

UNITED STATES GOVERNMENT

# Memorandum

1210  
D4225 Alaska  
(W&SRS)

**TO :** Assistant Director Eastman

**FROM :** Alaska Task Force Leader

**SUBJECT:** Bremner Wild and Scenic River Report

**DATE:** May 22, 1973

Enclosed are two copies of a preliminary draft of the subject report. A copy of this report has been provided to NWRO, BLM, BSF&W, NPS and FS planning teams in Anchorage. Chapter IV will be distributed to study team participants.

It is emphasized that the conclusions and recommendations are based upon a single aerial examination on June 19, 1972, and upon office review of available information. On-site field examination is scheduled for this summer.

Following field work, the preliminary draft will be revised as appropriate and the remaining portions of the report completed.

*Jules V. Tileston*  
Jules V. Tileston

2 Enclosures

cc: WASO/Fred Strack



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BREMNER RIVER, ALASKA—  
A Wild and Scenic River Analysis

THIS REPORT WAS PREPARED PURSUANT TO PUBLIC LAW 90-542, THE WILD AND SCENIC RIVERS ACT. PUBLICATION OF THE FINDINGS AND RECOMMENDATIONS HEREIN SHOULD NOT BE CONSTRUED AS REPRESENTING EITHER THE APPROVAL OR DISAPPROVAL OF THE SECRETARY OF THE INTERIOR. THE PURPOSE OF THE REPORT IS TO PROVIDE INFORMATION AND ALTERNATIVES FOR FURTHER CONSIDERATION BY THE BUREAU OF OUTDOOR RECREATION, THE SECRETARY OF THE INTERIOR, AND OTHER FEDERAL AGENCIES.

PRELIMINARY

May 1, 1973

Bureau of Outdoor Recreation  
Alaska Task Force

PRELIMINARY DRAFT ---  
NOT FOR PUBLIC DISTRI-  
BUTION OR PUBLIC USE  
---SUBJECT TO REVISION



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## I.

## INTRODUCTION

This report evaluates the free-flowing character of the Bremner River, Alaska, as a basis for determining whether the river qualifies for inclusion in the National Wild and Scenic Rivers System and if so whether the river and its immediate environment should be included as a Federally administered component.

Within the next few years a major redistribution of the total land ownership patterns in Alaska will take place. These in turn will largely determine foreseeable uses and availability of public resources. On June 30, 1972, approximately 96.7 percent of Alaska's total acreage was owned by the Federal government. Selections by Natives under the provisions of the Alaska Native Land Claims Settlement Act will transfer 40 million acres (11.3 percent of the total land area) into private ownership. Combined with the 103 million acres made available to the State under the provisions of the Alaska Statehood Act, a total of 40.7 percent will move from Federal ownership.

Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act, P.L. 90-542, was approved on October 2, 1968. As stated by the Congress of the United States in that Act:

"It is hereby declared to be the policy of the United States that certain selected rivers of the Nation, which with their immediate environments,



possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes."

To implement this policy, Congress: established the National Wild and Scenic Rivers System; designated all or portions of eight rivers having a total of approximately 800 miles of free-flowing stream as initial components, and: designated 27 other rivers having a total of approximately 3,750 miles of free-flowing stream for study as potential additions to the system. None of these are in Alaska.

The task of preserving and administering free-flowing streams is not one that can or should be undertaken solely by the Federal government. Therefore, the 1968 Wild and Scenic Rivers Act directs the various Federal departments to encourage and assist states, political subdivisions and private interests, including nonprofit organizations, in the establishment of wild, scenic and recreational river areas.

For this reason two methods for preserving select free-flowing streams were authorized by the Wild and Scenic



Rivers Act: Act of Congress where Federal administration was appropriate, or; State legislation and the approval of the Secretary of the Interior where State or local groups would administer the area.

Free-flowing rivers within existing or proposed national forest, parks, wildlife refuges or other Federal land management units cannot be added to the national system without enactment of Federal legislation.

#### Alaska Native Claims Settlement Act

The Alaska Native Claims Settlement Act (ANCSA), P.L. 92-203 was approved on December 18, 1971. In that Act the Congress declared that:

"There is an immediate need for a fair and just settlement of all claims by Natives and Native groups of Alaska . . . the settlement should be accomplished rapidly . . . with maximum participation by Natives . . . "

To implement this settlement ANCSA directed that up to 120 million acres or one-third of the total land area of Alaska be made available for potential Native selection. The amount withdrawn for this purpose is approximately three times the 40 million acres which can be selected by Natives, and once the Natives have selected their land, the remainder will be made available for selection by the State under the Alaska Statehood Act or managed by the Bureau of Land Management under the Public Land Laws.



Section 17(d)(2) further directed the Secretary of the Interior to:

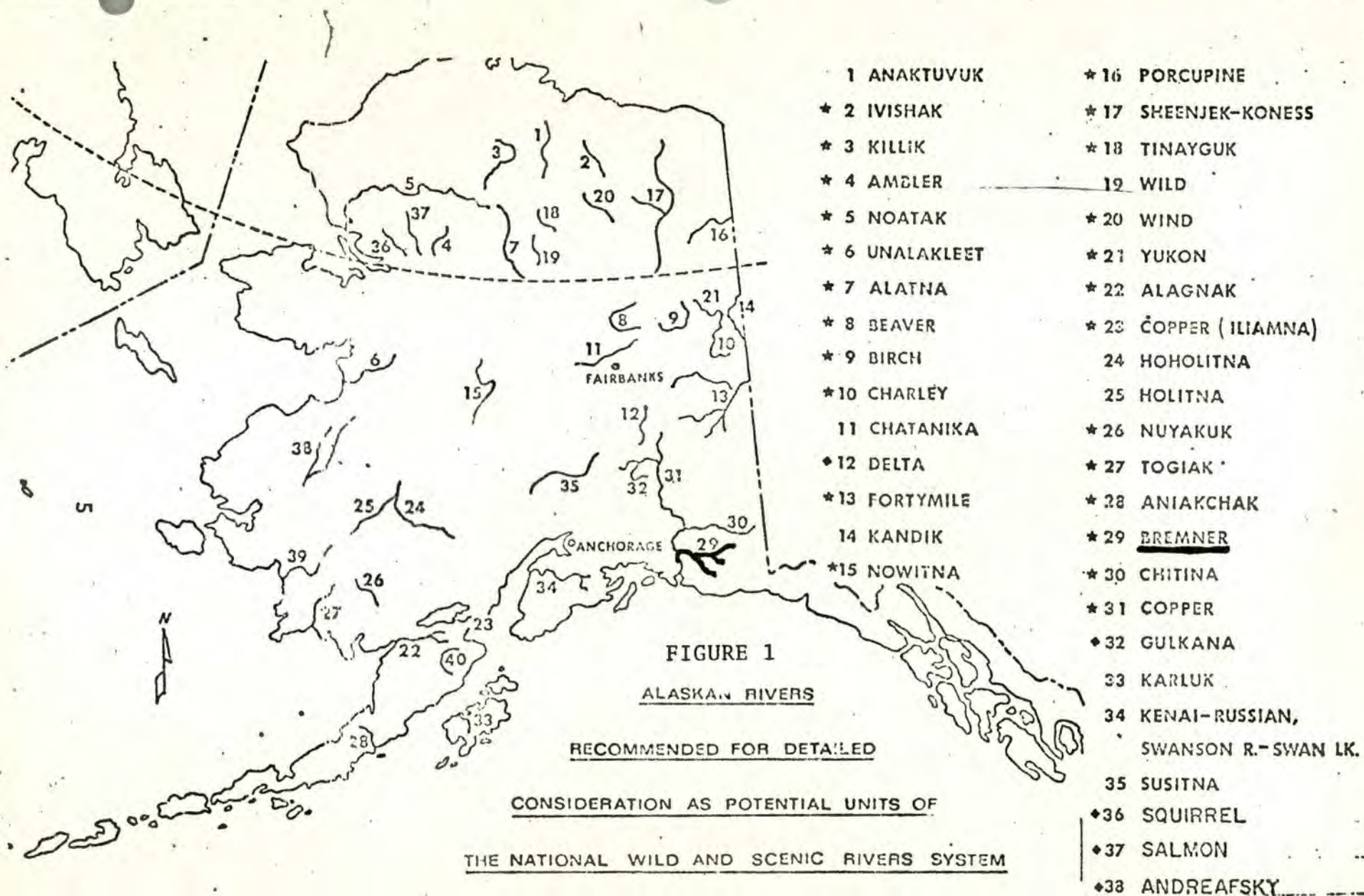
" . . . withdraw from all forms of appropriation under the public land laws, including the mining and mineral leasing laws, and from selection under the Alaska Statehood Act, and from selection by Regional Corporations . . . up to, but not to exceed 80 million acres of unreserved public lands in the State of Alaska . . . which the Secretary deems are suitable for addition to or creation as units of the National Park, Forest, Wildlife Refuge, and National Wild and Scenic Rivers Systems . . . . "

The Bremner River, Alaska, has been withdrawn under this provision of ANCSA.

#### Background

It is probable that all Alaskan rivers meet the minimum criteria established by the Congress for inclusion in the National Wild and Scenic Rivers System. Therefore, the first task was to determine the types of Alaskan rivers which should be considered for inclusion in the system and to identify those having the highest potential for inclusion. Federal and State agencies, conservation groups and others knowledgeable about Alaska recommended that some 166 Alaskan river totaling more than 15,000 miles be considered. Through screening and reconnaissance, 40 rivers with more than 3,400 miles were identified by the Bureau of Outdoor Recreation as having high potential value (see Fig. 3, p.29 ). These rivers were selected without regard to existing or potential ownership by Federal, State or Native groups.





BOR, OCTOBER, 1972

\* ALL OR SUBSTANTIAL PORTIONS CLASSIFIED UNDER 17(d)(2) OF ANCSA, SEPT. 1972

\* RIVERS WHERE DETAILED STUDIES HAVE BEEN REQUESTED



The Bremner River is listed in the Alaska Statewide Comprehensive Outdoor Recreation Plan (1970) as a free-flowing river identified by the Bureau of Land Management as having potential for inclusion in the National Wild and Scenic Rivers System.

Several studies of the Wrangell-St. Elias area have been undertaken over the years. No specific wild and scenic river studies however have been made for the Bremner River.

In 1944 and later in the 1950's, the National Park Service considered studies of the area for a proposed park.

In 1968, the Bureau of Land Management, the Federal agency having administrative responsibility for the area surrounding the Bremner River, classified the area for retention management under a multiple-use classification and closed the area to all forms of private entry except mining. The area remained under this classification until enactment of ANCSA.

In 1970 the Bureau of Outdoor Recreation prepared a further study of the area and together with the Bureau of Land Management recommended to the Secretary of the Interior the establishment of a "Wrangell Mountains National Scenic Area." This proposal was endorsed by the Secretary and public meetings were held in Alaska.



### Conduct of the Study

The study of the Bremner River, Alaska, as a potential unit of the National Wild and Scenic Rivers System was a cooperative effort under the leadership of the Bureau of Outdoor Recreation. On May 16, 1972, the Bureau created a task force to evaluate free-flowing rivers throughout Alaska and on May 31, 1972, established a temporary task force office in Anchorage, Alaska.

Evaluations and recommendations made by the Bureau of Outdoor Recreation have been coordinated with various Federal, State, Native and private groups. The final recommendations, however, are those of the Bureau of Outdoor Recreation.

Agencies invited to participate in field examinations, provide factual data and to review preliminary drafts included:

#### Alaska Natives

Copper River Native Association (AHTNA, Inc.)

#### State of Alaska

Coordinated through the Governor's Office

#### Department of Agriculture

Forest Service

#### Department of the Army

Corps of Army Engineers

Department of the Interior

Alaska Power Administration	Bureau of Sport Fisheries & Wildlife
Bureau of Indian Affairs	Geological Survey
Bureau of Land Management	National Park Service
Bureau of Mines	

Department of Transportation

Federal Aviation Agency  
Federal Highway Administration

Office of the President

Environmental Protection Agency

Joint Federal-State Land Use Planning Commission

Land Use Planning Team

Comments received from these agencies and groups are reflected in this report.

Comments and views presented at hearings held by the Joint Federal-State Land Use Planning Commission in April and May 1973 throughout Alaska and at selected cities in the conterminous 48 states are reflected.

Field investigations were conducted by air and raft during 1972 and 1973.



## II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

### Findings

This study has revealed that the Bremner River possesses the values which qualify it for inclusion in the National Wild and Scenic Rivers System. The Bremner River fulfills the requirements of the Wild and Scenic Rivers Act, and meets the supplemental criteria established jointly by the Secretary of the Interior and the Secretary of Agriculture, as published in Guidelines for Evaluating Wild, Scenic and Recreational River Areas Proposed for Inclusion in the National Wild and Scenic Rivers System Under Sec. 2, Public Law 90-542, February 1970.

The fundamental assets of the Bremner River are its outstandingly remarkable scenic, geologic, and wildlife and recreational resources.

It has been found that:

- ⊗ There are no developed areas within the river corridor.
- ⊗ The river is unpolluted and, although silt-laden - as are all glacial rivers - it meets the "Aesthetics-General Criteria" developed by the National Technical Advisory Committee on Water Quality, FWQA, Water Quality Criteria, April 1, 1968.

- Existing recreational use of the river corridor is exceedingly light. The heaviest use is during August and September when the mountains bordering the Bremner are used by fly-in sheep hunters.
- There are no channel improvements, impoundments or any type of water resource development within the Bremner corridor; however, on the Copper River, 15 miles below the mouth of the Bremner, there is a potential hydroelectric damsite.
- Million Dollar project, as the damsite is known, would be designed to develop the power potential of the Copper River below another proposed damsite at Wood Canyon and would depend upon regulation provided by Wood Canyon Reservoir. If constructed, the Million Dollar project would inundate nearly ten miles of the Bremner River.
- The entire Bremner watershed lies within lands owned by the Federal government.
- There are three Federal land managing agencies interested in the Bremner River area: the Bureau of Land Management, the Forest Service, and the National Park Service.



### Recommendations

To preserve the Bremner River in its free-flowing condition and to protect and enhance its natural values, it is recommended:

- That the entire 93 miles long Bremner River including North, Middle and South Forks be included in the National Wild and Scenic Rivers System as a Federally administered component of the system unless all or substantial portions of the river are included in the proposed Wrangell-St. Elias National Park.
- That the Bremner together with its immediate environment be designated a Wild River area as described in Sec. 2(b)(i) of P.L. 90-542, the Wild and Scenic Rivers Act.
- That the Federal land manager of the adjacent land area administer the Wild River area.
- That lateral boundaries be delimited by the administering agency within one year from the date of the Act including the Bremner Wild River in the national system. Such boundaries not to exceed an average of 640 acres per mile

from the high water line on each side of the  
river or approximately 119,000 acres in total.



### III.

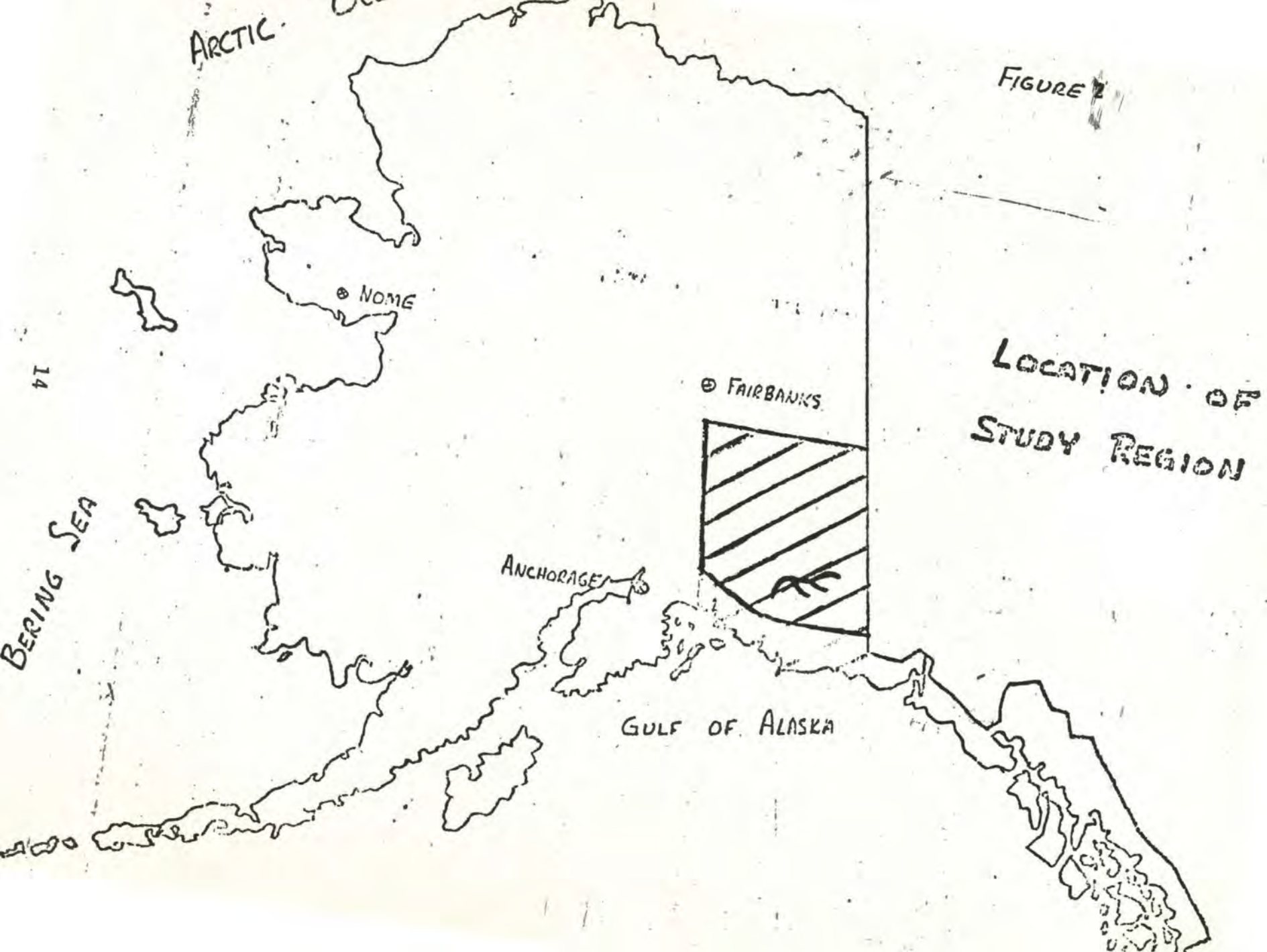
### REGIONAL SETTING

#### Landscape

The Bremner River is located in Southcentral Alaska near the Canadian border. Rising in glaciers, the river flows westerly through the coastal trough which separates the Border Ranges and the Pacific Mountain System. The former includes the Chugach and the latter the Wrangell Mountains. The glaciers at the source of the Bremner spill out of the St. Elias Mountains. This section of Alaska and Canada contains the highest concentration of mountain peaks exceeding 14,500 feet in elevation on the North American continent. Fig. 2 delimits the region.

The mountains are mostly comprised of contorted Paleozoic and Mesozoic sedimentary and igneous rocks which have undergone a complex process of uplift and inundation by volcanic extrusions since late Tertiary time. Since Tertiary time, glaciers have been a significant force in the area. At least three times they have advanced and coalesced to inundate and extensively modify the area's lowlands. Because of these glaciers, drainage patterns have been extensively altered and deposits of glacial debris are found over large areas.

The Copper River is the region's dominant drainage system. Almost all of the Copper's major tributaries have their origin in the glaciers and ice fields surrounding





the river. As a result the river carries a heavy silt load in all but the winter season. Water temperatures are cold, seldom exceeding 45 degrees F. The large amounts of silt and sand produced by the glaciers are continually deposited and eroded along the major drainage channels. Winds which blow constantly along the Copper pick up much of the silt and redeposit it over extensive areas.

Vegetation in the region exhibits characteristics of both coastal and interior plant communities. In general vegetation in the area is composed of a combination of a coastal spruce-hemlock forest and shrub thickets interspersed with areas of alpine tundra.

Forest cover, below 2,000 feet in elevation, consists of black spruce, white spruce, birch, aspen and balsam poplar. In the well drained areas free of permafrost are found the larger spruces, generally white spruce.

The region supports a wide variety of wildlife. Moose, bear, wolves, goats and Dall sheep are the main big game species. Numerous smaller animals such as beaver, weasel, fox and squirrel may also be found in the area. Waterfowl are abundant in the region with the Copper River Delta being one of the state's high production areas. The delta is the exclusive nesting area of the rare Canada Dusky Goose and the area around the mouth of the Bremner Rivers hosts



a significant population of trumpeter swans. Upland areas contain sizable populations of rock ptarmigan.

The rivers of the area support runs of red, king and silver salmon as well as Dolly Varden and grayling. Harbor seals are present in the Copper River during salmon runs.

There are no major agricultural, logging or mining activities taking place in the region. In past times, however, Copper ore was mined extensively in the Chitina River drainage in the northern part of the region and shipped by rail to Cordova via a now abandoned railroad along the Copper River.

The region immediately surrounding the Bremner valley remains a vast wilderness with only scant human activity which is restricted to small pockets and localized well north of the river. The rugged mountains and swift, turbid glacial rivers are formidable barriers to access. From the Chitina River in the north to the Gulf of Alaska, cultural intrusions are exceedingly limited through this truly primitive area. The western boundary of the Bremner valley is Alaska's third largest river, the Copper.

#### Climate

Climate of the region falls into a transitional zone between that of the Gulf of Alaska and the interior.



This transition is rather abrupt because the Chugach and St. Elias Mountains provide a barrier that is effective in diverting and changing the character of maritime air masses. Precipitation varies widely in the area with approximately 103 inches at Yakataga along the Gulf of Alaska and falling to around 13 inches inland near the town of Chitina. Various gradations between these extremes vary according to local physiographic features. In the valley, precipitation averages around 10 inches while in the mountains it is considerably higher, often double.

Temperatures in the region vary widely with winter lows of -10 degrees F. and summer highs in the 70's being common near the coast and summer highs in the 90's with winter temperatures as low as -65 degrees F. characterizing the interior areas.

Snowfall averages approximately 52 inches at Chitina and decreases north of the Wrangells. South of the Chugach Range, snowfall averages 108 inches as a result of the moist coastal climate.<sup>1/</sup>

Strong winds are not uncommon in the region. Carrying sand and silt from the river bars, the winds often make river travel uncomfortable and even hazardous.

Separated from the moderating influence of the moist gulf coast by the Chugach Mountains, the Bremner valley has the Sub-Polar Continental Climate of Interior Alaska.

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<sup>1/</sup>National Weather Service figures for Yakataga (25 years of record) and Chitina (23 years of record).



## Population and Economy

### Population

The population in Alaska in 1970 was 302,173, of which 51.6 percent was rural and 48.4 percent urban. Between 1960 and 1970 the population of Alaska increased 32.8 percent while the people residing in urban areas increased 10.5 percent.

Population projections used in the Alaska Statewide Comprehensive Outdoor Recreation Plan (1970) estimates the total State population will be 331,000 by 1975 and 565,000 by 2000.

Anchorage, the closest major population center is nearly 200 miles from the Bremner valley. The regional population, therefore, consists of those living along the highways to the west and north of the valley.

According to data developed in 1970 by BLM, the "highway population" exceeds 1,000 individuals and is generally concentrated in the settlements of Glennallen, Copper Center, Gulkana and Gakona. The balance is distributed among scattered smaller settlements, or at the various lodges, service enterprises, and private residences along the highway network. Natives comprise about one-third of the total.

During the summer months the population increases as a number of the lodges and service enterprises reopen after



being closed down during the long winter.

The Bremner River study region lies within two census divisions. The Cordova-McCarthy census division and the Valdez-Chitina-Whittier census division.

During the ten-year period from 1960 to 1970, the population of the Cordova-McCarthy census division increased 5.6 percent, from 1,759-1,857. The Valdez-Chitina-Whittier census division increased from 2,844 to 3,098, an 8.9 percent change.

In comparison, the "highway population" of the study region increased 86.1 percent. Table 1 summarizes the population data for the "highway population."

TABLE 1. 1960 and 1970 Population of Villages in Close Proximity to the Bremner River Basin, Alaska<sup>1/</sup>

	<u>1970</u>	<u>1960</u>	<u>Percent Change</u>
Glenallen	363	169	114.8
Copper Center	206	151	36.4
Gulkana	53	-- <u>2/</u>	-- <u>2/</u>
Gakona	<u>88</u>	<u>33</u>	<u>116.7</u>
	657 <sup>3/</sup>	353	86.1 <sup>3/</sup>

<sup>1/</sup>Source 1970 Census of Population - Number of Inhabitants, Alaska.

<sup>2/</sup>No prior comparable data.

<sup>3/</sup>Excludes Gulkana.

## Economy

Alaska's economy can be separated into two distinct parts: cash (where dollars earned purchase goods and services) and subsistence (where work is related to direct procurement of food and shelter).

Important elements of the Statewide economy include government, minerals, forestry and tourism. Of these minerals (primarily oil and gas) and tourism have shown the greatest growth and appear to have the greatest potential for future growth.

Growth in the mineral industry other than oil and gas has been fairly slow in recent years. The low rate of growth is related to several factors: low base metal prices, high investment cost, difficult access and uncertainty of future land ownership. These inhibitors are further compounded by the subpolar climate.

Tourism in its broadest sense shows the greatest promise for statewide expansion. The Alaska Survey and Report, 1970-1971, Vol. 2, states:

"Of all parts of the Alaskan economy, tourism can most rapidly provide jobs to the widest spectrum of educational and age levels. It can also, with advertising and investment, direct economic growth to depressed areas of the state."

Between 1964 and 1971 tourism in Alaska increased from 59,200 visitors who spent \$18.2 million to 130,000 visitors



and \$45 million. In 1972 there were slightly more than 161,000 tourists and a preliminary estimate of 190,000 in 1973. Expenditures by tourists were distributed as follows: 30 percent lodging, 20 percent each restaurants and transportation, and 10 percent each food stores, merchandise and other services.

Information developed by the University of Alaska indicates that of the \$45 million generated by tourism in 1971, 64 percent (\$29.8 million) were attributable to visits to the four units of the National Park System in Alaska.

During 1971, the latest year for which complete figures are available, tourism accounted for 3,700 employed persons with total wages of \$22.9 million.

The same factors for investment cost, transportation, resource ownership and climate that inhibit mineral development also depress outdoor recreation growth.

Sport fishing and hunting are also significant contributors to the Alaskan economy. Information developed by the Alaska Department of Fish and Game indicates that sport fishing in Alaska contributed approximately \$22 million in 1972.

Tourism, recreation, transportation, and communications are the basic ingredients of this heavily service and government-oriented "highway" economy. In the private

sector, lodges, restaurants, service stations, stores, bars, fuel distribution, utilities, big game, guiding, and flying services make up the bulk of activity. In the government sector, several State and Federal agencies employ a sizeable number of persons, chiefly in the Glennallen-Gulkana area. Contract construction activities (primarily relating to highways) provide seasonal employment for residents along the highway network (BLM 1967).

Manufacturing in the region is insignificant. While there are about 10 small sawmills in the area along the highway, only two were in the business of producing lumber for sale as recently as 1968 according to BLM.

Although there is a considerable number of homesteads within the region, virtually all are used for residences with some limited subsistence gardening, or are held for speculation. Commercial agricultural production is non-existent due to the limited marketing and climate factor and because other employment is easier and more financially rewarding.

#### Subsistence

Subsistence is defined as a life style related to obtaining food and shelter directly from the land. Included are activities where the person must secure his food by hunting and fishing or else go hungry, and the pursuit of food as either a matter of choice or as supplemental activity.



Recent changes in life style have increased the shift from a subsistence economy to cash. The advent of the snowmobile may represent the largest factor in this shift as cash must be obtained to purchase fuel for the snowmobile whereas dogs to pull sleds could be fed fish. New housing with more space to heat and the switch from wood to oil burning heaters also requires cash as do water, sewer and electricity. Trapping is the only significant activity in the region which offers cash potential in this life style.

#### Transportation

Although the region does not have any permanent internal roads, peripheral highway access is available in the north at Chitina and along the western edge of the region via the Richardson Highway to Valdez.

A short spur road links Cordova with the Copper River delta but does not extend upriver at this time. Although Cordova itself is landlocked, it does have excellent air and ferry service.

The region is accessible by air and Gulkana and Northway have paved airstrips for large aircraft. Chitina and McCarthy have scheduled air service by two airlines if prior arrangements are made.

Air access into the Bremner River is possible as there are a number of lakes for float planes as well as gravel bars on which a light plane can land during all but flood stages of the river.

There is a landing field on Golconda Creek, a tributary of the North Fork, about 6 miles from the river. The landing field, named Bremner Landing area, is open to light aircraft such as a 180 or Super Cub from July 1 through September 1.

An old miners trail goes from the vicinity of McCarthy across the Chitina at Jakes Bar and to the headwaters of Golconda Creek. The Bremner is accessible by foot from this trail by continuing down Golconda Creek; however, there is no evidence that it has been used since the mining operations on Golconda Creek ceased.

Access up the Copper River by power boat to the mouth of the Bremner is possible; however, due to the Copper River's rapid current, turbid water and braided, ever-changing channels, this method of travel is not extensively used.

#### Recreation

At the present time the region lacks any developed public recreation resources. The nearest such facility is BLM's Liberty Falls Campground 10 miles above Chitina on the Edgerton Cutoff.



Although undeveloped, the region contains many excellent recreation resources and the potential for their public use is high.

Present recreational use centers around hunting, fishing and float and power boating on the area's primitive rivers. Detailed information on recreation use of the region is lacking.

The lowlands contain heavy populations of moose, and upper mountain areas support harvestable populations of Dall sheep and mountain goats. Black bear and brown bear are also found throughout the region.

Hunters using the area for activities such as its excellent sheep hunting are believed to be by far the largest recreational users of the area. It is estimated that approximately 12 percent of the State's total sheep kill comes from the area, including the world's record Dall sheep. In addition, substantial moose and brown bear kills have been recorded in the area in recent years.

Because of the present limited access to the hinterlands, hunting pressures for these species along the road system are very heavy. The big game hunter can still get away from crowded hunting conditions, however, by getting back in the bush, where hunting is not only more enjoyable but more productive. Grouse, rabbits, and ptarmigan are hunted throughout the region.



Sport fishing within the region is relatively light due to the difficulty and high cost of access. The lowland lakes and rivers contain rainbow and Dolly Varden trout, while grayling and lake trout can be found in the vicinity of the Nelchina Plateau. King salmon, silver salmon, sea-run Dolly Varden, and steelhead (as well as the other species of Pacific salmon) run up the major streams and rivers of the area.

Because of relatively limited access to high-quality fishing waters, fishing pressures along the road systems, like hunting pressures, are extremely heavy, comparable in many cases to those found on many of the more popular lakes and streams in the other 49 states.

Recent increased popularity of canoeing and float boating has led to greater use of the area by sportsmen although their overall numbers are still quite low.

In terms of potential uses, the area contains a multitude of exceptionally scenic areas that can be expected to draw ever increasing numbers of recreationists following such pursuits as photography, nature study and a "wilderness type" camping experience.

The values of the Bremner River are not duplicated by any of the 39 other free-flowing rivers identified or having high potential for inclusion in the National Wild and Scenic Rivers System.



#### IV.

#### DESCRIPTION AND ANALYSIS

##### River Setting

The Bremner River drains the northerly slopes of Waxell Ridge which forms a part of the Chugach Mountains to the east of Copper River. The North Fork Bremner River heads in Bremner Glacier and flows 24 miles to join the Middle Fork and form Bremner River. From the junction of the forks, Bremner River flows 40 miles to join Copper River. The drainage area of the Bremner Basin is about 1,030 square miles.

The main stem of the Bremner River is confined to narrow canyon reaches at several locations as shown in Fig. 3.

The North Fork heads in North Fork Lobe of the Bremner Glacier at 1,600 feet above sea level while Middle Fork rises at 2,300 feet at the foot of the Middle Fork Lobe of the glacier. The river drops a total of 2,100 feet in its descent to the mouth where it flows into the Copper River at approximately 200 feet m.s.l. The Middle Fork has the steepest rate of descent with one stretch dropping 1,200 feet in 8.5 miles for an average fall of greater than 140 feet per mile. The North Fork of the Bremner may be regarded as the main stem of the river when considering volume. The average gradient of the Bremner from the head of the North Fork to the mouth is 26 feet per mile.

Being spawned by glaciers, the Bremner carries a heavy silt load. This river bed is braided for much of its length and carries a large volume of water. There are two segments where the river flows through narrow canyons past steep bluffs which tower over the channel. The upper canyon on the North Fork, named Twelvemile Canyon for obvious reasons, contains several miles of continuous whitewater. Extensive sand dunes are found at the mouth of the Bremner.

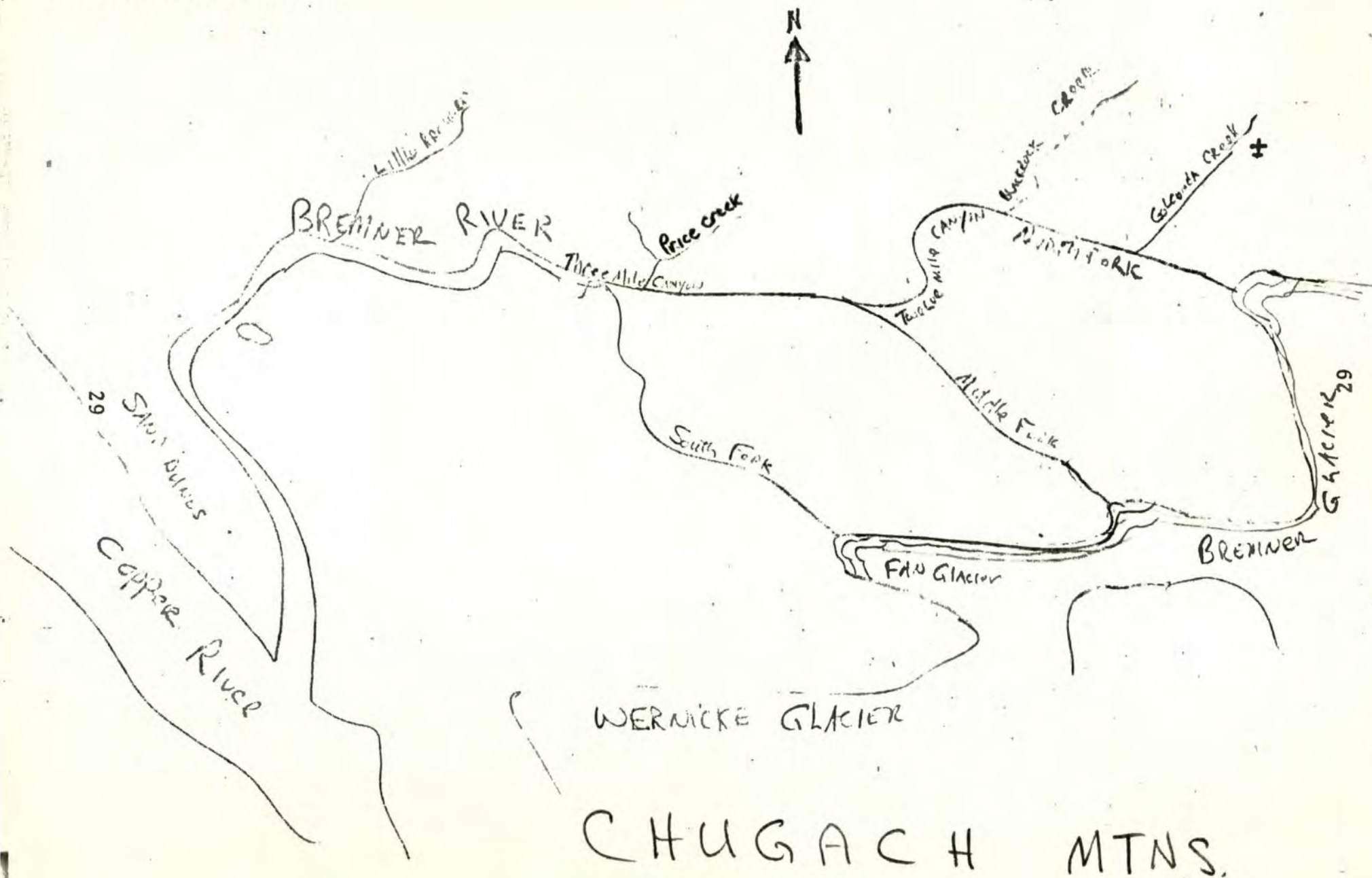
Vegetation in the river valley and on the hillsides consists of hemlock, black spruce, white spruce, Sitka spruce and manzanita. The heavy Sitka spruce found along the lower Bremner is unique for an inland area. Both in size and quantity the forests are directly related to the distance from the river valley floor. The heavier stands of timber are found adjacent to the river, usually in patches or stringers. Away from the river bottom and up the slopes, tree growth becomes progressively more stunted and more sparse until it eventually gives way to shrub, grass and other alpine tundra growth.

The river varies in width from 30 to 1,000 yards until it begins to braid below Threemile Canyon. At this point, it is over a mile wide from bank to bank as the channel wanders and braids in between.



FIGURE 3

THE BREMNER RIVER  
AND MAJOR TRIBUTARIES



### Stream Flow

Although there are no gaging stations on the Bremner River, the U.S. Army Corps of Engineers has estimated average annual flow based on meager hydrologic data and derived principally from drainage area relationships. These estimates were made in 1913 approximately 14 miles above the mouth at which point the Bremner drainage area is 764 square miles. The Corps of Engineers estimated the average annual flow to be 3,450 cfs.

The flow fluctuates markedly as a result of glacial melt with 22 percent of the annual run-off occurring in June, 25 percent in July and 23 percent in August. The remaining 30 percent is distributed throughout the remainder of the year. Diurnal fluctuations occur during the summer with the river dropping several inches overnight and rising significantly during the high sun, high temperature periods of the day.

### Water Quality

No water quality studies have been performed on the Bremner River by either State or Federal agencies; consequently, there are no data available to compare with water quality standards. The Bremner River does meet the



Aesthetics-General Criteria developed by the National Technical Advisory Committee on Water Quality, FWQA, Water Quality Criteria, April 1, 1968.

There are no known sources of biological or chemical pollution in the Bremner. Golconda Creek, a tributary to the North Fork of the Bremner, joining it 5 miles below the headwaters, is the most important gold-producing stream of the area. Commercial mining was carried on within this area from 1901-1909. With the price of gold on the increase, this area could again become active as the potential for a commercial deposit is high according to studies performed by the Alaska Division of Geological and Geophysical Surveys.

As evidenced by past mining activities in Alaska, placer mining has often degraded water quality as waste waters from hydraulic stripping and from sluicing a washing of placer deposits typically are returned to a stream without any attempt to control solids in the waste effluent. This, however, will not be a problem as the Bremner is spawned by glaciers and carries an extremely heavy silt load. The natural scouring of the river itself will continue and the addition of suspended sediment from a tributary stream will have no appreciable effect on the water quality of the Bremner.



While this sediment causes no health problem, it is necessary to settle out the sediment before drinking. On some of the gravel bars in the river, water may often be obtained from standing pools which are free of sediment; also, there are several clearwater tributaries flowing into the Bremner.

In discussing water quality, section 12(c) of the Wild and Scenic Rivers Act states that:

"The head of any agency administering a component of the National Wild and Scenic Rivers System shall cooperate with the Secretary of the Interior and with the appropriate State water pollution control agencies for the purposes of eliminating or diminishing the pollution of waters of the rivers."

Section 9(a) of the same Act also directs the administering Secretary to issue mining regulations which " . . . shall among other things, provide safeguards against pollution of the river involved . . ."

Water quality standards are being revised in accordance with latest regulations and guidelines resulting from the enactment of the Federal Water Pollution Control Act Amendments of 1972.

#### Land Use

Land use patterns along the Bremner River corridor have changed very little over time. There are no developed areas within the corridor and the river flows through what may be termed a "wilderness" environment.



There are no commercial timber harvests on record from lands within the Bremner drainage. The lower Bremner valley may contain harvestable timber as Sitka spruce found there is commercial size. White and black spruce plus birch and balsam poplar are the major components of the forest growth. Undergrowth consists mainly of low brush such as willow, dwarf birch and heath shrubs.

Outside the immediate river corridor, mining activity has occurred during the past century. Gold placer mines were located within 6 miles of the river on Golconda Creek.

The most promising areas for placer gold are the bench gravels. These gravels received a gold concentration during the initial erosion and deposition and are now being enriched where the streams have intrenched themselves in the benches, and are removing large amounts of gravel and concentrating the gold.

Mining near Threemile Canyon was conducted in the bench gravels. A ridge of slate and graywacke had formerly dammed the river, producing a lake, forming lacustrine deposits of sand and fine gravel. The river cut through these deposits forming gravel benches in which fine gold is present. This gold may be panned from almost any of the river bars in this area. Little exploration has been done to furnish any proper estimate of the gold content of these gravels. The gravel deposits are extensive, and large amounts are so

fine that they can be handled easily. There are a number of placer claims on a tributary near the end of Threemile Canyon but little information is available.<sup>1/</sup> Additionally, there are claims on Blackrock Creek, a tributary to the North Fork; however, there are no active mines in the river corridor.

In 1968, the Bureau of Land Management, the Federal agency currently having administrative responsibility for the region through which the Bremner flows, classified the area for retention management under a multiple use classification and closed the area to all forms of entry except mining and public purposes. This area has remained under the above mentioned withdrawal until it was reclassified in 1972 by the Secretary of the Interior under section 17(d)(2) of ANCSA.

#### Water Resources Development

There are no water withdrawals, channel improvements, impoundments or any type of water resource development within the Bremner valley.

A potential hydroelectric power damsite is located on the Copper River approximately 15 miles below the mouth of the Bremner River. The potential site, known as Million Dollar Project, is dependent upon construction of a larger

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<sup>1/</sup>Geology and Mineral Rivers of the Bremner River Drainage, Alaska Division of Geological and Geophysical Surveys. Open file report No. 10.



project known as the Wood Canyon site. Wood Canyon damsite is located approximately 6 miles below the village of Chitina on the Copper River.

The function of the Million Dollar Project would be to develop the power potential of the Copper River below the Wood Canyon damsite and would depend upon regulation provided by Wood Canyon Reservoir. The project calls for an earth-fill dam with a maximum water surface elevation of 200 feet. This would result in a surface area covering 48 square miles. The Alaska Power Administration estimates installed capacity at 440,000 KW.

Due to the required length of the dam and the foundation materials, the site is not considered particularly favorable. The potential impact of the project on other resources has not been evaluated by the Alaska Power Administration.

If constructed, the \$630,000,000<sup>1/</sup> reservoir would inundate nearly 10 miles of the lower Bremner River.

It is not known how the Million Dollar project fits into the statewide water plan which is just now being considered as a planning activity under the aegis of the Water Resources Planning Act, P.L. 89-80.

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<sup>1/</sup>Approximate construction cost, October 1965 price base.



### Land Ownership

The entire length of the Bremner River lies within lands owned by the Federal government and administered by the Bureau of Land Management. The land surrounding the Bremner watershed has been withdrawn as national interest study lands for possible inclusion in one of the four conservation systems under Sec. 17(d)(2) of ANCSA.

There are mining claims on a tributary of Price Creek, just north of Threemile Canyon and also on Blackrock Creek, a tributary of the North Fork of the Bremner. These claims are for placer gold operations but are not patented.

Federal land management agencies expressing interest in the Bremner River area are the Bureau of Land Management, the National Park Service and the U.S. Forest Service. Land classifications and studies have been made of the area in the past including the Copper River classification in 1968 and the Wrangell Mountains Unit Resource Analysis and Management Framework Plan of 1970 and 1973 by the Bureau of Land Management and the Wrangell Mountains National Scenic Area proposal by the Bureau of Outdoor Recreation. Public hearings were held on these studies.



### Water Rights, Navigability and Riverbed Ownership

No rights to water in the Bremner River have been applied for or granted by the State of Alaska.

Under the Alaska Statehood Act, the state owns the river bottom of all "navigable" streams and rivers. The question of which streams are "navigable" has not yet been determined in Alaska; however, under criteria being developed by the State of Alaska to determine stream bed ownership, the Bremner would appear to be navigable. The U.S. Army, Corps of Engineers, does not consider the Bremner a "navigable" river.

It is most unlikely that the river has been used as a "navigable" stream in terms of the movement of commerce or trade. As there are no access points to the river, downstream travel in the past has probably been limited to raft or kayak.

Evidence collected in the study indicates that the Bremner River, particularly the North Fork, is generally not suited for recreational boating use except by experts, properly equipped and wearing wet suits.

## Access

### Existing

Although less than 200 miles east of Anchorage, the largest population center in Alaska, the Bremner, is practically inaccessible except by air. There are no roads or even tractor trails in the river corridor.

The river is accessible by air as there are several lakes of sufficient size to enable floatplanes to land along the lower segment. Light wheeled aircraft can land on gravel bars in the river except during flood stage. The closest landing strip to the river is Bremner Landing Area, approximately 6 miles up Golconda Creek which is open from July through August.

### Potential

Other possible means of access to the river include foot, horseback or ATV from the Chitina valley, snowmobile during the long winter, or by riverboat from the Copper River to the lower reaches of the Bremner.

It is a direct result of its inaccessibility that the Bremner retains its primitive values which make it worthy of inclusion in the National Wild and Scenic Rivers System.



## Geology and Soils

### Geology

The rocks within the drainage basin are predominately Cretaceous (Valdez group) in age. Quaternary deposits consist of boulders, gravel, sand, silt, and clay. Granite intrusions occur near the headwaters of the Bremner but they have not been mapped or age dated.

The graywacke of the Valdez group (Cret.) is a sandstone-like of gray or bluish color, containing more feldspar than quartz with a higher percentage of dark-colored minerals than a typical sandstone. In many locations small fragments of slate and shale are found mixed with the graywacke. The graywacke generally differs from the slate in having a coarser texture and less well-developed cleavage. The slate is fine grained and is greenish or bluish gray to nearly black in color, and shows a well-developed cleavage. The slates and graywackes are folded and considerably metamorphosed. Dips on the Little Bremner River range from 30 degrees to 40 degrees S., decreasing toward the north. The slates and graywackes are cut by a large number of quartz veins, some contain metallic sulfides and a small amount of gold. They occur as gash veins and fillings in openings along joint planes and at the crest of the fold axis.

Granite (diorite) has been reported by prospectors who have been on the upper parts of the two forks of the



Bremner River. This diorite appears as stream float on many of the river bars, and is characterized by very little alteration.

The belt of interbedded slates and graywackes that extends westward from the head of the Bremner River to the Kenai Peninsula is auriferous in many places if not throughout its entire length.

This belt is intruded by light-colored diorite dikes and is cut by numerous veins of quartz. Many of the quartz veins are small and pinch out within a few feet along strike, but some may be traced for considerable distances and are evidently connected with extensive fracture systems. Many veins contain gold in amounts ranging from trace to commercial amounts. The veins commonly contain a small proportion of metallic sulfides, among which pyrite, galena and molybdenite are found. Gold can be panned from practically all the streams that cut areas of slate and graywacke.

#### Soils

The soils along the study segment are characterized as loosely stratified accumulations of glacial and fluvial debris, heavy in humus in the top layer due to slow decomposition of vegetation in this cold climate. In some areas the soil particles have been graded by water but do not show stratified decomposition due to their recent origin in the surrounding glaciers.



## Vegetation

Timber stands are found along the river while away from the well drained area and up the slopes tree growth becomes progressively more stunted and more sparse until eventually it gives way to shrub, grass and other alpine tundra growth.

White, black and Sitka spruce, the only conifers of the area, plus a mix of birch and balsam poplar, are the major components of forest growth along the Bremner. Undergrowth consists mainly of low brush such as willow, dwarf birch and heath shrubs with a thick ground layer of moss, lichens, low cranberry and crowberry. Paper birch is intermixed with spruce on the better drained sites; balsam poplar is found in patches and stringers along the river banks.

Along the lower reaches of the Bremner the stand of Sitka spruce is unique for an inland area. The Forest Service considers some of this Sitka spruce to be of commercial size; however, due to lack of access it is not considered economically significant.

Plant associations within the basin and especially the immediate environment of the river are varied.

Alpine tundra consists of bare rocks and frost-heaved rubble interspersed between low mat herbaceous and shrubby plants. Typical plants include alpine bearberry, white



mountain-avens, alpine-azalea, dwarf and bog blueberry and mountain-cranberry. Also found are moss-chamion and several sedges and grasses. This vegetative type occurs in the surrounding mountains at elevations of above 3,000 feet.

### Wildlife and Fishery

#### Wildlife

Black bear inhabit the Bremner watershed throughout the forested zones and in parts of subalpine alder zones. Population sizes are unknown but believed to be typical of other interior locations. River bottoms, lake shores and marshy lowlands are favorite spring black bear habitat. Grasses, sedges, horsetails, forbs, carrion and year-old berries are common spring foods. By late July and early August the bears move to alpine-subalpine areas in search of ripening blueberries, high-bush and low-bush cranberries, bearberries, elderberries and crowberries. Little is known about black bear denning in this area. Better drained sites near subalpine and forested areas are preferred for den construction. Denning begins about mid-October and ends in late April or early May.

Brown-grizzly bears inhabit the area and their abundance and distribution probably are much like they were prior to human settlement. Access to the Bremner River valley is limited and direct bear confrontations with humans are



infrequent. As a result of the limited access, hunting pressure has been low.

No specific population information is available although the densities of brown bears are much lower than those found along the coast. The alpine and subalpine zones are probably the habitats most frequently used by brown bears, although the more heavily timbered areas are seasonally important. Some denning does take place in these lower areas and heavy use of lowlands occurs when fish are present and during the early spring when bears first emerge from dens in search of food.

Denning begins in October and all bears are in dens by mid-November. Bears usually reappear during May, depending on weather conditions. Important spring foods probably are grasses, sedges, horsetails, other herbaceous plants, and carrion when available. On occasion, moose calves are taken. Berries such as low-bush and high-bush cranberries, blueberries, and bearberries provide major summer food supplements.

Wolves are abundant throughout the area. Their primary diet consists of moose, caribou and sheep; however, caribou are absent from the Bremner basin and moose and sheep are restricted to the northern limits of the north fork of the Bremner. Wolves supplement their diet with



snowshoe hares, beavers, ground squirrels, waterfowl, ptarmigan, marmots and goats.

Wolverines are found in the Bremner valley and occupy the forested areas of the valley. Their distribution is strongly affected by the distribution of large ungulates which provide a substantial portion of the carrion they rely upon. They appear to benefit from the rather stable salmon migrations and use that food source to a considerable extent.

Dall sheep inhabit the northern limits of the Bremner watershed; however, most of the sheep are found further north in the Wrangell Mountain Range. Hunting has had small effect on ram abundance except locally and has had almost no effect on herd dynamics. The major controlling factor remains winter climate, which periodically causes population "crashes" and is thereby responsible for long-term population fluctuations.

Moose are scarce in the Bremner valley. They are reputed along the North Fork only. Stands of willow at timberline and along the drainages appear to be the key factor to their existence. In recent years production of calves has been poor and the population has probably declined.



Mountain goat populations have historically been present in the area; however, the animals have never been very numerous. There are no population estimates available for the Bremner valley.

The Bremner River drainage is particularly important for preservation of trumpeter swan breeding habitat. Other nesting species in the area include widgeon, green-winged teal, American and Barrow's goldeneyes, lesser and greater scaup, pintail, mallard, and Canada geese.

#### Rare and endangered species

The following wildlife species associated with the Bremner River basin are listed in the Department of the Interior's 1966 "Red Book of Rare and Endangered Species":

American peregrine falcon (Falco peregrines anatum) - rare

Timber wolf (Canis lupus lycon) - endangered  
(only in conterminous 48 states)

Grizzly bear (Ursus arctos) - endangered  
(only in conterminous 48 states)

Wolverine (Gulo luscus) - status undetermined

Canada lynx (Lynx canadensis) - status undetermined

In addition, the northern bald eagle is frequently observed along the Bremner River and its tributaries. Although similar in overall appearance, the northern bald eagle is not the same as the endangered southern bald eagle.

## Fishery

Sport fishing in the Bremner River is nonexistent; however, it does have a good run of red salmon in addition to whitefish and Dolly Varden.

## History

The river was named by Lieutenant Henry T. Allen in 1885 for John Bremner, a prospector. The Indian name for the river, according to Lt. Allen was Tetahina which means "flowing river" in Athapaskan.

Little is known of the early history of the Bremner valley. The Athapaskan natives known as the Atna or "Ice People" avoided the Bremner. According to ethnographic information collected as early as the 18th Century, the AHTNA lived on the upper Copper River and traded copper and land-furs with coastal tribes for sealskins, dried fish and oil. They utilized Tana Glacier trail in their journeys passing 15 miles east of Bremner Glacier, the head of the Bremner River.

Around the turn of the century, gold was discovered on Golconda Creek, a tributary of the Bremner. From 1901 to 1909 commercial mining was carried on within this area. Topographic maps still show "Yellowband Mine" in the upper reaches of Golconda Creek.



## Recreation

### Resources

The Bremner River watershed is a roadless, undeveloped primitive area with difficult access.

The free-flowing river, forest, wildlife habitat and surrounding mountains comprise a setting which offers spectacular recreational opportunities for the seasoned wilderness traveler.

The river -- silt laden and generally braided -- characteristic of a glacial stream -- is an avenue through an exceptionally scenic region. Animal and plant life and their ecological communities are available for interpretation. The river valley and surrounding Chugach Mountains are inhabited by numerous species of small mammals, furbearers, and birds including trumpeter swan as well as wolves, wolverine, black and brown bear, Dall sheep, goats, and moose.

### Existing Uses

There are no visitation figures available for this outstanding resource. It is assumed recreation use is exceedingly light due to the remote and inaccessible location of the river valley. During late August and September the mountains bordering the Bremner are used by sheep hunters. The Bremner River corridor, however, is not hunted due to its difficult terrain and lack of access.

### Potential Uses

The Bremner River is rich in high quality primitive outdoor recreation opportunities. The river, though swift, cold and turbid, is suitable for rafting and kayaking by seasoned wilderness travelers.

Hiking potentials are good for routes to and from the historic mining areas on Golconda Creek. Gold panning on a recreational basis can have considerable appeal.

The abundance of wildlife and the scenic qualities of the basin provide outstanding subjects for the nature photographer or the sightseer. In addition, areas of special geologic significance are suitable for interpretation, particularly Bremner Glacier at the source of the river, Twelvemile and Three mile Canyons in the middle of the reach, and the extensive sand dunes at the river's mouth. Also in the lower reach, the heavy Sitka spruce forest, unusual for an interior location, is unique and worthy of protection.

Although camping would generally be associated with all of the above activities, some people engage in this outdoor recreation activity as an end in itself. There are opportunities for primitive camping sites along the Bremner River. The many gravel bars and plentiful firewood in this primitive setting are most attractive for this purpose.



### Limitations

The temperature of the Bremner River is a limiting factor to recreation use. Being a glacial river, the water is always cold. Recreationists must be aware of the potential danger of rafting on such a stream. The turbid water obscures rocks and gravel bars and the unwary could readily get into serious trouble in the fast current. To capsize in such cold water could be disastrous and immersion hypothermia is a recognized hazard on glacial rivers. It is advisable that rafters wear wet suits while negotiating the Bremner River.

The climate of the Bremner River limits recreational use. The river is frozen from late October through mid-May. Winters are quite cold with strong winds occurring frequently and snowfall averaging 30 inches.

Recreational use is also limited by the lack of access. The study reach is not road accessible and only those who can fly into the Bremner Landing area or land on gravel bars in the river, presently utilize the resource.

A potential limiting factor is the proposed Million Dollar hydroelectric damsite on the Copper River, construction of which at maximum surface elevation, would inundate the lower 10 miles of the river, transforming it from a natural free-flowing river to a huge slack-water impoundment. Although such an impoundment would provide surface

acres for power boating, it would eliminate fast, and sometimes whitewater, canoeing and significantly alter the environment destroying the free-flowing character of the river as well as considerable wildlife habitat.

The Bremner valley itself has restricted potential for mineral production; however, there is potential for placer gold in side drainages. In addition there are substantial deposits of sand and gravel. Development of the economic potential of the immediate river corridor would destroy the primitive nature of the resource.



## V.

## CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusion of this study is that the Bremner River and its immediate environment possess values which qualify for inclusion in the National Wild and Scenic Rivers System.

Careful review of available information together with on-site inspection shows that:

- The river is in a free-flowing natural condition.
- The river is of sufficient length to provide a meaningful experience to the river user.
- There is sufficient volume of water during normal years to permit full enjoyment of water-related outdoor recreation activities.
- The river and its immediate environment possess outstandingly remarkable scenic, geologic, wildlife, historic and recreational resources.
- Although a glacial river, and consequently silt laden, water quality is good and meets the "Aesthetics - General Criteria" as defined by the National Technical Advisory Committee on Water Quality in the Federal Water Pollution Control Administration's Water Quality Criteria, April 1, 1968.

- The river and its immediate environment are capable of being managed to protect and interpret special values and protect the user
- The wildlife, mountains, river character, lakes, and the primitive setting of simple vastness offer a spectacular wilderness recreation experience. Hunting is presently the only recreational activity within the Bremner River valley, and this is light; however, potential exists for other forms of outdoor recreation. The river offers an exceptional experience for skilled kayaker or for "floaters" in rubber rafts and the immediate environment offers splendid scenery for the hiker or photographer. Nature study and camping in a primitive environment are also activities for which the Bremner River valley offers outstanding opportunity.
- The recreation opportunities in the Bremner River corridor are distinctive. These values are not similar to those offered by the adjacent Chitina and Copper Rivers. Further, the values of the Bremner River are not duplicated by any of the 39 other Alaskan free-flowing rivers identified by the Bureau of Outdoor Recreation as having high potential for inclusion in the National Wild and Scenic Rivers System.



## Recommendations

In order to preserve the Bremner River in its free-flowing condition, to protect the water quality and the immediate environment of the river, and to enhance the natural values of the river corridor for present and future generations, it is recommended that:

The Bremner River in its entirety, including the North Fork, Middle Fork and South Fork, a total of 93 miles of free-flowing river, be included in the National Wild and Scenic Rivers System unless the river is included in the proposed Wrangell-St. Elias National Park.

The river be included as a Federally administered component of the national system.

The Bremner together with its immediate environment be designated a Wild River area as described in Sec. 2(b)(i) of P.L. 90-542, the Wild and Scenic Rivers Act.

The Federal land manager of the adjacent land area administer the Wild River area.

Lateral boundaries be delimited by the administering agency within one year from the date of the Act including the Bremner Wild River in the national system. Such boundaries not

to exceed an average of 640 acres per mile from  
the high water line on each side of the river,  
or approximately 119,000 acres in total.



## VI.

## CONCEPTUAL RIVER PLAN

### Objectives

The Wild and Scenic Rivers Act, Sec. 10(a), states that:

"Each component of the National Wild and Scenic Rivers System shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based upon the special attributes of the area."

Accordingly, this conceptual river plan is designed to establish a framework which can be followed by the administering Federal agency in developing detailed boundaries and plans for development and management of the Bremner Wild River area recommended for inclusion in the National Wild and Scenic Rivers System. Such detailed plans would be completed within one year from the date the river is added to the national system.

The primary objectives of the conceptual river plan for the Bremner River, Alaska, and its immediate environment are to:

- Provide for present and future generations a high quality primitive outdoor recreation experience in a natural environment having little evidence of man's activity

- Maintain and protect the existing high water quality.
- Maintain and protect the free-flowing character of the river.
- Maintain and protect existing wildlife habitat.
- Develop scientific information on man's impact on an undisturbed environment with a view toward obtaining information on how to better manage and develop public resources throughout Alaska.

#### Appropriate Boundaries

The control boundary for the proposed wild river area will not exceed an average of 640 acres per mile from the high water line, at bank full stage, on each side of the river for protection of the river environment and provision of recreation use areas.

The proposed Bremner Wild River area embraces 93 miles. The main stem of the Bremner is 40 miles long while the North Fork is 24, the Middle Fork is 14, and the South Fork 15 miles in length. The control boundary will not exceed a total of 119,000 acres.

Within one year after inclusion of the Bremner River in the national system, the administering agency will determine definite lateral boundaries within the above parameters.



Rationale used for determining appropriate boundaries are drawn from concepts developed on a number of recent studies concerning Federal, State and local riverway proposals in the conterminous United States and studies of other Alaskan rivers being considered for potential inclusion in the National Wild and Scenic Rivers System. These stress the essential concept that the river and its immediate environment should be considered as a unit with primary emphasis upon the quality of the experience and overall impressions of the recreationist using the river or the adjacent riverbank. In Alaska a feeling of "spaciousness" dependent upon both isolation and independence is a very important aspect of the overall existing and potential recreation experience along free-flowing rivers.

Selection of detailed lateral boundaries should be made in consultation with existing and potential resource users. The basic element to be considered is the primary visual corridor. The sketches in Fig. 4 illustrate the concept as it applies to typical river cross sections. Essentially, it is the zone of adjacent land which has a visual impact on the river user and must be protected from adverse use if the natural, primitive appeal of the riverway is to be retained.



Within this framework, boundaries should be selected along the river using four basic guidelines:

1. Where the river's banks are low (Sketch No. 1) a strip of land 200 to 400 feet deep on each side of the river will be adequate to protect the view from the river. This strip of land along the bank would support a screen of trees and brush and could also accommodate a hiking and horse trail.
2. Where bluffs or hillsides front the river on one or both sides (Sketch No. 2 and No. 3) the boundaries should be drawn to the ridge line of the hill or bluff to ensure protection of slopes within view of the stream, and to provide room for routing a riverside trail over the rough terrain.
3. In most cases the lands provided in the previous categories are adequate for accommodations of recreation facilities. However, there are cases where expansion is necessary to provide adequate room to place facilities back from the river.
4. In addition to the minimum areas outlined above, it is desirable to protect adjoining lands where adverse development could damage the environment,



historic or geological sites, or critical wildlife habitat. Because of the significance of the river environment and adjacent land as wildlife habitat, attention should be given to including peripheral woodlands in the boundaries where they could be justified by the wild river program itself.

Further investigations may uncover unique biological areas or important archeological sites not noted in this study. These areas do not fit under the "primary visual corridor" guidelines and, therefore, should be given special consideration for protection.

#### Acquisition Policies and Land Use Controls

##### Private Lands

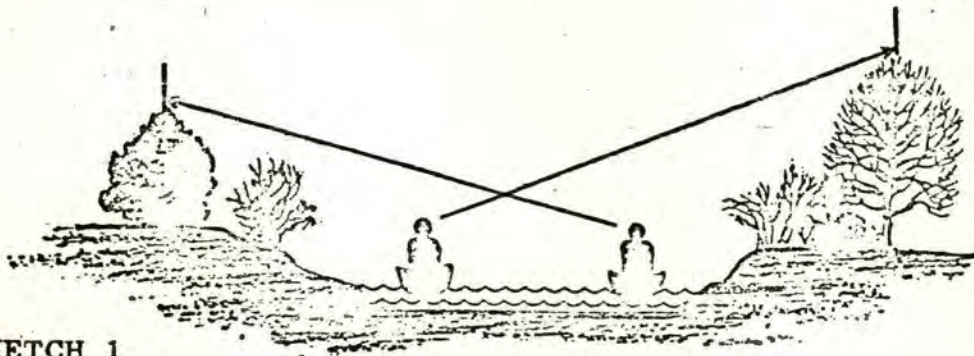
All of the river and its immediate environment is in public ownership with the Bureau of Land Management managing public lands. The State of Alaska would, under the Alaska Statehood Act, own those portions of the riverbed where the river is determined to be "navigable."

##### Mining

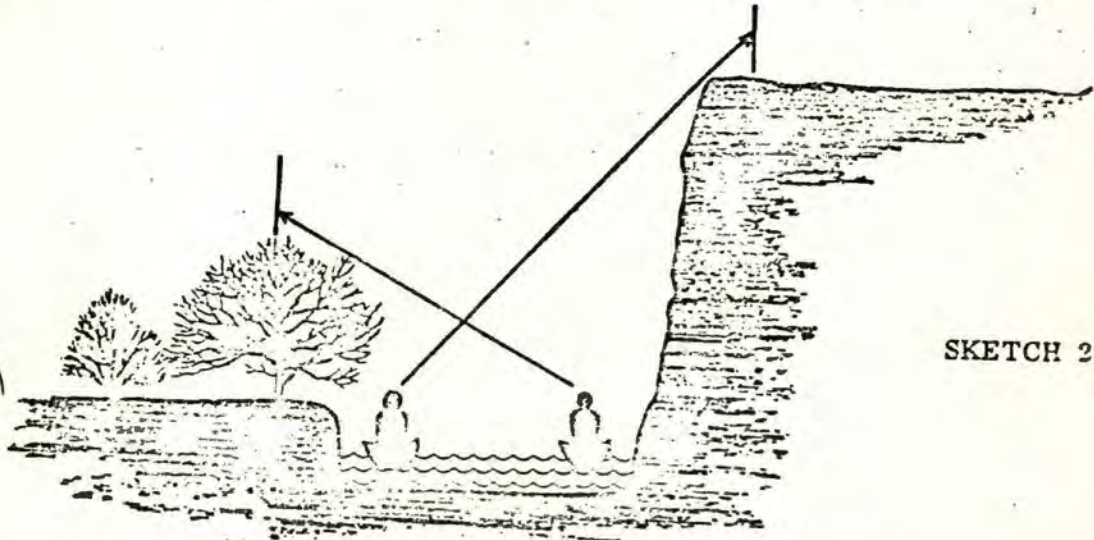
Along the Bremner River there are mining claims located on Blackrock Creek, tributary to the North Fork, and on an unnamed tributary to Price Creek just above Threemile Canyon.



SKETCH 1



SKETCH 2



SKETCH 3

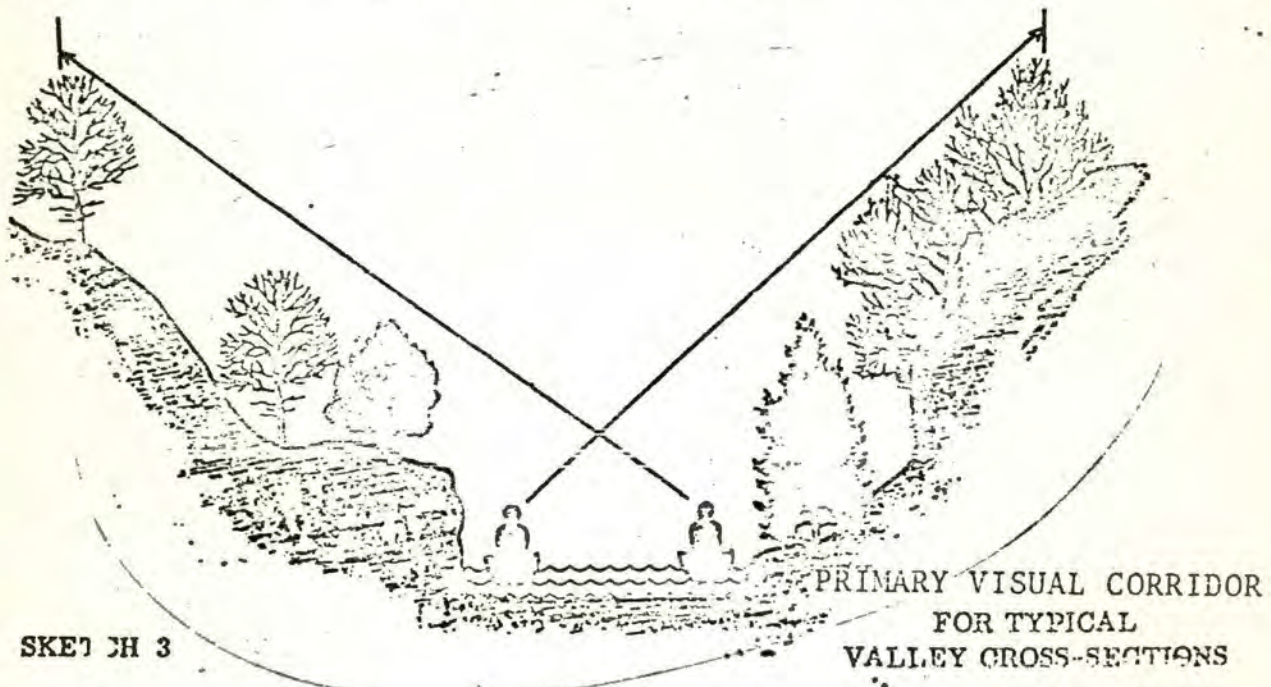


FIGURE 4. CRITERIA FOR SELECTING LATERAL BOUNDARIES



In discussing mining, Sec. 9(a) of the Wild and Scenic Rivers Act, P.L. 90-542, states:

"Nothing in this Act shall affect the applicability of the United States mining and mineral leasing laws within components of the national wild and scenic rivers system except that

(i) all prospecting, mining operations, and other activities on mining claims which, in the case of a component of the system designated in section 3 of this Act, have not heretofore been perfected or which, in the case of a component hereafter designated pursuant to this Act or any other Act of Congress, are not perfected before its inclusion in the system and all mining operations and other activities under a mineral lease, license, or permit issued or renewed after inclusion of a component in the system shall be subject to such regulations as the Secretary of the Interior, or, in the case of national forest lands, the Secretary of Agriculture may prescribe to effectuate the purposes of this Act;

(ii) subject to valid existing rights, the perfection of, or issuance of a patent to, any mining claim affecting lands within the system shall confer or convey a right or title to the mineral deposits and such rights only to the use of the surface and the surface resources as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior or, in the case of national forest lands, by the Secretary of Agriculture  
....

Regulations issued pursuant to paragraphs (i) and (ii) of this subsection shall, among other things, provide safeguards against pollution of the river involved and unnecessary impairment of the scenery within the component in question."



Sec. 12(c) of the same Act requires that:

"The head of any agency administering a component of the national wild and scenic rivers system shall cooperate with the Secretary of the Interior and with the appropriate State water pollution control agencies for the purpose of eliminating or diminishing the pollution of waters of the river."

Mining in a designated Wild River area is an incompatible use of the public resources; however, the following steps are proposed to protect existing valid rights:

Any person, who prior to March 1972, initiated a valid mining claim or location under the general mining laws and recorded notice of said location with the appropriate State or local office shall be protected in his possessory rights, if all requirements of the general mining laws are complied with, for a period of five years from the date of enactment of Federal legislation designating the Bremner River as a component of the National Wild and Scenic Rivers System and may, if all requirements of the general mining laws are complied with, proceed to patent. At the end of the proposed period all claims not patented would be voided and the minerals withdrawn from location and entry.

Mining activities often require heavy equipment such as bulldozers and stationery engines. Regulations covering such activities where it is necessary to reach valid claims within the river area should consider the desirability of a permit system. Issuance of such a permit should take into account the necessity for constructing new overland routes to the claim; the possibility of movement of heavy equipment during the winter months and the feasibility of



using aircraft. The purpose of the permit should not be a means to deny access but rather to assure that access is obtained in a manner which causes the least possible impact on the river and its immediate environment.

#### Management Policies

The management objectives for the Bremner Wild River would be to enhance and protect those values which caused it to be added to the National Wild and Scenic Rivers System for present and future public enjoyment and benefit.

Available information suggests that there is high potential for environmental change of the thin soil cover and vegetation by off-road motorized vehicular travel when there is insufficient snow cover. The administering agency in consultation with user groups should give special consideration to the development of regulations governing the use of off-road vehicles for recreational and subsistence activities. The need for snowmobile travel in connection with subsistence activities such as trapping and hunting as well as sport hunting should be recognized in any regulations.

Strong consideration should be given to establishing designated trails for recreational use which promote user safety, protect public and private resources, minimize conflicts among the various existing or potential users of the area and prevent harassment of wildlife and disruption of key wildlife habitat.



Hunting, fishing and trapping should continue to be managed by the State of Alaska. The management plan for the Bremner River should, however, consider whether zones should be designated where, or periods when, no hunting should be permitted for reason of public safety, administration or public use and enjoyment of the river area.

Special efforts be made to restrict litter and pollution by stressing "bring-back-what-you-take." If this does not prove effective consideration should be given to banning cans, bottles or other nonburnable food and drink containers except at designated developed access points.

Special efforts be made to reduce fire hazards. Such measures as banning open fires or restricting open fires to designated areas should be considered.

Historic and geologic sites should be protected and interpreted as appropriate. The extent and location measures would be developed during the detailed planning process.

#### Recreation Development

Informational signing will be discouraged. Information on hazards, recreation opportunities or related information should be provided only at entrance points.

The primary objective of the conceptual development plan is to maintain the wild river environment in as natural a state as possible by providing the minimum



of recreation facilities needed for appropriate visitor use and enjoyment of the river corridor.

The Bremner River has been recommended as a Wild River area; consequently, recreational development will be light.

"Wild River areas being the most primitive, inaccessible and unchanged will be developed and managed to preserve and enhance its primitive qualities. Major public-use areas such as large campgrounds, interpretative centers of administrative headquarters normally would be located outside the river area. Simple comfort and convenience facilities such as fireplaces, shelters and toilets may be provided as necessary to protect popular sites and provide an enjoyable experience. Facilities would be of a design and location to harmonize with its surroundings!"<sup>1/</sup>

Access will continue to be difficult. It is proposed that consideration be given to development of carefully selected airstrips in the headwaters area and near the mouth of the Bremner.

Visitor centers should not be located within the river corridor. The administering agency should locate a visitor information center for the Bremner Wild River in one of the nearby communities which will serve as a jumping-off place to the river area.

Kayak and raft rental should be available from the

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<sup>1/</sup>1970. Guidelines for Evaluating Wild, Scenic and Recreational River Areas . . . , U.S.D.I.

visitor center and airlifted into and out of the river corridor as should those visitors who plan to utilize the resource.

Natural campsites abound throughout the river corridor. Accordingly, development of campsites would be undertaken only at the point that public use creates sanitation problems and the local environment is threatened by overuse or where fire hazards were significant.

The administering agency, within one year of the date of inclusion of the river in the national system would prepare a detailed development plan for the Bremner Wild River area based upon the concepts developed in this report.



VII. ECONOMIC EFFECTS OF INCLUSION IN THE  
NATIONAL WILD AND SCENIC RIVERS SYSTEM

The Bremner River and its immediate environment is richly endowed with a wide variety of natural resources. The impact of the proposed program on potential uses of these resources, however, is difficult to evaluate.

Recreation

Increasing population pressure and desire for more recreation lands, opportunities, and recreational uses in the immediate environment of the Bremner River can be expected to increase with or without inclusion of the river in the National Wild and Scenic Rivers System. However, inclusion in the national system as recommended herein will stimulate the long-range rate of increased use. Inclusion of the Bremner River would assure that the increased use was orderly and within the limits of the resource base to sustain a high quality, primitive outdoor recreation experience for both present and future users. This is not expected to occur without implementation of coordinated, overall management and development of the recreation and nonrecreation resources of the Bremner River and its immediate environment.

There is presently not enough information available regarding the carrying capacity of the resource to predict



total visitor use into the future; however, visitor use will not be permitted to endanger the values for which the wild river was designated.

Hunting, fishing and trapping are not restricted to the river corridor and may continue in adjacent land in compliance with appropriate State and Federal regulations.

Economic benefits resulting from initial and continued infusion of capital are anticipated given the impetus of expenditures by recreationists in adjacent communities of Chitina and McCarthy.

Benefits from implementation of the proposed Bremner Wild River area would accrue at three levels; local, State and National.

Benefits to the Nation would accrue through protection, management and development of an outstandingly remarkable free-flowing river and its immediate environment as a unit of the National Wild and Scenic Rivers System for the enjoyment and use of present and future generations. The special qualities of the Bremner River are not duplicated in the existing or proposed system of free-flowing rivers. Such National benefits are primarily intangible



At the local and State levels, management and development of the Bremner River and its immediate environment as a component of the National Wild and Scenic Rivers System would assure continued availability of existing high quality outdoor recreation opportunities. In addition, activities such as rafting on a fast, glacial river, and hiking in an environment with little evidence of man's activity would be enhanced. The proposed action would also help assure perpetuation of the local life style which emphasizes use of a natural environment. Development of recreation activities requiring specialized equipment and transportation enhances the opportunity for local residents to gain economic benefits by providing guiding and rental services. This, in turn, would provide economic benefits to the State through increased visitation and longer stays by people attracted by the challenging outdoor recreation opportunities offered by the Bremner River.

A comparison of recreation expenditures at free-flowing river areas indicates that impacts to the local and State economics should be substantial if the Bremner River is added to the national system. Table 2 highlights the magnitude of recreation expenditures.



TABLE 2. Comparison of Recreation Expenditures at  
Selected Free-Flowing River Areas

Area	Cost per trip <sup>1/</sup>	Cost per person
<u>Canoe/Kayak (family)</u>		
Eel River, Ca.	\$280 <sup>2/</sup>	\$13.33 <sup>3/</sup>
Klamath River, Ca.	320 <sup>2/</sup>	26.66 <sup>3/</sup>
Trinity-Klamath Rivers, Ca.	285 <sup>2/</sup>	26.66 <sup>3/</sup>
Kipawa Area, Quebec, Canada	360 <sup>2/</sup>	13.33 <sup>3/</sup>
<u>Canoe/Kayak (individual)</u>		
Buffalo River, Ark. <sup>6/</sup>	120	20.00
Current River, Mo. <sup>6/</sup>	110	15.71
Copper River, Alaska	375	62.50
Kenai Area, Ak.	365	20.27
Lewis & Clark Waterway, Mont.	140	17.50
Salmon, Middle Fork, Ida. <sup>6/</sup>	285	47.50
Snake River, Wyo.	135	13.20
Yukon River, Ak.	280	40.00
<u>Hiking (individual)</u>		
Wrangell Mtns., Ak.	330	19.41

<sup>1/</sup>Excludes all transportation and related costs of food and lodging while in transit to and from home and river areas.

<sup>2/</sup>Adults, 1 child, ea.

<sup>3/</sup>Additional child \$60 for entire trip.

<sup>4/</sup>Additional child \$80 for entire trip.

<sup>5/</sup>Additional child \$110 for entire trip.

<sup>6/</sup>Unit of the National Wild and Scenic Rivers System or related river conservation program.



### Non-Recreation

If the Bremner Wild River were designated by Congress as a component of the national system, certain uses of the river area would be curtailed or eliminated.

Mining in a designated Wild River area has been determined to be an incompatible use of the public resource. Subject to valid existing rights, the minerals in Federal lands which are within the designated Bremner Wild River area, including the riverbed, will be withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws.

Any person who initiated a valid mining claim or location under the general mining laws prior to the classification under Sec. 17(d)(2) of P.L. 92-203, and recorded notice of such a location with the appropriate State or local office shall be protected in his possessory rights, provided requirements of the general mining laws are complied with, for a period of five years from the date of enactment of Federal legislation designating the Bremner as a Wild River in the national system, and proceed to patent. At the end of the five-year period all claims not patented would be voided and the minerals withdrawn from location and entry.

Mining on adjacent lands outside the river area or on existing valid claims or patented lands within the river area should not be affected. Restrictions on mining operations causing water pollution on tributaries to the Bremner or



unnecessary impairment of the scenery would be similar with or without wild river designation of the Bremner.

Development of the full potential of the Million Dollar hydroelectric site would be foregone if the Bremner River is designated by the Congress as a component of the National Wild and Scenic Rivers System.

Harvest of timber in the immediate environment of the Bremner River for uses other than recreational would be curtailed. Commercial harvest of timber within the immediate environment of the river would be foregone.

Permanent occupancy within the immediate environment of the Bremner River would be foregone. There are no permanent residences in the river corridor at this time nor are there any existing valid claims for disposition of public lands located within the river corridor for homesites, trade and manufacturing sites or related purposes.

Construction of paralleling roads within the wild river area would be foreclosed and motorized land travel on the existing trails will be curtailed.

Hunting, fishing and trapping for subsistence or sport purposes in the Bremner River or its immediate environment would continue to be managed by the State of Alaska with or without wild river designation. It is believed that both subsistence and sport uses of game and



fur animals and fish would be enhanced since the primary objective would be to preserve the existing river area in a natural condition. This should strongly favor preservation of key wildlife habitat areas within the river corridor which in turn affects the number, kind and quality of the fish and wildlife available for human use.

## VIII.

## ALTERNATIVES

There are several major alternatives to the recommended inclusion of the Bremner River, Alaska, and its immediate environment in the National Wild and Scenic Rivers System. These include no action, state or local action, different classifications, and inclusion in another national conservation system.

### No Action

The alternative of no action was considered and then discarded on the basis that:

- (1) There is good probability that the existing high quality environment would be adversely affected through increased or unplanned human use and method of access.
- (2) Development of public resource for short-term gain would cause significant adverse environmental impacts and adversely affect existing life style of local residents which depend upon the availability of the existing environment.
- (3) The only practicable method for assuring future availability of the high quality of the Bremner River for the use and enjoyment of present and future generations is to devise a formal plan which provides for careful and thorough review



of the environmental consequences of proposed resource development and human use programs as a means for determining whether to proceed with such programs.

#### State or Local Action

A major principle established with enactment of the Wild and Scenic Rivers Act is that protection and management of free-flowing river areas is a task that cannot be undertaken solely by the Federal government. At the same time it is recognized that a narrow corridor adjoining a river area cannot be managed without considering resource and human programs taking place on adjacent areas. It is realized that the State of Alaska will be actively involved in the management of the public resources of the Bremner River and its immediate environment -- for example, fish and wildlife resources. However, the potential alternative of State or local action was discarded on the basis that:

- (1) There are no known State or local plans to exclusively manage all or most of the public resources of either the adjoining areas or the Bremner River and its immediate environment.
- (2) There are no State or local programs to manage and protect free-flowing river areas in Alaska.



### Different Classifications

Consideration was given to the possibility of classification of the entire river area as scenic or recreational so that mining in the riverbed and its immediate environment could take place. This was discarded since such activities are not consistent with the primary objectives of protection of the existing environment for the use and enjoyment of present and future generations.

### Inclusion in Another National Conservation System

In addition to the inclusion in the National Wild and Scenic Rivers System, there is potential that the Bremner River together with its immediate environment be included as part of other National conservation systems. These are: (1) creation of a national forest; (2) designation as a multiple-use area; and (3) designation as a national park. All three alternatives would involve a substantially larger land area.

The alternative of creating a National forest has been considered and in the event a national forest is created the Forest Service would administer the river environment as part of the larger land and water resource area. National forests are managed so that all of the various renewable resources are used in the combination that best meets needs of the American people. As part of this resource management the Secretary of Agriculture has assigned to the Forest Service the responsibility for



managing units of the National Wild and Scenic Rivers System within national forests. However, only Congress may designate Federally administered components of the National Wild and Scenic Rivers System. Accordingly, it is recommended that Congress include the Bremner River in the National Wild and Scenic Rivers System in the event a National forest is reestablished. This assures public guidance and Congressional approval of the specific combination of resource uses that best provide for the long-term benefit and enjoyment of the river and its immediate environment as distinct from adjacent "multiple-use" areas.

The alternative of retaining the river and its immediate environment under its present administration by the Bureau of Land Management has been considered. In 1968, the Bureau of Land Management withdrew the river environment as part of a larger classification action, and in 1970 initiated action to establish a Wrangell Mountains National Scenic Area. The Bureau of Land Management is committed by law and regulations to a program of multiple use. As part of this resource management the Secretary of the Interior has assigned to the Bureau of Land Management the responsibility for managing units of the National Wild and Scenic Rivers System within public domain lands. However, only Congress may designate Federally administered components of the National Wild



and Scenic Rivers System. Accordingly, it is recommended that Congress include the Bremner River in the National Wild and Scenic Rivers System in the event adjacent areas are managed by the Bureau of Land Management. This assures public guidance and Congressional approval of the specific combination of resource uses that best provide for the long-term benefit and enjoyment of the river and its immediate environment as distinct from adjacent "multiple-use" areas.

The alternative of creating a national park has been considered. On the basis of information included in the National Park Service proposal to create a Wrangell-St. Elias National Park it is concluded that management of the area as a national park would be consistent with the primary objectives established by the Wild and Scenic Rivers Act. Natural areas like Mount McKinley National Park or the proposed Wrangell-St. Elias National Park are managed so as to safeguard the forests, wildlife and natural features against impairment or destruction. The Secretary of the Interior has assigned management responsibility to the National Park Service for managing certain units of the National Wild and Scenic Rivers System. Since the Congress must approve the designation of all national parks and there is public guidance and congressional approval for the specific types of resource



uses compatible with each national park, units of the National Wild and Scenic Rivers System have not been designated within National Parks. Accordingly, if a national park encompasses the Bremner River and its immediate environment, creation of a National Wild and Scenic River is not recommended.