna, and then hauled by tractor about one and one-half miles to the construction camp on Shorty Creek. Sterling found that the work was heavier than expected, and informed his supervisor that the allotment would not last the full season, at least if the commission retained its force of forty men on the project. He thus recommended that the Road Commission either attempt to secure additional funds

from the Works Progress Administration or the Territory, or reduce the size of the crew. Ike P. Taylor, the chief engineer, responded with instructions to reduce the size of the crew, and to construct as many miles of a good tractor road as was possible with the available funds. 79/

The Road Commission sought additional funds from the Territory for the road project. In July 1938, Ike P. Taylor wrote to Fred J. Spach that the Territory would probably allot funds for work on the road, and that he was arranging for shipment of trucks and other equipment from Bethel to McGrath on the last boat ascending the Kuskokwim River for that season. However, Taylor also instructed Spach to investigate the possibility of extending the old Candle Creek road to Takotna, since it might be a less expensive undertaking than the Takotna-Nixon Fork road. 80/ Spach inspected the route, and recommended its adoption. In the summer of 1938, work ceased on the Nixon Fork-Takotna road, and the Road Commission force began extending the old road from Candle Creek to Takotna.

STERLING LANDING-TAKOTNA ROAD

Several years after the discovery of gold on Candle Creek, miners in the upper Innoko district proposed to construct a road from the Kuskokwim River to upper Yankee Creek via Candle Creek, and to transport dredges to Ganes Creek, Yankee Creek, and Candle Creek. In 1917, Wilbur F. Green, the U.S. commissioner at Takotna, appealed to Governor J. F. A. Strong for the Territory to assist the Flume Dredging Company in the construction of a road from the Kuskokwim River to Yankee Creek. Planning to place a dredge on Yankee Creek, the company intended to construct six miles of road in the spring.

Apparently the road was to be extended later to the Takotna River where it would connect with a wagon road constructed by Archie Higgins and A. V. Thorns from Big Creek on the Takotna River to Ganes Creek. The road up Big Creek was probably completed in 1916, for the local newspaper reported in that year that Higgins and Thorns were constructing the road, and that launches carrying considerable loads were being taken up the Takotna River to Big Creek. From that place the freight was taken overland to Ganes Creek. 81/

In the winter of 1917-18, the Kuskokwim Dredging Company headed by Thomas P. Aitken constructed about four miles of road, and transported a dredge from the Kuskokwim River to Candle Creek. The territorial road commission subsequently improved that stretch of the road, and constructed an additional five miles to mines on Carol, Glen, and Candle creeks. Two large bridges, one 300 feet and the other 350 feet in length, were also built. The road was located on an 8 percent grade. 82/

During the 1920s, the Candle Landing-Candle Creek road, as it was then called, was used primarily by the Kuskokwim Dredging Company in hauling freight to dredge operations on Candle Creek during the winter months. The Road Commission performed some work on the road, or more specifically, on the Tatalina River bridge, which was periodically washed out by high water. 83/ Evidently the bridge was built in 1920, and rebuilt in 1923, 1925, and 1927. In the winter of 1926-27, Arthur L'heureaux, Dave Clough, and Olaf Waagan constructed an eighty-foot supervision bridge over the river. 84/

Although the dredging company reportedly hauled 125 to 175 tons of freight over the road each winter season, the Road Commission never improved the road to Candle Creek for summer traffic, partly because it estimated that

\$29,000 would be necessary to make the improvements. 85/ In 1925, R. D. Menzie of the Kuskokwim Dredging Company appealed to the Road Commission to repair the road, especially in laying corduroy in soft places. He wrote, "This is absolutely the only possible way to get supplies to Carl Creek and Candle Creek in the summer." 86/ The Road Commission did little more than supervise the construction of the Tatalina River bridge.

After 1927, when the Candle Creek dredge ceased operations, the road was allowed to fall into disrepair. In 1932, Grenold Collins of the Alaska Game Commission went over a section of the road near the Kuskokwim River, and reported it to be in bad condition. Wagon teams had not been used on the road in several years. Willow brush, four and one-half feet high in some places, had grown up in the middle of the road, and several small bridges had collapsed due to rot. Describing the former road as a good trail for pack horses, he wrote that miners had transported about eight hundred pounds of freight over the trail with dogs in the summer, and that they plan to haul less than a ton in the winter.

Collins' inspection of the road was instigated by reports that a beaver dam had caused water to flood the road. Between the Kuskokwim River landing and the mountains, travelers on the former road encountered two lakes, former sloughs of the river, which were populated by beaver. They crossed the first lake over a bridge, and walked along the second lake for about a mile. The lakes were connected by a small stream, which beaver had blocked with a dam, thereby causing water to flood the road for about seventy-five feet. D. D. McDonald, a miner on Candle Creek, wanted to destroy the dam. Collins advised him to

trap the beaver during the winter, and the Alaska Game Commission would destroy the dam in the spring. McDonald agreed to this, admitting that he could haul his supplies over the road in the fall without much difficulty. 87/

In 1937, the old road was given new life when Dave Strandberg and his son Ted decided to mine Candle Creek with a dragline. During the summer of that year, they employed about thirty men in rehabilitating the road, stripping the overburden, and installing equipment on Candle Creek. In a conversation with Ted Strandberg in June, Fred Spach of the Road Commission learned that a few men were cutting brush and niggerheads on the old summer trail from McGrath to Candle Landing, and rehabilitating the road from the landing to the dredge tailings on lower Candle Creek. They intended to follow the tailings up the creek to the site of their mining operations. On July 3, Dave Strandberg informed Spach that the old road was in shape to transport their dragline and tractor over it. 88/

The Road Commission was greatly interested in these developments, for it was then constructing a road from Takotna to Nixon Fork in an effort to link the Innoko mining district with steamboat navigation. The Road Commission found construction of the Takotna-Nixon Fork road prohibitively expensive, and so in 1938 shifted its attention to extending the Candle Creek road to Takotna. By the end of the year, the Road Commission had extended the road to Takotna, and Hawley W. Sterling of the Commission was referring to it as the "new Kuskokwim-Takotna Road," twenty-five miles long. 89/

The Sterling Landing-Takotna road and the Takotna-Ophir road served the miners on the upper Innoko River and on Candle Creek. In 1947, M. C. Edmunds of the Road Commission described the Sterling Landing-Takotna road

as "one of the main roads in the district, all of the heavy equipment and materials being hauled over it to the Ophir Mining District." 90/ During the early 1950s, the road was heavily used by military contractors in transporting supplies, materials, and equipment to Tatalina River, where they were constructing facilities of the Tatalina station. 91/

MEDFRA-NIXON MINE ROAD

In the late 1910s, winter travel to the mines on upper Nixon Fork was over a thirty-seven-mile trail beginning at the mouth of Nixon Fork. With the development of hard-rock mining on the river in 1918, the miners located a shorter route, about twelve miles in length, from the mines directly to the Kuskokwim River. During the winter of 1919-20, ore from the mines was sledged to the river for shipment by boat in the following spring down the Kuskokwim River, and thence to Tacoma, Washington by ship. The Nixon Fork-Nixon Mine trail was subsequently abandoned. 92/

Obtaining an option on the lode claims, the Alaska Treadwell Gold Mining Company expended about \$2,500 in 1920 and 1921 in constructing a twelve-mile wagon road from the mines to Berry's Landing on the Kuskokwim River. During the summer of 1921, a crew of eleven men was engaged in laying corduroy and generally maintaining the road. 93/ According to George E. Martin, a geologist with the USGS who visited the area in 1920, the road was located on soft ground from Berry's Landing for about half of its distance before climbing onto solid ground on the slopes of the hills. Located on an average grade of 5 percent, the road was in good condition in the mountain section, but in poor condition on the flats where it was with great difficulty kept passable for heavy freight wagons. 94/

In 1923, the Treadwell company quit the area, and the road was allowed to deteriorate. In 1924, it was reported that the road was "unused and scarcely passable in summer." 95/ However, as the following table indicates, the road received a considerable amount of traffic during the late 1920s.

TABLE NO. 4. TRAFFIC CENSUS, MEDFRA-NIXON MINE ROAD, 1925-1931 96/

	<u>1925*</u>	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931**</u>
Passengers	80	136	441	396	209
Automobiles					4
Wagons	20	65	14	18	14
Sleds		64	49	49	44
Tonnage	8	35	27	32	

*June-October **April-September

In fiscal year 1930, the Road Commission began to make minor improvements to the road for wagon and automobile traffic. A short section of the road was relocated, and several bridges were constructed. In 1933, foreman E. A. Adams and a crew of men laid corduroy and dug ditches on the first six miles of the road from Medfra, in addition to constructing bridges and culverts, and clearing the right-of-way to a width of thirty feet. By this time, the road was passable throughout the year for trucks and tractors. 97/

MOORE CREEK TRAIL

The Moore Creek trail was first blazed by stampedeers during the Iditarod gold rush of 1909-10. According to Anton Eide in 1910, the trail followed the Takotna

River from Takotna to an Indian village at the mouth of Fourth of July Creek. The trail then followed the creek to a point near its head where it crossed a low divide to recently discovered prospects on Moore Creek. Following Moore Creek to its head, the trail crossed a low timbered divide to the head of Bonanza Creek, a tributary of the Iditarod River. The trail then descended Bonanza Creek to a point opposite the head of Little Creek, crossed the divide to that creek, and then followed Little Creek to Discovery on Otter Creek. Eide estimated the distance between Takotna and Moore Creek to be forty miles by trail, or 125 miles by river. Roadhouses had not yet been located on the trail. 98/

Upon Eide's recommendation, the Road Commission included the Moore Creek trail in the Seward-Iditarod trail system, and in the summer of 1911 employed a crew of men in clearing and staking the trail from Takotna to Flat. A number of roadhouses were subsequently established on the trail. Despite these improvements, miners on Moore Creek did not use the trail to obtain supplies at Takotna. In August 1911, Aaron Longnecker, a miner on Moore Creek, predicted that all supplies for Moore Creek would be obtained at Iditarod and hauled over the winter trail. inasmuch as low water in the Takotna River prevented freighters from Takotna in reaching Moore Creek in poling boats. About the same time, Theodore Witte, another miner on Moore Creek, told an Iditarod newspaperman that miners on the creek would doubtless obtain their supplies at Iditarod, even though it would cost twenty-five cents a pound to haul the supplies to Moore Creek. He claimed that the miners were being "held up" by the Kuskokwim Commercial Company store at Takotna and by the river freighters. 99/

When, in 1914, mail service was instituted on the Seward-Iditarod trail, the mail carriers adopted the Moore Creek trail. In the following season, however, they adopted the Ophir-Iditarod trail. Constructed in 1910 by public subscription, this trail was located on high bare ridges, and was suitable for travel in summer and winter. The Moore Creek trail, on the other hand, was impassable during the summer, and difficult to traverse during the winter due to deep snow.

100/

With the establishment of the Ophir-Iditarod trail as the common route of travel, miners on Moore Creek located a seven-mile branch to the main trail, about thirty-five miles from Flat. The miners relied upon this trail throughout the year to haul supplies from Iditarod and Flat. In 1915, John B. Mertie, Jr., of the USGS reported that miners on Moore Creek obtained all supplies from Iditarod at a rate of twenty-five and one-half cents per pound in summer, and six to seven cents per pound in winter. 101/

Shortly after the Road Commission established its district headquarters at Takotna, Cecil Barlow, a miner on Moore Creek, wrote to Colonel James G. Steese, president of the Road Commission, for assistance in constructing shelter cabins on the winter trail. Moore Creek miners obtained all their supplies from Flat, but most still used the old Moore Creek trail in early winter, before the snow fell, to reach Takotna as it was about twenty miles shorter than the Iditarod-Takotna trail. In 1923, the Road Commission let a contract to Barlow for the construction of a shelter cabin on Bonanza Creek, about one and one-half miles below the Moore Creek summit. Barlow completed the cabin during the winter of 1923-24. 102/

HOHOLITNA RIVER-SPARREVOHN AIR FORCE STATION TRAIL

U. S. Geological Survey maps published in the 1950s illustrate the course of a winter trail from the Hoholitna River to the Sparrevohn Air Force station. Beginning at a cluster of cabins located on the north bank of the Hoholitna River in SE $\frac{1}{4}$, T. 17 N., R. 42 W., Seward Meridian, the trail bears south-westerly to Hook Creek, and thence up that creek to the Air Force station. The trail may have been used in the transportation of men and equipment to the station site in the early construction phase. 103/

SLEETMUTE-TAYLOR CREEK TRAIL

Leaving the Kuskokwim River opposite the village of Sleetmute, this winter tractor trail heads south along the western side of the Holitna River valley. Crossing Holitna River near the Kulukbuk Hills, the road follows Holitna River to the mouth of Taylor Creek where it then takes to the hills west of the creek. Eventually it returns to Taylor Creek and follows that stream to the Taylor Mountain Mine. The road may have served as a supply line for mining operations on Taylor Creek during the 1940s and 1950s. 104/

SLEETMUTE-MOORE CREEK TRAIL

From Sleetmute this trail bears north to the head of the South Fork George River, and thence down that stream to the East Fork George River. The trail follows the East Fork to a point in T. 24 N., R. 44 W., Seward Meridian, where it crosses a low divide to George River. Striking George River near the mouth of Michigan Creek, the trail follows George River to its head and crosses a

divide to Moore Creek on Takotna River. A branch of the trail continues up Michigan Creek and Doherty Creek and crosses a divide to enter the Iditarod River basin. 105/

GEORGETOWN-FLAT TRAIL

During the gold rush of 1909-10, a number of trails were established by stampedeers from the Iditarod River to George River. The location of these trails are not well known. Apparently prospectors in the Iditarod district made their way into the George River basin by crossing the divide at the head of the North Fork of the George River or the one at the head of Beaver Creek. In any case, upon reaching the basin, they followed a trail located on the ridge to Georgetown at the mouth of the river.

During the winters of 1910-11 and 1911-21, Iditarod and Flat businessmen attempted to have a trail improved to the Georgetown district so as to capture the business of miners working on George River and Crooked Creek. Evidently they enjoyed some success, for in early November 1911, two men named Barrett and Ward operating the Iditarod-Kuskokwim Express Company began hauling passengers, freight, and mail in a double-enders from Iditarod to Georgetown over the Crooked Creek trail and returning to Iditarod on the Georgetown trail by way of Beaver Creek. 106/

Although used summer and winter, the trail was best known as a summer trail. In the fall of 1914, Philip S. Smith of the USGS crossed George River on horseback about two miles above Georgetown, and ascended the steep slopes of the hills on the west side of the valley until he found the summer trail. He then followed the "well-marked" trail to Iditarod. 107/

In the early 1920s, the trail was considered to be "the best summer route from Flat to Kuskokwim." 108/ The Road Commission may have made minor improvements to the sixty-five-mile trail in these years. Protesting exorbitant river transportation rates, some residents of Flat appealed to federal and territorial authorities in the early 1930s for the construction of a highway from Flat to Georgetown or Crooked Creek. In 1933, W. F. and Nellie Duffy of Flat wrote to territorial highway engineer William A. Hesse that the construction of a highway from Flat to Crooked Creek or Georgetown might be of more benefit to local miners than the proposed improvements on the Iditarod River. If the road were constructed, they wrote Hesse, miners would be able to have freight landed at Flat for \$35 per ton, or less than half the figure they paid on freight shipped from Nenana by steamboat. In addition, they pointed out that miners on Julian Creek and Donlin Creek would benefit from the construction of the road, as they transported their provisions from Flat to the workings in the spring. They had no doubt that a suitable location for a road could be found, as the route was located mostly on dry ridges. In 1925, they wrote, a man used a team and wagon to haul a heavy piece of machinery from Flat to Georgetown over the route. 109/

Territorial officials consulted Hawley W. Sterling about the proposal, and found him to be very much in favor of it. Writing to Harry G. Watson, secretary to the Governor, Sterling noted that the road project had been included in the last public works program, but not in the program for fiscal year 1936 only because the Road Commission believed there were "other roads of more immediate importance." However, he considered the proposed road to be "a first class project," and cited a number of reasons as to why it should be built. The road would tend to stimulate steamboat competition on the

Kuskokwim River, reduce the cost of freight landed at Flat by at least \$40 a ton, provide access to placer ground and cinnabar claims served only by winter trail, extend the mining season at Flat by at least four weeks, and finally eliminate the frequent delays in riverboat service on Iditarod River owing to low water. The only serious objection to the proposal, as far as Sterling was concerned, was that all freight to Flat would go over the road, resulting in a loss of revenue to the Alaska Railroad and inland navigation companies on the Yukon River. 110/

This objection was enough to kill the proposal. Due to strong opposition from riverboat companies on the Yukon River and the Alaska Railroad, the proposed Georgetown-Flat highway was shelved. 111/ Subsequently, the Road Commission considered the construction of an airfield at Crooked Creek.

In later years, people went over the trail but certainly not to the extent as in former times. In the 1940s, Wallace A. Cady and George Gryc of the USGS went over the trail from Georgetown to Donlin Creek and the DeCourcy Mountain Mine. 112/ In 1977, Glenn W. Fredricks reported that the trail was no longer used by local residents. 113/

CROOKED CREEK-FLAT TRAIL

This trail was doubtlessly blazed by stampedeers from the Iditarod district to Crooked Creek and George River during the gold rush of 1910. Beginning in the winter of 1910-11, the Iditarod-Kuskokwim Express Company hauled passengers,

freight, and mail in double-enders over the trail. In January 1910, leading residents of Georgetown, including M. E. Heavy, E. Wilkerson, and Duke E. Stubbs, decided to locate a new trail from Georgetown to Donlin Creek which could be later improved to wagon road standard. The new trail would be between twenty to twenty-five miles long, and of this distance five miles up Mastodon Creek had already been completed. The success of the project is not known. By 1913, however, the trail was said to be "well supplied with good roadhouses and cabins, and [was] a safe and easy trail to travel." 114/

Forming part of the winter mail route to points on the lower Kuskokwim River, the trail was improved to a limited extent by the Road Commission in the early 1920s. In the winter of 1922-23, Charles Lovett of Iditarod performed considerable work on the trail, clearing the trail where necessary, erecting tripods, constructing a shelter cabin and repairing an abandoned cabin for use as a shelter cabin at a cost of \$650. 115/ In the following winter, the Road Commission contracted with C. J. Sampson of Bethel to make further improvements on the trail, principally cutting stumps, grading, eliminating short kinks, clearing brush, and constructing a few small bridges at a cost of \$550. Inspecting the trail in April 1924, Ross J. Kinney of the Road Commission reported that Denny Parent, proprietor of the Crooked Creek roadhouse, Harry Stevens, the Walsh boys, and other miners who used the trail were satisfied with the improvements. 116/

Road Commission records indicate that the trail was heavily traveled during the late 1920s. In 1926, 212 people, 142 sleds, and 10 tons of freight went over the trail; in 1928, 268 people, 193 sleds, and 10 tons of freight. In 1930, the volume of traffic had declined, as 178 people, 126 sleds, and 7 tons of freight went over the trail. 117/

In 1933, residents of Flat and Crooked Creek petitioned the Road Commission for the construction of a highway between their communities. Lon French of Flat argued that the highway would help to reduce freight rates, and make it possible for miners to develop millions of feet of low grade placer ground. The freight rate from Seattle to Crooked Creek was \$31 per ton, and freighters at Flat estimated that freight could be hauled from Crooked Creek to Flat over the highway at \$20 a ton. Miners could then have freight landed at Flat at about \$51 a ton, which was about \$70 less than the current rates. In addition, the road, estimated to be fifty-two miles in distance, would tap well-known placer grounds such as Donlin Creek, and would pass within two to four miles of the properties of the Thrift Cinnabar Mining Company. R. W. Vinnedge of North Bend, Washington, who was interested in several placer mines near Flat, wrote that his company was planning to expand mining operations, provided in part that the cost of transporting supplies and machinery could be reduced. He urged the construction of the highway for it would significantly reduce freight rates and thus stimulate mining in the district. 118/

The Road Commission sympathized with the plight of the miners, but could do nothing. Ike P. Taylor wrote both French and Vinnedge that limited funds prevented the Road Commission from undertaking the construction of such a highway. 119/

When it became clear that the highway would not be constructed, certain residents of Crooked Creek appealed to the Road Commission to complete construction of an airfield near the town. During the winter of 1935-36, residents cleared an area about 1,780 feet long and 375 feet wide of brush and trees on the right limit of Crooked Creek. E. W. Miller subsequently asked Fred J. Spach for the

Road Commission's assistance in completing the field. Writing to Hawley Sterling, Spach recommended that either the federal agency or the territory undertake the project, for it would greatly benefit the many miners working on George River and the upper reaches of Crooked Creek, as well as those in the Iditarod district. He wrote that the cost of landing supplies, other than mining machinery, at Flat was approximately \$150 per ton. If the airfield was constructed, the rates could be significantly reduced. Miners could transport supplies from Seattle to Bethel at \$22 per ton, and from Bethel to Crooked Creek by boat at \$17.50 a ton. 120/ The air freight rate from Crooked Creek to Flat would be about \$60 a ton. The Juneau office of the Road Commission sent Spach's letter to the territorial highway engineer with the comment that the airfield was needed and would be of benefit. However, the site needed to be examined as it was not believed that the required area of 500 feet x 3,000 feet was available at the proposed location. 121/ What if any action the territory took on the proposed airfield project is presently unknown. In any case, a landing field was built at Crooked Creek before 1954. 122/

In subsequent years, miners continued to use the trail to Donlin Creek, Flat, the Decourcy Mountain Mine, and in the late 1950s, the Rhyolite properties on the south slope of Juninggulra Mountain. Both the DeCourcy and Rhyolite properties were accessible by tractor trails. In January 1947, the Road Commission was petitioned by some forty residents of Flat to make improvements on the trail, specifically in repairing the Bonanza Creek footbridge and the construction of a relief cabin about two miles from the head of Dorothy Creek in the Kuskokwim watershed. 123/ It is not known whether the improvements were made.

The trail from Crooked Creek to Flat and the DeCourcy mine was in use as late as 1976. According to Elizabeth T. Lyman, residents of Flat used tractors on the trail to transport fuel oil and freight, and miners transported all types of equipment and supplies to claims on Crooked Creek and Donlin Creek. 124/

HOLOKUK RIVER TRAIL

Until the 1840s, Russian fur traders at Kolmakov Redoubt used this winter trail to and from Aleksandrovsk Redoubt. In February of each year, thirty employees and Native guides with ten to fifteen sleds left Kolmakov Redoubt to follow Holokuk River and one of its eastern tributaries then across a long portage to the upper Holitna River, and thence along Holitna River and up Shotgun Creek to the short pass to the Nushagak watershed. The trip took four to six weeks. In 1870, William Healy Dall wrote that Natives used the trail to carry mail from Nushagak and Kolmakof. Ten years later, however, Ivan Petroff reported that the trail was no longer used. 125/

KOLMAKOF RIVER-COBALT CREEK TRAIL

In 1914, Alfred G. Maddren of the USGS accompanied Gordon Bettles to his copper, gold, and silver lode prospect on the upper reaches of Cobalt Creek, a tributary of Owhat River. After the three-day journey, Maddren wrote that the best route for hauling supplies to the property was by way of a winter sled trail from Kolmakof, eighteen miles in length. This trail followed the valley of Suter Creek, a tributary of Kolmakof River, before swinging around the northeast end of the Russian Mountains to strike lower Cobalt Creek. Maddren claimed

that it would not be difficult to construct a wagon or tram road to the prospect on this route. In the early 1950s, the USGS noted the existence of the winter trail, but estimated that it was twenty-eight miles in length. 126/

MISSION CREEK TRAIL

This summer trail, about twelve miles long, extended from Little Russian Mission to the headwaters of Mission Creek. This trail provided access to the gold, copper, and silver lode prospect of Joe Konechney. 127/

CROOKED CREEK-ANIAK TRAIL

In the summer of 1924, W. J. Cribbee staked the winter mail trail between Kolmakof and Aniak, about twenty-five miles distant, under a contract agreement with the Road Commission. Subsequently, the Road Commission constructed a short trail from Kolmakof to Napaimiut. In 1926, the trail was renamed the Crooked-Aniak trail, about seventy-four miles long, most of this distance on the Kuskokwim River ice. The trail connected the Bethel system of trails with the Iditarod system by way of the Crooked Creek-Flat trail. 128/

ANIAK-TULUKSAK TRAIL

Permanently staked by H. Downey in 1924 for \$1,800 under a contract agreement with the Road Commission, this winter mail trail (60 miles) was a cooperative project of the Road Commission and the territory. Shelter cabins were constructed on Swift and Bogus creeks, and during the winter of 1925-26, at the mouth of Ophir Creek. 129/

ANIAK-MARVEL CREEK TRAIL

During the gold rush of 1911, a number of trails were established from the Kuskokwim River to the new diggings on the headwaters of Aniak River. Winter trails to the section started at Napaimiut, Kolmakof, and Aniak. According to one Iditarod reporter, the Napaimiut trail was not only longer than the Kolmakof trail, but was reported to be very dangerous as it traversed wide stretches of open country. As there were no roadhouses on the trail, the reporter warned mushers, they were taking a great risk of being frozen to death if they should encounter storms or other delays on the trail. The Kolmakof route, on the other hand, was shorter by thirty miles, and was located in timber all the way. Claiming that the trail was once a Russian trade route, he stated that prospectors should have no problems on the trail as it was located on level ground. Once they reached the Aniak River, they would find cabins on the trail for shelter.

130/ J. J. Kelly, a prospector, took issue with the reporter's claims, arguing that the Kolmakof route was actually about twenty miles longer than the Napaimiut trail, and was exposed to severe winds in places. While it was true that the Napaimiut trail traversed about fifteen miles of open country before entering the timber on the East Fork of the Aniak River, he said that George Hoffman, the trader at Napaimiut, had already marked this section with stakes and red flags every fifty feet, and that a new roadhouse was under construction on the East Fork. 131/

Apparently the Kolmakof trail became the customary route to Marvel Creek. In the fall of 1912, an Iditarod newspaper announced that plans were underway to put Indians to work in brushing out the trail from Iditarod to the head of Iditarod River and thence to Kolmakof. A year later, it was reported that the

trail from Iditarod to Kolmakof had been used for the past three years with good results. The trail was safe and easy to travel, and was supplied with good roadhouses and cabins. At Kolmakof the trail left the Kuskokwim River to follow the valley of the Aniak River to Spruce City, located twenty miles from Kolmakof and at the head of navigation on the Aniak River. From that place, it was about sixty miles to the diggings. 132/

When the Aniak-Tuluksak district failed to develop as expected, both the Napaimiut and Kolmokof trails fell into disuse. Prospectors working on the headwaters of Aniak and Tuluksak rivers apparently traveled to the district by way of the rivers and Whitefish Lake during the summers and by way of trails from Aniak and Tuluksak during the winters. From Aniak, miners simply followed the Aniak River to Swift Creek, and thence up that creek to the head of Sawpit Creek, before crossing a divide to the head of Bear Creek. Those bound for Marvel Creek continued up Aniak River to Salmon River, and thence up that river to Dominion Creek.

When, in the early 1930s, Chris Dahl and Gus Wilson began hydraulic mining on Marvel Creek, the Aniak River trail became the customary route of winter travel to the mine. The Road Commission was soon asked to consider building a trail from Aniak to Marvel Creek. The subject was first brought to the Road Commission's attention by Alaska Delegate James Wickersham, who had received a letter from Anthony MacDonald of Napaimiut about the subject. The Road Commission declined to undertake the project owing to limited funds. 133/ Later in the summer, however, Hawley Sterling suggested that the Road Commission might help miners on Marvel Creek by effecting repairs on the old Aniak-Tuluksak trail. According to Sterling, Wilson and Dahl had been hauling their supplies

by dog team from Napaimiut to Marvel Creek. They were expecting delivery of a tractor at Aniak soon, and planned to use the tractor on the Aniak River trail, which was shorter in distance than the Napaimiut trail. The route followed the old Aniak-Tuluksak trail for about eight miles, and then continued up the river valley. About ten tons of freight would be hauled over the trail each year. Sterling noted that the first eight miles of the trail needed to be cleared of brush, widened, and the banks of some sloughs cut down. A number of small bridges were needed on the trail beyond the eight-mile point, but Dahl and Wilson proposed to build the bridges themselves. Sterling thus recommended that \$350 be allotted to make the repairs. 134/

Evidently the Road Commission performed the work on the trail, for three years later Fred J. Spach reported the complaints of Dahl and Wilson over the fact that the first ten miles of the trail was "still in a rough condition working a hardship on the sleds when hauling heavy loads." Spach also noted that miners were testing Domionion Creek with a drill, and that if the test results were as favorable as earlier tests, the miners may transport a dredge over the trail the following winter. He thus recommended that the Road Commission allot \$1,500 for repair work on the trail, most of it consisting of hand grading certain spots. 135/ Ike P. Taylor agreed that the project had merit, but that the Road Commission could not consider it without greater funds. 136/

The Road Commission never did make improvements to the tractor trail. Operators working on Marvel Creek with a dredge and draglines continued to use the tractor trail well into the 1970s. 137/

A branch to the tractor trail extends from the Aniak River to Cinnabar Creek in the Holitna River basin by way of Timber Creek and Waterboat Creek. The trail was constructed by the New-York Alaska Gold Dredging Company about 1943 when it was investigating placer ground on Cinnabar Creek. 138/

OPHIR CREEK-BEAR CREEK TRAIL

First reported by Alfred G. Maddren of the USGS, this summer trail extended from Whitefish Lake at the mouth of Ophir Creek to the head of Bear Creek, a tributary of Tuluksak River. The trail followed Ophir Creek to its source in Rockpile Pass, where a short distance beyond the pass the trail forked, one branch leading to the head of Bonanza Creek, the other to the head of Bear Creek. The trail was used by miners working the gravels of Ophir Creek as well as fishermen on the lake who transported whitefish to the Bear Creek mining camp. 139/

KALSKAG-PAIMIUT TRAIL

In November 1843, the Russian explorer Zagoskin investigated the Native trail from Paimiut Village on the Yukon River to Crow Village on the Kuskokwim River. Although "incomparably" longer than the adjacent Yukon-Kuskokwim portage, wrote Zagoskin, Natives preferred to use this route during the first winter months, when snowstorms and blizzards were frequent, as the woods afforded some protection. 140/

Evidently the winter trail was used by many people during the 1920s, for the Alaska Road Commission performed a considerable amount of improvement and maintenance work on the trail. During the winter of 1925-26, Carl F. Lottsfeldt

supervised the location and construction of a new trail (56 miles) from Paimiut to Kalskag. A trail was cut ten to twelve feet wide in timbered sections; large beacons were erected at lake crossings; and arrow pointers were placed on the banks of sloughs. Crossing the trail again in December 1927 with Lars Indegard driving a fifteen-dog team, Lottsfeldt recommended that the trail be relocated in the timbered section near Paimiut with a view to reducing the trail distance, and eliminating the need to travel on sloughs which overflowed badly. In addition, he recommended that new tripods be erected as many of the old tripods had been destroyed in a "tundra fire." The Road Commission adopted the recommendations, and performed the work in the following winter. The trail distance was reduced by three miles as a result of the relocation. Lottsfeldt performed additional work on the trail during the winter of 1929-30, principally staking the larger lakes on the route. 141/

From admittedly limited information, it appears that the trail was heavily traveled during the 1930s. In March 1935 Fred J. Spach wrote to the Juneau office of the Alaska Road Commission that he had received a request to clear and stake a thirty-mile winter trail from Aniak to Paimiut. Observing that nearly every Native family in Aniak was interested in a reindeer herd in the vicinity of Paimiut, and every winter hauled at least one hundred reindeer carcasses from Paimiut to Aniak by way of Kalskag, Spach wrote that construction of the proposed trail would save the Aniak people a day's travel. The Kalskag-Paimiut trail "would still be traveled extensively" if the proposed trail was adopted. The Road Commission rejected the proposal with the comment "not now." 142/

TULUKSAK-BEAR CREEK TRAIL

Prior to 1925 miners on Bear Creek devoted a considerable amount of time each winter to sledding their supplies for the year to Bear Creek from Bethel and Kolmakof, about 115 miles and fifty-five miles distant, respectively. Most supplies for Bear Creek were obtained from Bethel. According to Alfred G. Maddren of the USGS in 1914, freight hauled from Bethel on reindeer-drawn sleds cost about five cents a pound, the same charge for hauling freight from Kolmakof with dog teams. 143/

During the winter of 1925-26, the New York-Alaska Gold Mining Company with the assistance of the Alaska Road Commission constructed a thirty-two-mile trail from Tuluksak to mining operations on Bear Creek. The trail was cut ten feet wide in timbered sections, and marked with tripods in open country. In addition, a sixty-four-foot bridge was constructed over Birch Creek Slough. In the fall of 1927, a new cabin was built at the foothills on the trail, fifteen miles from the Bear Creek camp or eleven miles from the Upper Landing. 144/

UPPER LANDING-BEAR CREEK ROAD

This sled road (26 miles) extended from the head of navigation on Tuluksak River to mining operations on Bear Creek. Constructed by the New York-Alaska Gold Mining Company with the assistance of the Alaska Road Commission in 1928 or 1929, the road was suitable for the use of tractor-drawn wagons during the summer and bobsleds in the winter. 145/ In 1928, according to the Alaska Road Commission, 98 people, 46 wagons, and 20 tons of freight went over the road. In the following year, 196 people, 43 wagons, 16 sleds, and 75 tons of freight passed over the route. 146/

In the summer of 1932, Wilfred Reno of the Alaska Road Commission performed maintenance work on the road, and constructed four bridges. Hawley Sterling inspected the road that summer, and reported that additional work was needed. The first two and one-half miles of the road from the Upper Landing traversed open "mossy tundra." This section of the road was difficult to traverse with a tractor, but according to Sterling the road could not be relocated and the cost of laying corduroy on that section was too expensive, about \$20,000. Beyond the two-and-one-half-milepost, however, there were several short sections aggregating one-half mile that required corduroy. Observing that the company operated one twenty-ton and one sixty-ton tractor on the road, hauling approximately eight hundred tons each year, the bulk of it during the winter, Sterling believed that wagons or buckboards could be taken over the road, but only with great difficulty. He estimated the cost of improving the road for the use of buckboards or caterpillars to be about \$10,000, which did not take into account the first two and one-half miles of the road. He recommended that corduroy be laid on the short sections and that tripods be erected on the route for winter traffic. 147/

TULUKSAK-BETHEL TRAIL

Originally extending from Akiak to Bethel, a distance of about twenty-six miles, this winter mail trail was marked by John Lundstrom under a contract agreement with the Alaska Road Commission during the winter of 1921-22. Inspecting the work on behalf of the Road Commission, Earle M. Forrest of Akiak reported that Lundstrom erected twenty-two beacons and eighteen tripods, cut down thirteen approaches, cleared six miles of the trail twelve feet wide, and relocated several section of the trail. He recommended the construction of a bridge, about sixty

feet long, across a deep creek on the trail. 148/ The Road Commission approved the request, and in October 1922 awarded a contract to Wilfred Reno to construct the bridge. Reno constructed a seventy-two-foot bridge on the trail sometime that winter for \$395. 149/

In the spring of 1924, forty-four residents of Bethel petitioned the territory for the construction of a footbridge across East Bethel slough and a bridge across the slough on the first portage on the winter trail. They asked for a footbridge six feet wide with at least a twenty foot span and one-hundred-foot approaches on either side. The other bridge should be about twelve feet wide with a fifty-foot span. The petition was referred to the Road Commission, which decided that the footbridge was a local matter that should be constructed by Bethel residents themselves. However, it agreed to cooperate with the territorial road commission in the construction of the other bridge. In August 1925, Ross J. Kinney reported from Bethel the completion of the bridge, consisting of one thirty-foot span and two thirty-five-foot spans, over Bethel Slough on the winter mail trail. 150/

About 1927 the Road Commission assumed responsibility for maintenance work on the Bethel-Tuluksak trail, about forty-four miles long which included the Bethel-Akiak trail. During the winter of 1926-27, Wilfred Reno graded seven stream bank crossings; erected twelve tripods between Akiak and Bethel and six tripods between Tuluksak and Kalskag; and cleared about a mile of the trail above Tuluksak. 151/ Nearly every year the Road Commission provided for the staking of the trail on the Kuskokwim River ice and other maintenance work. The trail from Akiak to Tuluksak was located on the Kuskokwim River ice.

AKIAK-RUSSIAN MISSION TRAIL

This winter mail trail (75 miles) extended from Akiak on the Kuskokwim River to Russian Mission on the Yukon River by way of Tundra (or Big George's) and Phillip's, Native cabins located on Johnson River. A branch trail known as Bennett's Cutoff (18 miles) extended northwesterly from Tundra George to Ohagamiut on the Yukon River.

The Alaska Road Commission was petitioned to improve the trail as early as 1921. T. W. Cody, a deputy U.S. Marshal on the lower Yukon River, wrote that the mail carrier went over the trail twice a month, and that he himself had crossed the trail with witnesses. As the trail passed through a "stormy belt" where men had lost the trail and some their lives, Cody wrote, the trail needed to be marked, particularly that section on barren tundra, from Bennett's Point to Johnson Creek (Johnson River). A cable suspension bridge was also needed on Johnson River, which was about 150 feet wide at the trail crossing. The river did not freeze until late in the fall, glaciated badly in the winter, and was the first to open in the spring. In addition, the four-mile section of the trail from Johnson River to Tundra George's cabin needed to be staked. From this Native's cabin, the trail extended to Phillip's brother's cabin, about twenty-two miles; to Phillip's cabin, about ten miles; and to Ohagamiut, about fourteen miles. 152/

The Alaska Road Commission advertised for bids for work on the trails during the summer of 1922. The prospective contractor was to erect tripods ten feet high at intervals of two hundred feet except across water surfaces; erect beacons with directing arms twelve feet high at lake edges; cut down banks at points of ingress and egress from lakes and rivers; cut a trail twelve feet wide

through brush and timber; and finally construct shelter cabins at Phillip's and Big George's, both cabins to include stoves and stovepipes. The Road Commission subsequently awarded a contract to Joseph Cheney of Akiak to perform the trail work for \$1,900; and a contract to J. F. Demandel of Bethel to construct the shelter cabins for \$1,000. 153/

In March 1923, Earle M. Forrest went over both trails to inspect the work. Writing to the Road Commission on March 27, Forrest stated that Cheney had accomplished the work to his satisfaction. He counted 421 beacons and tripods. However, Forrest was not prepared to endorse Demandel's work, as he had simply purchased the Tundra George cabin and the Phillip Igloo and put in floors, windows, and stoves. The commission was nevertheless satisfied with these improvements, and paid Demandel \$425 for the work. 154/

The Road Commission did not perform additional work on the trails until 1927. In January and February of that year, Wilfred Reno under contract to the Road Commission repaired or replaced the tripods and beacons on the trails, and in addition widened the trail through eleven miles of brush. According to Earle M. Forrest, the trail was "in very good shape." 155/

AKIAK-CANYON CREEK TRAIL

In 1922, miners on Canyon Creek, a tributary of the Kwethluk River, appealed to the Territory for the improvement of the winter trail from Akiak to their properties. According to their spokesman, Ed Smith, bridges needed to be constructed across several tributaries of the Kisaralik River, seven and ten miles from Akiak, the Kasigluk River about fifteen miles from Akiak, and

especially Crooked Creek. Natives, reindeer herders, and miners using the trail in the spring and fall had great difficulties in crossing the streams. Sometimes, during a warm spell in the winter, people had to wait for days before they could cross the tributaries of the Kisaralik River and the Kasigluk River. Smith recommended the construction of cable suspension bridges on the three lower streams and the installation of a ferry boat on Crooked Creek.

156/

The territorial road commission referred the miners' petition to the Alaska Road Commission. Considering the petition as well as a letter from Herman W. Reeth, who protested any plans for a bridge across Kisaralik River that would obstruct navigation and advocated development of a year-round trail to Canyon Creek by way of the Kisaralik River valley, the Road Commission eventually decided to install ferry boats on the Kisaralik and Kushluk rivers for the use of travelers on the trail. 157/

The subject of the trail was not raised again until 1937, when Reeth wrote to the territorial road commission for assistance in constructing bridges across creeks on the Akiak-Canyon Creek route via the Kisaralik River valley. The territorial road commission promptly referred the matter to the Alaska Road Commission. Responding to an inquiry from the Road Commission about the trail, H. M. Hansen, who was said to have property on Canyon Creek, stated that the trail to Canyon Creek, about eighty-five miles in distance, began on the south side of the mouth of the Kisaralik River. From that point the trail followed an easterly course for about thirty miles to Columbia Creek, and thence up that creek to its head, and thence around the head of Johnson River to Crooked Creek, which was about fifteen miles from Canyon Creek. Crooked

Creek was the only stream on the route where a bridge was needed, he claimed. Having measured the width of the creek in 1936 and again in the summer of 1937, he believed that the bridge should be seventy-five feet long. He added that the Anderson brothers of Akiak, virtually the only operators on Canyon Creek since 1914, never transported more than one and one-half tons of freight over the trail. In the early days, they used reindeer to haul freight, later dogteams, and more recently airplanes at the rate of five cents per pound.

158/

The Road Commission decided not to give the trail further consideration until mining operations in the area developed to a greater extent and provided funds were available. 159/ So far as is known, the Road Commission never improved the trail.

BETHEL-RAINY CREEK TRAIL

During the 1940s, miners on Rainy Creek, a tributary of the North Fork Eek River, transported supplies and equipment to their placer ground by tractor from Bethel at an average cost of \$40 a ton. The route of the winter tractor trail, about 120 miles in distance, is not definitely known. It may have included either a part of the Akiak-Canyon trail or the Aniak-Marvel Creek trail. In any case, it is known that the trail extended southerly from Canyon Creek to Rainy Creek.

Ordinarily the miners traveled to Rainy Creek by airplane. A landing strip suitable for small airplanes was constructed sometime in the early 1940s on the right limit of the river about two miles above the mouth of Rainy Creek. A tractor trail, four miles long, extended from the strip to the mining camp.

According to the U.S. Bureau of Mines in 1945 and 1946, a prospecting outfit including two tractors (a D-2 and a D-6) went from Goodnews Bay to Bethel via Rainy Pass, Canyon Creek, Cripple Creek, and Aniak. In the summer of 1947, a government crew used a part of this trail when moving equipment from Cripple Creek to Rainy Creek. 160/

BETHEL-NUNACHUK TRAIL

In 1934 or 1935, certain residents of Bethel, using public works funds, erected tripods on the winter trail to Nunachuk and Nunapitchuk, two villages with schools on Johnson River. According to H. M. Hansen, who went over the thirty-five-mile trail sometime in the winter of 1935-36 and again in the winter of 1936-37, most of the tripods collapsed not long after they had been erected. Considering Hansen's proposal to stake the trail during the winter of 1936-37, the Alaska Road Commission intended to solicit bids for the trail work. It is not presently known, whether a request for bids was issued and the work performed. 161/

BETHEL-KINAK TRAIL

In early 1937, H. M. Hansen proposed to the Alaska Road Commission to stake the Johnson River-Kinak portion of this trail at \$32 per mile, and to construct a shelter cabin on the trail for \$500. Again, it is not presently known whether a request for bids was issued and the work performed. 162/

BETHEL-QUINHAGAK TRAIL

Under a contract agreement with the Alaska Road Commission, Alex Hatelly improved work on this winter mail trail (90 miles) during the winter of 1921-22.

Inspecting the trail in the spring of 1922, Earle M. Forrest of Akiak reported that Hately had erected eighty-nine beacons and 296 tripods, as well as ten stakes across a large lake, in addition to clearing less than a mile of trail, and cutting down two approaches. Between Lomavik and Eek there was a sharp bend in the trail as a result of the contractor locating the trail on land rather than on the frozen lakes. According to Forrest, it was difficult to see across the big lakes except on very clear days, so Hately properly located the trail to the north where there were few lakes. 163/

Additional work was performed on the trail by Wilfred Reno in the winter of 1926-27. During the months of February and March 1927, Reno performed necessary maintenance work on the trail and in addition relocated and staked fifty-three miles of the trail between Lomavik and Kuskokwak Creek. The new route was located on lakes as much as possible. The old route had been located on high ground which was usually bare of snow for much of the winter. Following an inspection of the work, Forrest wrote that the trail was in "good shape" as far as Kuskokwak Creek, but the remainder of the trail required further work, which he estimated would cost \$300. 164/

It is presently unknown whether the commission provided for additional improvements on the trail in 1927. During the winter of 1927-28, Carl F. Lottsfeldt went over the trail, and reported that it was "in good condition, well marked and tripoded the entire distance. Beacons have been placed on the edge of all the larger lakes." 165/ Each winter the commission allotted funds for the erection of stakes across the lakes.

In December 1931 or January 1932, much of the trail between Apokak and Goodnews Bay was damaged by high tides. H. M. Hansen went over the trail in January

and reported to Fred J. Spach that cakes of ice were found as much as three miles inland. A shelter cabin on the trail was completely submerged in water and partly damaged by ice cakes. Hansen recommended that the trail be relocated inland about four miles, and that a cabin at Warehouse Creek be constructed. 166/ Several years later, local residents appealed for the construction of a bridge across a slough or creek located on the trail about three miles below Eek. According to T. R. Conquest of Apokak, it was impossible to cross the waterway at times owing to tidewater backing up into the creek after freezeup and during soft spells. Travelers sometimes had to wait for days before they could cross the waterway. Charles B. Michael, a Moravian missionary at Quinhagak, confirmed the need for the bridge, observing that one year he had to wade through three and one-half feet of water and at another time broke through the ice and "got a good ducking." 167/

During the winter of 1934-35, H. M. Hansen restaked the Apokak-Goodnews Bay trail, and measured the width of the creek for a bridge. He determined that a bridge with a span of 110 feet from center to center of towers would be required. The only suitable bridge site was located on the slough about one thousand feet downstream from the regular trail crossing. There was no question that the bridge was needed, wrote Hansen; the "slough is a tough one when the extremely high tides are in or heavy rain and can't be crossed for several days at a time." From his personal experience as a mail carrier on the trail for two years, Hansen knew "the dam place" well. There used to be "a couple of igloos" on the banks of the slough where he could find shelter. When the tide was in, Natives would meet him with a boat, "but now if the water happens to be in it [it] is either swim or go back to Apokak, sometimes for a long stay."

A considerable number of people used the trail between Eek, Apokak, and Quinhagak, also between Eek and a Native fish camp at the mouth of Eek River, Hansen stated. 168/

Probably because of its projected cost, the bridge was never constructed. Fred J. Spach estimated that the bridge over the slough would cost \$4,000. 169/

QUINHAGAK-GOODNEWS BAY TRAIL

Following the coast of Kuskokwim Bay and Goodnews Bay, this winter mail trail (60 miles) was staked by H. M. Hansen under a contract agreement with the Alaska Road Commission in the winter of 1923-24 for \$2,300. In addition, Hansen constructed two shelter cabins on the trail--one at Jacksmith Bay and one at the mouth of Indian River--at a cost of \$1,200. 170/

Little additional work was performed on the trail until the early 1930s, when the number of people using the trail increased as a result of renewed mining activities in the Goodnews district. After going over the trail in the winter of 1929-30, Carl F. Lottsfeldt wrote, "this trail will soon need considerable tripoding as the present marking is beginning to rot away, at the present four or five tripods to the mile should be placed." 171/ In 1933, Edward St. Clair of Goodnews Bay reported that tidewater had washed away some of the tripods. The Carter Bay shelter cabin had tilted to such an extent that it could no longer be used. 172/

Owing to limited funds, the Road Commission was unable to have any work done on the trail until the winter of 1934-35. At that time, H. M. Hansen staked the trail with pipes. 173/

KAGATI LAKE ROAD

During the late 1950s, a tractor road about eight miles long was constructed from Kagati Lake to platinum prospects to the northeast. 174/

AROLIC RIVER ROAD

When, in the summer of 1926, Frank Holzheimer of the USGS traveled to the lower Kuskokwim area, he met James G. Steese, president of the Alaska Road Commission who asked him for any suggestions he might have regarding the need for roads in the area. Following an investigation of mining developments on the upper Arolic River in September 1926, Holzheimer informed the Road Commission that local miners may soon request its assistance in the construction of a road from Quinhagak to the upper Arolic River. According to Holzheimer, a company to be known as the Arolic Dredging Company had been prospecting in the area with a view to installing one or two dredges to work Kowkow, Butte, Trail and Faro creeks as well as Arolic River. If the tests proved favorable, the company may want to have a road, about twenty-five miles in length, constructed from the mouth of the north fork of the Arolic River to the proposed dredge camp on Kowkow Creek, following the left limit of the south fork across Boulder, Minnesota, and Trail creeks. From the mouth of the north fork to Arolic Gap, a point just south of the native house north of Boulder Creek, the road would traverse a "rolling tundra area, underlain by gravel bars" with slight grades. From Arolic Gap to Kowkow Creek, it would be necessary to strip moss and construct about five small bridges about ten feet in length on the average. Faro Creek, about twenty feet wide, would require a longer bridge.

The adoption of this route, wrote Holzheimer, would allow for an extension of the road someday to Goodnews Bay by following Faro Creek to its head, and thence across Faro Creek and the head of Cripple Creek to Barnum Creek, and thence to Indian River, Beluga Peak, and Goodnews Bay. Another possible route that should be investigated extended from Jacksmith Bay along the foothills to the head of Cripple Creek, and thence to Faro Creek. A third possible route was the south fork of Arolic River. The miners had given thought to diverting the waters of the south fork into the north fork, and then utilize the gravel streambed of the south fork as a road. Owing to the crooked course of the river, Holzheimer believed this plan to be impracticable. The south fork would, however, be a good source of gravel for road construction, he wrote.

175/

The Road Commission did not seriously consider the possibility of constructing a road to upper Arolic River until 1939. Then cooperating with the territory in constructing a road from Platnium to the upper Salmon River, the Road Commission proposed to send a man to the area to locate a route for the road. However, the territory authorized Edward Olson of Goodnews Bay to make the location, and authorized an allotment of \$5,000 for the proposed project. At that time two routes were under consideration: one from the mouth of Barnum Creek, to which point water transportation was possible, to Faro Creek; and one from Beluga Hill to Faro Creek, presumably following the foothills and the North Fork of Indian River. 176/ It is not known whether either route was adopted.

GOODNEWS-WATTAMUSE CREEK TRAIL

U. S. Geological Survey maps dated 1920 and 1951 illustrate a trail extending along the right limit of Goodnews River from Goodnews Village to Barnum Village,

and thence to Wattamuse Creek. It is presently unknown whether the trail was used in summer or winter, or year-round. 177/

GOODNEWS-TOGIAK TRAIL

From Goodnews Village this winter mail trail (60 miles) followed the South Fork of Goodnews River to nearly its head where the trail went over a low divide and continued easterly to cross Matogak and Quigmy rivers, and thence to Togiak Village at the mouth of Togiak River. The trail was staked by W. M. Noden for \$1,500 during the winter of 1923-24 under a contract agreement with the Alaska Road Commission. Two shelter cabins were also constructed on the trail: one on the South Fork of Goodnews River and another on Quigmy River. In late January 1924, Raymond Replogle, a teacher at Goodnews, and Charles Thorsen, a local miner, went over the trail, and "found everything in fair condition." The journey to Togiak required three days; and the return trip to Goodnews, two days. 178/

In the winter of 1927-28, Carl F. Lottsfeldt went over the trail and found it to be "far below standard and without a guide...nearly impossible to follow." He wrote that there were no tripods (simply willows tied at the top with rope) on the first four miles of the trail from Goodnews Village, and few were seen on the remainder of the trail. If the Road Commission desired to maintain the trail, Lottsfeldt recommended that the trail be marked with pole tripods, a project that would cost about \$3,000. 179/

Evidently the Road Commission declined to expend such a large sum on a remote trail. Going over the trail again in the winter of 1929-30, Lottsfeldt wrote,

"This trail is very poorly marked but due to the small travel over this route it does not warrant a large expenditure to bring it up to standard." 180/

PLATINUM ROAD

Placer mining operations on Salmon River have long been served by trail from Goodnews Village and later from Platinum. The Alaska Road Commission first considered the transportation needs of the miners in the area in 1932. In that year Hawley Sterling reported that H. M. Hansen had been requested, presumably by local miners, to mark a trail with tripods from Goodnews Village to Platinum Creek, a distance of about fourteen miles, and in addition to construct two cable suspension bridges of about forty-foot span for the use of pedestrians and dog teams. Sterling did not describe the route of the trail, but noted that about five miles of it was located on the old Goodnews-Togiak trail, and that much of it was located on the mud flats. Sterling recommended that the trail be improved by Hansen during the course of his work on the Apokak-Goodnews trail; he estimated that the work would cost about \$3,000. 181/

The Road Commission agreed to allot funds for the Platinum Creek trail. However, Sterling was persuaded by new developments on Platinum Creek to change his recommendations. On June 1, 1933, he traveled to the area in an airplane. The airplane landed on Kuskokwim Bay opposite the head of Platinum Creek. Crossing a six-hundred-foot divide to Platinum Creek, he visited the miners in the area and followed the summer trail to Goodnews village, or as it was then known, Mumtrak. According to Sterling, the greatest need on the summer trail was for bridges across the tidally influenced creeks. The miners did not believe that tripods should be placed on the trail except possibly for a

four-mile stretch on the mud flats to the foot of a hill. At Mumtrak the miners crossed Goodnews River in a boat. From the south bank of the river, the trail "follows a gravel spit about 20 feet wide which has been thrown up by storms and which separates the mud flats of the bay from the low, swampy ground adjoining the bay This spit is followed around the bay for 4 miles, where the trail takes to a gravel ridge and follows thru a couple of low passes on high ground to Salmon River into which all of the placer bearing creeks flow." Except for several small gullies and three creeks, the miners had no problems in walking from the village to the diggings. The three creeks were tidally influenced and being full of "slimy mud" nearly impossible to wade across. Sterling attempted to have two of the creeks bridged, but found that the costs would far exceed the benefits. Given the cost of labor and the shortage of timber in the area, Sterling recommended that suspension bridges for Mud and Reindeer creeks be shipped to the area. In addition, a shelter cabin should be built on Reindeer Creek, located about five miles from the village.

An alternative and shorter route to the diggings ran from the mouth of Small River over the hill to Clara Creek. The route was suitable for the location of a road, and good landings for boats could be had at the mouth of Small River. This route would come into use, Sterling believed, once a post or store was established near the mouth of the river. 182/

Pressures to adopt the alternative route developed as large-scale mining began on Salmon River. In the fall of 1933, the Alaska Traders, Inc. constructed a general store at the mouth of the Small River. According to Sterling, who returned to the area in July or August 1934, the Northland Development Company landed on July 10 about 340 tons of freight at the South Spit of Goodnews Bay.

From that point the company moved all supplies except twenty or thirty barrels of oil around the beach and up Salmon River by tractor, a distance of about twenty miles. Sterling, M. C. Edmunds, and Fred J. Spach went over the proposed route for a tractor road from the south spit to Clara Creek, a distance of about eight and one-half to nine miles. Sterling thought a good tractor road could be built for about \$2,600 per mile or a good narrow truck road for about \$7,600 per mile. The company had not yet decided whether it wanted to invest in an airplane or in the road. In any case, Sterling informed the company that the Road Commission would cooperate in building the road, provided the location of the road was satisfactory to the commission. Spach subsequently surveyed a nine-mile road from the south spit to Platinum Creek. 183/

For the next several years, miners on Salmon River used tractors to haul supplies and equipment on the Platinum-Clara Creek route during the winter months and on Platinum-Mouth Salmon River route during the summer months. Despite appeals of the miners to improve the road for summer use, the Road Commission lacked the funds for the project. As Hawley Sterling explained to R. W. Vinnedge, the Road Commission's funds were sufficient to maintain existing roads only. 184/

Upon learning that a dredge was to be installed on Salmon River in the summer of 1937, the Road Commission instructed Fred J. Spach to determine the cost of constructing a tractor road over the route that he had tentatively selected in 1934, and the extent to which the mining companies would cooperate in the construction project. Arriving at Salmon River in late May, Spach spent several days inspecting the mining operations, interviewed Ed Olsen of the Goodnews Bay Mining Company and Bill Strandberg of the Clara Creek Mining Company,

and located a tractor road route to the Salmon River valley. Spach learned from Olsen that his company was soon expecting the arrival of a new RD8 with bulldozer which the Road Commission could use for tractor road construction in the latter part of July. By that time the dredge materials would be installed on Salmon River near the mouth of Squirrel Creek. 185/

During the summer of 1937, the tractor road from Platinum to Clara Creek was evidently improved for summer use by one of the mining companies with the financial assistance of the territory. The route of the road was the same one selected by Spach in May. The road became the principal overland route to mining operations on Salmon River. In subsequent years, as the dredge moved down Salmon River, the road was also extended down the river valley. By 1957, the road had been extended to a point several miles north of Quartz Creek. 186/

Chapter Seven -- Roads and Trails

1. Tom Odale, "Some Alaskan Adventures," The Alaska Journal 4 (Winter 1974): 43-44, 46.
2. Walter L. Goodwin to Alaska Road Commission, April 16, 1908, Historical Documents Geologic File, U.S. Geological Survey, Menlo Park, California, hereafter referred to as USGS Records.
3. U.S. Board of Road Commissioners for Alaska, Report . . . (Washington, D.C.: Government Printing Office, 1910), p. 6.
4. W. E. Priestley, "The Kuskokwim River -- Alaska's Neglected Highway," Alaska-Yukon Magazine 8 (July 1909): 282.
5. D. H. Sleem, "Great Kuskokwim, A New Land of Promise," Alaska-Yukon Magazine 10 (November 1910): 299.
6. Iditarod Pioneer, July 31, 1910.
7. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
8. Iditarod Nugget, October 26, 1910.
9. Iditarod Pioneer, February 25, 1911.
10. Ibid., December 28, 1910, January 22, 1911.

11. Ibid., January 22, 1911.
12. Iditarod Nugget, December 28, 1910, February 22, March 1, March 22, 1911.
13. Ibid., March 22, 1911; Iditarod Pioneer, February 25, 1911.
14. Iditarod Nugget, March 1, 1911.
15. Ibid., May 17, June 28, July 12, 1911; Iditarod Pioneer, July 8, 1911; U.S. Board of Road Commissioners for Alaska, Annual Report 1911 (Washington, D.C.: GPO, 1912), p. 15.
16. Seward Weekly Gateway, October 21, 1911.
17. Iditarod Pioneer, December 2, 1911.
18. Ibid., December 23, 1911.
19. Ibid., January 13, 1912.
20. Seward Weekly Gateway, January 27, 1912.
21. J. L. McPherson, "Report of Kuskokwim Reconnaissance" in "Report of Alaskan Engineering Commission," February 11, 1915, p. 192, Box 146492, Records of the Alaska Railroad, Record Group 322, Federal Records Center, Seattle, Washington.

22. Seward Weekly Gateway, January 10, 1914; Cordova Daily Alaskan, January 21, 1914; Iditarod Pioneer, March 21, 1914.
23. Ibid., October 31, 1914.
24. Ibid., November 28, December 29, 1914.
25. Iditarod Pioneer, August 7, October 30, November 13, 1915.
26. Harry E. Revell to Anton Eide, July 9, 1915, Anton Eide to Captain Glen E. Edgerton, September 26, 1915, file 13/58-1, Box 65479, Records of the Federal Highway Administration Record Group 30, Federal Records Center, Seattle, Washington.
27. O. G. Herning to Antone [sic] Eide, January 6, 1919, A. Eide to Major W. H. Waugh, January 21, 1919, Anton Eide to Major W. H. Waugh, April 26, 1919, file 38/58-1, Box 65479, RG 30.
28. R. Knox to Thomas Riggs, Jr., November 1, 1919, General Correspondence of the Alaskan Territorial Governors, National Archives Microfilm Publication M939, roll 60, frames 736-747.
29. Governor Thomas Riggs, Jr., to Maurice D. Leehy, October 6, 1919, Iditarod Commercial Club to Thomas Riggs, October 21, 1919, Riggs to Iditarod Commercial Club, October 22, 1919, General Correspondence of the Alaskan Territorial Governors, roll 60, frames 750-753. See also Thomas Riggs to W. F. Green, May 30, 1920, roll 71, frame 956.

30. Kusko Times, January 19, 1921.
31. Kusko Times, February 9, 1921.
32. Gotwals to ARC, February 23, 1921, file 13/58-2, Box 65479, RG 30.
33. Kusko Times, June 29, October 5, 1921; D. E. Stubbs to Governor of Alaska, June 15, 1921, Steese to Gov. Bone, September 15, 1921, Bone to Sutherland, September 29, 1921, General Correspondence of the Alaskan Territorial Governors, roll 82, frames 558, 570, 587.
34. Kusko Times, October 18, 1922; Captain C. S. Ward to D. E. Stubbs, July 27, 1921, file 13/58-2, Lukens to ARC, July 17, 1922, file 13/58-9, Box 65479, RG 30.
35. U.S. Board of Road Commissioners for Alaska, Report . . . Part II (Juneau: Alaska Daily Empire Print, 1922), p. 17; Kusko Times, December 30, 1922.
36. Kusko Times, September 9, 1922.
37. John Gotwals to Governor Scott C. Bone, September 25, 1922, Gov. Scott C. Bone to W. C. Van Dervoort, September 25, 1922, General Correspondence of the Alaskan Territorial Governors, roll 93, frames 381-383.
38. Kusko Times, September 1, 1923.

39. Alice T. Lynch, "Preliminary Inventory of Cultural Resources Along the Iditarod Trail; Rainy Pass and Unalakleet," 1978, unpublished report in writer's possession.
40. Ibid.
41. Josiah Edward Spurr, "A Reconnaissance in Southwestern Alaska in 1898," U.S. Geological Survey, Twentieth Annual Report . . . 1898-1899, Part VII (Washington, D.C.: GPO, 1900), p. 96.
42. Joseph S. Herron, Explorations in Alaska, 1899, For An All-American Overland Route from Cook Inlet, Pacific Ocean, to the Yukon, U.S. War Department, Adjutant General's Office, No. 31, 60th Cong., 2d sess., S. Doc. No. 689 (Washington, D.C.: GPO, 1909), map.
43. Iditarod Nugget, March 15, 1911; Iditarod Pioneer, March 13, 1915.
44. Kusko Times, January 19, 1921.
45. Kusko Times, February 9, 1921.
46. Kusko Times, February 1, 1922, April 19, 1922.
47. U.S. Board of Road Commissioners for Alaska, Annual Report . . ., Part II (Juneau: Alaska Daily Empire Print, 1922), pp. 63-64; and Annual Report . . ., Part II (Juneau: Alaska Daily Empire Print, 1924), pp. 105-106.

48. Kusko Times, March 8, 15, 1922.
49. Kusko Times, December 6, 1922.
50. Ibid.
51. Ibid.
52. Kusko Times, December 27, 1922.
53. Kusko Times, December 13, 1922.
54. Kusko Times, January 27, February 14, 1923.
55. Kusko Times, November 10, December 8, 1923, January 5, 1924.
56. Kusko Times, January 27, September 1, November 14, 1923, February 16, 1924, April 17, 1926.
57. U.S. Board of Road Commissioners for Alaska, Annual Report . . .
Part II (Washington, D.C.: GPO, 1932), p. 19.
58. Kusko Times, January 14, 1933.
59. Alfred G. Maddren, The Innoko Gold Placer District, Alaska, With
Accounts of the Central Kuskokwim Valley and the Ruby Creek and
Gold Hill Placers, U.S. Geological Survey Bulletin 410 (Washington,
D.C.: GPO, 1910), pp. 34-35.

60. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
61. Iditarod Nugget, October 26, 1910.
62. Iditarod Pioneer, August 4, 1917.
63. W. F. Green to J. F. A. Strong, February 21, 1917, General Correspondence of the Alaskan Territorial Governors, roll 44, frames 383-390.
64. Iditarod Pioneer, August 4, 1917.
65. U.S. Board of Road Commissioners for Alaska, Report . . .
(Washington, D.C.: GPO, 1921), p. 2098.
66. Kusko Times, February 19, 1921; President, Alaska Road Commission to Territorial Treasurer, August 1, 1921, General Correspondence of the Alaskan Territorial Governors, roll 82, frame 439.
67. Kusko Times, October 21, 1922, August 25, 1923, April 25, December 5, 1925, May 29, 1926.
68. T. M. Reed to Hazel Barker, November 7, 1923, Thomas M. Reed Papers, University of Alaska Archives, Fairbanks.
69. A. H. Brooks, et al., Mineral Resources of Alaska in 1922, U.S. Geological Survey Bulletin 755 (Washington, D.C.: GPO, 1924), p. 43.

70. Ross Kinney to Oliver, August 10, 1925, file SP-1 Takotna 13/159-5, Box 65432, RG 30.
71. See annual reports of Alaska Road Commission for pertinent years.
72. Kusko Times, October 2, 1926.
73. Kusko Times, February 9, 1921; U.S. Board of Road Commissioners for Alaska, Annual Report . . ., Part II (Juneau: Alaska Daily Empire Print, 1924), p. 132; U.S. Board of Road Commissioners for Alaska, Annual Report . . ., Part II (Juneau, 1929), p. 119.
74. Kusko Times, July 19, 1930.
75. John B. Mertie, Jr., Mineral Deposits of the Ruby-Kuskokwim Region, Alaska, U.S. Geological Survey Bulletin 864-C (Washington, D.C.: GPO, 1936), pp. 127-129.
76. Fred J. Spach to Alaska Road Commission, August 24, 1933, Ike P. Taylor to Stanley J. Nichols, et al., September 25, 1933, file 13/168-3, Box 65638, RG 30; Kusko Times, October 7, 1933.
77. Edward W. Griffin to Frank Speljack, et al., July 13, 1936, file 13/168-4, Box 65638, RG 30.
78. Kusko Times, March 19, 1937.

79. Ike P. Taylor to Fred J. Spach, April 20, 1937, Hawley Sterling to Ike P. Taylor, July 15, 1937, Ike P. Taylor to Fred J. Spach, July 19, 1937, file 13/168-4, Box 65638, RG 30.
80. Ike P. Taylor to Fred J. Spach, July 15, 1938, file 13/168-4, Box 65638, RG 30.
81. Iditarod Pioneer, June 10, 1916; W. F. Green to J. F. A. Strong, February 21, 1917, see note 63 above.
82. "Annual Report of the Fourth Divisional Road Commission for the Year Ending December 31, 1918," General Correspondence of the Alaskan Territorial Governors, roll 69, frame 293.
83. McKinnon to Riggs, September 22, 1920, General Correspondence of the Alaskan Territorial Governors, roll 79. McKinnon noted that the bridge must be reconstructed as three dredges for the Innoko district were to be transported over the route in the winter of 1920-21.
84. Kusko Times, July 7, 1923, November 14, 1925, February 5, 1927.
85. U.S. Board of Road Commissioners for Alaska, Annual Report . . ., Part II (Juneau: Alaska Daily Empire Print, 1923), p. 85; U.S. Board of Road Commissioners for Alaska, Annual Report . . ., Part II, (Juneau: Alaska Daily Empire Print), p. 130.
86. R. D. Menzie to ARC, January 20, 1925, file 13/151, Box 65637, RG 30.

87. Grenold Collins to H. W. Terhune, September 14, 1932, file 13/168-2, Box 65638, RG 30.
88. Fred J. Spach to Ike P. Taylor, July 5, 1937, file 13/168-2, Box 65638, RG 30.
89. Hawley J. Sterling memorandum, November 12, 1938, file 13/159-180, Box 65431, RG 30.
90. M. C. Edmunds to Ike P. Taylor, January 8, 1947, file 20/A, Box 65429, RG 30.
91. E. J. White to William J. Niemi, December 27, 1951, file 20/A, Box 65429, RG 30.
92. See Chapter 3, p. 114.
93. Kusko Times, June 18, 1921.
94. G. C. Martin, Gold Lodes in the Upper Kuskokwim Region, U.S. Geological Survey Bulletin 722-E (Washington, D.C.: GPO, 1922), p. 152.
95. John S. Brown, "The Nixon Fork Country" in P. S. Smith, et al., Mineral Resources of Alaska in 1924, U.S. Geological Survey Bulletin 783 (Washington, D.C.: GPO, 1926), p. 98.

96. See annual reports of Alaska Road Commission for pertinent years.
97. Kusko Times, August 12, October 7, 1933.
98. Anton Eide to Alaska Road Commission, August 18, 1910, USGS Records.
99. Iditarod Pioneer, August 5, 9, 1911.
100. Iditarod Nugget, October 26, 1910; Iditarod Pioneer, October 30, 1915.
101. John B. Mertie, Jr., Fieldbook No. 425, USGS Records.
102. Cecil Barlow to Col. James G. Steese, June 30, 1922, Cecil Barlow to ARC, January 1, 1924, file 13/58-10, Box 65479, RG 30.
103. USGS, Lime Hills Quadrangle, 1958, scale 1:250,000; USGS, Sleetmute Quadrangle, 1954, scale 1:250,000.
104. Ibid.; USGS, Taylor Mountains Quadrangle, 1954, scale 1:250,000.
105. USGS, Sleetmute Quadrangle, 1954, scale 1:250,000; USGS, Iditarod Quadrangle, 1956, scale 1:250,000.
106. Iditarod Pioneer, August 28, September 18, November 6, November 16, 1910; Iditarod Nugget, October 12, 1910.

107. P. S. Smith, The Lake Clark-Central Kuskokwim Region, Alaska, U.S. Geological Survey Bulletin 655 (Washington, D.C.: GPO, 1917), pp. 18-19.
108. U.S. Board of Road Commissioners for Alaska, Annual Report 1923, Part II (Juneau: Alaska Daily Empire Print, 1923), p. 84.
109. W. F. and Nelly Duffy to William A. Hesse. June 29, 1933, file 13/125-2, Box 65637, RG 30.
110. Hawley Sterling, "Memo for Mr. Watson," December 6, 1934, file 13/125-2, Box 65637, RG 30.
111. Fred J. Spach to Alaska Road Commission, January 7, 1936, file SP-1 Crooked Creek, Box 65431, RG 30.
112. Wallace M. Cady, et al., The Central Kuskokwim Region, Alaska: An Account of Its Geography, Geology, Geomorphology, and Mineral Resources Including the Occurrence and Mining of Quicksilver, U.S. Geological Survey Professional Paper 268 (Washington, D.C.: GPO, 1955), p. 7.
113. Glenn W. Fredericks to Land Use Planning Commission, April 16, 1977, file F-14860-EE, Alaska Native Village Selection Applications, Bureau of Land Management, Alaska State Office, Anchorage, hereafter referred to as ANCSA file.

114. Iditarod Pioneer, September 27, 1913, November 16, 1910; Iditarod Nugget, February 15, 1911.
115. Charles Lovett to ARC, March 3, 1923, Charles Lovett to James G. Steese, March 11, 1923, James G. Steese to Charles Lovett, March 9, 1923, file 13/125-0, Box 65637, RG 30; U.S. Board of Road Commissioners for Alaska, Annual Report . . ., Part II (Juneau: Alaska Daily Empire Print, 1922), p. 66; U.S. Board of Road Commissioners, Annual Report . . ., Part II (Juneau: Alaska Daily Empire Print, 1923), pp. 83-84.
116. C. J. Sampson to Karl Theile, March 31, 1924, Agnew to Walter W. Lukens, April 2, 1924, Lukens to Agnew, April 5, 1924, P. A. Agnew to Karl Theile, April 5, 1924, Kinney to Agnew, May 5, 1924, Agnew to Felder and Cole, May 5, 1924, file 13/125-1, Box 65637, RG 30; Kusko Times, January 2, 1926.
117. See annual reports of the Alaska Road Commission for pertinent years.
118. Lon French to "Sir," February 3, 1933, R. W. Vinnedge to Hawley Sterling, February 23, 1933, file 13/125-1, Box 65637, RG 30.
119. Ike P. Taylor to Lon French, February 27, 1933, Ike P. Taylor to R. W. Vinnedge, March 1, 1933, file 13/125-1, Box 65637, RG 30.
120. Fred J. Spach to Alaska Road Commission, January 7, 1936, file SP-1 Crooked Creek, Box 65431, RG 30.

121. Hawley Sterling to William A. Hesse, January 30, 1936, file SP-1 Crooked Creek, Box 65431, RG 30.
122. USGS, Sleetmute Quadrangle, 1954, scale 1:250,000.
123. Harry Steen, et al., to Alaska Road Commission, January 1947, M. C. Edmunds to Harry Steen, February 21, 1947, M. C. Edmunds to Ike P. Taylor, March 4, 1947, M. C. Edmunds to Ike P. Taylor, March 10, 1947, file 13/125-1, Box 65637, RG 30; Burr S. Webber, et al., Mercury Deposits of Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4065 (Washington, D.C.: GPO, 1947), p. 29; Cady, The Central Kuskokwim Region, pp. 111, 118; C. L. Sainsbury and E. M. MacKevett, Jr., Quicksilver Deposits of Southwestern Alaska, U.S. Geological Survey Bulletin 1187 (Washington, D.C.: GPO, 1965), pp. 43, 46.
124. Elizabeth T. Lyman to Bureau of Land Management, January 26, 1976, file F-14990-EE, ANCSA file.
125. Lavrentiy A. Zagoskin, Lietenant Zagoskin's Travels in Russian America, 1842-1844, Henry N. Michael, ed. (Toronto: Arctic Institute of North America, 1967), p. 253; Wendell H. Oswalt, "Kolmakovskiy Redoubt: The Ethnoarchaeology of a Russian Fort in Alaska," (unpublished manuscript, 1980), p. 86; James W. VanStone, Eskimos of the Nushagak River (Seattle: University of Washington Press, 1967), p. 51; William H. Dall, Alaska and Its Resources (Boston: Lee

- and Shepard, 1870), p. 274; Ivan Petroff, Report on the Population, Industries, and Resources of Alaska (Washington, D.C.: GPO, 1884), p. 133.
126. A. G. Maddren, "Gold Placers of the Lower Kuskokwim, with a Note on Copper in the Russian Mountains," in A. H. Brooks, et al., Mineral Resources of Alaska in 1914, U.S. Geological Survey Bulletin 622 (Washington, D.C.: GPO, 1915), pp. 293, 304, 360; W. S. West, Reconnaissance for Radioactive Deposits in the Lower Yukon-Kuskokwim Region, Alaska, 1952, U.S. Geological Survey Circular 328 (Washington, D.C.: GPO, 1954), p. 2.
127. Ibid., pp. 2, 5-6.
128. U.S. Board of Road Commissioners for Alaska, Annual Report 1924, Part II, p. 72; U.S. Board of Road Commissioners for Alaska, Annual Report 1925, Part II (Juneau: Alaska Daily Empire Print, 1925), pp. 70-71; U.S. Board of Road Commissioners for Alaska, Annual Report 1926, Part II (Juneau: Alaska Daily Empire Print, 1926), pp. 55-56.
129. U.S. Board of Road Commissioners for Alaska, Annual Report 1924, Part II, p. 72; U.S. Board of Road Commissioners for Alaska, Annual Report 1925, Part II, p. 71; Kusko Times, January 2, 1926.
130. Iditarod Pioneer, December 20, 1911.

131. Ibid., January 6, 1912.
132. Ibid., October 26, 1912, September 27, 1913.
133. James Wickersham to Major Malcolm Elliott, May 2, 1932, L. E. Atkins to James Wickersham, May 10, 1932, file 13/150-18, Box 65637, RG 30.
134. Hawley Sterling to Alaska Road Commission, August 17, 1932, file 13/150-19, Box 65637, RG 30.
135. Fred J. Spach to Alaska Road Commission, March 4, 1935, file 13/150-19, Box 65637, RG 30.
136. Ike P. Taylor to Fred J. Spach, March 18, 1935, file 13/150-19, Box 65637, RG 30.
137. Kusko Times, March 19, 1937; Ike P. Taylor to Lee Grammer, January 19, 1945, file 13/150-19, Box 65637, RG 30.
138. F. A. Rutledge, Investigation of Mercury Deposits, Cinnabar Creek Area, Georgetown and Akiak District, Kuskokwim Region, Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4719 (Washington, D.C.: GPO, 1950), p. 2.
139. See Chapter 6, p. 446.

140. Zagoskin, Travels in Russian America, p. 203.
141. Kusko Times, January 2, 1926, March 24, 1928; U.S. Board of Road Commissioners Annual Report 1926, Part II, p. 57; U.S. Board of Road Commissioners, Annual Report 1929, Part II, p. 60; Grace Edman, Alice Hudson, and Sam Johnson, "Fifty Years of Highways" (unpublished manuscript, University of Alaska, Fairbanks, 1960), p. 46; C. F. Lottsfeldt to Engineer Officer of the Board, February 21, 1928 and C. F. Lottsfeldt to President of the Board, May 7, 1930, file 13/150-14, Box 65637, RG 30.
142. Fred J. Spach to Alaska Road Commission, March 4, 1935, file 13/150-25, Box 65637, RG 30.
143. Maddren, "Gold Placers of the Lower Kuskokwim," p. 328.
144. U.S. Board of Road Commissioners, Annual Report 1926, Part II, p. 56; Kusko Times, March 24, 1928.
145. U.S. Board of Road Commissioners, Annual Report 1929, Part II, p. 60.
146. See annual reports of the Alaska Road Commission for pertinent years.
147. Hawley Sterling to Alaska Road Commission, August 22, 1932, file 13/144-2, Box 65637, RG 30.

148. Earle M. Forrest to James G. Steese, April 10, 1922, December 13, 1921, file 13/150-0, Box 65637, RG 30.
149. Steese to Earle M. Forrest, October 5, 1922, Earle M. Forrest to James G. Steese, April 18, 1923, file 13/150-0, Box 65637, RG 30.
150. Ed Smith, et al., Petition to the Territorial Board of Road Commissioners, n.d., Karl Theile to Board of Road Commissioners of Alaska, March 12, 1924, James G. Steese to J. L. Heron, April 22, 1924, James G. Steese to Ross J. Kinney, May 23, 1924, file 13/150-5; Kinney to Steese, August 25, 1925, file 13/150-9, Box 65637, RG 30; U.S. Board of Road Commissioners for Alaska, Annual Report 1926, Part II, p. 56. Kinney also investigated local demands for a boardwalk in Bethel. He thought that there was no need for one, and remarked that "the old Bethel Slough has filled up so that it is impossible to navigate it." Ross J. Kinney to Major Lunsford E. Oliver, December 7, 1925, file 13/150-9, Box 65637, RG 30.
151. Earle M. Forrest to Alaska Road Commission, April 25, 1927, file 13/150-11, Box 65432, C. F. Lottsfeldt to Alaska Road Commission, February 21, 1928, May 7, 1930, file 150/14, Box 65637, RG 30; U.S. Board of Road Commissioners, Annual Report 1927, Part II (Juneau: Alaska Daily Empire Print, 1927), p. 40. In 1935 H. M. Hansen wrote that the Bethel Slough bridge had deteriorated to the point where it was about to collapse. Hansen to F. J. Spach, April 20, 1935, file 150-2, Box 65637, RG 30. In 1948 the Road Commission and the Territory cooperated in constructing a new bridge. M. C. Edmunds to Ted McRoberts, March 11, 1948, file 13/150-27, Box 65637, RG 30.

152. T. W. Cody, Statement, ca. 1922, file 13/150-1, Box 65637, RG 30.
153. James G. Steese to Earle M. Forrest, June 20, 1922, Steese to Earle M. Forrest, October 15, 1922, file 13/150-0, Box 65637, RG 30. Charles Heckman offered to stake Bennett's Cutoff for \$350, claiming he had staked it in 1919, and to build the cabins for \$800. Charles Heckman to D. Jones, August 24, 1922, file 13/150-1, Box 65637, RG 30.
154. E. M. Forrest to James Steese, March 27, 1923, file 13/150-4; E. M. Forrest to James G. Steese, April 18, 1923, Steese to Earle M. Forrest, May 3, 1923, file 13/150-0, Box 65637, RG 30.
155. Earle M. Forrest to Alaska Road Commission, April 23, 1927, file 13/136-4, Box 65637; and Steese to Forrest, October 1, 1926, Earle M. Forrest to Alaska Road Commission, April 25, 1927, file 13/150-11, Box 65432, RG 30.
156. Ed Smith to Karl Theile, November 15, 1922, file 13/150-2, Box 65637, RG 30.
157. Karl Theile to Board of Road Commissioners for Alaska, February 7, 1923, file 13/150-2, Box 65637, RG 30; U.S. Board of Road Commissioners for Alaska, Annual Report 1925, Part II, pp. 70-71; U.S. Board of Road Commissioners for Alaska, Annual Report 1926, Part II, p. 56.
158. Fred J. Spach to Ike P. Taylor, November 7, 1937, file 13/150-2, Box 65637, RG 30.

159. Ike P. Taylor to Fred J. Spach, July 31, 1937, file 13/150-2, Box 65637, RG 30.
160. F. A. Rutledge, Investigation of the Rainy Creek Mercury Prospect, Bethel District, Kuskokwim Region, Southwestern Alaska, U.S. Bureau of Mines Report of Investigations 4361 (Washington, D.C.: GPO, 1948), pp. 2-3.
161. Fred J. Spach to Alaska Road Commission, November 28, 1936 and February 16, 1937, and Ike P. Taylor to Fred J. Spach, February 23, 1937, file 13/150-28, Box 65637, RG 30.
162. Ike P. Taylor to Fred J. Spach, February 23, 1937, file 13/150-28, Box 65637, RG 30.
163. Earle M. Forrest to James G. Steese, April 10, 1922, file 13/150-0, Box 65637, RG 30.
164. Earle M. Forrest to Alaska Road Commission, April 25, 1927, file 13/150-11, Box 65637, RG 30.
165. C. F. Lottsfeldt to President of the Board, February 21, 1928, file 13/150-14, Box 65637, RG 30.
166. Hawley Sterling to Alaska Road Commission, February 24, 1932, file 150-3, Box 65637, RG 30.

167. T. R. Conquest to H. Sterling, January 28, 1935 and Charles B. Michael to Alaska Road Commission, April 11, 1935, file 13/150-3, Box 65637, RG 30.
168. H. M. Hansen to F. J. Spach, April 20, 1935, file 13/150-2, Box 65637 RG 30.
169. Fred J. Spach to Hawley Sterling, May 7, 1935, file 13/150-2, Box 65637, RG 30.
170. Hans Hansen and J. D. Jean to Karl Theile, December 6, 1922, Steese to Felder and Cole, March 6, 1923, James G. Steese to H. M. Hansen, March 7, 1923, Earle M. Forrest to J. W. Felder, February 4, 1924, and Earle M. Forrest to Colonel James G. Steese, February 14, 1924, file 13/150-3, Box 65637, RG 30.
171. C. F. Lottsfeldt to President of the Board, May 7, 1930, file 13/150-4, Box 65637, RG 30.
172. M. C. Edmunds to Ike P. Taylor, June 27, 1933, file 13/150-20, Box 65637, RG 30.
173. Ike P. Taylor to Ed St. Clair, July 19, 1933, file 13/150-20 and Charles B. Michael to Alaska Road Commission, April 11, 1935, file 13/150-3, Box 65637, RG 30.
174. Sainsbury and MacKevett, Quicksilver Deposits of Southwestern Alaska, p. 53.

175. Frank Holzheimer, "Memorandum to Alaska Road Commission," October 15, 1926, B. D. Stewart to Major Lunsford E. Oliver, January 18, 1927, file 13/150-12, Box 65637, RG 30.
176. M. C. Edmunds to Ike P. Taylor, May 15, 1939, Ike P. Taylor to M. C. Edmunds, May 22, 1939, Hesse to Edward Olsen, June 21, 1939, file 13/150-12, Box 65637, RG 30.
177. USGS, "Geologic Sketch Map of Goodnews Bay Region, Alaska," 1920, in A. H. Brooks, et al., Mineral Resources of Alaska in 1919, U.S. Geological Survey Bulletin 714 (Washington, D.C.: GPO, 1921); USGS, Goodnews Quadrangle, 1951, scale 1:250,000.
178. U.S. Board of Road Commissioners for Alaska, Annual Report 1924, Part II, p. 71; U.S. Board of Road Commissioners for Alaska, Annual Report 1925, Part II, p. 71; Raymond Replogle to E. M. Forrest, February 2, 1924, Forrest to Alaska Road Commission, February 24, 1925, file 13/150-13, Box 65637, RG 30.
179. C. F. Lottsfeldt to President of the Board, February 21, 1928, file 13/150-14, Box 65637, RG 30.
180. C. F. Lottsfeldt to President of the Board, May 7, 1930, file 13/150-14, Box 65637, RG 30.
181. Hawley Sterling to Alaska Road Commission, February 24, 1932, file 13/150-18, Box 65637, RG 30.

182. Hawley Sterling, "Memo for Juneau Files on the Goodnews Bay Platinum Camp," June 5, 1933, file 13/150-18, Box 65637, RG 30.
183. J. B. Mertie, Jr., The Goodnews Platinum Deposits, Alaska, U.S. Geological Survey Bulletin 918 (Washington, D.C.: GPO, 1940), p. 11; Hawley to Ike, August 13, 1934, Sterling to Taylor, August 10, 1934, and Spach to Sterling, September 17, 1934, file 13/150-18, Box 65637, RG 30.
184. R. W. Vinnedge to Hawley W. Sterling, December 17, 1935, Hawley W. Sterling to R. W. Vinnedge, December 26, 1935, R. W. Vinnedge to I. P. Taylor, March 29, 1937, Ike P. Taylor to R. W. Vinnedge, April 5, 1937, file 13/150-18, Box 65637, RG 30.
185. Ike P. Taylor to Fred J. Spach, April 28, 1937, Fred J. Spach to Alaska Road Commission, May 22, 1937, Spach to Taylor, July 26, 1937, file 13/150-18, Box 65637, RG 30.
186. John B. Mertie, Jr., Economic Geology of the Platinum Metals, U.S. Geological Survey Professional Paper 630 (Washington, D.C.: GPO, 1969), p. 78.

INDEX

A

Amos Lake	328
Aniak River	6, 28, 101, 107, 121-122, 143, 148, 198-199, 406-414, 497, 647 note 362, 746-749
Aniak Slough	411, 412
Anohwahk River	8, 35
Apokak Slough	38, 216
Arhymot Lake	421, 423, 424, 425, 488, 490
Arolik River	7, 8, 39, 104, 108, 125-126, 594-595, 690 note 684, 762-763

B

Babel River	21
Barge Slough	394-395
Barnum Creek	601
Basket Creek	25, 388
Bear Creek	180, 497, 499
Bear Creek (Pitka Fork)	704
Bear Island Lake	325
Beaver Creek	335
Beaver Slough	340
Bellen Lake	326
Big Creek	182, 254, 259, 260, 261, 262, 263
Big (Nenvakpak) Lake	40
Big River	14-15, 109, 110, 167-168, 181-182, 291-303, 698, 704
Big Waldren Fork	260, 261
Birch Slough	498, 499

Black River	5, 19, 101, 107, 336-337
Blackwater Creek	298, 300, 302
Bogus Creek	29, 494-495, 745
Bow Lake	35
Buckstock River	28, 199
<u>C</u>	
California Creek	107
Can Creek	369-370
Candle Creek	112-113
Carl Creek	333-334
Carter Creek	601, 761
Chakachatna River	356
Chakchak Creek	559-560
Charlie Wood's Slough (Takotna River)	257
Cheching Slough	562-563
Cheeneetnuk River	21, 115, 347, 348, 350, 351, 353
Chikululnuk Creek	24
Chuilnuk River	385
Chukowan River	24, 385
Cinnabar Creek	117, 384
Clear Creek	509
Cottonwood Creek	268
Crooked Creek	6, 26, 107, 119-120, 192-193, 398-400, 738, 739, 740-744
Crooked Creek (Johnson River)	32, 85, 420, 421, 423, 424, 425, 426, 430, 432, 434, 435-436, 440, 443, 445-446, 449-450, 457, 460, 462, 469, 474, 478, 480, 481, 483, 485, 487-488, 489, 490, 491
Crooked Creek (Upper Kuskokwim)	176, 718

D

Dall Lake	34, 67
Denagiemina Lake	331
Dennis Creek	170, 330, 331
Dillinger River	281, 282
Discovery Creek	414
Doestock Creek	410, 411, 412

E

East Fork (North Fork Kuskokwim)	13, 89, 185-186, 307, 326-331, 718
East Fork George River	25, 395, 396, 397, 398, 737
East Fork Slough	328
East Lime Lake	361, 362
Eek Lake	579, 580, 581, 582
Eek River	7, 11, 37-38, 124, 125, 216, 528, 582-585, 686 note 657, 757-758
Eenayarak River	37, 579-582, 685 note 645
Eightmile Creek	107, 191-192

F

Farewell Lake	159, 160, 177, 178, 279, 283
Fog River	29, 502, 503, 509
Fortyseven Creek	117
Fourth of July Creek	260, 261, 263
Fuller Creek	107

G

Gagaryah River	21, 350
Gemuk River	24, 385
George One's Creek (T. 17 N., R. 58 W., SM)	412-414

George River	6, 25-26, 107, 119, 148, 192, 395-398, 737, 738-740
Gnat Creek	392, 393
Gold Creek	509
Goodnews Lake	597, 598, 599
Goodnews River	7, 8, 11, 40-41, 72, 76, 77, 78, 126-127, 217, 596-603, 691 note 692, 763-764
Grayling Creek	182
Grayling Lake	331
Guitar Lake	303
Gweek River	6, 32, 207, 529-531
<u>H</u>	
Hangar Lake	532
Hartman River	109, 110, 281, 282, 292
Highpower Creek	319, 320, 321, 322, 323, 324
Hogatza River	479
Hoholitna River	25, 54, 55, 64, 115-116, 189, 245, 383, 384, 386-387, 388, 389, 390-393, 737
Holitna River	5, 11, 22-25, 53, 55, 57, 64, 79, 82, 102, 104, 115-117, 143, 148, 149, 189-190, 245, 382-395, 638 note 302, 737, 744, 749
Holokuk River	6, 26-27, 64, 107, 194, 245, 402-404, 744
Hook Creek	392, 393
Horseshoe Lake (T. 13 N., R. 35 W., SM)	372
Hosmer Creek	267
Hungry Creek	22, 362, 371-373
<u>I</u>	
Iditarod River	739

Ilanik Lakes	601
Indian River	39-40, 761
Inowak Creek	378-382
Ishkowik River	8, 36, 67, 573-574
Ishratorak Creek	493-494
Isiktok Creek	559-560
<u>J</u>	
Jewn River	36-37, 575-576
Johnny Slough	390, 393-394
Johson River	6, 32-33, 68, 84-85, 210-212, 426, 428, 429, 430, 432, 434, 435, 440, 443, 446, 449, 457-458, 465, 470, 475, 478, 482, 483, 488, 489, 491, 532-544, 754-755, 758
<u>K</u>	
Kagati Lake	87, 88, 125, 586, 590, 592, 762
Kaghasuk Lake	554
Kanektok River	7, 8, 11, 39, 86-88, 125, 217, 585-593, 688 note 670
Kantishna River	303, 304, 305, 306, 312, 313, 316, 715
Kasigluk River	31, 506, 507, 526-527, 688 note 513, 755-757
Katlitna River	5, 18, 332-333
Kayigyalik Lake	45, 68, 212, 535, 539
Kealavik River	212, 553-554
Keefer Creek	387
Keguk River	214, 562
Kialik River	33, 550-552, 576, 577, 674 note 562
Kichatna River	89
Kinak River	8, 34, 67, 215, 563-564, 576-579

Kinegnak River	41-42
Kinia River	8, 34, 67, 214, 562
Kisaralik Lake	512, 513, 515, 521, 666 note 505
Kisaralik River	7, 11, 30, 106, 205-206, 505-526, 755-757
Kogruklu River	23, 387
Kolavinarak River	8, 33-34, 67, 559-561
Kolekfikpuk Lake	35, 566, 567, 568, 570
Kolmakof River	27, 58, 60, 107, 195-196, 404, 744
Kongeruk River	33, 544
Kongnignanohk River	8, 36, 568, 569, 572-573
Kuguklik River	8, 35, 67, 214, 564-565, 567
Kukaklik Lake	423
Kulik Lake	45, 85, 423, 426, 428, 430, 432, 434-435, 436, 441-42, 443, 448, 450, 457, 459, 461-462, 464-465, 468, 469, 473-474, 477, 480, 483-484, 485, 487
Kushluk River	527, 756
Kuskokwak Creek	38
Kuskokwak Slough	30, 31
Kutokbuna Lake	361, 362, 371, 372, 373, 377
Kutukhun River	33, 550
Kvichavak River	543
Kwethluk River	7, 11, 31, 106, 122, 124, 206, 207, 505, 506, 507, 510, 527-529, 582, 583, 668 note 517
Kwigillingok River	35, 564, 565-572
<u>L</u>	
Lake Heyle	89
Lake Minchumina	303, 304, 305, 306, 308, 312, 313, 315, 316, 714, 715

Lake Telida	167
Little Bogus Creek	503
Little Selatna River	19, 337
Little Tonzona River	12, 89, 159, 160, 161, 162, 163, 272, 274, 278, 281, 283-291, 695
Little Waldren Fork	260, 261, 262
Lonestar Creek	320
Lower Telida Lake	324
<u>M</u>	
McCally Creek	118
Meroyuk River	550, 551-552, 577, 578, 674 note 562
Merrill River	21
Middle Fork (Big River)	15-16, 296-299, 300-301, 303
Middle Fork Eek River	584
Middle Fork Goodnews River	600-601, 602
Minnie Creek	261
Mishevik Slough	498, 503, 504
Mission Creek	107, 745
Moore Creek	111-112, 183, 184, 256, 259, 261, 262
Moose Creek	189, 378
Mountain Creek (Stony River)	362, 373-374
Mud Creek	84, 201, 422, 424, 425, 428, 429, 431, 434, 435, 438, 440, 443, 446, 449, 458, 459, 463, 465, 466, 470, 471, 472, 475- 476, 478, 480, 482, 485, 486, 489, 490, 491
Muddy River	303, 304, 305, 306, 312, 313
Mukslulik Creek	117
Muskey Creek	354

N

Necons River	21, 355, 360, 364-365, 368
New York Creek	101, 107, 120-121
Ninglick River	4, 33, 553-556
Nixon Fork 176,	17, 59, 107, 113-115, 169, 174-175, 254, 255, 256, 259, 263-269, 699, 733- 734
North Fork George River	395, 738
North Fork Kuskokwim River	12-13, 76-77, 80, 90, 166, 273, 275, 303-331, 714, 715-716
North Fork (Swift River)	20-21, 351
North Lime Lake	351, 352, 361, 362, 373, 374
Nowitna River	313
Nukluk Creek	509
Nunavakanukakslak Lake	535, 537, 541
Nunavakpak Lake	45, 68, 536, 537, 538, 539
Nungtok River (T. 5 N., R. 90 W., SM)	558
Nunsatuk River	5, 19-20, 342

O

Ophir Creek	28, 101, 104, 106, 200, 415-416, 417, 745, 749
Oskawalik River	26, 107, 193, 401-402
Otter Creek	509
Owhat River	6, 27, 197, 405-406, 645 note 350, 744

P-Q

Paimiut Summer Portage	418-425, 447
Pikmiktalik River	6, 32-33, 211, 540-543

Pitka Fork	16, 291, 292, 293, 294, 295, 297-299, 300, 301, 303, 704
Poacher Slough (T. 16 N., R. 36 W., SM)	375
Post River	282, 283
Puyulik Creek	601
<u>R</u>	
Red Devil Creek	191
Red Slough	320, 321, 322, 323, 324
Rock Creek	357
Rohn River	20, 342-343
Ruby Creek	267
<u>S</u>	
Salmon Berry Lake Outlet	370
Salmon River	41, 108, 127-128, 217-218, 303, 765-768
Salmon River (Pitka Fork)	16, 168, 176, 180, 291, 292, 293, 294, 295, 296, 298, 300, 302
Selatna River	5, 19, 338-340
Sheep Creek	292, 295, 298, 300, 302
Shisnona Lake	325
Shoeleather Creek	351
Shotgun Creek	23-24, 382, 387, 744
Skwentna River	275, 693, 695, 704
Slate Creek	499
Slate Creek (Goodnews River)	600, 601
Slow Fork	13, 14, 89, 169, 185, 326, 327, 328, 329, 330, 331
Smalls River	41, 218

Smitty's Lake (T. 33 N., R. 32 W., SM)	332
South Fork (East Fork George)	25, 397, 398, 737
South Fork Goodnews River	600, 601
South Fork Hoholitna River	391, 392, 393
South Fork Kuskokwim River	12, 81, 89, 92, 109-110, 159-165, 176, 177, 186, 246, 271-291, 306, 307, 693, 695, 698, 700, 705, 706, 713
South Lime Lake	361, 362, 373, 374
Spruce Lake	325
Stink River	22, 354, 358, 372, 375-377
Stony River	5, 11, 21-22, 59, 143, 148, 187-188, 271, 353-378
Stony River Cutoff	22, 359, 377-378
Sullivan Creek	179-180, 301, 302
Suter Creek	744
Swift Creek	508, 509, 745
Swift Fork	13, 90, 165-167, 184-185, 305, 307, 309, 310, 311, 312, 313, 319-324
Swift River	5, 11, 20-21, 115, 347-353, 355, 373, 374, 628 note 229
<u>T</u>	
Tagayarak River	36-37, 67, 574-576
Takotna River	17, 59, 63, 105, 111-115, 168-169, 170- 175, 176, 182-183, 247, 248, 249, 253- 271, 307, 309, 694, 696, 707, 720-729, 734-736, 738
Takslesluk Lake	45, 533
Talarhun River	560
Talbiksok River	86, 427, 428, 430, 432-433, 435, 437, 442, 445, 451, 456, 461, 464, 466-467, 468, 470-471, 477, 487

Tanunak River	212-213, 556
Tatalina River	17, 107, 112-113, 269-271, 729-733
Tatina River	177-178, 280, 282, 283, 700, 707, 711
Tatlawiksuk River	5, 20, 148, 343-347
Taylor Creek	116-117
Telaquana Lake	21, 355, 365, 366, 368-369
Telaquana River	21, 360, 364, 365-369
Tikchik Lakes	507
Tishima Lake	360
Toksook River	213-214, 556-558
Tonzona River	13, 14, 89, 170, 328, 329, 330, 331
Trout Lake	22, 360, 361, 362, 371, 372, 373, 377
Tubangaluk Creek	531-532
Tuluksak River	7, 11, 29, 106, 107, 122-124, 203-204, 495-503, 506, 662 note 475, 751-752
Tundra Lake	361, 362, 371, 372, 375, 376, 377
Tunulik River	40, 595-596, 601
Tunuliq Slough (T. 2 S., R. 80 W., SM)	571-572
Twelvemile Slough	419
Two Lakes	21, 355, 364, 365
<u>U</u>	
Unaluk River	42
Unnamed Creek (T. 15 N., R. 35 W., SM)	374-375
Unnamed Creek (T. 23 N., R. 38 W., SM)	340
Unnamed Creek (T. 26 N., R. 37 W., SM)	340

Unnamed Creek (T. 26 N., R. 37 W., SM)	341
Unnamed Creek (T. 27 N., R. 37 W., SM)	341
Unnamed Creek (T. 27 N., R. 37 W., SM)	341
Unnamed (Anvik) Creek (T. 21 N., R. 60 W., SM)	419
Unnamed (Throat) Creek (T. 15 N., R. 63 W., SM)	492-493
Unnamed Creek and Lake (T. 12 N., R. 66 W., SM)	495
Unnamed Creek (T. 5 N., R. 88 W., SM)	557-558
Unnamed Creek (T. 3 N., R. 89 W., SM)	561
Unnamed Creek (T. 5 N., R. 89 W., SM)	557-558
Unnamed Lake (T. 17 N., R. 30 W., SM)	351-352
Unnamed Lake (Tps. 29-30 N., R. 34 W., SM)	18, 187
Unnamed Lake (T. 26 N., R. 37 W., SM)	341
Unnamed Lake T. 20 N., R. 38 W., SM)	351
Unnamed Lake (T. 16 N., R. 43 W., SM)	387
Unnamed Lake and Creek (T. 14 N., R. 60 W., SM)	418
Unnamed Lake (T. 15 N., Rs. 60-61 W., SM)	417-418
Unnamed (Shell) Lake (T. 19 N., R. 61 W., SM)	419, 420
Unnamed Lake (T. 18 N., R. 63 W., SM)	426, 428, 430, 432, 434, 436, 441, 445, 450, 457, 459, 462, 469, 474, 477-478, 485, 487

Unnamed Lake (T. 3 S., R. 64 W., SM)	590-591
Unnamed (Otter) Lake (T. 5 S., R. 68 W., SM)	591
Unnamed Lake (Tps. 3-4 S., R. 81 W., SM)	566, 568
Unnamed Lakes (T. 13 N., R. 65 W., SM)	505
Unnamed Lakes (T. 11 N., Rs. 69-70 W., SM)	531
Unnamed Lakes (T. 2 S., Rs. 81-82 W., SM)	566, 570
Unnamed Lake (T. 10 N., R. 74 W., SM)	535, 537
Unnamed Lake (T. 10 N., Rs. 74-75 W., SM)	535, 537
Unnamed Lake (T. 10 N., R. 75 W., SM)	535, 537
Unnamed Lake (T. 10 N., Rs. 82-83 W., SM)	554
Unnamed River (Lomavik Slough)	544-550
Unnamed River (T. 2 N., R. 85 W., SM)	565
Unnamed (Aquikchuk) River (T. 2 N., R. 88 W., SM)	561
Unnamed Slough (T. 2 S., R. 87 W., SM)	565
Unnamed Slough (T. 7 N., R. 89 W., SM)	555-556
Unnamed Slough (T. 9 N., R. 88 W., SM)	555
Upper Telida Lake	324
Urumangnak River	560
<u>V</u>	
Vinasale Lake	336

Von Frank Creek	269
<u>W</u>	
Warehouse Creek	38, 70, 244, 246, 760
Washington Creek	267, 268
Wattamuse Creek	596, 600, 602, 603
West Fork (Nixon Fork)	264, 265, 266, 267, 268, 269
Whirlwind Creek	269
Whitefish Lake	28-29, 45, 414-418
Whitefish Lake (Hoholitna)	25, 189, 391, 392, 393
Why Lake	351, 352, 375
Willidulli Slough	212
Wilson Lake	18, 334-335
Windy Fork	16, 110, 292, 297, 300, 301
<u>X-Y-Z</u>	
Yentna River	81, 89, 275
Yukanilnik Creek	503
Yukon - Kuskokwim Portage	64, 76, 77, 78, 83-86, 102, 245, 425-491, 653 note 412

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>N. Fork Kuskokwim River</u> 17, 20, 22S28EK	boat (A), heli (F)	45(A)	home, trap (A)	Deaphon Eluska, F-17361-B, 7/73. Place called "Stones Cabins" on USGS maps. Applicant purchased cabins and trapline from Tex Gates, and made the place his primary residence in 1962. Place used to be a mink farm. Examiner saw house, shed, several smaller sheds, two caches, and fish rack. Planes land on nearby N. Fk. Lake.
26, 26S25EK	dog, snmb (A), heli (F)	59 (A)	hunt, trap (A)	Anna G. Gregory, F-17182-A, 7/73. Applicant hunts moose and in spring traps beaver; she claimed barrel stove and tent. Examiner found tent frame. Parcel one of several on trapline.
<u>Dick McCarthy Lake</u> 21, 27S23EK	heli (F)	55 (A)	fish, hunt, trap	Miska Alexia, Nikolai, F-17262-A, 7/73. Applicant claimed October to April use for fishing, trapping marten and beaver, and hunting moose. Examiner found a tent frame. Other people reportedly visited in fall to fish.
<u>Swift Fork</u> 27, 22S25WF	plane (A; F) heli (F)	73 (A)	trap (A)	John M. Rivers, Fairbanks, AA-8961, 3/78, 9/78. Applicant applied for home or headquarters site. Two airstrips and Purkeypile Mine are nearby.
12, 18S28WF	snmb (A), heli (F)	64 (A)	trap (A)	Nick Nikolai (deceased), Telida, F-17524-A, 7/73. Applicant trapped beaver and marten. Examiner found no physical use evidence. Witness said place was 2 1/2 hours by snowmachine from village.
<u>Highpower Creek</u> 34, 15S27WF	heli (F)	64 (A)	trap (A)	Nick Nikolai (deceased), Telida, F-17524-A, 7/73. Parcel on Sprucefish Lake. Applicant claimed to trap marten and beaver. Examiner found a winter trail only.

Settlement Claims of Kuskokwim Region

	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
28, 33, 16S27WF	dog (A), heli (F)	62 (A)	trap (A)	Deacon Nikolai, Telida, F-17523-B, 7/73. Parcel at mouth of Lonestar Creek. Applicant to hunt and trap in spring. Examiner found old cabin lacking a roof and a cache. John Dennis of Telida said place was used since about 1925.
17, 24S30EK	heli (F)	35 (A)	trap, fish (A), hunt, bp (W)	Barbara Nikolai, Telida, F-17185-A, 7/73. Examiner found campsite, tent frame, and cleaning. Photo shows mouth of clearwater stream in one channel and with sand bars.
<u>Upper Telida Lake</u> 36, 23S29EK	heli (F)	57 (A)	hunt, trap (A, W), bp, fish (W)	John Dennis, Nikolai, F-17318-A, 7/73. Applicant claimed to hunt moose and muskrat; he moved to Nikolai in 1965 so that children could attend school. Examiner found collapsed cache, brush shelter, and three old traps.
<u>Slow Fork</u> 8, 25S28EK	dog (A), heli (F)	60 (A)	trap (A)	Betty Dennis, Nikolai, F-17316, 7/73. Applicant trapped beaver until 1966 when she moved to Nikolai so children could attend school. She passed the place on trips to Telida in subsequent years. Examiner found stove, tent frame, meat racks, and trash.
16, 21, 26S27EK	boat (A), heli (F)	62 (A)	trap (A)	Nick Petruska, Nikolai, F-17188, 7/73. Applicant claimed to trap beaver, sometimes staying here a month at a time. Parcel located near cabin and airstrip shown on USGS maps. Applicant said cabin was given to him and he uses it. Examiner found old cabin and another cabin on opposite bank. Landing strip overgrown with spruce trees. Applicant said place is about 31 miles by winter trail from Nikoali; it is on Nikolai-Telida trail. Nick Dennis, a relative, indicated use of a boat to the place.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>N. Fk. Jones Creek</u> 8, 28S27EK	heli (F)	59 (A)	trap (A), hunt, fish (W)	Jim Gregory, Nikolai, F-17321-A, 7/73. Parcel on trapline. Examiner found no physical use evidence.
<u>Pike Lake</u> 19, 30, 28S25EK	snmb (A), heli (F)	59 (A)	trap (A)	Jim Gregory, Nikolai, F-17321-A, 7/73. Parcel on trapline. Lake officially called "Fish Lake." Examiner found a trap and empty 5-gallon cans. Nikolai people fish for pike here, located 7 to 9 miles from village.
<u>Sneck Slough</u> 29, 32, 27S24EK	heli (F)	55(A)	trap (A)	Nick Dennis, Nikolai, F-17179-B, 7/73. Parcel on landlocked lake locally called "Sneck Slu" and on trapline. Examiner found tent frame and winter trail.
<u>Farewell Lake</u> 28N23WS	plane (A, F)	60s (A)	lodge (A)	Robert E. Curtis, F-31987, 6/65. T&M site for big game hunting and fishing as well as aircraft charter and maintenance operations. Examiner found log cabin with running water, loghouse, 2 log caches, tent frame, outhouse, meathouse, power house, quonset garage, garden, floatplane dock, and road from cabins to airstrip.
<u>Big River</u> 19, 26N30WS	heli (F)	59	trap (A)	Tony Peters, Sleetmute, F-17919, 8/73. Built new cabin in 1970. Field examiner considers river to be navigable.
7, 31N29WS	heli (F)	60 (W) 65 (A)	hunt, trap, bp (W) trap (A)	Sammy John, Nikolai, F-17184, 7/73. Applicant claimed tent frame. Examiner saw campsite.
14, 32N30WS	heli (F) boat, dog (A)	49 (A) 45 (W)(A)	hunt, fish, trap (A) bp (W)	Pauline Esai, Big R. and Nikolai, F-17522, 7/73. Applicant said she and husband spent first winter on land in 1949, reaching place with boat loaded with dog team and gear; she claimed tent frame, log house, and fish rack. Examiner found old tent frame and campsite.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
2, 32N30WS	heli (F) boat, dog, snmb (A)	42	hunt, trap (A) fish (W)	Bobby W. Esai, Sr., Nikolai, F-17520, 7/73. Applicant first went to land to hunt beaver. He used a boat until 1957 when he moved from Big River to Nikolai. Subsequently, he traveled to the place by land. Examiner found no evidence of use. Wife's allotment upriver. His trapline runs through her allotment.
11, 14, 33N30WS	heli (F) boat, snmb (A)	56 (A) 58 (W)	fish, trap (A) hunt, fish, trap (W)	Dora Esai, Nikolai, F-17521, 7/73. Applicant claimed tent frame and fish racks. Land used to belong to in-laws. She trapped beaver on Blackwater Creek. Examiner found no evidence of use.
<u>Salmon River</u> 3, 32N28WS	heli (F) boat, dog (A)	49	fish (A) hunt, fish, bp, home (W)	Lena Petruska, Nikolai, F-17187, 7/73. Applicant and sons fished there for King Salmon each year; she claimed tent frame and fish shed. Examiner confirmed. Airstrip and ADF&G weir nearby.
4, 5, 32N28WS	heli (F)	55	hunt, fish, trap (A)	Mary John, Nikolai, F-17768, 7/73. Applicant claimed tent frame and fish rack. Examiner found no evidence of use. Farewell winter trail crosses SW part. Miska Deaphon said she fished at the site.
5, 32N28WS	heli (F) dog (A)	35	fish, bp, trap (F)(W)	Miska Deaphon, Nikolai, F-17176-A, 7/73. Applicant trapped area since 1935. He built new cabin in 1958. He travels to the place in June and then goes to Sullivan Creek in July. He returns in August before going to Medfra or Nikolai. He then returns for trapping season. Examiner confirmed existence of improvements.
<u>Pitka Fork</u> 2, 3, 10, 11, 31N28WS	heli (F) snmb, boat (A)	35	bp, trap, fish (A) (W)	Miska Deaphon, Nikolai, F-17176-B, 7/73. Examiner found only a stack of logs near mouth of Sullivan Creek, perhaps to be used for a cabin; he noted much beaver sign and that the Middle Fork (sic?) was being considered as a navigable body. Witness said winter trail runs to Salmon River cabin. Another said that old cabin was nearby. Deaphon said he fished for dog and red salmon in summer and hunter moose in winter.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Windy Fork</u> 36, 24N27WS	heli (F) plane (A)	61	hunt, trap	Rose Winkelman, F-18194-B, 7/73. Examiner located cabin, cache, two small buildings, and airstrip.
<u>Unnamed stream (Windy Fork)</u> 30, 25N25WS	heli (F)	61 (?)	hunt, trap	Rose Winkelman, F-18194-C, 7/73. Examiner located a cabin.
23, 25N26WS	heli (F) plane (A)	60	hunt, trap	Rose Winkelman, F-18194-A, 7/73. Examiner located cabin, motor vehicle, and airstrip; he believed vehicle was driven from Farewell.
<u>Middle Fork</u> 2, 3, 32N29WS	heli (F) dog (A)	50	trap (A) (F)	Willie Petruska, F-17190, 7/73. Applicant claimed and examiner found a tent frame. Applicant planned to build cabin. Trail extended from campsite to lake in Sec. 3.
15, 22, 33N29WS	heli (F)	60 (A) 68 (W)	hunt, fish, trap, bp (A) hunt, fish, trap, bp (W)	Mary Ellen Petruska, F-17785-B. Applicant claimed tent frame and fish rack. Examiner found no physical evidence of use.
<u>Forth of July Creek (Takotna River)</u> 7, 30N40WS	heli (F) plane (W)	61 (W) 63 (A)	hunt, trap (A)	Marian Elsie Norback, F-17959, 8/73. Applicant claimed tent frame. Examiner found no evidence of use. Robert I. Vanderpool of Red David transported applicant and husband to site in skiplane; he also hauled supplies and mail. In 1975 applicant wanted to build trapping cabin.
<u>Black River</u> 29N34WS		58		Alexie Evan, Stony River, F-029379. Site at mouth of river. Case closed 1968.
<u>Nunsatuk River</u> 26N37WS		40		Andrew Wasky, Stony River, F-029381. Allotment at mouth of river. Case closed 1968.
<u>Tatlawiksuk River</u> 31, 22N36WS		48		Ignatti Macar, F-029324. Application made in 1962. Case closed.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
35, 22N38WS	heli (F)		hunt, trap (W)	Chris Macar, F-12552, 8/73. Examiner found no evidence of use. George and Mary Macar and Andrew Gusty said he hunted beaver, marten, otter, and moose.
2, 3, 21N38WS	heli (F)	62 (A) 63 (W)	hunt, trap (A)(W)	Miska Zaukar, F-16498, 8/73. Examiner found no evidence of use. Alexie Gusty submitted sketch showing location of tent frame; he said lots of people hunt for moose in the fallin area.
<u>N. Fk. Swift River</u> 31, 17N31WS		42		Constantine Gusty, F-029323. Applied 1962. Case closed.
<u>Gagaryah River</u> 11, 18N34WS	heli (F)	50	trap	Evan A. Macar, Sleetmute, F-17965-C, 7/73. Examiner found no evidence of use. Applicant submitted sketch showing location of cache, tent frame, traps, stove, and stove pipes on hillside; he claimed use each fall and winter for marten hunting.
<u>Cheeneetnuk River</u> 25, 21N35WS	heli (F)	54	hunt, trap	Iyana Gusty, Stony River, F-16842-B, 8/73. Applicant claimed to trap beaver, marten, and mink, and to hunt moose. Examiner found no evidence of use.
<u>Telaquana Lake</u> 25, 10N26WS	plane (F)	59	rec (F)	Richard A. Straty, F-024659, 1960. By 1961 applicant had small plywood cabin on the small tract.
9, 10N26WS		68	trap	James W. Teergarden, Anchorage, F-1651. By 1971 he had a small cabin and cache on the headquarters site. Trapline ran north, east, and west of site.
<u>Telaquana River</u> 15, 16, 10N27WS		68	fish (A)	Grace L. Rosenquist, Kenai, F-19729, 6/74. Applicant claimed tent frame and fish racks. She said logs were floated to building site in 1970. Examiner found cabin not completed.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Necons River</u> 7, 12N25WS	plane (A)(F)	47 (A)	hunt, fish, guide (A)	William W. Renfrew, F-028575, 7/66. Headquarters site at head of Two Lakes. Applicant registered guide and commercial pilot. Cabin and "boat" at the place.
26, 12N26WS	plane (A)	58 (A)	trap, hunt, fish	Victor Lenhart, F-020739. Applicant filed for homestead at outlet of Two Lakes. He claimed to have flown in a sawmill, tractor, and other building equipment.
2, 11N27WS	hell (F) plane (A)	66 (A)	hunt, fish	Floyd A. Tetpon, Eagle River, AA-946, 7/73. NA on small lake. Examiner found no use evidence. Two witnesses verified use and building of an airstrip. One witness saw in 1978 two floatplanes unloading building materials for a cabin.
<u>Can Creek</u> 4, 12N32WS	plane (A)	74	hunt, trap, guide	George L. Faerber, AA-9041, 9/80. Applicant operated Whitefish Hills Lodge on headquarters site, located on small unnamed lake. Flew in a Grumman sport boat.
<u>Hungry Creek</u> 28, 14N35WS	boat (W)	63	bp, trap (W) fish, hunt (A)(W)	Alice Bobby, Red Devil, F-17871, 7/73. NA located on creek linking Trout and Kutokbuna lakes. Applicant claimed to be third generation to use whitefish spring camp. Examiner found fish trap and fish racks, large tent frame, and sauna. Not clear if there is sufficient clearance for boat.
24, 14N35WS	hell (F)	05	bp, fish (A) trap (W)	Annie Bobby, Lime Village, F-17864, 7/73. NA located at outlet of Trout Lake. Examiner found tent frames, smokehouse, fish net, sauna, fish racks. Applicant died 1973 at age 89. Daughter continued to use.
<u>South Lime Lake</u> 14, 15N34WS	hell (F)	54 (A)	fish, hunt, bp (A) trap, fish, hunt (W)	Katherine Bobby, Lime Village, F-17868, 7/73. Applicant noted old cabin. Examiner found no use evidence. Applicant and father said they were not sure where cabin was located as it was build years ago by elders. Witnesses said there was a fall fish camp there.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Tundra Lake</u> 13, 14, 13N36WS	hell (F)	32 (A) 36 (W)	fish, hunt, bp (A)	Emma Bobby, Lime Village, F-17867, 7/73. Examiner found no use evidence. Caribou Snare Creek in photo appears deep with well defined channel. Aunt calls "606 Lake". Witnesses said villagers use land in spring, winter, and fall for hunting, fishing and trapping. Aunt said old cabin, tent frame, bath house nearby.
2, 11, 13N36WS	hell (F)	61 (A)	fish, hunt, bp, trap	Woodrow Vanderpool, Aniak, F-16757, 7/73. Examiner found no use evidence. Lake in photo appears clear, shallow, vegetated, with low banks of grass and birch. Applicant said old boat nearby; he hunted in spring only and fished for pike and whitefish. He died in 1977.
7, 13N36WS	hell (F)			Helen B. Dick, F-17964-A, 7/73. Examiner found no use evidence.
<u>Stink River</u> 4, 15N38WS	hell (F)	59	hunt, trap, bp (A) trap, fish, hunt (W)	Mary Bobby, F-16998-A, 7/73. Examiner found no use evidence. Applicant claimed site for future use.
21, 16N38WS	hell (F) boat (W)	65 (A)	fish	Annie Bobby, F-17023-B, 7/73. This is actually the campsite of applicant's mother, Madrona Bobby. Examiner found straw covered shelter, numerous fish racks, old cache. There is a fish trap site on small stream draining Tishimna Lake. Examiner recommended rejecting Annie's application and moving from Tishimna Lake to this site. Father noted boat landing there.
20, 16N38WS	hell (F)	31	fish, trap, (W) hunt, bp (A) (W)	Madrona Bobby, AA-9098, 7/73. NA on Tishimna Lake. Examiner found no use evidence. Lake in photo appears vegetated; outlet is single narrow channel. Daughter notes boat landing but probably this refers to Stink River site since she referred to cabin, fish rack, graveyard, etc.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
4, 16N38WS	heli (F)	59	hunt, trap, bp (A)(W) fish (W)	Mary Bobby, F-16998, 7/73. Examiner found cabin, three caches, and square stern boat. Father said the place was primarily a hunting camp. Photo shows tree lying across river.
<u>Unnamed Lake</u> 18, 17N38WS	land (F) plane (A)	74	hunt, fish, guide, trap	Richard W. Halford, Chugiak, AA-8957, 1981. Applicant operated Susitna Lodge and Flying Service. He claimed a 12-foot aluminum boat at the place. In 1977 he drove bulldozer from Sparrevohn to the place. Examiner verified substantial improvements.
<u>Inowak Creek</u> 2, 10N43WS	heli (F)	57	trap	Evan Effemka, F-16523-B, 8/73. Examiner found no use evidence. Applicant said he used a tent but stored traps on the land; he died in 1977.
<u>Holitna River</u> 20, 9N48WS	heli (F) boat (A)	11fe	trap, hunt, fish (F)(A)	Ignati Ignatti, Kashegelo, F-19737, 11/77. Patents lived here. Trapping is only source of income. Received supplies by boat. Cemetery. NPPR.
30, 11N47WS		32		Sinka Zaukar, Sleetmute, F-29370. Applicant filed in 1962.
30, 11N47WS	heli (F)	67	hunt, fish, trap (A)	Antone Zaukar, Sleetmute, F-17967-C, 8/73. Examiner found two cabins in ruins at Nogamut. Applicant said that he and brother use in fall and winter. Friend said Zaukar's parents lived there for many years.
35, 12N47WS	plane (F) boat (W)	32	hunt, fish, trap	Nastatia Moxie, Red Devil, F-19736. Year-round residence. Log cabin and cache on land. NPPR.
25, 12N47WS	heli, plane (F) boat, plane, snmb (A)	30s	hunt, fish, trap	Evan Nick, F-19738, 11/77, 7/79. Year-round residence, NPPR. Examiner found numerous improvements and boats. He noted that brothers I. Ignatti and Evan had 20' aluminum boat and an aluminum canoe. Also he noted an old boat at Moxie's place.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Kogruklu River</u> 18, 8N49WS	heli (F)	59	trap (F)	Marie F. Kameroff, Little Russian Mission, F-16981-C, 7/73. Examiner found no use evidence.
17, 8N49WS	heli (F) dog (A)	58	trap (A)	Nick C. Kameroff, Little Russian Mission, F-17952, 7/73. Examiner found no use evidence.
<u>Shotgun Creek</u> 22, 8N49WS	heli (F)	50s	trap, fish, bp (A) hunt, fish (W)	Steve Abruska, Sleetmute, F-17963, 7/73. Examiner found no use evidence.
<u>Titnuk Creek</u> 21, 28, 10N43WS	heli (F)	52	hunt, trap (W)	Nadia M. Fredericks, Sleetmute, F-17029-A, 7/73. Examiner found two old log cabins and one old cache. Witness said cabin built by George Fredericks in 1954; he noted that place was about 80 miles by river.
28, 12N43WS	heli (F) dog (A)	27, 59 (A)	trap (A)	William S. Fredericks, Bethel, F-18202, 8/73. Applicant said he visited this place every winter until 1968; he moved there in 1959 and built a new cabin in 1962. Before 1959 he had a cabin since 1927 a couple bends downriver. BIA verified location.
<u>Hoholitna River</u> 27, 34, 12N41WS	heli (F) boat (W)	26	hunt, trap	Jack Egnaty, Sr., F-18192, 7/73. Applicant said there was an old cabin built in 1958 there. Examiner did not find it. Witnesses said he hunted moose and trapped mink, otter, marten, and beaver.
6, 12N41WS	heli (F)	50	trap (A)	Evan A. Macar, Sleetmute, F-17965, 7/73. Applicant said he used each winter for beaver trapping. Examiner found no evidence but noted that river used extensively by local villagers.
18, 19, 13N41WS		58		Lisa Gusty, Stony River, F-29363. Case closed 1962.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
11, 14N42WS	heli (F)	65	hunt, fish, trap, bp (A)	Jesse Andreanoff, Sleetmute, F-17920, 8/73. Examiner found two cabins.
2, 3, 14N42WS	heli (F) boat (A)	54 (W)	hunt, trap	Evan Zaukar, F-16529, 8/73. Applicant said he trapped beaver there. Examiner found no use evidence. Witnesses said he also hunted moose there but not for a couple of years since he did not have an outboard motor.
29, 15N42WS		46		Miska Zaukar, F-29369. Case closed in 1968.
19, 15N42WS	heli (F)	68	hunt	Jennie L. Zaukar, F-16530, 8/73. Applicant noted old rotten building at the site of Cotton Village. Examiner found no use evidence. Witnesses said he went moose hunting there every fall.
8, 15N42WS	heli (F)	33	trap, hunt (A)(W) fish (W)	Sinka Zaukar, Sr., F-16532, 8/73. Examiner found no use evidence.
21, 16N42WS	boat, snmb (A)	74	trap (A) hunt, fish (W)	Douglas K. Carney, AA-9016, 6/79. Applicant built trapping cabin and sold furs to Nick P. Mellick and Sons, Sleetmute. Cabin damaged in 1975 flood. Examiner saw two boats at the place.
<u>Hook Creek</u> 21, 12N33WS	heli (F) plane (A)	74	trap (F) hunt, fish (A)	William M. Dixon, Chugiak, AA-8955, 3/81. T&M Site for hunting and fishing resort. Examiner found airstrip and cabin.
27, 12N34WS	heli (F) plane (A)	74	hunt, fish, trap (A)	John R. Haakenson, Anchorage, AA-9024, 7/79. T&M Site for hunting and fishing resort. Examiner found airstrip, tent camp remains, and garbage.
16, 21, 12N34WS	plane (A)	74	hunt, fish (A)	Gary C. Pogany, AA-9034, 7/79. T&M Site for hunting and fishing resort. Applicant shipped a cat to the place via Sparrevohn. Examiner found airstrips, cabin, tent frames, snowmobiles.
24, 12N35WS		74		Mary K. Feathergill, Girdwood, AA-8956. Homesite; case closed.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
5, 11N35WS	heli (F)	40	trap, hunt (A)(W)	Pete Paul Bobby, F-17869, 7/73. Applicant said this also was his father's trapping grounds. Examiner found old log cabin and much beaver sign.
2, 11N36WS	heli (F)	56	trap, hunt (A)(W)	Bodusha Bobby, Lime Village, F-17865, 7/73. Applicant said three generations used land. Examiner found no use evidence; he photographed road, AF fish camp, and foot bridge. Relatives said they also used land.
<u>Unnamed Lake</u> 26, 16N43WS	heli (F)	74	hunt, fish, trap (A)(W)	James D. Thomson, Chugiak, AA-8987, 7/79. T&M Site, Holitna R. Lodge. Applicant said 16' boat flown in for use of clients. He did his trapping by snowmachine and plane. Examiner found cabin, cache, snowmachine, etc. Boat was on the river.
26, 27, 16N43WS	plane (A)	74	flight school (A)	Robert C. Tears, AA-8989, 7/79. T&M Site, Homestead Air Service. Applicant claimed aircraft maintenance and air taxi business. Witness mentioned boat at the place.
25, 16N43WS	heli (F) plane (A)	74	hunt, fish, trap (A)	Robert C. Tears, AA-8989, 7/79. HQ Site, Homestead Lodge. Examiner found cabin, garden, snowmachines, etc.
<u>Unnamed Lake</u> 33, 16N33WS		73	home (A)	Douglas Carney, F-19544, 4/74. Applicant claimed to occupy during winter '73-'74.
<u>Basket Creek</u> 25, 18N43WS	heli (F)	50	bp (A)(W)	Mary M. Egnaty, Sleetmute, F-13765-B, 9/73. Examiner found no use evidence of NA at creek mouth. Photograph shows gravel bar running up middle of creek from mouth, suggesting that it would be difficult if not impossible to enter creek except at high water.
<u>Johnny Slough</u> 28, 18N43WS	heli (F)	50s	trap, hunt, fish, bp (A)	Marjorie Mellick, Sleetmute, F-16526-A, '74. Examiner found number of boards on bank and cabin logs in water.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Barge Slu</u> 22, 18N43WS	hell (F)	67	hunt, fish, trap (A)	Antone Zaukar, Sleetmute, F-17967, 8/73. Examiner found two tent frame sites at mouth of shallow slough.
<u>Vreeland Creek</u> 6, 18N44WS	hell (F)	58	hunt, trap (A)(W)	Peter Zaukar, Sleetmute, F-16531, 8/73. Applicant said he simply pitched a tent. Examiner found no use evidence.
27, 19N44WS	hell (F)		hunt, trap (A)	Olinka Yako, Sleetmute, F-16528. Applicant said he simply pitched a tent. Examiner found no use evidence.
<u>East Fork George River</u> 22, 23, 22N45WS	hell (F)	15 (A)	trap, hunt, bp (A)(W)	Alexie Sakar, Crooked Creek, F-91, 9/73. Applicant said his parents also lived there. A cabin was built in 1958. Examiner found no use evidence and guide said he knew of no one using the land in past ten years. Relatives said ten children born there. Alexie was only survivor.
17, 20, 22N45WS	hell (F)	40	trap, hunt, bp, fish	Evan Sakar, Crooked Creek, F-18017, 8/73. Applicant said log cabin and cache built in 1969. The place was about "10-minutes" up the E. Fk. Later he said cabin was ruined; he simply pitched tent. Examiner found no use evidence. Applicant's father Alexie, said the place was called Kilaqavik. Son was born there and lived there until 1954. He trapped there annually until 1970. BIA located the cabin.
<u>Oskawalik River</u> 21, 28, 16N49WS	hell (F)	60	hunt, trap	Jimmie Morgan, Red Devil, F-17025, 9/73. Examiner found no use evidence; he believed the place to be accessible by snowmachine. He also noted that the area was noted for large numbers of bears and wolves. His guide knew nothing about the site.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Veahna Creek</u> 5, 17N50WS		67	bp	Seraphine A. Borowski, Kalskag, F-18212, 6/75. NA located about 1 1/4 miles upstream. Examiner found no use evidence.
<u>Holokuk River</u> 13, 15N51WS	boat (W)	55	trap, hunt	Nick C. Kameroff, Little Russian Mission, F-17952, 9/74. NA at mouth of Beemguiga Creek. Examiner could not find claimed tent frame. He saw John Andrews of Kwethluk camping at the place. Andrews was bear hunting. Examiner photographed his boat.
32, 16N51WS		38	hunt, trap, fish, bp, mine	Carl Abruska, F-15755, 9/78. Applicant claimed a cabin and cache since 1943. Examiner found no improvements. He found mining camp up Gold Run.
<u>Kolmakof River</u> 27, 34, 19N53WS	air (F)	59	trap, bp, fish (W)	Marie F. Kameroff, Little Russian Mission, F-16981, 6/75. Applicant said she pitched tent. Examiner found old fire pit. He noted that river "used for hunting and fishing by many people."
26, 18N53WS	air (F)	35	hunt, fish, bp	Timothy Kameroff, Aniak, F-15665, 8/74. NA located about four miles upriver. Examiner found no use evidence. Photo shows tree lying across entire river channel.
27, 28, 18N53WS	heli (F) boat (A)	56	bp (F) hunt, bp (A)	Mary P. Kelila, Aniak, F-16983, 9/74. Examiner found fire pit and Purex bottle. He said that applicant went to the parcel "only when the waters of the Kolmakof are high enough to allow easy and safe passage to the parcel."
<u>Buckstock River</u> 34, 17N51W	heli (F)	55	trap	Nick C. Kameroff, Little Russian Mission, F-17952, 9/74. Examiner said NA located at mouth of Kay Creek. He found no use evidence. Applicant said that he had not trapped there since 1971 as area closed to trapping. Photographs show boulders and rapids in river.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Slough</u> (Aniak Slough) 21, 17N56WS		64	wood, hunt	Golga Kelila, Jr., Aniak, F-16189, 8/74. NA located near head of slough. Examiner found no improvements. He said area heavily used by local hunters and fishermen. He noted that place was accessible by snowmachine.
<u>Swift Creek</u> 2, 3, 12N57WS	air (F)	44	hunt, trap	Carl N. Morgan, Sr., Aniak, F-15818, 8/74. Applicant said there was an old cabin on the site. Examiner located it; he also found old mining trail to Sears Creek (Tuluksak River).
9, 16N57WS		49	hunt, trap	Frank Cutter, Aniak, F-15814, 8/74. Applicant showed examiner an old collapsed cache and tent frames. A winter trail crosses land. Several persons used trail to reach trapping grounds.
<u>Unnamed Slough of Aniak Slough</u> 30, 31, 17N57WS			hunt	Joseph S. Gregory, Kalskag, F-15845, 6/75. Applicant claimed to have used for many years. He pitched a tent. Photos show evidence of flooding.
<u>Discovery Creek</u> 32, 16N58WS		62	hunt, trap, bp (A)	Gerald F. Simeon, Aniak, F-15824, 8/74. Applicant showed examiner the location of tent frame. Applicant said he used year-round. Examiner wrote that area heavily used for hunting and trapping.
17, 20, 16N58WS	air (F)	97	trap, fish	Sam A. Simeon, Aniak, F-15999, '60 and 8/74. Examiner in 1960 found frame cabin, log cabin, outhouse, cache, and tent frame; he verified use of land as trapping headquarters. Examiner in 1974 found cabin in poor condition and tent frame remains. Grandson Gerald said applicant spent much time there.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Discovery Creek) 22, 23, 16N59WS	heli (F)	66	hunt, trap, bp	Steven J. Gregory, Kalskag, F-15654, 6/75. Applicant claimed to hunt on land in August. His spring camp for muskrat hunting also was there. Examiner found campsite. Photo shows fairly wide creek.
<u>Ophir Creek</u> (Whitefish Lake)	heli (F)		hunt, fish, farm	Harry Faulkner, Bethel, F-19136, 8/73. Mineral hot springs lease. By 1966 applicant had small airfield and small cabin. He claimed the springs was accessible by small aircraft only. Examiner found substantial improvements on nearby T&M Site and homestead.
2, 14N60WS	heli (F)	66 (A) 50 (W)	hunt, fish, trap, bp	Steven E. Alexie, Kalskag, F-17343, 6/75. Relative said applicant's parents used the land when applicant was young. Neighbor said applicant went there in the winter. Examiner found no use evidence.
35, 15N60WS	heli (F)	64	hunt, fish, trap, bp	David Nook, Kalskag, F-17348, 6/75. Examiner found no use evidence. Photo shows Ophir Creek entering lake in two channels.
<u>Unnamed Stream</u> (Whitefish Lake) 9, 10, 16, 15N59WS	heli (F)	33 (A) 23 (W)	trap, hunt (A)(W) bp (W)	Evan M. Alexie, Kalskag, F-15618, 6/75. Applicant hunted muskrat, otter, mink, and beaver here. Wife and relative noted boat landing.
<u>Bogus Creek</u> 12, 13N64WS	heli (F)	65 (A) 67 (W)	trap (A)(W) hunt, bp, fish (W)	William Napoka, Tuluksak, F-16119, 7/75. Examiner found remainder of tent rack and cabin. Applicant claimed annual use during the months May to September.
11, 12, 13N64WS		60		Herman Hawk, Tuluksak, F-25271. Case closed 1966.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
21, 27, 28, 13N64WS	heli (F) dog (A)	48	trap, fish	James Lott, Tuluksak, F-31214, 7/75. Applicant claims to trap mink, beaver, lynx, muskrat, and fox March to June, and smoke and dry pike, whitefish, and sheefish July to September. Examiner found an old village site (remains of several buildings and a cemetery) and a recent campfire.
<u>Unnamed Stream</u> (Bogus Creek) 15, 22, 23, 14N61WS	heli (F)	64	trap	Iftukim Evan, Lower Kalskag, F-17303-A, 6/75. Examiner located campsite for winter and spring trapping south of the creek in Sec. 15.
<u>Unnamed Stream</u> (Bogus Creek) 32, 14N61WS	heli (F)	48	hunt, fish, trap	Elia Evan, Lower Kalskag, F-16534-D, 6/75. Examiner found no use evidence. Place just south of winter trail shown on USGS maps.
<u>Yukaniluk Creek</u> 30, 13N63WS	heli (F)	64	hunt, fish	Fred Napoka, Tuluksak, F-17038, 7/75. Examiner found some old barrels and possible remains of tent frames. He found no recent use evidence. Applicant claimed use during the months of May to July.
<u>Tuluksak River</u> 12, 10N62WS	heli (F)	48	hunt, trap, fish	Clarence B. Clark, Sr., F-17230, 9/74. Applicant lived in Nyac and vicinity since 1926 except for a 6-year period when he worked for BIA at Bethel. He claimed to have moved a wagon for use as living quarters to the place in January 1949. Examiner found a cabin on the parcel, and learned that the applicant worked for Tuluksak Dredging at Nyak. He noted that an old trail used to cross river at the parcel but it was completely overgrown.
26, 35, 11N64WS	heli (F)	51	hunt, fish, trap, bp	Carl M. Napoka, Tuluksak, F-16120, 7/75. Examiner found an old campsite and log shelter.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
14, 11N64WS	heli (R) dog, snmb (A)	55 (A) 50 (W)	hunt, bp (A)(W) trap, fish (W)	John Napoka, Jr., Tuluksak, F-16118, 7/75. Applicant claimed no improvements and examiner found no use evidence. A relative and a friend claimed a cabin and a tent frame were on the parcel.
22, 23, 26, 27, 11N64WS	heli (F)	58	bp	Elizabeth Andrew, Tuluksak, F-18778, 7/75. Examiner found berries but not the claimed tent rack.
35, 36, 12N65WS	heli (F)	58	hunt, fish	Mollie Japhet, Tuluksak, F-17037, 7/75. NA at mouth of Fog River. Examiner found tent racks. Applicant claimed summer use of parcel.
<u>Birch Slough</u> 8, 11N63WS	heli (F) dog, snmb (A)	23, 45 (A)	trap, bp, hunt	James Waska, Akiak, F-16596. Applicant said there was a tent frame and various hunting and trapping paraphernalia on the parcel. Examiner and applicant inspected a parcel near the Kisaralik, perhaps because the applicant was unable to orient himself from the air.
<u>Fog River</u> 32, 33, 9N61WS	heli (F)	60	hunt, trap	Waska A. Williams, Sr., Akiak, F-15921, 9/74. Examiner found a campsite with 5-gallon cans made into stoves and a brush shelter apparently used by Frank Demantle as well.
32, 9N61WS	heli (F)	40	hunt, trap	Frank Demantle, Akiak, F-15901, 9/74. Examiner found traps, shelters, stretchers, a meat rack, and beaver sign on the parcel. Applicant said this was his winter hunting ground.
19, 20, 9N63WS	heli (F)	60	trap	Peter E. Williams, Akiak, F-15918, 9/74. Applicant said the parcel was the site of his winter trapping camp. Examiner found a ridge pole and three 5-gallon cans nailed to trees.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Fog River) 32, 33, 9N62WS	heli (F)	60, 49 (A)	trap, hunt	Eddie Charles, Akiak, F-15899, 9/74. Examiner found tent site and beaver sign. Applicant claimed use from February to April.
<u>Mishevik Slough</u> 29, 32, 12N65WS	heli (F)	60 (A) 45 (W)	trap, bp (A) bp, fish (W)(A)	Lydia Peter, Tuluksak, F-17042, 6/75. Applicant claimed use during months May to September. Examiner noted winter trail crossing parcel; he found no other use evidence. Applicant said she used to go there with parents.
15, 22 11N66WS	heli (F)	40, 60 (A)	fish, trap, hunt	Nicholi Peter, Tuluksak, F-33631/F-13870, 7/75. Examiner found no use evidence. Applicant said tent frame washed away by annual flood.
14, 11N66WS		64		Alexie Andrew, Tuluksak, F-33632. Case closed 1971.
14, 15, 22, 23, 11N66WS		64		Daniel Andrew, Tuluksak, F-33633. Case closed 1971.
15, 22, 11N66WS	heli (F) boat (A)	59	fish, hunt	David Andrew, Tuluksak, F-33630, 7/75. Applicant said he uses land primarily in fall. Sometimes he pitched a tent but usually he returned to village at night. It is only two hours by boat to the village.
22, 11N66WS	heli (F)	65	trap, fish	Elijah Napoka, Tuluksak, F-17367, 7/75. Examiner found an old cache and recent campsite. Applicant traps in winter, hunts muskrat in spring and fishes.
20, 11N66WS	heli (F)	45	fish, trap, hunt	Frank Fly, Tuluksak, F-33634, 7/75. Examiner found remains of cache and cabin which applicant said belonged to parents. He also found applicant's tent stakes and poles.
28, 11N66WS		30		Anna Fly, Tuluksak, F-33635. Case closed 1971.

Settlement Claims of Kuskokwim Region

Location	Access	Qcc	Use	Remarks
8, 10N66WS	heli (F)	59	hunt, trap, fish	Paul Evan, Akiak, F-15903, 9/74. Examiner found no use evidence. Friends called the slough "Chunak". Applicant died 1972.
20, 10N66WS	heli (F)	45	bp	Lucy M. Pete, Akiak, F-15910, 9/74. Examiner found campsite and abundant cranberry bushes but not the claimed tent frame.
25, 10N67WS	heli	57	fish, trap	Galila Nelson, Akiak, F-13377, 9/74. Examiner found remains of cabin and fish racks.
<u>Unnamed Stream</u> (Mishevik Slu) 23, 26, 11N66WS	heli (F)	38	bp, trap	Mary Napoka, Tuluksak, F-17369, 7/75. Applicant claimed and examiner found a tent rack. Campsite showed signs of frequent use.
<u>Unnamed Stream</u> (Mishevik Slu) 10, 15, 10N66WS	heli (F)	48	bp, trap	Bertha Lake, Akiak, F-15907, 9/74. Applicant claimed to "go there every fall to pick berries for winter use." She indicated the use of dogs in 1948. During the exam, she also claimed to hunt mink, muskrat, and fox there. Examiner found tent frame, two stoves, campsite, and well-worn trail.
<u>Unnamed Stream</u> (Mishevik Slu) 15, 22, 10N66WS	heli (F) dog (A)	47	hunt, bp, trap	Moses I. Roland, Akiak, F-15911, 9/74. Applicant claimed to hunt muskrats in spring, pick berries in summer and trap and hunt furs in the fall. Examiner found tent site, stove, various boxes and cans, and debris.
29, 10N66WS	heli (F)	62	hunt, bp	Ted Williams, Akiak, F-15919, 9/74. Applicant said he did most of his bird and muskrat hunting here. Examiner found abundant cranberry bushes, several well-worn trails, and applicant's markers on corners of land claim. Applicant died 1975.
29, 10N66WS	heli (F)	60	bp, hunt	Anna K. Demantle, Akiak, F-15900, 9/74. Examiner found tent frame, stove, and remains of storage shelf. Applicant also claimed a spring camp on the land.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Kisaralik River</u> 3, 7N63WS	heli (F) dog (A)	44	trap	Samuel A. Ivan, Akiak, F-18251, 9/74. Examiner located campsite, traps, tools, and camping equipment. A cat trail crosses parcel.
33, 8N63WS		45		Wassilie Evan, Akiak, F-25257. Case closed 1966.
36, 8N64WS	heli (F)	49	hunt, trap (A)(W) fish (W)	Moses Nicolai, Kwethluk, F-16482, 9/74. Examiner said applicant usually stays in a wanigan. He found traps, nets and a trail. According to examiner, the applicant "was credited with the rescue of two prospectors. The boat owned by the two men had overturned and wrecked leaving the men stranded. The men who had been lost for about three weeks were found when Moses decided to go fishing at his [NA] claim." Applicant said he trapped beaver, mink, lynx, fox and wolverine, and hunted moose.
35, 36, 8N64WS	heli (F)	60	trap (A)(W) hunt, fish (W)	Noah Jackson, Akiak, F-13191, 8/74. Examiner found campsite, traps, and a trail. Airstrip is located on parcel. Applicant and sons used parcel to hunt beaver, mink, and otter during winter months.
26, 35, 36, 8N64WS	heli (F)	57	hunt, trap, bp	Carl W. Jackson, Akiak, F-13378, 8/74. Applicant said he used parcel to hunt moose or trap beaver. He used it mostly during the winter, but sometimes picked berries there in summer. Examiner found trap sets and shoreline trail. Airstrip and wanigan located on the lands. Examiner said these improvements were constructed several years ago by mineral prospectors.
35, 36, 8N64WS	heli (F)	60	fish, bp, trap	Martha M. Nicolai, Kwethluk, F-17501, 7/74. Applicant's husband said he trapped beaver here. Old winter trail leaves river here and crosses parcel. Husband and wife stay in wanigan--- when they visit the place.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
35, 8N64WS	heli (F) snmb (A)	64	hunt, trap	Yeaho Fisher, Kwethluk, F-17500, 9/76. Examiner found cardboard box and other debris. Applicant hunted moose and trapped fox. Land is between 3 and 3 1/2 hours from village.
35, 8N64WS				Noah Jackson, Akiak, F-25256. Case closed 1966.
35, 8N64WS				Carl W. Jackson, Akiak, F-25255. Case closed 1966.
26, 27, 34, 35, 8N64WS				David T. Jackson, Akiak, F-25254. Case closed 1966.
26, 35, 8N64WS	heli (F)	57	hunt, trap	David T. Jackson, Sr., Akiak, F-13379, 8/74. Examiner located camp area, trap set, and shoreline trail. Photo shows river with wide bars and drift logs. Riffles evident.
28, 8N64WS	heli (F)	60	hunt, fish, trap 1 (A)	Nelson Nose, Kwethluk, F-17502, 8/74. Examiner found no use evidence.
29, 8N64WS	heli (F) snmb (A)	56	hunt, fish, trap	Frank D. Nicori, Kwethluk, F-16807, 8/74. Examiner found gas can used as a stove. Applicant traveled to land summer and winter. Kwethluk people considered Kisaralik "one of the best, easily accessible hunting areas."
29, 30, 8N64WS	heli (F) snmb (A)	58	hunt (A)(W) trap (W)	Harry Frank, Kwethluk, F-17061, 8/74. Examiner found no use evidence; she noted that friend of applicant stated that he also fished there in summer. Applicant said he hunted moose in fall and beaver in winter.
30, 8N64WS; 25, 8N65WS	heli (F)	58	hunt, bp (A)(W) trap (W)	Maggie Guy, Kwethluk, F-17064, 7/74. Examiner found campsite, wood piles, cans, tent frame, and stove. Husband said family goes to site in winter. He also indicated that "fishing for trout under the ice was a special treat while out trapping in the winter."

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
25, 8N65WS	heli (F)	52	hunt, trap, fish	Joseph Guy, Kwethluk, F-17063-B, 7/74. Examiner found campsite shared with adjacent allotment applicant (F-19062).
19, 8N65WS	heli (F)	42	hunt, trap, fish, bp	James Guy, Sr., Kwethluk, F-17062, 7/74. Examiner found campsite with snowshoes, stove, saw, and traps. Applicant fishes in winter. Winter trail crosses parcel.
22, 23, 8N65WS		56	hunt, fish, trap, bp	Betty Nicolai, Kwethluk, F-17098. Applicant claimed tent frames and racks.
8, 8N65WS	heli (F)	59	hunt, bp	Paul Evan, Akiak, F-15903, 9/74. Examiner found campsite, tent frame, fire pit, and 5-gallon can.
7, 8, 8N65WS	heli (F)	60 (A) 66 (W)	hunt, fish (A)(W) bp (W)	Harry Snyder, Bethel, F-19273, 9/74. Examiner found boot tracks on river bank and presumed them to be the applicant's as he had said that he visited the site but two weeks earlier.
25, 9N66WS; 30, 9N65WS	heli (F) dog (A)	58	trap (A)(W) hunt, bp (W)	Frank N. Kawagley, Akiak, F-18140, 9/74. Applicant claimed tent frame and meat rack. Examiner could not find improvements. Friend said the place was called "Kiktaryuk".
25, 26, 35, 36, 9N66WS	heli (F)	62	bp, hunt, trap	Nellie R. Kehoe, Red Devil, F-17542, 9/74. Applicant said she was born and raised in area. Examiner could not find use evidence. Cousin in Akiak said she used to bp there before moving to Anchorage in 1972. One cousin said the place was across from "Gitukayenuk".
28, 29, 32, 33, 9N66WS		45		Robert Williams, Akiak, F-25253. Deceased 1960.
29, 32, 9N66WS	heli (F) dog (A)	55	bp, hunt, fish, trap	Jackson W. Williams, Akiak, F-15915, 9/74. Applicant said this was a spring camp. Examiner found tent frames, meat racks, and bird houses. Applicant said aunt drowned nearby and buried on small hill.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Nukluk Creek</u> 34, 35, 8N63WS	heli (F)	45	hunt, fish, bp, trap	Wassillie M. Evan, Akiak, F-19373, 9/75. Examiner located two camps with stoves, tent frame, and litter. Applicant said he traps beaver, land otter, mink, and wolverine.
<u>Unnamed Stream (Kisaralik River)</u> 10, 9N65WS	heli (F)	45, 42 (A)	hunt, trap	James Tom, Akiak, F-17460, 9/74. Examiner found no use evidence. Land is marshy. Applicant indicated winter use only.
4, 9, 9N66WS	heli (F)	40	hunt	Martha L. Kawagley, Akiak, F-15906, 9/74. Applicant claimed use of spring camp for muskrat hunting. Examiner found tent site, fish racks, meat racks, barrel stove, and cans.
5, 9N66WS	heli (F) dog (A)	40	fish, hunt, bp, trap	Robert D. Owens, Kwethluk, F-17077, 7/74. Examiner found tent frame and a grave at foot of lake. Applicant traps muskrats, mink, fox, otter, weasel, lynx, and beaver. He hunts for moose and fowl.
5, 8, 9N66WS		31		Robert D. Owens, Akiak, F-25252. Case closed 1966.
9, 16, 9N66WS	heli (F)	45	fish, hunt, trap, bp	Robert P. Ivan, Akiak, F-33569, 9/74. Examiner found no use evidence. Applicant claimed use of a tent; he first applied for parcel in 1964.
7, 18, 9N66WS	heli (F) dog (A)	45	fish, trap, bp	Ivan M. Ivan, Akiak, F-17082, 9/74. Examiner located campsite.
12, 9N67WS	heli (F)	54	bp	Della Charles, Akiak, F-15898, 9/74. Applicant said she picked berries in summer and camped there in winter. Family stays with Ivan Ivan when berry picking. Examiner found no use evidence.
<u>Reindeer Slough</u> 10, 15, 9N67WS	heli (F)	67	bp	Helen W. Jackson, Akiak, F-18569, 9/74. Examiner found no use evidence.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Kasiqluk River</u> 17, 20, 6N64WS	hell (F)	39	hunt, trap	Johnnie Michael, Kwethluk, F-16011, 7/74. Applicant went to land in winter only to hunt beaver. Examiner noted beaver dams in river.
2, 11, 7N65WS	hell (F)	35	hunt, trap	Evan Olick, Sr., Kwethluk, F-16014, 8/74. Applicant evidently went to land in winter only. He hunted beaver there. Examiner found beaver signs.
33, 8N65WS	hell (F)	31	bp, trap (F)	Alexander A. Nicori, Kwethluk, F-16013-B, 8/74. Applicant said he picked berries in summer and trapped beaver in winter. He and David I. Jackson usually camped on latter's allotment. Examiner noted beaver dam in river.
32, 33, 8N65WS	hell (F)	57	hunt, trap	David I. Jackson, Kwethluk, F-13556, 7/74. Examiner found campsite.
19, 20, 8N65WS	hell (F)	14	hunt, fish, trap, bp	David K. Nicolai, Kwethluk, F-16917, 7/74. Applicant said he and Daniel Guy hunted moose and trapped beaver, mink, lynx, otter, and muskrat. In early fall he and family went there to pick berries. Witnesses said applicant's camp was downriver but his trapline was on parcel. Examiner found no use evidence.
7, 8N66WS	hell (F)	52	trap, fish, bp	Joseph Guy, Kwethluk, F-17063, 7/74. Examiner found old camping debris and cut poles. Photo of river shows well-defined channel.
7, 8N66WS	hell (F)	50	hunt, trap (F)	Albert Olick, Sr., Kwethluk, AA-8966-B, 9/76. Applicant said he hunted moose here. Examiner found old campsite. Photo shows large island at mouth of Columbia Creek.
25, 26, 35, 36, 9N67WS	hell (F)	64	hunt, fish, trap, bp	Henry W. Jackson, Kwethluk, F-16846, 7/74. Examiner located old campsite on riverbank. Applicant said there was another in willows on far end of parcel.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
Unnamed Stream (Little Kasigluk River) 25, 26, 35, 36, 6N65WS	heli	51	hunt, fish, trap	Alexie Alexie, Kwethluk, 7/74. Land located above timberline. Examiner found poles, cans, trap, tin, and glassware.
Unnamed Stream (Kasigluk River) 22, 8N65WS	heli (F)	62	hunt, trap (A)(W) fish, bp (W)	Richard L. Long, Kwethluk, F-17068, 7/74. Examiner said this allotment was near old sawmill. Beaver, moose, and bear sign prevalent. Relatives said allotment on the "Chicoyulwilnuk River".
21, 22, 8N65WS	heli (F)	57	hunt, fish	Wilson Nicolai, Kwethluk, F-17101, 7/74. Examiner found no use evidence. Witnesses said allotment on the "Chicoyulwinuk River" or "Tsikogulugk River".
20, 21, 8N65WS	heli (F) dog, boat, raft (A)	45	hunt, fish, trap, bp	Elizabeth A. Howard, Bethel, F-17018, 7/74. Applicant wrote, "We used to go there by sled and return by raft to Birch Slough and by boat from there to Kwethluk." Allotment located along "Tsikoyulingok River" and abuts that of her father's, David K. Nicolai. She later wrote: "Winter time is the only time we can reach this particular spot because at summer time, as we did attempt to make it twice this summer, the Tsikoyulingok River is dried up which enables us to make it as far as the end of Tsikoyulingok River which runs into Kasiglook River where we went fishing" She recalled going there with parents by dogteam and returning to Kwethluk in "bear skin round boat." Examiner found no use evidence.
18, 8N65WS	heli (F)	54	fish, bp, hunt, trap	William J. Nicolai, Kwethluk, F-17100, 7/74. Examiner found campsite, Yukon stove, ice probe, snares, firewood, and trail. Relatives said allotment located on "Chikoyulwilnuk River". One said that creek has camps on its entire length, the people of Akiak, Kwethluk, and Akiachak hunting and fishing there. Family decided that allotment should be in 13, 8N66WS.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
19, 8N65WS	heli (F)	42	hunt, trap	James Guy, Sr., Kwethluk, F-17062-B, 7/74. Examiner found campsite on marten trapline.
<u>Columbia Creek</u> 18, 19, 20, 8N66WS	heli (F)	30, 65 (A)	trap	David Fisher, Kwethluk, F-17209, 8/74. Examiner found no use evidence. Applicant said he trapped muskrat, mink and fox.
<u>Kwethluk River</u> 7, 1S62WS	heli (F)	67 (A)	hunt, trap (F) hunt, trap, fish (A)	Wassillie Evan, Kwethluk, AA-8289, 7/74. Winter use. Applicant claimed tent home but it was not located.
18, 1S62WS	heli (F)	60 (A)	hunt, trap, fish (A)(F)	Lola Evan, Kwethluk, AA-8288, 7/74. Applicant's claimed tent home not located.
1, 1S63WS	heli (F)	54 (A)	hunt, trap (F)	Evan Kopuk, Kwethluk, F-19261, 7/74. Applicant's claimed tent frame not located. John Andrew said he, Evan Kopuk, and Adam Andrew camp together downriver, and hunt and trap on claimed lands.
6, 1S62WS	heli (F)	30 (A)	hunt, trap (A)(F)	Adam Andrew, Kwethluk, AA-8287, 7/74. Claimed beaver snares were not located.
1, 1S63WS	heli (F)	47 (A)	hunt, trap (A)	John A. Andrew, Kwethluk, F-19253-A, 7/74. Examiner located tent frame and campsite. Claimed use in February and March.
33, 1N62WS	heli (F) dog (A)	55	trap, bp (A)	Alfred Evan, Kwethluk, F-19257-B, 7/74. Applicant said this place was his spring camp and called "Elutukachak". Examiner saw several drying racks, tent stakes, and old sled. Applicant deceased.
32, 1N62WS	heli (F) dog, srmb, boat (A)	55	hunt, fish, trap, bp (A)	Wassillie Andrew, Kwethluk, F-19255, 7/74. Applicant claimed to descend river from Elutukachak in mooseskin boat. Sometimes he also used bear skins. He mainly trapped squirrels there. Examiner found drying racks and trails. John Andrew said plastic replaced skins in use as boat covering.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
24, 1N63WS	heli (F) dog (A)	55 (A)	trap, hunt, bp	Anna Z. Andrew, Kwethluk, F-17051-A, 7/74. Applicant claimed to travel to this place (called Angyetlik) each spring to hunt and trap squirrels and pick berries. Examiner saw old sled and plentiful beaver sign. Applicant is mother of John Andrew.
32, 33, 3N66WS	dog (A)	20, 25 (A) 25 (W)	hunt, trap, bp (A)	Nicolai O. Michael, Kwethluk, F-20475, 8/74. Applicant said claim at mouth of creek called Koignaiogpak (meaning Big Valley or Big Creek). He mainly trapped and hunted there in winter. Applicant noted a reindeer herders' campsite a mile or two downstream.
5, 8, 2N67WS	dog (A)	66 (A)	hunt, fish, trap, bp (A)	Yako Harp, Kwethluk, F-17065, 8/74. Claim near Elbow Mountain. Claimant hunts moose and traps beaver and mink here.
5, 8, 2N67WS	dog (A)	44 (A)	hunt (A)	Timothy Nick, Kwethluk, F-17071, 8/74. Claim near Elbow Mountain. Examiner located sod house (built 1969) and sauna. Claimant (deceased) said he normally traveled there in fall.
5, 6, 2N67WS	heli (F)	62 (A)	hunt, trap (A)	Anesia Nick, Kwethluk, F-17070-B, 8/74. Claim near Elbow Mountain. Claimant is mother of Timothy Nick. Examiner found no use evidence on land.
28, 29, 4N68WS	heli (F) boat, snmb (A)	53 (A)	hunt, trap (A)	Nicolai Andrew, Kwethluk, F-15925, 7/74. Examiner did not find claimed tent frame. Son, Willy, said father trapped marten, mink, and muskrat, and hunted moose and wolves.
21, 28, 4N68WS	heli (F)	66 (A)	hunt, fish, trap, bp (A)	Nick Alfred, Kwethluk, F-15924, 8/74. Examiner located two campsites along river.
16, 21, 4N68WS	heli (F) dog, snmb (A)	54 (A)	hunt, trap, fish (A)	Wassillie Michael, Kwethluk, F-25341, F-13610, 7/74. Applicant first made claim in 1960. Examiner found no use evidence.
16, 4N68WS	heli (F)	62 (A)	hunt, fish, trap (A)	Alexie Alfred Alexie, Kwethluk, F-15923, 8/74. Examiner found crude shelter. She said applicant caught salmon here as well.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
9, 16, 4N68WS	heli (F) boat (A)	68 (A)	hunt, fish (A)	Martha Togayak, Kwethluk, F-15927, 7/74. Examiner located fish camp consisting of smokehouse, cache, drying racks. She saw several small traps. Winter camp farther upriver. Two sod houses at winter camp. Applicant deceased.
4, 5, 4N68WS	plane, heli (F) boat (A)	26 (A)	hunt, fish, trap, bp (A)	David Togayak, Kwethluk, F-25342, 10/60, 7/74. Family fish camp. 1960 examiner located old cabin. 1974 examiner located cabin, tent frame, steamhouse frame, fish racks and trail. 1960 examiner said camp accessible by riverboat.
17, 5N67WS	heli (F)	65 (A)	bp (A)	Balissia Nicolai, Kwethluk, F-16012, 8/74. Examiner did not locate claimed tent site but did locate one about a mile away. Relatives said land used by family since 1900.
7, 8, 17, 18, 5N67WS	heli (F)	59 (A)(W)	hunt, fish (A)(W) trap (W)	Alfred Togayak, Kwethluk, F-13559-B, 7/74. Examiner found no use evidence. Relatives said he used land in fall and winter.
8, 9, 5N67WS	heli (F) foot (A)	65 (A)	bp (F)	Exenia N. Harp, Kwethluk, F-16008-B, 8/74. Claim located on east slope of Three Step Mountain. Examiner said claimant camps on river and walks to the claim. He found no use evidence.
4, 5, 8, 9, 5N67WS	heli (F)	52 (A)	bp (A)(F)	Elizabeth A. Nicolai, Kwethluk, F-18289-A, 8/74. Claim located on second plateau of Three Step Mountain. Examiner said family camps on river and picks berries here in fall. She found no use evidence.
7, 5N67WS	heli (F)	41 (A)	hunt, fish, bp (F) fish (A)	Elena E. Olick, Kwethluk, F-17218-A, 8/74. Applicant called this family spring camp "Etrtsagnitolse". She claimed to catch whitefish and pike. Examiner did not find claimed tent frame.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
6, 5N67WS	heli (F)	47 (A)	fish, bp (A)	Mary O. Evan, Kwethluk, F-17059-B, 8/74. Family catch whitefish and pike in spring and pick berries in summer and fall. Examiner located tent frame.
36, 6N68WS	heli (F)	65 (A)	hunt, trap, fish (F)	Exenia M. Harp, Kwethluk, F-16008-A, 8/74. Examiner located campsite at mouth of old slough.
10, 6N68WS	heli (F)	60 (A)	fish, hunt (F)	John W. Andrew, Kwethluk, F-19254-B, 7/74. Claim adjoins F-17216. Examiner located sod house.
21, 7N68WS	heli (F)	31 (A)	trap, hunt (A)	Alexander A. Nicori, Kwethluk, F-16013-A, 7/74. Claimed one-quarter mile east of river. Examiner found campsite on claimant's daughter's (Ada Alexie) claim located nearby.
16, 17, 20, 21, 7N68WS	heli (F) dog (A)	49 (A)	hunt, fish (F)	Sam Johnson, Sr., Kwethluk, F-17214-A, 7/74. Examiner located old sled. Applicant hunts muskrat and catches whitefish at this spring camp.
<u>Unnamed Stream</u> (Kwethluk River) 7, 4N68WS	heli (F)	60 (A)	fish (F) hunt, bp (A)	Nick N. Epchook, Kwethluk, F-17058, 7/74. Winter use claimed. Examiner was unable to locate claimed tent frame.
24, 5N68WS	heli (F)	60 (A)	trap (A)	John W. Andrew, Kwethluk, F-19254-A, 7/74. Examiner said claim on "small attractive stream." He located several old cabins. Claimant used a tent.
24, 5N68WS	heli (F)	52 (A)	fish, trap, fungi (F)	Elizabeth A. Nicolai, Kwethluk, F-18289-C. Examiner found several old cabins on boundary common with F-19254-A.
13, 5N68WS	heli (F) dog (A)		hunt, trap (F)(A)	William Nicolai, Kwethluk, F-16483-A, 8/74. Examiner did not locate claimed tent frame.
28, 5N68WS	heli (F)	48 (A)	hunt, trap, fish, bp (A)	Anna T. Nicolai, Kwethluk, F-15926, 8/74. Examiner said applicant traps mink and beaver here.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Kushluk River</u> 2, 7N67WS	heli (F)	65 (F)	hunt, fish (F)	Alinka Nicolai, Kwethluk, F-17072-C, 7/74. Fall hunting and fishing camp. Examiner located a clearing.
2, 7N68WS		60 (A)		Paul Guy, Kwethluk, F-025343. Applicant filed in 1960.
33, 8N68WS		31 (A)	hunt, fish, bp, trap (A, F)	Madrona Helmick, Kwethluk, F-16009, 8/74. Examiner did not find claimed tent frame.
33, 8N68WS	heli (F)	52 (A)	bp (F)	Margaret E. Jackson, Kwethluk, F-17212-A, 7/74.
28, 29, 32, 33, 8N68WS	heli (F)	45 (A)	fish, bp, hunt, trap (A)	Betty A. Guy, Kwethluk, F-17211, 8/74. Examiner did not find claimed tent frame and fish rack.
31, 32, 8N68WS	heli (F)	52 (A)	bp (F)	Margaret Jackson, Kwethluk, F-17212-D, 7/74.
<u>Akulikutak River</u> 15, 22, 5N66WS	snmb (A) heli (F)	30 (A)	fish, trap, hunt (A)	Jacob Jackson, Swethluk, F-16010, 7/74. Examiner found old wooden sled, snowmachine trails, winter tent site, and cache. Applicant said old sled was not his.
4, 5N66WS	dog (A)	60 (A)	hunt, trap (F)	John W. Andrew, Kwethluk, F-19254-C, 7/74. Examiner found tent campsite. Claimant has two other parcels within nine-mile radius.
18, 19, 20, 7N67WS	heli (F)	40 (A)	hunt, trap, bp, fish (A)	Evan Paul, Kwethluk, F-16015, 8/74. Examiner saw campsite but was unable to cross stream for close inspection; he noted that claimant picked berries on his wife's parcel (Elizabeth Paul).
30, 8N68WS	heli (F)	30 (A)	trap, fish (F)	Paul D. Nickolai, Kwethluk, F-025345-B, 7/74. Examiner found smokehouse, fish rack, and camping gear.
30, 8N68WS	heli (F)	57 (A)	hunt, trap (A)	Nick Evan, Kwethluk, F-170608, 8/74.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Mouth in 5, 9N68WS)				
13, 14, 10N68WS		49 (A)	hunt, trap, bp (A)	Anna M. Kawagley, Akiak, F-16593, 8/74. Applicant claimed lands for use as a spring camp. Examiner located campsite, camping equipment, a stove, and a relative's grave.
<u>Gweek River</u> 5, 13N65WS	heli (F)	60 (A)	hunt (A)(F), trap (F)(W) bp (W)	Eddie Peter, Tuluksak, F-17041, 7/75. Applicant claimed use since he was a child. Examiner found no evidence of use; he noted that river appeared to be less than three chains wide and thus not meanderable.
19, 13N66WS	heli (F)	59 (A) 62 (A)	hunt, trap, fish (F)	Eliza Moses, Akiachak, F-29210, F-10381, 9/74(?). Applicant claimed winter use on 1968 and 1971 applications. Examiner found remains of two "mud huts" on a hill overlooking the river. Applicant said this was family's spring camp where they hunted muskrat, mink, and otter, and caught whitefish. Applicant first applied in 1962 for allotment downriver.
26, 13N67WS	heli (F)		hunt, fish, trap (A)	Philip Phillip, Sr., Kwethluk, F-16724-A, 7/74. Examiner found campsite and trail from campsite to river.
26, 27, 34, 13N67WS	heli (F)	40 (A)	bp (A)	Mary Nose, Kwethluk, F-16484, 9/74. Examiner located tent frame. Claimant deceased.
33, 34, 13N67WS	heli (F)	60 (A)	hunt, trap (F)	Nelson Nose, Kwethluk, F-17502-A, 8/74. Applicant hunted mink and muskrat. Examiner located campsite at mouth of small creek.
22, 12N68WS	heli (F)	58 (A)	hunt, trap, fish, bp (A)	Carrie Nose, Akiachak, F-17326, 8/74. Examiner located tent stakes but not the log cabin.
3, 10, 11N68WS	heli (F)	54 (A)	fish, bp (A)	Noah Nose, Akiachak, F-13304, 8/74. Examiner located fall camp consisting of dilapidated house and cache.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
20, 21, 11N68WS	boat (A), heli (F)	66 (A)	fish, bp (A)	Mary Michael, Bethel, F-16608, 6/84. Examiner stated that applicant reaches claim by boat.
35, 36, 11N69WS	heli (F)	45 (A) 55, 65 (W)	fish, bp (A)	Martha S. Jack, Bethel, F-17083, 6/74. Examiner found no use evidence. Claim located on "Birch Hill".
2, 10N69WS	boat (A)	55 (A)	bp (A, F), hunt (A)	Kausmak A. Alexie, Bethel, F-17016, 6/74. Applicant claimed no improvements as he travels to land by boat on day trips from home.
3, 10N69WS	heli (F)	63 (A)	hunt, trap, bp (F)	Elena Peterofsky, Akiachak, F-17801, 1974. Examiner located campsite, tent frame, and cemetery site.
3, 10, 10N69WS		43 (A)	bp, hunt (A)(F)	Tom Kinegak, Bethel, F-17019-B, 6/74. River meandered through the survey.
9, 10, 10N69WS		64 (A)	fish, bp (A, F) bp, wg (W)	Louis Nick, Bethel, F-17020, 6/74.
9, 10, 15, 16, 10N69WS	heli (F)	65 (A)	bp, hunt, trap (A) bp (F)	Celia C. Peter, Akiachak, F-17799, 8/74. Examiner found no use evidence.
21, 28, 10N69WS	heli (F)	56 (A)	bp, fish (F)	Martha Chief, Bethel, F-14215, 6/74. Examiner found evidence of a camp.
<u>Unnamed Stream</u> (Gweek River, mouth in 28, 10N69WS) 6, 10N69WS		54 (A)	trap (A, F)	David Henry, Akiachak, F-29988, 8/74. Applicant claimed parcel as trapping headquarters site. Examiner found sod house. Parcel straddles stream. Photos show small, meandering, algae-topped stream.
<u>Johnson River</u> 33, 16N67WS		47 (A)	hunt (A, F)	Isaac Nick, Akiachak, F-29219-B, 8/74. Lands claimed as hunting headquarters, no improvements. Applicant relinquished application in 1976.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
7, 15N68WS; 12, 15N69WS		62 (A)	fish (A, F), trap (F)	Joseph George, Akiachak, F-14181, 9/74. Applicant claimed land as fish camp (whitefish, blackfish), and for trapping (mink, lynx, fox, beaver). Examiner located tent stakes and an old mud house.
29, 32, 16N69S			hunt, fish, trap, bp (A)	Frederick George, Akiachak, F-29995, AA-37788. Applicant claimed to use between September and December each year.
31, 32, 16N69WS	snmb (A)	57 (A)	hunt (A, F)	John T. Nicori, Sr. Kwethluk, F-19364, 6/84. This is applicant's fall camp which he reaches by snowmachine to trap withefish. Photos show wide, smooth river with low, grassy banks.
7, 8, 18, 13N71WS	boat, snmb (A)	53 (A)	hunt, fish, trap (A) fish, trap, bp (F)	Carrie George, Akiachak, AA-37830, 5/84. Examiner stated applicant ice fished. Applicant stays at Wassillie George's camp (F-9612).
17, 18, 19, 20, 13N71WS		48, 54 65 (A)	fish, trap (A, F) hunt (A)	Wassillie George, Sr., Akiachak, F-29998, F-9612-A, AA-37792, 9/74. This is applicant's fall camp which he used for fishing (blackfish and whitefish), hunting, and trapping. At field exam, applicant's brother, Sam Ekamrak, told examiner that George traps mink, and fishes for whitefish.
17, 18, 19, 20, 13N71WS	boat, snmb (A)	07 (A)	hunt, fish, trap (A) fish, trap (F)	Joseph Ekamrak, Akiachak, AA-37824, 5/84. This land was the applicant's winter camp where he trapped small fur bearers and whitefish. Examiner located a mud house and camp area in the northwest corner of the allotment which apparently the entire Ekamrak family used.
17, 18, 19, 20, 13N71WS		54 (A)	fish, trap (A, F) bp (A)	Sam Ekamrak, Akiachak, F-13305, F-29993, 9/74. Examiner located mud house, fish net, and traps. This is applicant's winter camp for trapping mink and fishing for whitefish.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
19, 20, 13N71WS	boat, snmb (A)	53 (A)	hunt, fish, trap (A) bp, trap (F)	Julia George, Akiachak, AA-37826, 5/84. According to applicant's representative, applicant and her family berry pick here in late summer and trap in late fall, staying at Sam Ekamrak's (F-13305) camp.
7, 12N72WS 12, 12N73WS	boat, dog, snmb (A)	41 (A, F)	fish, trap (A) hunt, bp (A, F)	August Alexie, Bethel, F-16841, 6/84. Applicant claimed to use land for berry picking when he'd pitch a tent and stay 2 months at a time. He would return in the fall to hunt ducks, geese, and muskrats.
14, 23, 12N73WS		62 (A)	hunt, fish, trap, bp (F)	Roy T. Alexie, Bethel, F-15756-B, 9/76. Applicant claimed to hunt birds, small game and furbearers, to fish, trap, and pick berries.
15, 22, 12N73WS		57 (A)	trap (A, F), fish, bp (F)	Willie A. Alexie, Napaktak, F-25364, F-968, 8/75. Applicant trapped muskrat, otter, mink; caught pike and whitefish, and gathered berries. Tent frame located.
15, 22, 12N73WS		62 (A)	fish, trap, bp, hunt (F)	Roy T. Alexie, Bethel, F-15756-A, 9/76. Applicant claimed to hunt birds and small game as well as furbearers, and to fish, trap, and pick berries on parcel.
4, 11N73WS	boat (A), heli (F)	45 (A)	bp (A, F)	Elena C. Williams, Nunapitchuk, F-14240, 8/79. Applicant told examiner she accesses land by boat via the Johnson River. Photos show wide, slow, grassy-banked Johnson River.
14, 11N74WS		68 (A)	hunt (A, F), bp (A)	Elizabeth King, Bethel, F-16607, 9/76. Applicant's husband claimed use of land for fall duck hunting.
23, 11N74WS		67, 68 (A)	hunt, bp (A, F)	Peter King, Bethel, F-17413, 9/76. Applicant claimed to use land for moose and duck hunting and berry picking. Photos show marshy upland areas and clearly-defined Johnson River.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
25, 36, 11N74WS	boat, dog (A) heli (F)	99 (A)	hunt, fish, trap (A, F) bp (F)	Nicholai A. Pavilla, Atmautluak, F-13387, 8/79. Lands claimed for blackfish, whitefish, and pike fishing, berrypicking, trapping and hunting mink, fox, jackrabbit, and beaver. Remains of a wood and mud hut located. Photos show clearly-defined, meandering river.
26, 11N74WS		06 (A) 09 (F)	bp (A, F), fish, hunt (F)	Mary Chaliak, Nunapitchuk, F-14517-B, 8/79. Applicant claimed to use land for berrypicking and as her spring camp for hunting and fishing. Photos show tundra, and wide Johnson River.
36, 11N74WS		44 (A)		Nickolai Pavilla, Nunapitchuk, F-29805.
<u>Kvichavak River</u> 15, 14N69WS	boat, snmb (A)	49 (A) 43 (F)	hunt, fish, trap, bp (F)	Anna Nick, Akiachak, F-29220, 6/84. Photos show narrow but clearly-defined, grassy-banked river.
13, 14N70WS		49 (A)	hunt (A, F)	Isaac Nick, Akiachak, F-29219-A, 8/74. Parcel is applicant's hunting headquarters. Examiner located remains of sod house.
1, 2, 13N70WS 35, 36, 14N70WS	boat, snmb (A)	62 (A) 47 (W)	hunt, trap (F)	Agnes Charles, Akiachak, F-29215-A, 5/84. Parcel is applicant's fall trapping camp for small furbearers and blackfish. In spring, applicant hunts ducks. Access is by boat in springtime and snowmachine in fall and winter.
9, 12N72WS		38 (A)	hunt, trap (A)	Charlie Evon, Bethel, F-16602. Applicant claimed use for moose and duck hunting and trapping between September and October.
<u>Unnamed Stream</u> (Kvichavak River, mouth in 22, 14N69WS) 5, 14N68SW		17 (A)	hunt, trap (A, F)	John Wassillie, Akiachak, F-19242, 8/74. Applicant claimed use between October and December each year for hunting and trapping. Examiner found mud house on property. Photos show rather wide stream.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
10, 14N69WS	heli (F)	62 (A)	fish (A), trap (F)	Ruth Pasitnak, Akiachak, F-987, 9/74. This is applicant's spring trapping camp. Examiner located camp area as well as a canoe.
<u>Kalasik Lake</u> 21, 28, 12N73WS	boat (A), heli (F)	62 (A)	fish, bp (A, F), hunt (F)	Janet Chris, Nunapitchik, F-14394, 8/79. Applicant normally accesses parcel by boat via the Johnson River then through a small slough to Kalasik Lake, an old oxbow of Johnson River. Parcel is located on the island.
<u>Unnamed Stream</u> (drains into Nunavakpak Lake, mouth in 26, 8N76WS) 1, 2, 11, 12, 7N76WS	boat, dog, snmb (A) heli (F)	22 (A, F)	hunt, fish (A, F)	Nicholai Berlin, Nunapitchuk, F-13308, 7/79. Applicant hunts mink, fox, otter in fall and winter and nets fish in summer. Examiner found metal shed and a caved-in sod house.
<u>Nunavakpak Lake</u> 28, 9N76WS	riverboat (A) heli (F)	47 (A, F)	fish, bp (A, F)	Elena A. Berlin, Nunapitchuk, F-14560-A, 8/79. Applicant reportedly reaches parcel by riverboat from her village via interconnecting streams. Examiner located house pit and old smoke house site. Photos show lake and stream.
<u>Unnamed Stream</u> (Nunavakpak Lake outlet, mouth in 28, 9N76WS) 20, 21, 28, 29, 9N76WS	riverboat (A) heli (F)	19 (A)	bp (F)	Olinka Berlin, Nunapitchuk, F-14561, 7/79. Examiner located tent stakes.
19, 10N75WS 24, 10N76WS	heli (F)	61	bp (A)(F)	Sophie Komakhuk, Kasigluk, F-18216, 7/79.
17, 18, 10N75WS	boat (A) heli (F)	64 (A)	bp (A)(W) fish, hunt, picnic (W)	Martha Keene, Kasigluk, F-18886, 7/79. No improvements found.
<u>Little Puk Palik Lake</u> (unnamed on USGS maps) 1, 11N80WS 36, 12N80WS		57 (A)	hunt, fish (A, F) trap, bp (A)	Jery Suni, Nunapitchuk, F-29817, F-13104, 8/78. Applicant claimed pike and black fishing and hunting of otter, mink, and fox.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
11, 12, 11N80WS	heli (F)	56 (A)	hunt, trap (A) hunt (F)	George Neck, Nunapitchuk, F-14387-A, 8/79. Examiner identified Puk Palik Lake and small rivers and streams for access but applicant claimed he had no access to site and really didn't want it.
<u>Niugnilnguk River</u> 17, 20, 21, 10N78WS			hunt (A)	Eliza Andrew, Nunapitchuk, F-29861. Applicant filed for hunting site 4/62 and relinquished parcel 9/62 so husband, Lloyd Andrew, could file on same lands.
20, 21, 10N78WS		46 (A)		Lloyd Andrew, Nunapitchuk, F-030473. (Applicant may also have F-29865.)
8, 9, 16, 10N78WS	boat, srmb (A) heli (F)	36 (A) 63 (F)	trap (A, F), hunt (F)	Wassillie Toopelook, Nunapitchuk, F-30953, 8/79. Applicant claimed fall and winter hunting and trapping of mink, fox, otter, beaver. Examiner located cabin, cache, tent frame, fish wheel, boat dock, fish racks, and remains of a mud house built in 1947. According to examiner, the Niugnilnguk River "appears to provide water access to a large area of interconnected lakes and streams above this allotment."
<u>Unnamed Stream</u> (Puk Palik Lake affluent, mouth in 6, 11N78WS) 25, 36, 12N79WS	boat (A) heli (F)	56 (A)	hunt, trap (A, F)	George Neck, Bethel, F-14387-B, 8/79. Examiner noted that applicant reaches parcel by boat via Puk Palik Lake and streams. Photos show well-defined, single-channel, slow-moving, meandering stream.
<u>Unnamed Stream</u> (Takslesluk Lake affluent, mouth in 36, 12N78WS) 26, 27, 34, 35, 12N78WS	boat (A) heli (F)	56 (A)	hunt, trap (A, F)	George Neck, Nunapitchuk, F-14387-D, 8/79. Applicant told examiner he reached parcel by boat.
<u>Takslesluk Lake</u> 1, 12, 11N78WS	boat, srmb (A) heli (F)	20 (F)	hunt, fish (F)	Golka Maxie, Nunapitchuk, F-14959-A, 8/79. Applicant now mainly hunts mink, fox, otter and traps blackfish in fall. Examiner located two house pits.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
27, 12N77WS	riverboat (A) heli (F)	23 (A)	fish, bp (F)	Natalia Andrew, Nunapitchuk, F-14980-A, 8/79. Applicant reaches parcel by riverboat through interconnected lakes and streams. Wooden tent stakes located.
2, 11N76WS 35, 12N76WS	riverboat (A) heli (F)	50 (A)	bp (A, F)	Florence Toopetluk, Nunapitchuk, F-14390-A, 8/79. Applicant's husband stated she reaches parcel by riverboat. "Old site for portage of boats from Takslesluk Lake by short rail/pulley system northward about 10 chains to an unnamed lake for access to interior lake system....tracks were moved to east end of Takslesluk Lake," wrote the examiner.
1, 11N76WS		20 (A)	hunt, bp (A)	Bessie K. Alexie, Bethel, F-13874. Applicant claimed to pick berries between August and September and to hunt seasonally.
<u>Kyigayalik Lake</u> 6, 7, 10N75WS	boat, dog, snmb (A) heli (F)	47 (A)	hunt, fish, trap, bp (F)	Elena A. Berlin, Nunapitchuk, F-29899, F-14560-B, 8/79. Applicant picks berries, nets whitefish, traps blackfish and hunts and traps mink, muskrat, rabbit, and fox.
<u>Unnamed Stream</u> (Kayigyalik Lake affluent, mouth in 24, 12N75WS) 16, 21, 13N74WS	heli (F)	28 (A)	trap (A, F) hunt, fish (F)	Billy Mochin, Nunapitchuk, F-29819, 8/79. Applicant claimed to catch blackfish, whitefish, and pike, and to hunt and trap beaver, otter, fox, and muskrat. Photos show fairly wide, clearly-defined, meandering stream.
<u>Pikmiktalik River</u> 30, 14N67WS		62 (A)	hunt, trap (A, F) fish (A)	Tom George Peter, Akiachak, F-16791, 8/74. Applicant stays in a mud house west of his parcel. Land claimed as applicant's fall hunting ground.
26, 27, 34, 35, 14N68WS	snmb (A)	32 (A) 38 (A)	trap (A, F), fish (F)	James Peter, Sr., Akiachak, F-29212, AA-37785, 5/84. This is applicant's fall and winter camp for fishing (whitefish and blackfish) and trapping (mink, otter, fox, muskrat, beaver). House pits and snowmachine parts located.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
2, 13N69WS		50 (A)		Eddie Alexie, Akiachak, F-29221.
2, 3, 13N69WS		54 (A)	hunt, trap (A)	Joseph Lomack, Akiachak, F-29214. (See also AA-37781, Fannie Barr.)
9, 10, 13N69WS				Lizzie A. Lomack, Akiachak, F-30307.
32, 13N70WS		44 (A) 62 (A)	trap (A, F)	George Lott, Akiachak, F-29104, F-977-A AA-37789, 9/74. This is applicant's spring trapping camp. Examiner located canoes and sleds. Applicant's claim to fish, hunt, and trap was not parcel-specific.
30, 11N72WS 25, 11N73WS	boat (A), heli (F)	63 (A)	bp (A, F)	Edith O. Stevens, Nunapitchuk, F-17958, 8/79. Photos show wide, clearly-defined river.
24, 25, 11N73WS	boat (A), heli (F)	31 (A) 36 (A)	fish, trap (A)	Nicholai T. Evan, Nunapitchuk, F-29802, F-14220, 8/79. Examiner located house storage shed, bath house and several deteriorated mud houses.
36, 11N73WS		36 (A)		Alexie A. Pavilla, Kasigluk, F-29803.
6, 8N73WS 35, 36, 9N73WS 1, 8N74WS		38 (A)	fish, bp (A, F) hunt, trap (F)	Lucy Kilbuck, Anchorage, F-15483, 8/76. Applicant uses land for berry picking; husband fished for whitefish in fall and hunts mink and fox in November and traps in winter. Photo shows wide unobstructed streams.
<u>Unnamed Stream (Pikmiktalik R., mouth in 27, 13N70WS)</u>				
9, 13N69WS		36 (A) 40 (A)	hunt, fish, trap, bp (A)	John Lomack, Akiachak, F-30306, AA-37784. Applicant claimed to fish for pike, and hunt and trap geese, muskrat, and ptarmigan between April and June; to fish for whitefish and blackfish, to trap otter, mink, and to hunt fox and birds between September and December.
<u>Israthorak Creek</u>				
10, 11, 14N64WS		65 (A) 45 (W)	fish, trap (A, W) hunt, bp (W)	Waska Helmick, Tuluksak, F-15659, 7/75. Applicant claimed to hunt and trap mink, lynx, beaver and wolverine, and to fish and pick berries. Parcel is located near Kuskokwim River.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
19, 30, 15N64WS		36 (A)		Elias Wise, Lower Kalskag, F-17263-A, 6/75. Applicant claimed to fish, pick berries, hunt, trap, and gather wood on this and another parcel. Examiner located wash tub and sled runner. Photos show creek partially dried up.
21, 14N66WS		42 (A)	hunt, bp (A, F) trap (F)	Joseph Demantle, Tuluksak, F-19183, 7/75. Applicant claimed to use land for hunting and berry picking and trapping mink. Examiner located deteriorated tent racks.
35, 14N67WS		47 (A)	fish, hunt, trap (A, F)	Roland Nose, Akiachak, F-19236, 8/74. This is applicant's fall camp for whitefishing, blackfishing, trapping, and hunting.
33, 13N68WS		41 (A)	trap, hunt, bp (A)	Adolf Nick, Akiachak, F-19235, 9/74. Applicant claimed to do spring and fall at hunting, reportedly staying at Tom Wassillie's nearby cabin.
15, 12N70WS		54 (A)	hunt, fish, bp (A, F) trap (F)	Isaac James, Akiachak, F-29996, F-18747, 8/74. This is applicant's "spring camp." Examiner located a barabara, canoe, snowmachine sled, and steam bath.
16, 12N70WS		58 (A)		Herman Frederick, Akiachak, F-29105-A, 9/74. Applicant claimed lands for trapping mink, otter and fox in the wintertime and for fishing whitefish and blackfish in the springtime.
16, 12N70WS	boat, snmb (A)	47 (W) 62 (A)	fish, hunt, trap (F)	Agnes Charles, Akiachak, F-29215-B, 5/84. This is applicant's fall and winter camp for catching pike and blackfish, and trapping furbearers, and hunting waterfowl.
16, 12N70WS	boat, snmb (A)	62 (A)	hunt, fish, trap (F)	Alice Sam, Akiachak, F-29209, 5/84. This is applicant's fall camp for trapping small furbearers. Applicant also nets blackfish, and hunts waterfowl in spring. Examiner found old house pits. Photos show wide, slow-moving, meandering creeks.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
31, 13N69WS 5, 12N70WS 36, 13N70WS		14 (A)	fish, trap (A, F)	Charlie Lomack, Akiachak, F-19286, 9/74. Applicant traps mink, otter, muskrat, and catches whitefish and blackfish. Examiner located a barabara and fish cache.
31, 13N69WS 4, 12N70WS		30 (A)	fish, trap (A, F) hunt, bp (A)	William Lomack, Akiachak, F-29207, F-9910, 9/74. This is applicant's fall trapping camp for mink, otter, and muskrat; whitefish and blackfish also caught. Mud house and fish cache located.
31, 13N69WS		32 (A) 50 (A)	fish, trap (A, F) hunt, bp (A)	Joseph Lomack, Akiachak, F-18308, AA-37781 9/74. Applicant traps mink, muskrat, otter, and catches blackfish and whitefish. Mud house and cabin located.
<u>Unnamed Lakes</u> (Israthorak Creek drainage) 1, 2, 15N65SW		65 (A)	hunt, fish, trap, wg (A, F)	Yago Evan, Lower Kalskag, F-17227-B, 6/75. Examiner located a tent frame on the parcel. Beaver and otter appeared plentiful.
<u>Kongeruk River</u> 21, 8N73WS		43 (A)	bp (A, F)	Carrie O. Anvil, Bethel, F-13484, 9/76. Photos show tundra ponds and clearly-defined, grassy-banked, meandering stream.
<u>Unnamed Lake</u> (outlet in 10, 8N73WS) 3, 8N73WS		56 (A)	fish (A, F), trap, bp, camp (F)	John J. Active, Bethel, F-15617, 9/76. Lands are claimed by applicant for a spring and fall camp, for fishing, trapping, and berry picking.
2, 3, 8N73WS		38 (A)	hunt, fish, bp (A, F)	Elsie M. Active, Bethel, F-17707, 8/76. Photos show parcel located between a dry lake bed and the unnamed lake which drains into Kongeruk River.
<u>Unnamed Stream</u> (Kongeruk River, mouth in 15, 8N73WS) 22, 8N73WS	heli (F)	52 (A)	bp (A, F), fish (A)	Elizabeth Charles Ali, Bethel, F-17812, 6/84. Examiner stated that river needed to be meandered to provide for boat access per applicant's request. Photos show stream access on west side of parcel.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Kuskokwim, mouth in 6, 4N75WS) 23, 5N74WS	heli (F)	56 (A)	hunt, trap (F)	David R. Jimmie, Tuntutuliak, F-17702-B, 8/76. Occupancy date 1956 claimed on all parcels. Fish trap and trapping cache found.
27, 5N75WS	air (F)	39 (A)	bp (A), hunt, trap, bp (F)	Pansy Lupie, Tuntutuliak, F-17044-B, 8/76. Applicant claimed use of this and/or her other parcel since 1939.
<u>Kialik River</u> 27, 5N76WS	heli (F)	14 (A)	fish, bp (F)	John Daniel, Tuntutuliak, F-17692-C, 8/76. Applicant claimed to fish for whitefish and to berry pick.
27, 5N76WS	air (F)	14 (A)	fish, bp (F)	John Daniel, Tuntutuliak, F-17692-C, 8/76. Applicant claimed use of this and/or other of his parcels since 1914.
34, 5N76WS	air (F)	45 (A)	bp, fish (A)(F)	Julia Frank, Tuntutuliak, F-16743-A, 8/76. Applicant has used this and/or her other parcel since 1945. A tent frame was located.
5, 4N76WS	heli (F)	55 (A)	bp, fish (F)	James A. Charles, Tuntutuliak, F-17855-C, 8/76. Applicant claimed use of this and/or other of his parcels since 1955. Field examiner noted tidal influence in river. He also found evidence of snowmachine use.
7, 4N76WS		56 (A)	fish (F)	James Jimmie, Tuntutuliak, F-17703-D, 8/76. Occupancy date of 1956 claimed for all parcels. Trail traverses parcel. Campsite, pans, stovepipe and litter located.
18, 4N76WS	boat (A)	45 (A)	hunt, fish (F)	Joseph Lupie, Tuntutuliak, F-16744-B, 8/76. Examiner located a metal shed which stored an outboard motor.
10, 4N76WS		45 (A)	hunt, fish, trap (A, F) bp (F)	Joseph Lupie, Tuntutuliak, F-16744-A, 8/76. Applicant claims to fish for pike in winter, hunt moose and rabbit, and pick berries on parcel.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
22, 4N76WS	heli (F)	45 (A)	fish (F)	Nick Lupie, Tuntutuliak, F-14410-C, 8/76. Applicant claimed use of this and/or other of his parcels since 1945. Fish camp. Smokehouse and tripod for hanging nets located during the field examination.
<u>Kutukhun River</u> 29, 32, 7N76WS	boat (A), heli (F)	47 (A)	bp (A)	Elena Nick, Nunapitchuk, F-18298-B, 8/79. Applicant has used this and/or other of her parcels since 1947. An old village site was observed on parcel. Applicant takes boat from Nunapitchuk down the Johnson River to the Kuskokwim River, down the Kuskokwim River to the Kialik River, up the Kialik River to the Kutukhun River, and up the Kutukhun River to the parcel.
3, 4, 6N76WS 33, 34, 7N76WS	heli (F)	32 (A)	hunt, fish, trap (A) bp (F)	Peter Evan, Nunapitchuk, F-29913, F-13103, 8/79. Evan claimed to hunt and to trap and fish whitefish in spring and blackfish in winter. Examiner noted little similarity between lands and U.S.G.S. maps.
2, 6N76WS 35, 7N76WS	heli (F)	31 (A)	fish, bp (A)(F)	Alice Berlin, Kasigluk, F-17722, 7/79. Tent frame poles and camp debris located.
10, 6N76WS	boat, dog, srmb (A) heli (F)	40 (A) 36-40 (F)	fish, bp (A)(F) trap, hunt (F)	Natalia White, Nunapitchuk, F-19129, 8/79. Midden site, graves, and a tent frame belonging to Nichola Parks located. Applicant born in 1920. She stated that there use to be a house and fish cache and that they traveled to the parcel by dog sled and seal skin boats when she was a girl.
21, 22, 6N76WS	air (F)	39 (A)	fish, trap (F)	Isaac Frank, Tuntutuliak, F-17701-B, 8/76. Applicant claimed use of this and/or other of his parcels since 1939.
22, 6N76WS	air (F)	45 (A)	bp, fish (A)(F)	Julia Frank, Tuntutuliak, F-16743-B, 8/76. Applicant has used this and/or her other parcel since 1945. Two wooden sheds, graves, and possible village site observed.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
6, 5N75WS 1, 5N76WS	boat (A) air (F)	45 (A)	trap, hunt, fish, bp (A)(F)	Sammy Chimegalrea, Napakiak, F-18177, 8/75. Mud house and family graves located on parcel.
1, 5N76WS	air (F)	30 (A)	fish, trap, hunt, bp (A)(W) fish, trap (F)	John T. Joseph, Napakiak, F-1887, 8/75. Tent poles, frame, and fish trap claimed in application were not located. Applicant said that he camped across the river.
11, 5N76WS	boat (W)	61 (A) 70 (W)	hunt, fish, bp (A, F) trap (F), hunt, bp (W)	Frank Temple, Napakiak, F-13946, 8/75. For 10 to 15 years prior to field exam, Temple trapped muskrat, otter, mink, caught pike and sheefish, hunted, and berry picked on land. He later stated that it was a four-hour trip by boat to the parcel.
13, 14, 5N76WS	air (F)	47 (A)	bp (A), fish, bp (F)	Eva Black, Napakiak, F-18877, 8/75. Claimed small fish rack was not located.
14, 23, 5N76WS	air (F)	50 (A)	bp, fish (F)	Margaret Temple, Napakiak, F-18899-B, 8/75. Claimed small fish rack was not located. Occupancy date applied to all parcels.
15, 5N76WS	air (F)	50 (A)	bp (F)	Margaret Temple, Napakiak, F-18899-A, 8/75. Applicant claimed use of this and/or her other parcel since 1950. Examiner found no use evidence.
21, 5N76WS	air (F)	38 (A)	trap, hunt (A) trap, hunt, fish (F)	Peter Willie, Napakiak, F-025360, F-033644, 8/75. Applicant first applied in 1960. Tent frame, stove, and barrels observed. Applicant claimed to stay at Nick David's cabin.
<u>Unnamed Creek</u> (Kutukhun River, mouth in 26, 6N76WS) 18, 19, 6N75WS	air (F)	35 (A)	hunt, fish, trap, bp (A)	Jack Kernak, Napakiak, F-025363, 8/75. Applicant filed for land in 1960. Log cabin, log cache, and bathhouse claimed on application located during field examination. Also located canoe and family cemetery. Improvements shared with Adam Nelson (F-14056). Applicant claimed cabin was built in 1935; log cache and bathhouse in 1937. Applicant died 1977.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
19, 6N75WS	air (F)	38 (A)	trap, hunt, bp (A) (F)	Adam Nelson, Napakiak, F-025362, F-14056, 8/75. Applicant helped build and shares improvements of uncle, Jack Kernak. Photographs show cabin, canoe, cache, and cemetery.
30, 31, 6N75WS	air (F)	58 (A)	hunt, trap, fish, bp (A)(F)	Peter Berry, Bethel, F-15942, 8/75. Traps, tent frame, and sod house claimed by applicant were not located during field examination.
<u>Unnamed Creek</u> (Kutukhun River, mouth in 1, 5N76WS) 28, 29, 32, 33, 6N75WS	dog (A) air (F)	30 (A)	hunt, fish, trap, bp (A)(F)	Jimmy Chimegalrea, Napakiak, F-18882, 8/75. House and fish cache claimed on application not located.
<u>Unnamed Creek</u> (Kutukhun River, mouth in 15, 5N76WS) 10, 15, 5N76WS	air (F)	42 (A)	fish, bp (F)	Isaac Paul, Napakiak, F-17948-A, 8/75. Applicant claimed use of this and/or other of his parcels since 1942. He used nearby F&WS camp.
<u>Meroyuk River</u> 7, 18, 5N76WS 12, 5N77WS		53 (A)		Jimmy Evan, Napaiskak, F-025350. Case closed 1966.
17, 5N76WS	heli (F)	63 (A)	fish, bp (A, F)	Joseph N. Albrite, Tuntutuliak, F-17853, 8/76. Lands claimed for summer fishing and berry picking. Lush, pike, and whitefish caught. Photos show wide, calm, meandering river. Applicant's fish camp.
20, 5N76WS		50 (A, W)	hunt, trap, bp (A, F) fish (F) hunt bp, fish (W)	Zachariah Temple, Napakiak, F-14057, 8/75. Parcel straddles Meroyuk River which is more than 3 chains wide.
20, 5N76W	heli (F)	52 (A)	bp, hunt (A)(F)	Wilson J. Berlin, Kasigluk, F-17723, 7/79. Applicant hunts ducks and geese here; he also noted use of land when going to spring camp. Examiner found no evidence of use.
20, 5N76WS				Zachariah Temple, Napakiak, F-025361. Case closed 1966.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Lake</u> (Meroyuk River) 8, 4N77WS	air (F)	39 (A)	trap, hunt (A) fish, hunt (F)	Pansy Lupie, Tuntutuliak, F-17044-A, 8/76. Applicant claimed use of this and/or other of her parcels since 1939. Gravesite observed on parcel during field examination.
<u>Unnamed Stream</u> (Meroyuk River, mouth in 18, 5N76WS) 5, 4N77WS	heli (F)	14 (A)	fish (F)	John Daniel, Tuntutuliak, F-17692-D, 8/76. Lands are claimed for fishing for whitefish and blackfish.
<u>Unnamed Creek</u> (Kialik River, mouth in 5, 4N76WS) 4, 5, 4N76WS		59 (A)	fish, hunt, trap, bp (A)	Frank Fox, Bethel, F-16604. Applicant claimed tent rack built in 1959 as improvement.
<u>Ningalik River</u> 13, 14, 23, 24, 10N88WS	snmb, boat (A)	40 (A)	bp (A)	Martha Flynn, Tununak, F-17968-A, 8/84. Sod house and surface coffin on parcel.
<u>Unnamed Stream</u> (Baird Inlet, mouth in 16, 9N84WS) 17, 18, 10N84WS	boat, snmb (A)	50 (A)	trap, hunt (A)	Mark Tom, Tununak, F-16869.
29, 10N84WS	boat (A), heli (F)	39 (A)(F)	fish, bp (F)	Jane Oscar, Tununak, F-19265-B, 8/84.
29, 32, 10N84WS	boat, dog, snmb (A)	30 (A)	trap, fish, bp (F)	Jack Angaiak, Tununak, F-18876-A, 7/84. Applicant did not specify uses for each parcel.
32, 10N84WS	boat (A)	53 (A)	bp (A)	Nancy Usugan, Tununak, F-16870. Campsite on land.
32, 10N84WS	boat (F)	00 (A)	bp, fish (F)	Rosalie Hooper, Tununak, F-17291-B, 8/81. Applicant claims to have picked berries here since 1900. Old camp debris located.
5, 9N84WS	boat, snmb (A)	47 (A)(F)	trap (A), trap, fish, bp (F)	Catherine Angaiak, Tununak, F-16499, 7/84.
5, 9N84WS	boat (A)	45 (A)	bp (F)	Nina Menegak, Tununak, F-16866-B, 4/84. Occupancy date and use applied to all parcels. Applicant wrote: "I have picked berries ever since we started using boats. We use tent to sleep in." Applicant deceased.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Lake</u> 27, 10N84WS	boat, snmb (A) heli (F)	45 (F)	bp (A), fish, hunt, trap, bp (F)	Rita Agimukangaiak, Tununak, F-17047-B, 4/84.
<u>Kagalurpak Lake</u> 22, 10N84WS	boat (A)	47 (A)	fish, bp (A)	Rosie Charlie, Tununak, F-19263, 4/84.
1, 9N84WS		40s (A)(W) 64 (A)(W)	fish, hunt, trap, bp (A)	Lucy Tom, Tununak, F-17860-B. Occupancy dates and uses applied to all parcels.
<u>Izaviknek River</u> (trib. to Aropuk Lake) 21, 28, 14N79WS				Clifford Kassel, Kasigluk, F-29812.
28, 29, 14N79WS	heli (F)	58 (A)	fish, hunt (A, F)	Nickolai Pavilla, Kasigluk, F-29813, F-14176, 7/79. Applicant claimed to fish for pike and blackfish, and hunt mink, otter, fox, and beaver. Examiner located cabin and sauna. Photos show wide bush-lined river.
33, 14N79WS				Evan Kinikalk, Nunapitchuk, AA-7967, F-29810.
32, 14N79WS		58 (A) 61 (A)		Evan T. Nicholas, Kasigluk, F-29811. In 1964, applicant claimed to live on land continuously from 1958.
<u>Aropuk Lake</u> 11, 13N81WS	boat (A), heli (F)	54 (A)	hunt, fish (F)	Nick Keene, Nunapitchuk, F-14958-C, 8/79. Applicant hunts mink, fox, otter, and fishes for pike on parcel. Normal access is by boat.
<u>Unnamed Stream</u> (trib. to Aropuk Lake) 7, 13N80WS	heli (F)	62 (A)	fish, hunt, bp (A, F)	Paul Jenkins, Nunapitchuk, F-29814, F-13344, 8/79. Parcel is located 2 1/2 miles east of Chakwaktalik at an old village site. Applicant claimed to hunt mink and otter, trap pike, lush, and blackfish, and pick berries. Existing buildings include a quonset hut, Moravian church building, and a steam bathhouse.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Lake</u> 9, 10, 10N82WS				Lloyd Andrew, Nunapitchuk, F-029865. Applicant may also have application F-030473.
10, 10N82WS	heli (F)	42, 62 (A)	fish, hunt, trap (A)	Charlie Sims, Nunapitchuk, F-030476, 8/79. Sod house with tarp roof, fish rack, and gas and oil cans located. Examiner said applicant probably got to land to trap by dog sled.
<u>Kaghasuk Lake</u> 3, 10N82WS		40 (A)	fish, hunt, bp (A)	Katie Jenkins, Nunapitchuk, F-14254-A. Occupancy date and uses applied to all parcels. Applicant claimed a cabin on parcel.
36, 10N81WS	heli (F)	29 (A)	hunt, fish, trap (A)	Alvin Wassillie, Nunapitchuk, F-29864, F-13310, 8/79. Mud house and camping debris on land.
<u>Unnamed Stream</u> (Kaghasuk Lake, mouth in 36, 10N81WS) 10, 11, 11N80WS	snmb, dog (A) heli (F)	19 (A, F)	hunt, trap (A, F)	Herman N. Neck, Nunapitchuk, F-14388-A, 8/79. Applicant claimed to hunt and trap mink, land otter, and fox in winter and muskrat in spring on this and three other parcels. He generally stays and keeps traps at Jerry Sun's parcel.
10, 10N80WS	dog (A), heli (F)	25 (A)	fish, trap (A)	Matthew Parks (deceased), Nunapitchuk, F-29863, F-13309, 8/79. Site used only in winter.
16, 21, 22, 10N80WS	snbm (A)	46 (A)	trap (A)	Evan Bavilla, Napaskiak, F-025348, 6/62, 6/84. 1962 examiner found sod house and grave. 1984 examiner found cabin, mud igloo, and grave.
25, 10N81WS		40 (A)	fish, hunt, bp (A)	Katie Jenkins, Nunapitchuk, F-14254-B. Applicant claimed cabin on parcel.
<u>Kagaluk Lake</u> 30, 31, 9N79WS	dog (A), heli (F)	45, 54 (A)	hunt, trap, bp (A)	Herbert Brink, Nunapitchuk, F-13342, 4/83.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
26, 35, 9N80WS	heli (F)	47 (A)	trap, fish, bp (A)	Irwin Brink, Kasigluk, F-29857, F-18022, 7/79. 2 cabins, sauna, and house pit on tract.
26, 34, 35, 9N80WS	heli (F)	54 (A)	trap, hunt (A)	Elia Tinker, Kasigluk, F-29905, F-18026, 8/79.
<u>Unnamed Stream</u> (mouth in 15, 8N81WS) 1, 2, 8N81WS 34, 35, 9N80WS	heli (F)	62 (A)	fish, trap (A)	Matthew Active, Kasigluk, F-18019, 7/79. No improvements on lands.
12, 8N81WS	heli (F)	55 (A)	hunt, trap, bp (A)	Esa Twitchell, Kasigluk, F-29906, F-18900, 7/79.
<u>Unnamed Lake</u> (drains to Baird Inlet) 19, 8N80WS 24, 8N81WS	heli (F)	51 (A)	hunt, fish, trap (A)(F) bp (F)	Cecil Active, Kasigluk, F-18018, 7/79. Grave of relative on tract.
<u>Unnamed Stream</u> (mouth in 2, 11, 8N80WS) 10, 11, 14, 15, 8N79WS	heli (F)	52 (A)	hunt, trap (A)	John Nicholas, Kasigluk, F-18895, 7/79. Examiner located a mud house.
<u>Unnamed Stream</u> (mouth in 13, 7N81WS) 19, 6N80WS	heli (F)	61 (A)	trap, bp (A, F)	Nick Martin, Kasigluk, F-18023, 7/79. Applicant traps otter, mink, and muskrat, and berry picks. Photos show tundra lakes and narrow streams.
<u>Unnamed Stream</u> (mouth in 12, 7N81WS) 8, 7N80WS		57 (A)	hunt, fish, trap (A)	Paul Nicholds, Kasigluk, F-18866, 7/79.
<u>Unnamed Stream</u> (mouth in 18, 7N84WS) 22, 23, 7N84WS	boat, dog, snmb (A)	21 (A)	trap, fish (A)	John Charlie, Toksook Bay, F-15802-B, 7/84. Applicant did not specify uses for each parcel.
<u>Unnamed Stream</u> (mouth in 34, 9N88WS) 16, 8N88WS	boat, foot, dog, snmb (A)	42 (A)	bp, fish (A), fish, hunt, bp, eggs (F)	Emma Albert, Tununak, F-18121-A, 8/84. Examiner wrote that applicant and wife used tents and boats for shelter.
18, 8N88WS	foot, dogs, snmb (A) heli (F)	39 (A)	fish, hunt, trap, bp (A)	Michael M. Albert, Tununak, F-17851-A, 7/84. Examiner found a mud house.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
6, 8N88WS	snmb, boat (A)	30 (A)	trap, fish (A, F)	Jens Flynn, Tununak, F-18124-B, 8/84. Shotgun shells found on tract.
Unnamed Stream (mouth in 12, 8N89WS) 26, 27, 8N89WS	boat, foot, dog, snmb (A), hell (F)	24 (A)	fish, bp, hunt, eggs, trap (A, F)	Peter Post, Tununak, F-17970-B, 8/84. Applicant traps mink and muskrat.
Unnamed Stream (mouth in 6, 7N89WS) 32, 8N89WS	boat, foot, dog, snmb (A), hell (F)	24 (A)	fish, trap, bp (A) fish, hunt, bp, eggs (F)	Peter Post, Tununak, F-17970-A, 8/84. Examiner found many deteriorated houses. Applicant lived there when a child.
Unnamed Stream 14, 4N90WS	boat, snmb (A) hell (F)	42 (A)	fish (A), fish, trap (F)	Joseph Chagluak, Toksook Bay, F-15803-A, 7/84. Examiner found campsites.
14, 15, 4N90WS	snmb, dog (A)	24 (A), early 20s (F)	hunt, fish (A, F)	Albert Therchik, Toksook Bay, F-16821-B, 7/84. Applicant primarily fished for blackfish in winter.
15, 4N90WS		49 (A)	hunt, trap, fish (A)	Jobe Abraham, Toksook Bay, F-15800-B, 8/84. Applicant stated he makes one-day trips; he does not stay overnight.
15, 16, 4N90WS	boat, foot (A)	27 (A)	fish, trap (A), fish (F)	Bruno Chakuchin, Toksook Bay, F-15804, 7/84.
10, 4N90WS	boat, foot, dog, snmb (A)	25 (A)	hunt, eggs, trap, fish (F)	George Kanrilak, Tununak, F-18128-C, 8/84. Applicant told examiner boats and tents were used for shelter.
10, 4N90WS	boat, snmb (A)	35 (A)	fish, trap (A)	Joseph Oscar, Tununak, F-19266, 8/84. On old site known as Knugormiut. Examiner found 2 old sod house, old fishnet, and camping debris.
10, 4N90WS	boat, foot, dog, snmb (A)	49 (A)	fish, bp (A), fish, hunt, eggs, bp, trap (F)	Peter Dull, Nightmute, F-16899, 8/84. Sod house as well as old collapsed houses on allotment. Applicant fishes and traps some in winter, hunts waterfowl and eggs in spring and summer, and picks berries in summer and fall.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
3, 10, 4N90WS	boat, snmb (A) heli (F)	54 (A)	fish, bp (A)	Henry, Tony, Nightmute, F-16897, 7/84. Examiner did not find reported eight old houses or any other physical evidence of use.
22, 4N90WS	snmb, dog (A)	57 (A)	fish, bp (A), fish (F)	Tommy Hooper, Tununak, F-18187-C, 4/84, 7/84. Examiner found fish traps in frozen stream.
<u>Talarhun River</u> 33, 6N87WS	boat, snmb (A) heli (F)	22 (A)	fish (A)	Anna Kungurkak (deceased), Toksook Bay, F-15764-A, 8/84. Old camping debris on site.
34, 35, 6N87WS	boat (A)		bp, fish, trap (A) fish, trap (F)	Foster Wallace, Nightmute, F-16774-B, 7/84. Examiner noted place probably used more for fishing than trapping. He recommended river be excluded from allotment.
3, 5N87WS	boat, dog, snmb (A)	18 (A)	fish, bp (A), fish, trap, bp (F)	Tim Akagtak, Nightmute, F-16762-A, 7/84. Examiner found no physical use evidences.
<u>Unnamed Creek</u> 32, 6N87WS		58 (A)	bp (A)	Theresa Menegak, Tununak, F-18189-A. Some use and date on all parcels.
<u>Urumangnak River</u> 7, 18, 6N86WS	boat, snmb (A) heli (F)	63 (A)	fish, bp, trap (F)	George Usugan, Tununak, F-17375-A, 8/84.
18, 6N86WS 13, 24, 6N87WS	boat, snmb (A)	35 (A)	fish, bp (A)	Marina John, Toksook Bay, F-15805-B, 8/84. Fishnet remnants found on tract.
19, 6N86WS	boat, snmb (A)	51 (A)	bp, fish, hunt (A)(F)	Camillus Tulik, Nightmute, F-16772-B, 7/84. Examiner found no physical use evidence.
19, 6N86WS	boat, foot, sled, dog, snmb (A)	59 (A)	fish (F)	Simon L. Billy, Tununak, F-16857-B, 8/84. Applicant said he used tent and boats for shelter. Examiner found no physical use evidence.
19, 6N86WS	boat, foot, dog, snmb (A)	50 (A)	fish, trap, bp (A)(F)	Dick Lincoln, Tununak, F-16865-A, 8/84. Tract one day's travel from village. Examiner found evidence of use of a fish trap.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
20, 6N86WS	boat, foot, dog, snmb (A)	44 (A)	fish (A) (F), bp (F)	Jimmie Inakak, Tununak, F-16862, 8/84. Applicant used tents or boat for shelter; he claimed to fish in winter mainly. Examiner found no physical use evidence.
20, 6N86WS	dog, snmb, boat (A)	50 (A)	fish (A)(F)	James Pitka, Tununak, F-16746-B, 4/84. Fish net found. Applicant fished for lush and whitefish.
<u>Chakchak Creek</u> 3, 6N86WS	boat, snmb (A)	52 (A)	fish, bp (A), fish (F)	Alphonis Genegak, Tununak, F-16860-B, 4/84. Applicant fished for lush and blackfish. Examiner noted numerous fish traps in area.
<u>Isiktok Creek</u> 11, 12, 7N87Ws	boat (A)	45 (A)	trap, fish, bp (A) trap, fish, bp (F)	Andy Charlie, Tununak, F-19142, 4/84. Examiner found no physical use evidence.
<u>Dall Lake</u> 18 19, 4N83WS 13, 24, 4N84WS	dog, snmb (A)	42 (A, F)	hunt, trap (A, F) fish, bp (A)	Ralph Kylook, Chefornak, F-14124, 6/84. Applicant claimed to use the parcel beginning in the early 1940's for hunting and trapping per field report. Sod house located. Examiner noted that Dall Lake is filling in.
15, 16, 21, 22, 4N82WS				Harry Larson, F-025340, F-14060, 3/61.
26, 4N82WS		56 (A)	trap, hunt (A), bp (F)	Bertha Jimmie, Tuntutuliak, F-13312, 8/76. Tent claimed on application not located on field exam.
<u>Unnamed Stream</u> (mouth in 21, 4N81WS) 32, 5N79WS	heli (F)	68 (A)	hunt, trap, bp (F)	Wassilie N. Frank, Tuntutuliak, F-18891-A, 8/76. Occupancy date claimed on all parcels. No improvements found.
3, 4N80WS 33, 5N79WS		68 (A)	hunt, trap, bp (F)	Wassilie N. Frank, Tuntutuliak, F-18891-B 8/76. Occupancy date claimed for all parcels. He traps mink and otter.
<u>Unnamed Lake</u> (mouth in 28, 4N81WS) 15, 16, 3N80Ws		45 (A)	hunt (F)	Joseph Lupie, Tuntatuliak, F-029889, F-16744-C, 8/76. Examiner found tent site and gas can. Applicant traps mink.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Unnamed Lake</u> (mouth in 4, 3N82WS) 3, 3N82WS 34, 4N82WS		56 (A)	fish, hunt, trap (F)	James Jimmie, Tuntutuliak, F-17703-A, 8/76. Occupancy date claimed for all parcels. Fish traps found on parcel at field exam.
<u>Unnamed Stream</u> (Dall Lake affluent, mouth in 14, 2N82WS) 25, 2N81WS	hell (F)	30 (A)	fish, hunt, trap (F)	Evan Thomas, Tuntutuliak, F-29888, F-17704-B, 8/76. Occupancy date claimed for all parcels. Examiner found tent frame, latern, cans and wire mink traps. Applicant hunts mink, otter, fox, muskrat, and ptarmigan, and catches whitefish and blackfish (with net and wire basket traps).
17, 2N81WS	snmb (A), hell (F)	46 (A)	hunt, trap, fish (F)	Paul Andrew, Tuntutuliak, F-14173-B 8/76. Applicant claimed same occupancy date for all parcels. Cabin (well built frame with stove and large sleeping platform) and blackfish traps.
<u>Unnamed Creek</u> (Kinak Bay, mouth in 2, 3, 2S87WS) 27, 1S87WS		47 (A)	hunt, fish, bp (A)	Lucy S. Kuinya, Kipnuk, F-17993-A. Applicant claimed same uses and dates for all parcels.
<u>Kinak River</u> 11, 2S86WS		38 (A)	hunt, trap, fish, bp (A)	Quila Dock, Kipnuk, F-18089-B. Same date and uses for all parcels.
15, 2S86WS		33 (A)	hunt, trap, fish, bp (A)	Mike J. Dock, Kipnuk, F-17990-C Applicant claimed same uses and dates on all parcels.
<u>Unnamed Stream</u> (Kinak River, mouth in 14, 1S85WS) 10, 1S85WS		38 (A)	hunt, fish, trap, bp (A)	Quila Dock, Kipnuk, F-18089-A. Same uses and date for all parcels.
<u>Unnamed Lake</u> (interconnected with Kinak River) 1, 2, 1S86WS 35, 1N85WS		43 (A)	hunt, fish, trap (A)	Daniel Dock, Kipnuk, F-17989-B. Applicant claimed same uses and dates on all parcels. Parcel is located on island.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Kuguklik River</u> 4, 9, 2S82WS		21 (A)	fish, bp, hunt (A)	Mark Manchuak, Kwigillingok, F-17442. Applicant claims a mud house built in 1940. Applicant died in 1975 at age 70.
30, 2S83WS 25, 2S84WS		36 (A)	bp (A)	Julia K. Paul, Kipnuk, F-17796-B. Applicant claimed same uses and date on all parcels. She reaches one or both parcels by boat.
24, 2S84WS	boat (A)	56 (A)	bp (A)	Agnes S. White, Kipnuk, F-17797-A.
26, 2S84WS		53 (A)	hunt, trap, bp (A)	Luke Amik, Sr. Kipnuk, F-18727-D. Same uses and date for all parcels. Applicant travels by boat and camps in the boat or returns the same day.
5, 3S85WS		35 (A)	trap, hunt (A)	Paul R. Kiunya, Kipnuk, F-18090-C. A mud house was built on one of his four parcels in 1940; he claimed to use a boat.
33, 2S84WS	boat (A)	41 (A)	bp (A)	Patty D. Paul, Kipnik, F-18093-B. Same date for all parcels.
34, 2S86WS		50 (A)	bp (A)	Julia Dock, Kipnuk, F-18088-A. Same date for all parcels.
<u>Unnamed Lake (Kuguklik River)</u> 20, 2S81WS		24 (A)	trap, fish, bp (A)	Charlie Daivd, Kongiganak, F-16916-A. Applicant claimed same uses and date on all parcels.
<u>Unnamed Lake (Kuguklik River)</u> 14, 2S82WS				Yako Pavilla, Kipnuk, F-17829-A. Applicant stated that he had used this parcel and/or other parcels since 1954 for trapping, hunting, and blackfishing.
<u>Unnamed Stream (Kuguklik River)</u> 8, 2S82WS		51 (A)	hunt, trap, fish, bp	Owen Beaver, Kwigillingok, F-17440. Applicant claimed mud house and tent as improvements. Claimed to have a sled, boat, rubber raft, and motor on parcel. Said he kept five dogs and two birds on the land. Claimed year-round use.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Unnamed Lake</u> (Kuguklik River) 20, 2S82WS				Yako Pavilla, Kipnuk, F-17829-B. Applicant stated that he had used this parcel and/or other parcels since 1954 for trapping, hunting, and blackfishing.
<u>Unnamed Lake</u> (Kuguklik River) 22, 2S83WS		47 (A)	hunt, fish, bp (A)	Lucy S. Kuinuya, Kipnuk, F-17993-C. Applicant claimed same uses and date on all parcels.
<u>Unnamed Lake</u> 15, 2S83WS		27 (A)	bp (A)	Mary R. Anaver, Kipnuk, F-17668-B. Same date for all parcels.
16, 2S83WS		47 (A)	hunt, fish, bp (A)	Lucy S. Kuinya, Kipnuk, F-17993-B. Applicant claimed same uses and date on all parcels.
<u>Unnamed Stream</u> (Kuguklik River) 14, 1S82Ws	snmb (A)	58 (A)	fish, bp, hunt, trap (A)	David John, Kwigillingok, F-17441. Applicant list tent, sled, and snowmobile as improvements.
<u>Unnamed Stream</u> (Kuguklik River) 9, 1S82WS		32 (A)		Milton Lewis, Kwigillingok, F-029870.
<u>Unnamed Creek</u> (Kuguklik River) 17, 1S82Ws		47 (A)	hunt, fish, bp (A)	Lucy S. Kuinya, Kipnuk, F-17993-D. Applicant claimed same uses and date on all parcels.
<u>Unnamed Stream</u> (Kuguklik River, mouth in 33, 2S84WS) 6, 3S83WS			hunt, trap (A)	Johnny Attie, Kipnuk, F-17901-B. Applicant has used this parcel and/or other parcels since 1948. Applicant also fishes on this parcel and/or other parcels. (One at mouth of Anohwahk River.)
4, 3S84WS			hunt, fish, trap (A)	George Amik, Sr., Kipnuk, F-18159-C. Applicant stated that he had fished and hunted in the described areas since he was a boy in the 1920's.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
12, 3S85WS	boat (A)	41 (A)	bp (A)	Patty D. Paul, Kipnik, F-18093-C. Applicant has been using this parcel and/or other parcels since 1941.
<u>Unnamed Stream</u> (Kuguklik River, mouth in 34, 2S85WS) 2, 3S85WS		43 (A)	hunt, fish, trap (A)	Daniel Dock, Kipnuk, F-17989-D. Applicant claimed same uses and date on all parcels.
<u>Unnamed Stream</u> (Kuguklik River) 2, 1S83 WS				Jimmy J. Anaver, Kipnuk, F-17985-B. Applicant has used this parcel and/or other parcels since 1951. He started hunting, trapping, and fishing when he was 15. He traveled by dogs and camped with friends when needed. Now he travels by ski-doo and camps with friends or returns the same day.
<u>Unnamed Stream</u> (Kuguklik River) 3, 1S83WS		53 (A)	hunt, trap, bp (A)	Luke Amik, Sr. Kipnuk, F-18727-C. Applicant has used this parcel and/or other parcels since 1953 for hunting, trapping, and berry picking. Applicant travels by boat and camps in the boat or returns the same day.
10, 1S83WS		58 (A)	hunt, fish, trap (A)	Daniel Anaver, Kipnuk, F-17665-B. Applicant camps at father's, James Anaver's, allotment "where the cabin is located at Muklugtulirmiut". Applicant hunts, fishes, and traps on this parcel and/or other parcels.
10, 1S83WS		57 (A)	hunt, fish, trap (A)	Isaac B. Amik, Kipnuk, F-17983-A. Applicant has used this parcel and/or other parcels since 1957 for hunting, fishing, and trapping. Applicant has no improvements because he travels to the parcels by boat or snowmobile and then returns. (One parcel at mouth of Anohwahk River.)
23, 1S84WS		26 (A)	hunt, fish, trap (A)	James Samson, Kipnuk, F-15792-A. Applicant claimed same uses and date on all parcels.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
22, 1S84WS		33 (A)	bp (A)	Lucy Martin, Kipnuk, F-17670-C. Applicant has used this parcel and/or other parcels since 1933. Applicant camps with husband at nearby fall camp.
27, 1S84WS		33 (A)	bp (A)	Lucy Martin, Kipnuk, F-17670-D. Applicant has used this parcel and/or other parcels since 1933. Applicant camps with husband at nearby fall camp.
27, 1S84WS		33 (A)	hunt, trap, fish, bp (A)	Mike J. Dock, Kipnuk, F-17990-A. Applicant claimed same uses and date on all parcels.
34, 1S84WS				Evan Paul, Kipnuk, F-16914-A. Applicant has used this parcel and/or his other parcel since 1914 for fishing and hunting. He claimed to camp in "an Ilulirpitlik camp" across from his parcels.
5, 2S84WS		43 (A)	hunt, fish, trap (A)	Daniel Dock, Kipnuk, F-17989-C. Applicant claimed same uses and date on all parcels.
6, 2S84WS		58 (A)		Daniel Anaver, Kipnuk, F-17665-A. Applicant camps at father's (James) allotment "where the cabin is located at Muklugtulirmuit". Applicant hunts, fishes, and traps on this parcel and/or other parcels.
7, 2S84WS		22 (A)	hunt, trap, bp (A)	James K. Anauer, Kipnuk, F-16910-B. Applicant has used this parcel and/or his other parcel since 1922 for hunting, trapping, and berry picking. He claims a cabin and hunting equipment on one of the two parcels.
8, 2S84WS		22 (A)	hunt, trap, bp (A)	James K. Anauer, Kipnuk, F-16910-B. Applicant has used this parcel and/or his other parcel since 1922 for hunting, trapping, and berry picking. He claims a cabin and hunting equipment on one of the two parcels.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
11, 2S85WS		51 (A)	hunt, trap, fish (bp)	Jimmy J. Anaver, Kipnuk, F-17985-C. Applicant has used this parcel and/or other parcels since 1951. Applicant started hunting, trapping, and fishing when he was 15. He traveled by dogs and camped with friends when needed. Now he travels by ski-doo and camps with friends or returns the same day.
14, 2S85WS		54 (A)	bp (A)	Katie J. Amik, Kipnuk, F-17664. Applicant has been picking berries since she was about ten years of age.
<u>Unnamed Lakes</u> (Kuguklik River) 23, 1S84WS		33 (A)	bp (A)	Lucy Martin, Kipnuk, F-17670-A. Applicant has used this parcel and/or other parcels since 1933. Applicant camps with husband at nearby fall camp.
<u>Unnamed Lakes</u> 23, 1S84WS		33 (A)	bp (A)	Lucy Martin, Kipnuk, F-17670-A. Applicant has used this parcel and/or other parcels since 1933. Applicant camps with husband at nearby fall camp.
22, 1S85WS		33 (A)	bp (A)	Lucy Martin, Kipnuk, F-17670-B. Applicant has used this parcel and/or other parcels since 1933. Applicant camps with husband at nearby fall camp.
<u>Unnamed Stream</u> (Kuguklik River, mouth in 34, 1S84WS) 26, 1S84WS		14 (A)	hunt, fish (A)	Evan Paul, Kipnuk, F-16914-B. Applicant has used this parcel and/or his other parcel since 1914 for fishing and hunting. He claimed to camp in "an Iulirpitlik camp" across from his parcels.
<u>Unnamed Lake</u> 3, 4, 2S83WS		35 (A)	fish (A)	Paul R. Kiunya, Kipnuk, F-18090-B. Applicant has used this parcel and/or other parcels since 1935. A mud house was built on one of his four parcels in 1940.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (mouth in 7, 2S84WS) 9, 2S84WS		36 (A)	bp (A)	Julia K. Paul, Kipnuk, F-17996-A. Applicant claimed use of this and/or her other parcel since 1936. She accesses one or both parcels by boat.
8, 2S84WS		35 (A)	fish (A)	Paul R. Kiunya, Kipnuk, F-18090-A. Applicant has used this parcel and/or other parcels since 1935. A mud house was built on one of his four parcels in 1940.
8, 2S84WS	boat (A)	41 (A)	bp (A)	Patty D. Paul, Kipnik, F-18093-A. Applicant has been using this parcel and/or other parcels since 1941.
<u>Unnamed Stream</u> (Kuguklik River, mouth in 12, 2S85WS) 17, 18, 2S84WS		50 (A)	vegs (A)	Julia Dock, Kipnuk, F-18088-B. Applicant has used this parcel and/or her other parcels since 1950.
18, 2S84WS		27 (A)	bp (A)	Mary R. Anaver, Kipnuk, F-17666-A. Applicant has been using this parcel and/or other parcels since 1927.
<u>Unnamed Lakes</u> 1, 2S84WS		20s (A)	hunt, fish, trap (A)	George Amik, Sr. Kipnuk, F-18159-D. Applicant stated that he had fished and hunted in the described areas since he was a boy in the 1920's.
<u>Unnamed Lake</u> 1, 4S85WS		20 (A)	bp (A)	George Amik, Sr., Kipnuk, F-18159-B. Applicant has used this parcel and/or other parcels since 1920.
<u>Unnamed Lake</u> 28, 3S85WS		35 (A)	trap, hunt (A)	Paul R. Kiunya, Kipnuk, F-18090-D. Applicant has used this parcel and/or other parcels since 1935. A mud house was built on one of his four parcels in 1940. Claimed to use boat.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Kuguklik River, mouth in 35, 2S86WS) 11, 3S86WS	boat (A)	41 (A)	bp (A)	Patty D. Paul, Kipnik, F-18093-D. Applicant has been using this parcel and/or other parcels since 1941.
<u>Unnamed Stream</u> (Kuskokwim Bay, mouth in 28, 4S84WS) 21, 4S84WS		51 (A)	hunt, trap, fish (A)	Jimmy J. Anaver, Kipnuk, F-17985-D. Applicant has used this parcel and/or other parcels since 1951. Applicant started hunting, trapping, and fishing when he was 15. He traveled by dogs and camped with friends when needed. Now he travels by ski-doo and camps with friends or returns the same day.
<u>Bow Lake</u> 1, 4S84WS		50 (A)	hunt, fish, trap, bp (A)	Evon Ezean, Kongiganek, F-18425-C. Applicant claimed same uses and date on all parcels.
<u>Kolefkikpuk Lake</u> 8, 2S80WS		58 (A)		James D. Lewis, Kongiganak, F-16975-B. Applicant has used this parcel and/or other parcels since 1958.
<u>Kongigananohk River</u> 36, 1S80WS		50 (A)	hunt, fish, trap, bp (A)	Evon Ezean, Kongiganok, F-18425-C. Applicant claimed same uses and date on all parcels.
31, 1S79WS 36, 1S80WS				Willie Azean, Kwigillingok, F-029868. Case closed 1968.
5, 2S79WS		24 (A)	trap, fish, bp (A)	Charlie David, Kongiganak, F-16916-C. Applicant claimed same uses and date for all parcels.
<u>Ishkowik River</u> 25, 1S79WS		24 (A)	trap, fish, bp (A)	Charlie David, Kongiganak, F-16916-B. Applicant claimed same uses and date on all parcels.
19, 2S78WS		24 (A)	trap, fish, bp (A)	Charlie David, Kongiganak, F-16916-D. Applicant claimed same uses and date on all parcels. State of Alaska filed protest claiming that a winter trail crossed parcel.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Ishkowik River, mouth in 28, 1N78WS) 17, 21, 1N79WS				Frank Andrew, Kwigillingok, F-29871. Case closed 1968.
25, 36, 1N79WS		37 (A)	bp, grass (A)	Nellie Andrew, Kwigillingok, F-13820-A. Applicant claimed to berry pick and gather grass for basket weaving.
1, 1N79WS	heli (F)	38 (A)	hunt (A, F), trap (A)	John Enock, Tuntutuliak, F-17699-D, 8/76. Lands claimed for hunting mink, fox, otter. No improvements. Photos show a wet tundra region.
29, 1N78WS	heli (F)	42 (A)	fish, trap (F)	Isaac Paul, Napakiak, F-17948-B, 8/75. Applicant claimed same date on all parcels. Old tent frame observed on parcel during field examination. Portion of this parcel designated as Parcel D.
<u>Unnamed Creek</u> (Ishkowik River) 1, 1S79WS	heli (F)	55 (A)	hunt (F)	James A. Charles, Tuntutuliak, F-17855-B, 8/76. Applicant claimed same date on all his parcels. Field examiner noted tidal influence on river.
<u>Unnamed Creek</u> (Ishkowik River, mouth in 17, 2S78WS) 22, 27, 1S78WS		37 (A)	hunt, fish, trap, bp (A)	Paul Slim, Kwigillingok, F-16184. Claimed improvements consisting of a mud house, trap, sled, snowmobile, and fishing gear.
3, 10, 2S78WS	air (F)	44 (W)	hunt, trap (F) trap, hunt, bp (W)	Yeaho Fisher, Kwethluk, F-17500-A, 8/76. Applicant claimed tent frame which was not located during the field examination. Examiner noted old village site on parcel consisting of house pits and graves. Applicant claimed tent frame, smokehouse, and campsite in witness statement. He claimed to trap in fall, hunt in spring and fall, and pick berries in summer.
10, 2S78WS		58 (A)	fish, trap (A)	James D. Lewis, Kongiganak, F-16975-D. Applicant claimed same date and uses for all parcels.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Ishkowik River, mouth in 1, 2S79WS) 11, 2S79WS		50 (A)	hunt, fish, trap (A)	Evon Ezean, Kongiganok, F-18425-B.
<u>Tagayarak River</u> 8, 2N79WS	hell (F)	30 (A)	fish, hunt (A, F) trap (F)	Evan Thomas, Tuntutuliak, F-17704-A, 8/76. Examiner located remnants of mud house and barrel stove. Lands claimed for blackfish, whitefish, muskrat, otter, mink, and fox. Photos show single-channel, meandering Tagayarak River.
3, 10, 2N79WS	hell (F)	45 (A)	bp, hunt, fish, trap (F)	Nick Lupie, Tuntutuliak, F-14410-A, 8/76. Applicant claimed same date on all parcels.
<u>Unnamed Stream</u> (Tagayarak River, mouth in 5, 2N79WS) 28, 29, 32, 33, 3N79WS	snmb (A), hell (F)	46 (A)	hunt, trap (A, F)	Thomas Andrew, Tuntutuliak, F-16750-B, 8/76. Applicant claimed to hunt land otter, mink, ptarmigan, and fox.
5, 2N79WS	hell (F)	14 (A)	hunt (A, F)	John Daniel, Tuntutuliak, F-17692-A, 8/76. Lands claimed for hunting mink and otter.
<u>Unnamed Stream</u> (Tagayarak River, mouth in 8, 2N79WS) 17, 2N79WS	hell (F)	14 (A)	hunt (A, F)	John Daniel, Tuntutuliak, F-17692-B, 8/76. Lands claimed for hunting otter, fox, and mink.
<u>Kinak River</u> 28, 4N78WS		56 (A)	bp, fish (F)	James Jimmie, Tuntutuliak, F-17703-C, 8/76. Examiner found fish net, latrine site, frame for lean-to, and litter.
33, 4N78WS	hell (F)	40 (A)	fish, bp (A, F)	Phillip Charlie, Tuntutuliak, F-17690-C, 8/76. Examiner located a 12-by-18-foot tent and frame supplies, and a marker. Photos show a flat-bottomed boat on the river.
8, 3N78WS		38 (A)	hunt, bp (F)	John Enoch, Tuntutuliak, F-17699-A, 8/76. Applicant claimed to hunt fox and otter, and berry pick.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Lake</u> (Kinak River, mouth in 35, 5N78WS) 34, 35, 5N78WS 1, 2, 4N79WS	heli (F)	44 (A)	bp (A, F), hunt, fish, trap (F)	Katie E. Andrew, Tuntutuliak, F-18874-A, 8/76. Parcel is located on south shore of an unnamed lake which is part of a navigable lake-slough system.
<u>Unnamed Stream</u> (Kinak River, mouth in 7, 4N78WS) 26, 4N79WS			hunt, trap (F)	John Enoch, Tuntutuliak, F-17699-B, 3/79.
<u>Unnamed Lake</u> (Kinak River, mouth in 27, 4N78WS) 22, 4N78WS	heli (F)	46 (A)	fish, bp (F)	Thomas Andrew, Tuntutuliak, F-16750-A, 8/76. Examiner located parcel between 2 large unnamed lakes in a system of interconnecting lakes drained by the Kinak River. Remains of 2 mud houses located.
<u>Unnamed Stream</u> (Kinak River, mouth in 28, 4N78WS) 25, 4N79WS		38 (A)	hunt, trap (F)	John Enoch, Tuntutuliak, F-17699-C, 8/76. Applicant claimed to hunt and trap mink, fox, otter. Photos show a well-defined, single-channel, meandering stream through the tundra.
<u>Unnamed Stream</u> 29, 30, 4N78WS	heli (F)	46 (A)	fish, trap (A, F)	Thomas Andrew, Tuntutuliak, F-16750-C, 8/76. Examiner noted that area looked markedly different from that portrayed on 1954 Baird Inlet B-3 quadrangle (e.g. water is actually marsh). Land claimed for muskrats, blackfish, and cranberries.
<u>Unnamed Lake</u> (Kinak River) 30, 4N77WS 25, 4N78WS	heli (F)	40 (A)	hunt, fish, trap (A, F)	Phillip Charlie, Sr., Tuntutuliak, F-17690-D, 8/76. Examiner located fish racks, wire blackfish traps, a campsite, and an outboard motor.
<u>Unnamed Slough</u> (Kuskokwim River) 13, 2N76WS 18, 2N75WS	heli (F)	55 (A)	fish (F)	James A. Charles, Tuntutuliak, F-17855-D, 8/76. Applicant claimed use of this and/or other of his parcels since 1955. Field examiner noted local name of slough as Kweguk Slough. Improvements consisting of an old smoke house, net-drying racks, and "A"-frame tent frame, and a large tent frame base were claimed by the applicant and located during the field examination. ADF&G had smoke house and visqueen shelter on parcel. Applicant stated that up to ten families used to fish from the camp many years ago. Old village just to north. Two cemetery site applications shown on status plat.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Eenavarak River</u> 31, 32, 5N71WS 3, 4, 4N72WS	air (F)	38 (A)	camp (A)(F), fish, bp (F), bp (W)	Elena Willie, Napaskiak, F-17517, 9175. Dilapidated cabin, tent frame, fish rack, ruins of old cabin, and campfire found during field exam. Photos show a canoe on parcel.
28, 29, 4N72WS		35 (A)	fish (F)	Carlisle White, Eek, F-16967-C, 7/75.
32, 4N72WS		60 (A)	hunt, fish trap (F)(W) bp (W)	Peter Green, Eek, F-19113-C, 7/75. Applicant claimed same date on all parcels. Witnesses noted set net post on parcel.
31, 4N72WS		68 (A)	fish, bp (F), bp (W)	Carrie M. Carter, Eek, F-16053-B, 7/75. Applicant claimed same date on parcels. Witnesses noted parcel can be reached by boat through lakes and creeks from Eek Village. Trails also noted.
6, 3N72WS		41 (A)	hunt (F)	James Pelluska, Eek, F-15686-B, 7/75. Applicant claimed same date on all parcels. Examiner saw cooking utensils and fuel drums. Summer and fall use indicated.
1, 3N73WS		64 (A)	hunt, fish (F) hunt, trap (W)	Moses Green, Eek, F-18321-C, 8/75. Applicant claimed same date for all parcels. Witnesses noted trail and set net post on parcel.
1, 3N73WS		64 (A)	fish, hunt, trap (F)(W) bp (W)	William F. Brown, Eek, F-16055-A, 8/75. Applicant claimed same date on all parcels. Witness statements noted a temporary tent frame on parcel.
<u>Eenavarak River</u> 2, 3N73WS		54 (A)	fish, bp (F)(W)	Lucy Henry, Eek, F-15661-C, 7/75. Applicant claimed same date on all parcels.
10, 11, 3N73WS		30's (W) 46 (A)	fish, hunt (F)(W) trap (W)	Adolph Carter, Eek, F-15841-A, 7/75. Witnesses noted set net post on parcel. No use since 1971 - applicant disabled. Applicant claimed same date for all parcels.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
10, 3N73WS		52 (A)	fish, bp (F)(W) camp (W)	Minnie Petluska, Eek, F-15786-A, 7/75. Same date claimed for all parcels. Deceased 6/75. Witnesses note trails and fish site.
10, 3N73WS		62 (A)	fish, bp (F)	John C. Alexie, Eek, F-029876-E. Same date on all parcels. Tent stakes found on field exam.
3, 10, 3N73WS		40 (A)	bp (F)	Paulina P. Carter, Eek, F-15627-A, 7/75. Same date on all parcels.
10, 15, 3N73WS	air (F)	50 (A)	bp, fish (F)(W), hunt, trap (W)	Lewis Beebe, Eek, F-15780-A, 7/75. Same date on all parcels. Witnesses noted tent, old Kayak frames, campsite, and fish net.
15, 16, 3N73WS		50 (A)	bp, hunt, fish (F)	Steven White, Eek, F-15706-A, 7/75. Same date for all parcels. Field examiner found an abandoned kayak frame.
13, 3N75WS		40 (A)	hunt, bp (F)(W) trap (W)	Frank Paul, Eek, F-15785-B, 8/75. Same date for all parcels.
30, 6N70WS		10 (A)	trap (A)(F) hunt, fish, bp (F)	Alexie Maxie, Napaskiak, F-025355, 10/60, 8/75. 1960 examiner found igloo, tent frame, fish rack in disrepair and 5 kayaks. 1975 examiner found canoe, barrel stove, old house, trail to improvements, and two graves. Applicant died 9/66.
<u>Unnamed Lake</u> 9, 5N72WS	air (F)	30 (A)	fish, trap (A)(F)	Matthew Johnson, Napaskiak, F-025354, 6/62, 9/75. Igloo found by both examiners. Applicant deceased 1966.
9, 5N72WS	boat, dog (A) air (F)	30 (A)	fish, trap (A)(F) hunt, bp (F)	Alexie K. Evan, Napaskiak, F-025353, 9/75. Igloo, two stoves, and graves found.
<u>Unnamed Lake</u> 10, 11, 14, 15, 4N73WS		20 (A)	fish, trap (A) trap (F)	Fritz Larson, Napaskiak, F-025352, 6/62, 8/75. 1962 examiner located an igloo, tent frame and bath house. 1975 examiner located sod house, smokehouse, tent frame and bathhouse.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
<u>Unnamed Stream</u> (Eenayarak River) 23, 3N72WS		58 (A) 50 (A)	hunt, fish, trap (F)(W)	Joshua White, Eek, F-15788-B, 8/75. Applicant claimed same date on all parcels.
<u>Unnamed Lake</u> 5, 3N73WS		54 (A)	fish, bp (F)(W) hunt (W)	Lucy Henry, Eek, F-15661-B, 7/75. Same date on all parcels.
4, 3N73WS		40 (A)	fish, bp (F)	Grace White, Eek, F-15705-A, 7/75. Same date on all parcels.
4, 3N73WS	hell (F)	40 (A)	fish (F), bp, hunt, trap (W)	Frank Paul, Eek, F-15785-A, 7/75. Same date on all parcels. Campsite, tent, and trails claimed on witness statement.
4, 9, 3N73WS	hell (F)	40 (A)	fish (F)	Alfred Nicholai, Eek, F-15784-A, 7/75. Same date on all parcels.
<u>Eek River</u> 29, 1N63WS		41 (A)	hunt, trap (A)	Frank Brown, Eek, F-17479-D, 8/75. Same date for all parcels. Level tundra with low willow brush near the river. Examiner found no use evidence.
18, 1N63WS		35 (A)	hunt, fish, trap (A) hunt, trap (F)(W)	Alfred Alexie, Kwethluk, F-17241, 8/74. Applicant's claimed tripods and tent frame and stakes were not found.
13, 24, 1N64WS		52 (A)	hunt, trap (F)	Fritz Beebe, Sr. Eek, F-16966-C, 8/75. Same date for all parcels.
13, 24, 1N64Ws		50 (A)	hunt, trap (F)	Carlle White, Eek, F-16969-D, 7/75. Same date for all parcels. Campsite located.
21, 22, 28, 1N67Ws	boat (A)	55 (A)	fish, hunt (F)	James A. Charles, Tuntutuliak, F-17855-A, 8/83. Same date for all parcels. Applicant stated that he takes boat with outboard motor to parcel; he claims boats can go another 30 miles to Eek Lake. Examiner noted river has clear water and gravel bed.
28, 1N67WS		50 (A)	hunt, bp, trap (F) hunt, trap (W)	Daniel Foster, Eek, F-15812-C, 8/75. Same date on all parcels. Williams claimed campsite, traps, and trails on parcel.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
30, 1N67WS				Same Cleveland, Quinhagak, AA-31272-B.
25, 1N68WS	dog (W)	30's (W) 46 (A)	fish, hunt, trap (F) hunt, trap, wg (W)	Adolph Carter, Eek, F-15841-C, 7/75. Same date for all parcels.
26, 1N68WS	boat, srmb, dog (W)	50 (A) 40 (W)	hunt, trap (F)(W) camp, wg (W)	Steven White, Eek, F-15706-D, 7/75. Same date for all parcels. Trails on land. Examiner found no use evidence. Applicant claimed to use boat in the fall.
18, 19, 1N68WS		50 (A)	trap, hunt (F)(W)	Joseph Joshua, Eek, F-15842-D, 8/75. Same date on all parcels. Applicant claims to trap beaver and mink. Examiner found no physical use evidence.
18, 1N69WS 13, 1N70WS		60s (W)	fish, hunt, bp (F) hunt, trap (W)	Daniel Foster, Eek, F-15812-B, 8/75. Applicant claims to fish for salmon and grayling. Examiner found no physical use evidence. Eek River may traverse southern portion of parcel. Witness claimed campsite and trails on parcel.
27, 34, 1N71WS	heli (F)	30 (A)	bp, fish, trap (F)(W) hunt, wg (W)	Evon Andrew, Eek, F-15840-B, 8/75. Same date for all parcels. Examiner located barrel stove, cut alder, and tent frame site. Witness noted graveyard, trails, fire pit, smokehouse, sled trail and cleared area.
30, 1N71WS		45 (A) 52 (W)	hunt, fish (F) hunt (W)	Peter Carter, Eek, F-16202-B, 7/75. Same date for all parcels. Applicant returns home each night.
19, 1N71WS		50 (A)	trap, hunt, fish (F) trap, hunt (W)	Daniel Foster, Eek, F-15812-A, 8/75. Same date for all parcels. Applicant fishes for grayling. Examiner found no physical use evidence. Witness noted campsite and trails.
5, 1N72WS	heli (F)	45 (A)	bp (F)	Ella Andrew, Eek, F-15839-C. Examiner found piles of firewood. Same date for all parcels.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
5, 1N72WS		30 (A)	fish (F)(W) hunt, wg (W)	Willie Green, Eek, F-16054-A, 7/75. Same date for all parcels. Witnesses noted fire pit, trails and set net post. Examiner found set net stake. Applicant deceased 11/72.
31, 2N72WS		40 (A)	fish, bp (F)(W) hunt, trap (W)	Alfred Nicholai, Eek, F-15784-D, 7/75. Same date for all parcels. Witness noted trails on parcel.
31, 2N72WS		67 (A)	hunt, fish (F)	Joseph F. Brown, Eek, F-15781-C, 7/75. Friend stated applicant returns to his home in the village each evening. Examiner found no physical evidence use.
36, 2N73WS 1, 1N73WS		60s (A)(W)	hunt, fish (F)(W) trap (W)	Moses Green, Eek, F-18321-D, 7/75. Same date for all parcels.
36, 2N73WS		35 (A)	fish (F)	Walter Carter, Eek, F-15629-A & D, 7/75. Same date for all parcels. Examiner's guide stated that applicant uses parcel daily and returns home each evening. Examiner found no physical use evidence.
30, 2N72WS		60 (A)(W)	hunt, fish, trap (F)(W) bp, wg (W)	Peter Green, Eek, F-19113-B, 7/75. Same date for all parcels. Applicant places a set net for salmon here. He also fishes in winter.
30, 2N72WS 25, 2N73WS		70 (W) 71 (W)	bp (F)(W)	Pauline Foster, Eek, F-15813-C, 8/75. Reportedly not used in 1973-1974 as applicant left to attend school.
30, 2N72WS	hell (F)	46 (F)	fish, hunt, trap (F)	Aldolph Carter, Eek, F-15841-D, 8/75. Same date for all parcels.
19, 30, 2N72WS		52 (A)	fish, bp (F)	Fritz Beebe, Sr., Eek, F-16966-B, 7/75. Same date for all parcels.
25, 2N73WS		49 (A)	fish (F)(W), hunt, trap, wg, bp (W)	James Henry, Eek, F-15660-B, 7/75. Old spring camp found on field exam. Witnesses noted cleared area, trails, and set net posts.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
26, 2N73WS		38 (A)	bp (F)(W)	Bertha Green, Eek, F-15650-C, 7/75. Same date for all parcels. Applicant returns to village each evening.
23, 2N73WS		30 (A)	fish, bp (F)	Elsie C. Alexie, Eek, F-15775-C, 7/75. Deceased 3/76. Same date for all parcels.
27, 28, 2N73WS	heli (F)	35 (A)	hunt, fish, bp (F)	Carlie White, Eek, F-16967-A, 7/75. Same Same date for all parcels. Applicant returns to village each night.
18, 2N72WS	heli (F)	52 (A)	fish, bp, (F)(W), hunt (W)	Minnie Petluska, Eek, F-15786-C, 7/75. Same date for all parcels. Spring camp found on parcel. Deceased.
16, 2N73Ws		58 (A)	bp (F)(W)	Julia F. Alexie, Eek, F-15776-C, 7/75. Same date for all parcels. Fish rack was under construction at time of field exam. Applicant was establishing a fish camp. Witnesses noted fish rack, tent, and smokehouse.
16, 2N73WS		49 (A)	fish (F)(W), hunt, trap, bp (W)	James Henry, Eek, F-15660-D, 7/75. Same date for all parcels.
15, 2N73WS		52 (A)	fish, bp (F)(W)	Minnie Petluska, F-15786-D, 7/75. Same date for all parcels. Witnesses listed set net posts on parcel.
22, 2N73WS		35 (A)	fish, bp (F)	Carlie White, Eek, F16967-B, 7/75. Same date for all parcels.
22, 2N73WS		38 (A)	bp (F)(W)	Bertha Green, Eek, F-15650-D, 7/75. Same date for all parcels. Returns to village each evening.
15, 2N73WS		57 (A)	fish, bp (F)(W)	Sam W. Alexie, Eek, F-15778-A, 7/75. Same date for all parcels.
15, 2N73Ws		50 (A)	fish, bp, hunt (F), fish (W)	Lewis Beebe, Eek, F-15780-B, 7/75. Same date for all parcels.
16, 2N73WS	boat (A)(F)	30 (A)	bp, fish (F)	Elsie C. Alexie, Eek, F-15775-B, 7/75. Same date for all parcels. Deceased.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
16, 2N73WS		40 (A)	fish (F)(W)	Alfred Nicholai, Eek, F-15784-C, 7/75. Same date for all parcels. Witnesses noted trails and set nets on parcel and that others use parcel for fishing, hunting, and bp.
32, 2N73WS		52 (A)	fish (F)	Fritz Beebe, Sr., Eek, F-16966-A, 7/75. Same date for all parcels. Examiner noted applicant wanted to move his smokehouse to claim. Applicant uses parcel daily, returning home at night.
19, 2N73WS	boat (A)	55 (A)	bp, camp (A) bp (F)(W)	Nellie M. McIntyre, F-15783, 8/75. Witnesses noted campsite, dock, boat landing, trails, and fire pit on parcel.
<u>Unnamed Stream</u> (Eek River) 9, 10, 1S67WS	heli (F)	30 (A)	hunt, trap (F)(W)	Evon Andrew, Eek, F-15840-C, 8/75. Same date for all parcels. Witnesses noted campsite, tent frame, snares, hunting rack and graveyard on parcel.
<u>Unnamed Stream</u> (Eek River) 31, 1N67WS		58 (A)	hunt, trap (F) fish (A)	Joshua White, Eek, F-15788-A, 8/75. Same date for all parcels.
<u>Middle Fork Eek River</u> 6, 2S69WS		41 (A) 30s (W)	hunt, camp (F) (W) trap (W)	James Petluska, Eek, F-15686-A, 7/75. Same date for all parcels. Examiner found cooking utensils and fuel drums.
<u>Unnamed Stream</u> (Eek River, mouth in 10, 1N72WS) 3, 1N72WS		45 (A) 52 (W)	fish, hunt (F) hunt (W)	Peter Carter, Eek, F-16202-A, 7/75. Same date for all parcels.
<u>Unnamed Stream</u> (Eek River, mouth in 15, 2N73WS) 27, 3N73WS		54 (A)	bp (W)	Margaret Revet, Bethel, AA-53443-D. Same date for all parcels.
3, 2N73WS		54 (A)	camp, bp (F) hunt, bp, trap, fish (W)	Lucy Henry, Eek, F-15661-A, 7/75. Same date for all parcels. Examiner found old stove, net, and litter.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Unnamed Stream</u> (mouth in 27, 3N73WS) 22, 3N73WS		58 (A)	bp (F)(W)	Julia F. Alexie, Eek, F-15776-A, 7/75. Same date for all parcels.
22, 3N73WS	air (F)	50 (A)	hunt, fish, bp (F)(W) trap (W)	Lucy Hawk, Bethel, F-18686-B, 7/75. Same date for all parcels. Applicant claimed a spring camp. Examiner found no physical use evidence.
23, 3N73WS	air (F)	50 (A) 50s (W)	bp, camp (F) bp (W)	Martha N. Carter, Eek, F-16201-B, 7/75. Examiner found tent frame. Peter Green noted parcel can be reached by boat during summer and fall.
22, 3N73WS		58 (A)	bp (F)(W)	Julia F. Alexie, Eek, F-15776-B, 7/75. Same date for all parcels.
23, 3N73WS	air (F)	50 (A)	hunt, fish, bp (F)(W) trap (W)	Lucy Hawk, Bethel, F-18686-A, 7/75. Same date for all parcels. Trails and campsite noted on witness statements.
<u>Unnamed Stream</u> (Eek River, mouth in 26, 2N74WS) 19, 1N73WS	walk (A)	64 (A)	bp (F)	Lydia W. Alexie, Eek, F-15777-A, 7/75. Same date for all parcels.
18, 1N73WS	boat (W)	50 (A)	bp, hunt (F)(W)	Steven white, Eek, F-15706-B, 7/75. Same date for all parcels. Applicant returns to the village at night.
12, 1N74WS		50 (A)	bp, hunt (F)(W)	Lewis Beebe, Eek, F-15780-D, 8/75. Examiner noted winter trail traverses parcel.
35, 2N74WS	boat, walk (A)	52 (A)	bp (F)(W)	Minnie Petluska, Eek, F-15786-B, 7/75. Same date for all parcels. Witnesses said that applicant used a boat during high tide.
<u>Apokak Slough</u> 23, 1N74WS		40 (A)	bp, fish, hunt (F)	Grace White, Eek, F-15705-C, 7/75. Same date for all parcels.
26, 1N74WS		50 (A)	hunt, bp, fish (F) fish, hunt (W)	Lewis Beebe, Eek, F-15780-C, 8/75. Same date for all parcels.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
26, 1N74WS		30s (W) 46 (A)	hunt, fish (W)	Adolph Carter, Eek, F-15841-B, 7/75. Witnesses noted parcel not used since 1971 (applicant disabled).
32, 1N74WS		60 (A) 67 (A)	hunt (F)	Joseph F. Brown, Eek, F-15781-A, 7/75. Same dates for all parcels. Applicant said he returned to village after hunting rather than remaining overnight.
26, 1N74WS		41 (A)	hunt, fish (F)(W) camp (W)	James Petluska, Eek, F-15686-C, 7/75. Same date for all parcels. Applicant said he travels to and from parcel each day.
21, 1N74WS		64 (A)	fish (F)(W), hunt, bp, trap (W)	Moses Green, Eek, F-18321-B, 7/75. Same date for all parcels. Set net posts claimed on witness statements.
22, 28, 1N74WS		50 (A)	hunt, bp, fish (F)	Isaac Hawk, Bethel, F-18687-A, 8/75. Same dates for all parcels.
27, 1N74WS		35 (A)	fish, hunt (F)	Walter Carter, Eek, F-15629-B, 7/75. Same date for all parcels.
1, 1S74WS		40 (A)	fish, hunt (F)(W) bp, camp (W)	Alfred Nicholai, Eek, F-15784-B, 7/75. Same as all parcels. Temporary tent frame noted on witness statements.
<u>Unnamed Stream</u> (Apokak Slough, mouth in 32, 1N74WS) 29, 1N74WS		40 (A)	bp (F)	Paulina P. Carter, Eek, F-15627-C, 7/75. Same date for all parcels. Driftwood tripod and discarded outboard motor on parcel.
<u>Kuskokwak Creek</u> 4, 5, 2S72WS	air (F)	41 (A)	fish, hunt, trap (F)	Frank Brown, Eek, F-17479-C, 8/76. Examiner found no physical use evidence.
<u>Tungak Creek</u> 19, 20, 2S73WS		65 (A)	fish, bp (A)	Mary S. Cleveland, Quinhagak, AA-31271-A.
19, 2S73WS		22 (A) 50 (A)	fish, hunt, bp (A)	Martha Oldfriend, Quinhagak, A-37775-A.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
24, 2S74WS		22 (A) 50 (A)	fish, hunt, bp (A)	Martha Oldfriend, Quinhagak, A-37775-C.
22, 23, 2S74WS		50 (A)	fish, hunt, trap, bp (A)	Martha Matthew, Quinhagak, AA-37810-A.
22, 2S74WS		50 (A)	hunt, fish, bp (A)	Carrie Cleveland, Quinhagak, AA-31276-A.
22, 2S74WS	boat, foot (A)	49 (A)	hunt, trap, bp (F)	George Pleasant, Quinhagak, AA-31288-B, 6/84.
28, 2S74WS	boat (F)	50 (A)	hunt, fish, trap, bp (A)	Martha Mark, Quinhagak, A-37776-A, 7/84. Examiner found no physical use evidence.
26, 2S75WS		50 (A)	hunt, trap, fish, bp (A)	John Johnson, Quinhagak, A-37768-C.
23, 26, 2S75WS		60 (A)	hunt, fish, bp (A)	Carl Cleveland, Quinhagak, A-31299-C.
<u>Warehouse Creek</u>				
6, 3S74WS		50 (A)	fish, hunt, trap, bp (A)	John Johnson, Quinhagak, AA-37768-A.
1, 3S75WS				
<u>Unnamed Creek (Warehouse Creek)</u>				
32, 2S74WS	air (F)		trap (A)	Ham Cleveland, Quinhagak, F-18531-A, 8/76. Examiner located mud house, hunting gear, and fish traps.
31, 2S74WS		60 (A)	fish, hunt (A)	Paul Trader, Quinhagak, AA-31287-B.
4, 4S71WS		45 (A)	hunt, fish, trap, bp (A)	Andy Sharp, Quinhagak, AA-37767-D.
4, 4S71WS		71 (A)	fish, hunt, bp (A)	Carl Cleveland, Quinhagak, AA-31229-A.
<u>Unnamed Lake (N. Br. Warehouse Creek)</u>				
32, 2S73WS		50 (A)	hunt, fish, bp (A)	Frank Matthew, Sr. Quinhagak, AA-37774-A.
<u>Kanektok River</u>				
30, 5S68WS		50 (A)	bp, hunt, fish, trap (A)	Frank Matthew, Sr., Quinhagak, AA-37774-B. Same uses and date for all parcels.
25, 5S69WS		50 (A)	hunt, trap, fish (A)	John W. Mark, Quinhagak, AA-31279-C. Same uses and date for all parcels.
25, 5S69WS		50 (A)	hunt, fish, trap (A)	John W. Mark, Quinhagak, AA-31279-B. Same uses and date for all parcels.

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
26, 5S69WS		50 (A)	hunt, fish, trap, bp (A)	Abraham Cleveland, Quinhagak, AA-37759-D. Same uses and date for all parcels.
16, 5S69WS	boat (A)	45 (A)	hunt, fish, trap (F)	Dan Mark, Quinhagak, AA-31278, 7/84. Examiner found no physical use evidence.
11, 5S69WS		40 (A)	hunt, fish, trap (A)	Nick Mark, Quinhagak, AA-31277-C. Same uses and date for all parcels.
24, 4S71WS		40 (A)	hunt, fish, trap (A)	Nick Mark, Quinhagak, AA-31277-B. Same uses and dates for all parcels.
24, 4S71WS		40 (A)	hunt, fish, trap (A)	Nick Mark, Quinhagak, AA-31277-A. Same uses and date for all parcels.
22, 23, 26, 27, 4S70WS		50 (A)	hunt, fish, trap (A)	Wassillie Andrew, Quinhagak, AA-37779.
16, 4S70WS		50 (A)	fish, hunt, trap, bp (A)	Moses Williams, Quinhagak, AA-31285-A. Same uses and date for all parcels.
29, 30, 5S68WS	boat, walk (A)	40 (A)	hunt, bp (F).	Paul W. Jones, Quinhagak, AA-31292-B, 7/84.
27, 28, 4S71WS		40 (A)	hunt, trap, fish (A)	Paul W. Jones, Quinhagak, AA-31292-A. Same uses and date for all parcels.
28, 4S71WS		50 (A)	bp, fish, hunt (A)	Martha Mark, Quinhagak, A-37776-C. Same uses and date for all parcels.
28, 4S171WS	boat (F)	50 (A)	hunt, fish, trap, bp (A)	Martha Mark, Quinhagak, A-37776-B, 7/84. Examiner found no physical use evidence.
21, 5S69WS		50 (A)	hunt, fish, trap (A)	John W. Mark, Quinhagak, AA-31279-A.
20, 4S71WS		50 (A)	hunt, fish, trap, bp (A)	Dan Kuku, Quinhagak, AA-31275-A. Same uses and date for all parcels.
20, 4S70WS		50 (A)	fish, hunt, trap, bp (A)	James Williams (deceased), Quinhagak, AA-37772-D. Same uses and date for all parcels.
19, 4S71WS	boat (A)	50 (A)	hunt, fish, trap, bp (A) fish (F)	Charles Evans, Quinhagak, AA-37765-A, 7/84.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
19, 4S70WS		50 (A)	fish, hunt, bp (A)	Moses Kuku, Quinhagak, AA-37766-A. Same uses and date for all parcels.
29, 5S68WS		65 (A)		Sam Cleveland, Quinhagak, AA-31272-C.
34, 4S73WS		64 (A)	fish, hunt, trap, bp (A)	Mark Henry (deceased), Quinhagak, AA-31298-B. Same uses and date for all parcels.
<u>Kagati Lake</u> 28, 3S63WS	plane (F)(A)	60 (A)	hunt, fish, bp (A)	Mildred V. Hopstad, Bethel, F-18462-B, 9/75. Husband told examiner that he and wife occasionally flew to lake in his plane for an afternoon of trout fishing.
<u>Pegati Lake</u> 3, 4S63WS		56 (A)	bp, trap (A)	Mildred Charles, Bethel, F-17813-B. Same uses and date for all parcels.
<u>Arolik River</u> 14, 7S72WS		50 (A)	fish, hunt, trap, bp (A)	Moses Mark, Quinhagak, AA-31274-B. Same uses and date for all parcels.
14, 23, 7S72WS		65 (A)	hunt (A)	John Allen Sharp, Quinhagak, AA-37771.
9, 7S72WS		50 (A)	fish, hunt, trap, bp (A)	James Williams (deceased), Quinhagak, AA-37772-A. Same uses and date for all parcels.
32, 6S72WS		50 (A)	fish, hunt, trap, bp (A)	Moses Mark, Quinhagak, AA-31274-C. Same uses and date on all parcels.
32, 6S72WS		50 (A)	hunt, fish, trap, bp (A)	Frank Matthew, Sr., Quinhagak, AA-37774-C. Same uses and date for all parcels.
<u>North Mouth Arolik River</u> 4, 6S73WS		50 (A)	hunt, fish, trap, bp (A)	Henry Matthew, Quinhagak, AA-37773-D. Same uses and date for all parcels.
4, 6S73WS		50	hunt, fish, trap, bp (A)	Henry Matthew, Quinhagak, AA-37773-E. Same uses and date for all parcels.
<u>South Mouth Arolik River</u> 10, 11, 14, 15, 6S74WS		50 (A)	fish, hunt, trap, bp (A)	Dan Kuku, Quinhagak, AA-31275-B. Same uses and date for all parcels.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
9, 10, 6S74WS		50 (A)	hunt, fish, bp (A)	Carrie Cleveland, Quinhagak, AA-31276-B. Same uses and date for all parcels.
<u>Fox Creek</u> (Arolik River) 6, 8S71WS 1, 8S72WS		66 (A)	trap, hunt (A)	Oscar Friendly, Quinhagak, F-17288, 8/75. Examiner found old mining cabin debris on site.
<u>Bessie Creek</u> (Arolik River) 23, 26, 5S73WS		50 (A)	hunt, fish, trap, bp (A)	Henry Matthew, Quinhagak, AA-37773-B. Same uses and date for all parcels.
<u>Jack Smith Creek</u> 29, 30, 8S73WS	heli (F)	29 (A)	hunt, bp (A)	Charley Kavelala, Bethel, F-14180, 8/78. Trail crosses parcel. Examiner found no other physical evidence of use.
<u>Big Lake</u> (Nanvakfak Lake) 23, 12S75WS		48 (A)	fish, hunt (A) (F) trap, bp (F)	Moses Toniak, Goodnews Bay, F-17422-C, 9/77.
17, 12S75WS	boat (A), heli (F)	46 (A) 50's (F)	hunt, fish, trap (A) hunt (F)	Charlie Roberts (deceased), Goodnews Bay, F-18206-C, 7/78.
20, 29, 12S75WS	heli (F)	28 (A)	hunt, bp (A)	Annie S. Fox, Platinum, F-17401, 7/78. Examiner noted winter trail crossing allotment.
23, 12S75WS		22 (A)	hunt, trap, fish, bp (A) hunt, bp (F)	Robert Smith, Goodnews Bay, F-13658-B, 9/77.
<u>Tunulik River</u> 33, 11S73WS 4, 12S73WS		20 (A)	trap, fish, hunt (A) hunt, eggs (F)	Willie Roberts, Goodnews Bay, F-18207-B, 8/77.
17, 12S73WS		47 (A)	fish, trap, hunt, bp (A) bp, eggs (F)	Dora Roberts, Goodnews Bay, F-15949-A, 9/77. Examiner said parcel accessible from nearby village.
18, 12S73WS	heli (F)		hunt, trap, bp, grass (A) bp, trap (W) bp, grass (F)	Grace Evan, Goodnews Bay, F-13766-A, 9/77. Witnesses said she used land "all her life."

Settlement Claims of Kuskokwim Region

<u>Location</u>	<u>Access</u>	<u>Occ</u>	<u>Use</u>	<u>Remarks</u>
<u>Goodnews Lake</u> 7, 8, 18, 6S66WS	air (F)	39 (A)	bp (W), fish, hunt, trap (A), bp (W)	Betty Huffman, Goodnews Bay, F-19735, 9/73. NPPR. Applicant said lake used for boating. He claimed a cabin.
18, 8S66WS 13, 24, 8S67WS	boat (A), heli (F)	45 (A)	hunt, fish, trap (A)	James Bright, Sr., Goodnews Bay, AA-7802-B, 7/78. Examiner found no physical use evidence. Examiner says water access up Goodnews River to Goodnews Lake.
<u>Middle Fork Goodnews River</u> 30, 11S71WS	boat, dogs, snmb (A) heli (F)			Charlie Roberts (deceased), Goodnews Bay, F-18206-B, 7/78. Applicant stated lands were used since 1946 for hunting, trapping, fishing.
31, 11S71WS	air (F)	57 (A) before 59 (F)	fish, hunt, trap (A)	Otto Toniak, Goodnews Bay, F-13659, 7/78. Examiner found old hunting camp.
2, 12S72WS 35, 11S72WS	heli (F)	57 (A)	fish, hunt, trap, bp (A), fish, bp, wg (W), bp (F)	Martha O. Williams, Goodnews Bay, F-13660, 7/78.
17, 12S72WS	heli (F)	61 (A) 55 (F)	fish, hunt, bp (A) fish (F)	Alice V. Bright, Goodnews Bay, F-15624-B, 7/78. Examiner found no physical use evidence.
17, 20, 12S72WS	heli (F)	35 (A)	hunt, fish, trap (A), fish, bp, hunt (F)	Otto Pavala, Goodnews Bay, F-13776-A, 8/77. Examiner noted possible old village site on parcel -- house pits and 2 grave markers. Examiner found several barrels and pits where fish are stored, mainly for sled dogs. Applicant told him this was a winter fish camp.
<u>South Fork Goodnews River</u> 11, 14, 12S72WS		22(A)(W)	hunt (W), fish, hunt, trap (F)	Robert Smith, Goodnews Bay, F-13658-A, 9/77. Applicant hunts mink, squirrel, and ptarmigan. He fishes for trout in winter and salmon in summer. Examiner found no physical use evidence.
15, 12S72WS	heli (F)	45 (A)	trap, hunt, (A)	Henry Walter, Goodnews Bay, F-18210-B, 7/78. Applicant hunts ptarmigan. Examiner found no physical use evidence.

Settlement Claims of Kuskokwim Region

Location	Access	Occ	Use	Remarks
15, 20, 12S72WS	dog, srmb, boat (A) heli (F)	46 (A)	hunt, fish, trap (A)	Charlie Roberts, Goodnews Bay, F-18206-A, 7/78. Same date and uses for all parcels.
20, 12S72WS	heli (F)	49 (A)	hunt, fish, bp (A)(W)	Christine S. Toniak, Goodnews Bay, F-15844-A, 8/77. Applicant hunts fox and squirrel. Examiner found no physical use evidence.
9, 12S72WS	boat (W), heli (F)	47 (A)	bp, trap, fish (A, W) bp, fish (F)	Katie Pavala, Goodnews Bay, F-13775-B, 8/77. Witnesses said remains of cabin and a graveyard on lands. Examiner found no physical use evidence.
<u>Unnamed Creek (South Fork Goodnews)</u> 29, 12S72WS		44 (A)	hunt, trap (A, W) bp (W)	Bavilla Merritt, Goodnews Bay, F-15766, 8/77. Applicant hunts ptarmigan, fox, and rabbit. Examiner found no physical use evidence.
<u>Puvulik Creek</u> 9, 10, 13S73WS		53 (A)	trap, fish, bp (A, F) trap, bp (W)	Natalina Beaver, Goodnews Bay, F-13655, 8/77. Applicant claimed to trap squirrel and pick berries. Examiner found no physical use evidence.
6, 12S73WS 1, 13S74WS		57 (A)	hunt, trap (A, F) bp (F)	Andy Chingliak, Goodnews Bay, F-13656, 9/77. Applicant claims to hunt squirrels, rabbits, and ptarmigan, and to pick berries. Examiner found no physical use evidence.
<u>Kinegnak River</u> 32, 15S74WS	heli (F)	19 (A)	fish, trap (A, F) hunt (A)	Walter Smith, Goodnews Bay, F-13780-B, 7/78. Parcel is located at mouth of Kookukluk Creek. The old village site of Kinegnak is located here.
<u>Kookukluk Creek</u> 8, 15S74WS	heli (F)	56 (A)	hunt, trap (A, F) bp (A)	Moses T. Kilbuck, Platinum, F-19058, 7/78. Parcel is located near the head of Kookukluk Creek. Applicant claimed to hunt squirrels and ptarmigan, to trap, and to use the parcel while traveling to and from Chagvan Bay.
32, 15S74WS	boat, dog, walk (A) heli (F)	46 (A)	fish, trap, bp (A)	Willie T. Echuck, Sr., Togaik, F-17831, 8/78. Old village of Kinegnak just 1/4 mile south of allotment. Parcel located near confluence with Kinegnak River.

962*MBrown*b1j*8/6/85*0800x

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