

UNITED STATES GOVERNMENT

Memorandum

Clay Hardy

1206

TO : Assistant Director Eastman

DATE: June 1, 1973

FROM : Leader, Alaska Task Force

SUBJECT: Upper Yukon Wild & Scenic River Report

Enclosed are two copies of the subject report. The original has been sent to Fred Strack under separate cover. A copy of the report has been provided to NWRO and the BLM, BSF&W, NPS and FS planning teams in Anchorage.

The enclosed report has been revised to reflect comments received on the Discussion Draft distributed in January 1972.

Field work has been completed and no additional field examinations are scheduled.

Appendicies and photographs will be provided as other reports are completed.

Jules V. Tileston
Jules V. Tileston



Upper Yukon 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.

May 14, 1973

Bureau of Outdoor Recreation
Alaska Task Force

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I.

INTRODUCTION

This report evaluates the free-flowing character of the Upper Yukon River, Alaska, between the United States-Canada border and Circle City, 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. Selection 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 complimented 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 streams 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 System . . ."

The Upper Yukon River, Alaska, and a principal tributary, the Charley River (discussed in a separate report), have 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 rivers 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 Figure 3, p. 32). These rivers were selected without regard to existing or potential ownership by Federal, State, or Native groups.

The Upper Yukon River is listed in the Alaska Statewide Comprehensive Outdoor Recreation Plan (1970) as (1) a free-flowing river identified by the Bureau of Land Management as having potential for inclusion in the National Wild and Scenic Rivers System; and (2) an area with significant potential for future development as a recreation area with a wide range of camping, boating, fishing, hunting, and trail-related activities.

On May 9, 1970, the Bureau of Land Management published notice in the Federal Register of a proposed classification of the 12,450,000-acre "Fortymile unit" under the provisions of the Classification and Multiple-Use Act. The Upper Yukon River basin in its entirety was included in that

proposed classification, which except for the Eagle and Circle areas was identified as an area to remain in Federal ownership and administered under the concepts of multiple-use. The proposed classification was not finalized.

In March 1972, the Secretary of the Interior, with the exception of the 15 townships adjoining Eagle and the 23 townships adjoining Circle, withdrew the Upper Yukon as a potential addition to one of the national conservation systems listed in Section 17(d)(2) ANCSA. This withdrawal insofar as the Upper Yukon River was concerned was finalized without change in September 1972.

Conduct of the Study

The study of the Upper Yukon 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

Tanana Chiefs Conference (Doyon, Ltd.)

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, canoe, and auto during 1972.

II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

Findings

This study shows that the Upper Yukon River, Alaska, possesses values which qualify it for inclusion in the National Wild and Scenic Rivers System. The Upper Yukon River and its immediate environment 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 Section 2, Public Law 90-542, February 1970.

The Upper Yukon River is in the study reach a large, northwesterly flowing river flowing through unglaciated, rolling topography. The river is outstandingly remarkable in its combination of:

- * Access which in places is easy by road and others difficult except by air or boat.
- * History representing early settlement of Interior Alaska.
- * Overall primitive character.
- * Excellent opportunities for motor boating, canoeing, hiking and other trail uses, camping, fishing, and hunting, as well as nature and geology study.

It has also been found that:

- * Development of the recreation resources of the Upper Yukon River area is consistent with the Alaska Statewide Comprehensive Outdoor Recreation Plan (1970).

- * The range and quality of existing and potential outdoor recreation opportunities that is not duplicated by other Alaskan free-flowing river areas having high potential for inclusion in the National Wild and Scenic Rivers System.
- * There is a continuing overall Federal interest in the long-term management of public resources in the Upper Yukon River area.
- * There are mineral values both existing and potential which, with care, can be developed within scenic river areas and on lands adjacent to the river area.
- * There is a hydroelectric power potential of national significance which if developed would destroy existing high recreational values.
- * There is significant population of the endangered peregrine falcon using bluff areas for nesting.
- * There is substantial potential for development of an international river program linking the entire historic resources of the Upper Yukon River and Dawson, Y.T., Canada.

Recommendations

To preserve the free-flowing character of the Upper Yukon River, Alaska, and its immediate environment for the benefit and enjoyment of present and future generations of Americans, it is recommended that:

- * Approximately 111.5 miles of the Upper Yukon River, together with the lower portions of the Kandik and Nation Rivers, be added to the

National Wild and Scenic Rivers System as a scenic river area unless included in the National Park System as part of the larger Yukon-Charley National Riverway. (The Charley River is described in a separate report.)

- * The administering agency be that agency which administers adjacent Federal lands.
- * Within one year from the date the Upper Yukon River is included in the National Wild and Scenic River System, the administering agency would prepare detailed boundaries and management plans and that those plans be consistent with the concepts set forth in this report.
- * Lateral boundaries include no more than 646,500 acres as follows:

land adjoining the Upper Yukon River.....	571,000
Upper Yukon River bed.....	35,500
Land adjoining the Kandik River.....	32,500
Land adjoining the Nation River.....	<u>7,500</u>
	646,500
- * Mining be recognized as a compatible use of the resources of the river so long as there is no pollution, unnecessary impairment of the scenery, destruction of historic sites, and critical nesting habitat for the rare American peregrine falcon is protected.

- * At such time as land ownership has been determined for the 53.5 miles of the Upper Yukon River area and the upstream portions of the Kandik and Nation Rivers are withdrawn for potential Native selection, the administering agency of the adjacent 111.5 mile portion of the river, consider in cooperation with the State and adjacent landowners the desirability and feasibility of adding these lands to the national system.
- * First priority be given to protection of falcon nesting sites.
- * The administering agency explore the potential of developing an international river program linking the historic aspects of the Upper Yukon with Dawson, Y.T., Canada.

III.

REGIONAL SETTING

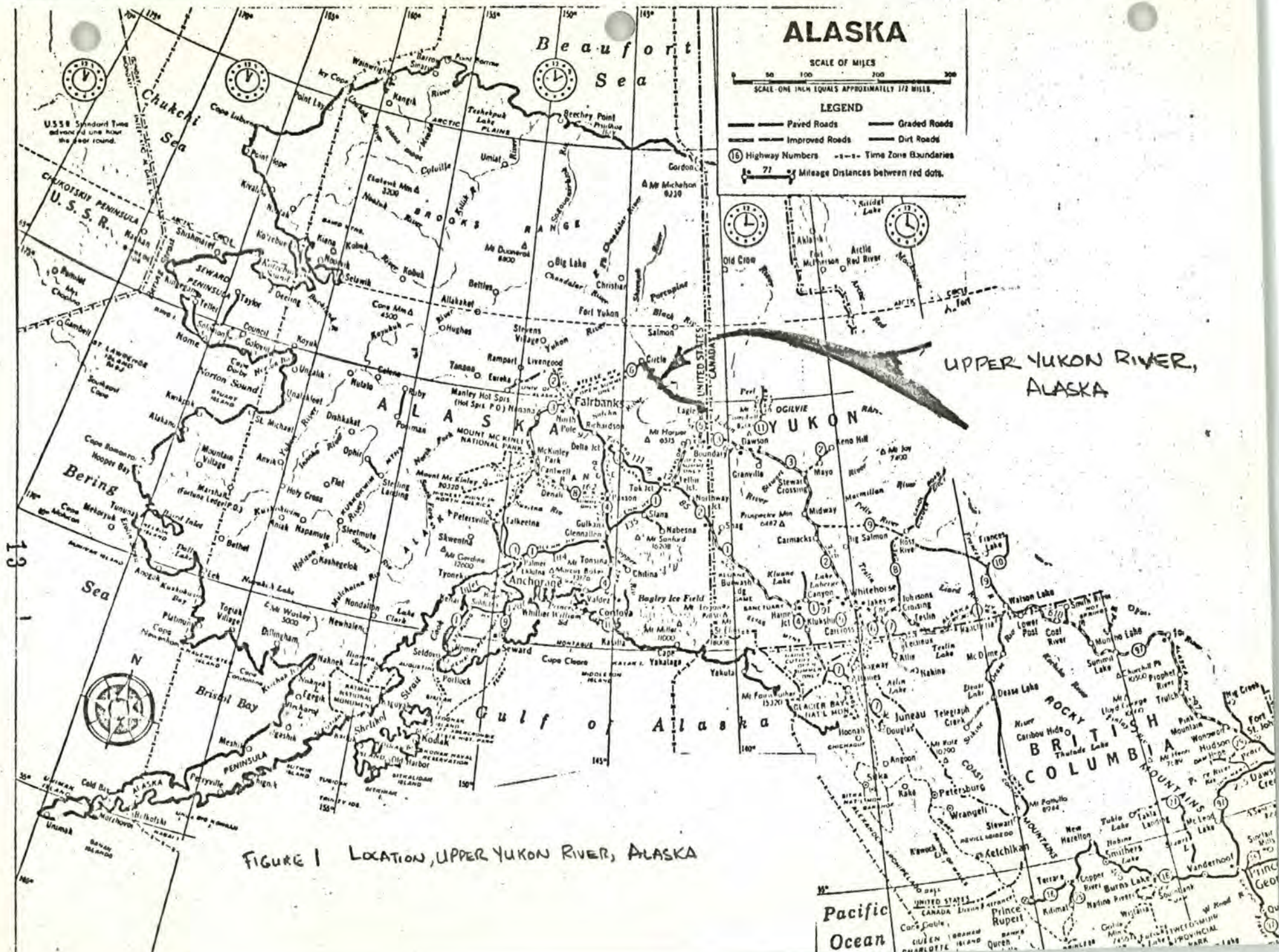
Landscape

The Upper Yukon River, Alaska (figure 1) is located between the United States-Canada border and the Community of Circle. Within interior Alaska, the river area is approximately 175 air miles north to northeast of the Fairbanks area (population 45,864^{1/}) and 325 air miles northeast of the Anchorage area (population 124,542^{2/}).

This 165 mile segment of the 1,200 miles of the Yukon River in Alaska flows generally northwesterly through an unglaciated mountainous area of the interior Alaska. Physiographic provinces crossed by the Upper Yukon River are the southwestern flanks of the Ogilvie mountains, Tintina Valley, and Yukon Flats (see figure 2). Although each of these is distinctive in their topography, soils, and geology, only the Yukon Flats provides marked contrast to the untrained eye. Overall, the region is characterized by narrow valleys separated by rounded ridges and low divides at right angles to the Yukon River. Topographic relief is moderately great ranging from the broad alluvium-covered valleys of the Yukon Flats with an elevation of approximately 600 feet to rounded mountains along the United States-Canada border with elevations in excess of 6,000 feet.

^{1/} 1970 Population Census, U.S. Department of Commerce

^{2/} Ibid.



The Yukon-Tanana Upland is characterized by rounded, even-topped ridges with gentle side slopes, broad undulating divides, and flat-topped spurs. In the western part, the rounded ridges trend northeast to east and have ridge-crest altitudes of 1,500 to 3,000 feet or about 500 - 1,500 feet above adjacent valley floors. The ridges are surmounted by mountains 4,000 - 5,000 feet in elevation. In the east along the Canadian border, ridges are from 3,000 - 5,000 feet with some domes as high as 6,800 feet. Valleys in the western part are generally flat, alluvium floored, and 1/4 to 1/2 mile wide within a few miles of the headwater area. Streams in the eastern part draining into the Upper Yukon flow in narrow V-shaped terraced canyons. Most streams in the western part follow courses parallel to the structural trends of the underlying bedrock.

The Tintina Valley is a narrow belt of low country consisting of low, rounded ridges, and open valleys that grade into the loess-covered terraces and a lake dotted plain that connects with the Yukon Flats. Relief southeast of Woodchopper Creek is 1,000 - 1,500 feet with ridges of 2,000 - 2,500 feet in altitude. Drainage is by small north flowing streams that have superposed courses to the Yukon River in narrow valleys across hills of resistant rocks.

The Yukon Flats consists of marshy lake-dotted flats rising from 300 feet in altitude on the west to 600 - 900 feet on the north and east. Terraces are capped with gravel on which rest a layer of loess.

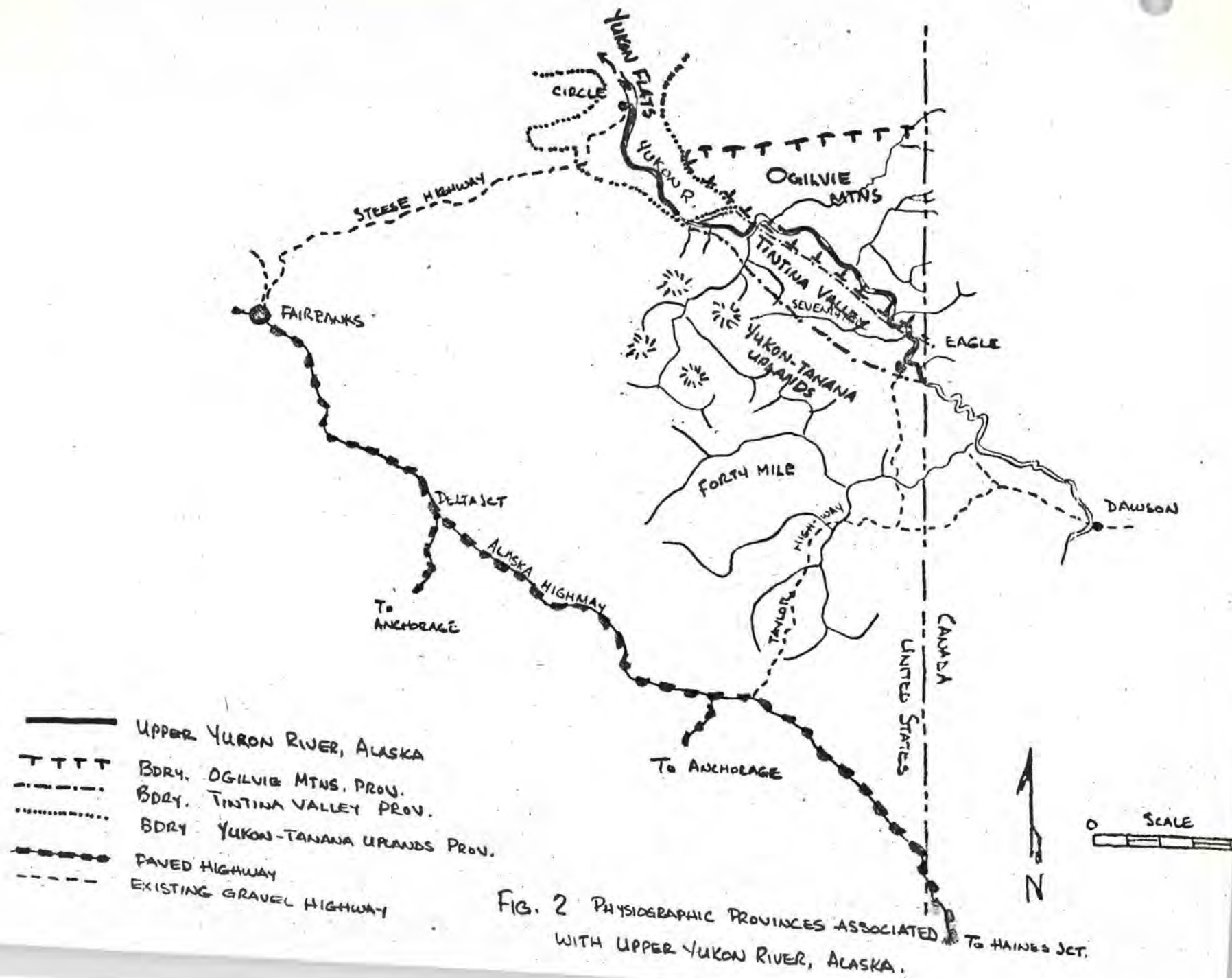


FIG. 2 PHYSIOGRAPHIC PROVINCES ASSOCIATED WITH UPPER YUKON RIVER, ALASKA.

The climate in Sub-Polar Continental. Just south of the Arctic Circle, winters are long, dark, and extremely cold, while long pleasant days prevail in the summer.

The mean low temperature is in January with -17° F. Extended periods of intense cold with temperatures dropping to -50 and -60° are common. Summer temperatures climb to $+80^{\circ}$ F. each year and occasionally reach into the $+90^{\circ}$ F. Range. The mean temperature in July is $+60^{\circ}$ F. Although summer daytime temperatures are almost always above 70° F., there is rapid cooling as the sun passes its daily zenith. Therefore, diurnal temperature variations can be extreme with freezing temperatures during each month. In a typical year, there are 53 days when temperatures reach or exceed $+70^{\circ}$.; 255 days with $+32^{\circ}$ F. or less; and 125 days with temperatures at or below 0° F.

Annual precipitation is about 11 inches of which about 30% is snow. Average snowfall is about 45 inches. Snow can occur above 4,000-feet elevation during any month. Thunderstorms are common during June and July.

Permafrost is throughout most of the region. Rivers and lakes are usually frozen from late October to April, with breakup occurring in late April or May.

Vegetation is a composite of alpine tundra and evergreen and deciduous forest. White spruce in pure and mixed stands of spruce, balsam poplar, and birch grow along major drainages where deep, moist

soils are well drained and deeply thawed. Over permafrost with poorly drained soils extensive stands of black spruce are found. While on rolling, slightly better drained areas a mixture of black spruce, birch, aspen, and balsam poplar grow. Muskeg bogs are found in low lying areas on an intermittent basis until the vicinity of Circle where muskeg becomes prevalent.

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.

The Upper Yukon River in its entirety is located within the Upper Yukon Census Division (figure 3). In 1970, there were 1,684 people living in this Census Division which was an increase of 4.0 percent over the 1960 population. Most resided in 12 places where there was a population of at least 25 people. The largest, Ft. Yukon City, had a population of 448. There were a total of 338 households. Natives comprised 64.8 percent of the total population in the Census Division. Villages within the Census Division which are directly on the Upper Yukon River are Eagle City and Circle. Eagle City lost 60.0 percent of its population

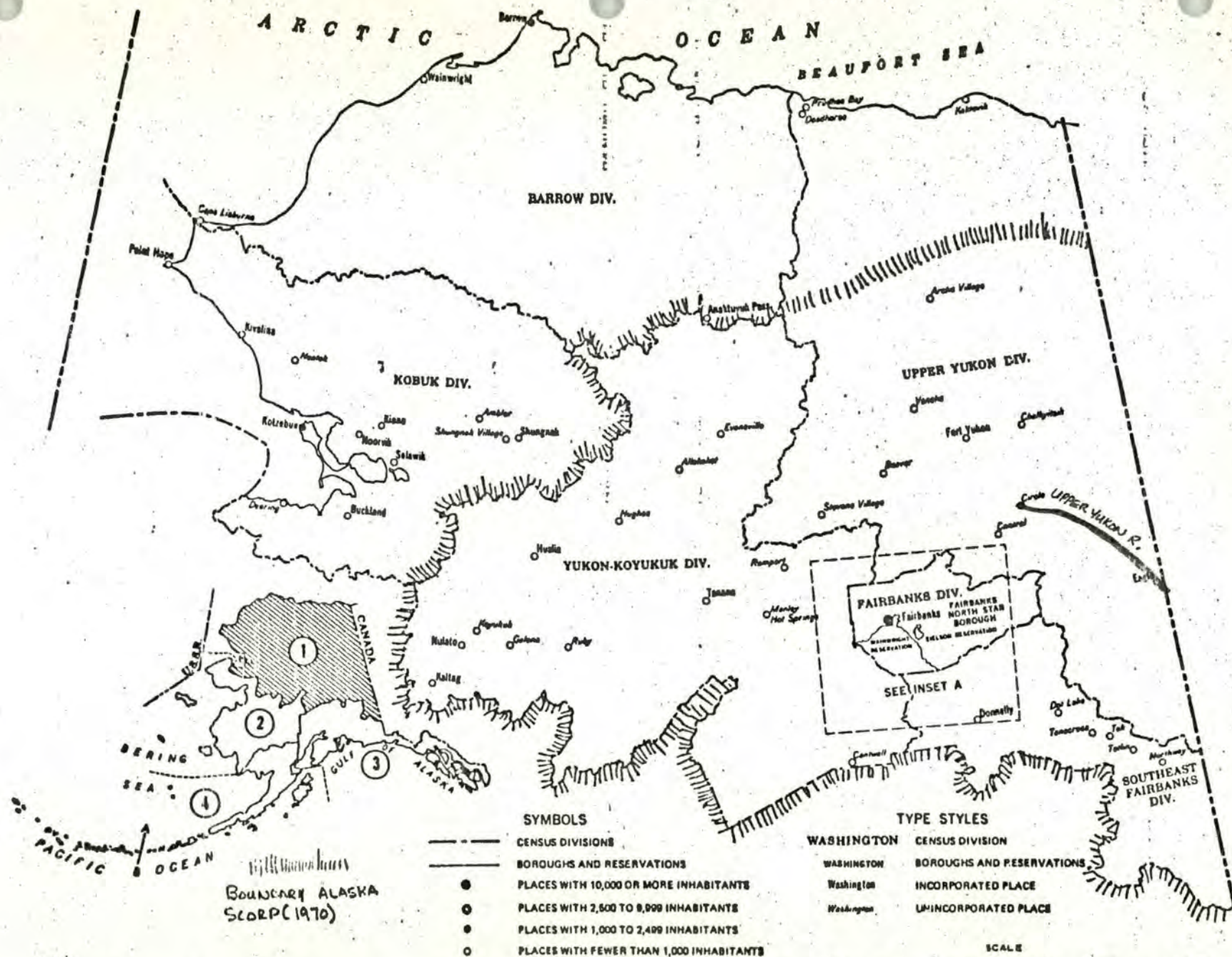


FIGURE B. PLANNING REGIONS FOR POPULATION-ECONOMIC & RECREATION FACTORS, UPPER YUKON RIVER, ALASKA

TABLE 1. 1960 and 1970 Populations of Villages in Close Proximity to the Upper Yukon River, Alaska^{1/}

	1970	1960	Percent Change
Upper Yukon Census Division	1,684	1,619	4.0
Central	26	28	-7.1
Circle*	54	41	31.7
Eagle City*	39	92	-60.0
Fort Yukon City ^{2/}	448	--	--
Southeast Fairbank Census Division	4,179	--	--
Dot Lake	42	56	-25.0
Northway	40	196	-79.6
Tanacross	84	102	-17.6
Tetlin	114	122	- 6.6
Tok	214	129	65.9
Village Subtotal	613 ^{3/}	767 ^{3/}	-20.0 ^{3/}

^{1/} Source, 1970 Census of Population - Number of Inhabitants, Alaska

^{2/} No prior comparable data as was recorded as an unincorporated place in the 1960 Census.

^{3/} Excludes Fort Yukon City, because there are no comparable data for 1960.

* Located on river bank within study segment.

between 1960 and 1970. Immediately to the south in the Southeast Fairbanks Census Division where along the Alaska Highway, are located the villages of Dot Lake, Tanacross, Tok, Tetlin, and Northway. These also contain a high proportion of Natives who may use the Upper Yukon River area on a seasonal basis and therefore should be considered in the overall regional population characteristics. Of the last group, all except Tok lost population between 1960 and 1970, while there was an overall population loss of 20 percent for the eight villages closest to the Upper Yukon River area where there were comparable data for 1960 and 1970. Table 1 summarizes population data for the villages in close proximity of the Upper Yukon basin.

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 subarctic 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 \$50 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 \$50 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 of 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.

More than half of all Alaskan families had incomes over \$12,000 in 1970. There are, however, striking differences in family income between families residing in cities and those living in rural areas. Approximately 45 percent of the rural families had incomes of less than \$5,000 in 1970. There are similar imbalances in family incomes between white and non-white families.

A single comparison of personal income as a factor of well being in Alaska is misleading. When the Alaskan dollar is deflated by 25 percent to compensate for the unusual high cost-of-living, per capita and family incomes are placed in better perspective. This high cost-of-living works particular hardship upon rural Alaskan families where incomes are low and prices often 100 to 200 percent higher than in urban areas.

Within the Upper Yukon Census Division, unemployment in 1970 was 7.0 percent. Median family income was \$6,500 with 23.8 percent earning less than the poverty level and 25.4 percent \$15,000 or more. Most wage employment is seasonal with greatest opportunities during the short summers. Local residents are often employed on an emergency basis to

fight forest fires. The income in that activity fluctuates in direct proportion to the number, size, and frequency of the fires.

For that portion of the region lying south of the Yukon River, it is probable that minerals (other than oil and gas) and tourism have the most significant economic growth potentials. In the north, there is a possibility that oil and gas may be important.

Subsistence

Subsistence is defined as a life style where work is directly related to obtaining food and shelter from the land. Included are subsistence 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 now offers cash potential in this life style.

Natives residing in the region look mainly to the Yukon and the Tanana Rivers for their continuing dependable supply of food. The

surrounding interior forested hill and mountain country offers a variety of terrestrial game animals and fur animals for subsistence. Among these, the caribou, moose, and bear and beaver, martin, mink, muskrat are most important.^{1/}

Most animals killed for local consumption are taken in the fall and winter when meat will not spoil. Few caribou are taken because they are not regularly available. When available, caribou are important for meat and are a source of cash through sale of hides and by-products converted to Native crafts.

Salmon are the most desired fish taken during the summer and probably have always been a staple item of the diet of the Native peoples of the Upper Yukon.

The Alaska Department of Fish and Game has provided limited data on the upper Yukon River salmon catch, which is presented in the table below. Where this catch exceeds personal needs, the remainder may be sold, often in Fairbanks, in dried, salted, or smoked condition. Commercial catch data presented are for the sub-district which includes the study area plus the entire Yukon drainage system in Alaska upstream from its confluence with the Koyukuk. It is believed that the commercial catch in the study area roughly equals in amount the listed subsistence catch.

^{1/} 1968. Alaska Natives and the Land. Field Comm. for Development Planning in Alaska.

TABLE 2. Subsistence and Commercial Harvest of Salmon, Upper Yukon Area^{1/}

Year	Circle and Eagle, Subsistence				Subdistrict 344-40		
	Number Fishing Families	Fish Wheels	Set Gills Nets	Catch		Commercial Catch	
				Kings	Chums*	Kings	Chums*
1961	-	-	-	1,371	1,142	1,804	-
1962	-	-	-	793	900	724	-
1963	4	4	-	750	225	803	-
1964	6	-	-	1,217	3,882	1,081	-
1965	1	-	1	100	256	1,863	381
1966	-	-	-	-	-	1,988	-
1967	-	-	-	-	-	1,449	-
1968	-	-	-	-	-	1,126	-
1969	-	-	-	-	-	985	798
1970	-	-	-	-	-	1,666	907
1971	1	-	2	111	490	1,749	1,099
1972	4	3	5	680	1,143	1,091	387
Average catch for years in which data is available				717 Total	1,434 2,151	1,361 Total	714 2,075
				*Also includes a small # of cohos			

^{1/} Department of Game in Communication to National Park Service

In 1971 and 1972, three commercial fishermen operated in the Circle-Eagle area, using both gill nets and fish wheels. In 1971, they caught 428 chums, but additional catch data are unavailable. This catch is included in the preceeding table, and suggests that a substantial part of the total commercial catch within the subdistrict is by residents of Eagle and Circle.

Whitefishes, particularly the sheefish, are also of substantial importance in the subsistence catch. These fishes, though oily, can be dried and can be taken in winter as well as summer.

The subsistence harvest of residents of Eagle in 1967 included: moose, 15; caribou, 100; grizzly bear, 1; rabbit, 75; squirrel, 10; porcupine, 15; wolf, 5; wolverine, 3; marten, 60; mink, 2; weasel, 5; lynx, 23; red fox, 2; beaver, 4; and muskrat, 6. Except for the first six species, most of this harvest presumably was used for fur sale. Trapping is now sporadic being only a small fraction of its intensity when fur prices were higher. Reportedly about four trappers operate out of Eagle, and an unknown number out of Circle.

Data developed by the Bureau of Sport Fisheries and Wildlife^{1/} indicates that subsistence harvest plus trapping bring local residents an average annual equivalent dollar return per capita of \$600 in terms of Anchorage prices. When considering the higher cost of goods in interior Alaska, it is probable that subsistence activities may average

^{1/} A Proposal to Establish the Yukon Flats NWR, March 1973.

as much as \$1,000 annually in terms of local purchasing power where costs are 25 to 125 percent higher than in Anchorage.

Transportation

The region surrounding the Upper Yukon River basin and the river basin are accessible by good roads and by air. There are no rail facilities. Barge transportation does not exist on the Yukon River upstream from Fort Yukon.

The Alaska Highway (Alaska 2) traverses the entire southern part of the region and is the only highway link between Alaska and the lower 48 states. At Tetlin, the 137-mile long Taylor Highway (Alaska 5) provides direct access to Eagle and also with Dawson, Yukon Territory, Canada. The 162-mile long Steese Highway (Alaska 6) connects Fairbanks and Circle. By road, the Upper Yukon River is approximately 500 miles from Anchorage.

The Alaska Department of Highways has long-range plans which involve consideration of constructing a highway link along the south side of the Yukon River between Eagle and Circle. Extending northward in the center of the region would be a road to Porcupine River and eventually to Canada. A bridge crossing the Yukon in the vicinity of Woodchopper Creek would connect this proposed northward route with the Eagle-Circle route (see figure). Another highway bridge crossing of the Yukon is proposed at Circle.

There is daily commercial air service to Fairbanks and Fort Yukon. Periodic scheduled air service is available to all villages and several

bush airstrips such as at Woodchopper Creek. Chartered air service provides access to almost any point.

Although barge traffic no longer serves the region upstream from Fort Yukon, the Yukon River is a historic waterway for transportation of people, trade, and commerce. The Treaty of Washington between the United States and Great Britain (May 8, 1871) guarantees Canada navigation rights on the Porcupine, Yukon, and Stikine Rivers through Alaska to tidewater. Today, small river boats still ply the Upper Yukon as a travel route, and for recreational and subsistence purposes.

Recreation

The large Interior Region used by the State in its Statewide Comprehensive Outdoor Recreation Plan (see figure 3, page 18) includes all of the Upper Yukon River basin, most of the Upper Yukon Census Division, as well as Alaska's second largest population area and the northern part of Mount McKinley National Park. Based upon data collected by the State for that area, it becomes apparent that even with the outstanding amount of raw outdoor recreation potentials, most is unavailable because of distance, access, or lack of facilities. Those resources which are accessible and developed often receive use in excess of its intended capacity.

The Alaska Statewide Comprehensive Outdoor Recreation Plan indicates
a:

" . . . major need for trail development, particularly in view of the high cost of other means of access.

Trail related activities (including canoeing) also constitute by far the most popular form of recreation in the State, and a strong system of trails would provide not only trail recreation (such as hiking and horseback riding) but also badly needed access to remote areas for other recreational pursuits (such as camping, fishing and hunting)."

Projected total annual outdoor recreation demand for the State as a whole (table 3) indicates an increase of between 235 and 516 percent for selected activities between 1967 and 1985. Of these, trail-related outdoor recreation activities are the most popular. By 1985, trail-related activities -- a form of outdoor recreation in which 85 percent

TABLE 3. Forecast of Total Annual Demand for Selected Outdoor Recreation Activities, Alaska, 1970, 1975, and 1985

Activity	Percent increase over 1967 in participation days		
	1970	1975	1985
Trail related	129	147	249
Sightseeing	146	175	385
Driving and pleasure	136	162	335
Picnicking	132	162	235
Fishing	134	169	343
Camping	156	197	516
Hunting	130	149	254

Source: Alaska Statewide Comprehensive Outdoor Recreation Plan, 1970, Vol. 1, p. 20.

of residents and non-residents participate -- will increase by 249 percent. The State further anticipates that trail-related activities will maintain its top ranking as the most popular activity.

When existing facilities are compared with projected annual demand for outdoor recreation in the Interior Region, it is found that there are major deficiencies (table 4).

It should be noted that the data presented in Tables 3 and 4 were based upon the primary assumption that approximate land status prior to 1970 would continue. These projections would be most conservative in the event all or substantial portions of the public lands withdrawn under section 17(d)(2) ANCSA are included in one of the four national conservation systems by the Congress. Also, it is noted in 1972 there were 53,252 visits to state park units in the Interior Region. Projected visits for 1973 contemplate a 300 percent increase -- to 179,000 visits. Thus, even under present conditions, the 1970 data appear conservative.

The Upper Yukon River has been identified by the Bureau of Outdoor Recreation as one of 40 Alaskan rivers (figure 4) having high potential for inclusion in the National Wild and Scenic Rivers System. Of these 40 select Alaskan free-flowing rivers, 15 (including the Upper Yukon River) are located within the 220,000 square mile Alaskan portion of

TABLE 4. Comparison of available Outdoor Recreation Facilities and Projected Demand* for Selected Activities in the Interior Region, Alaska.

Activity	Facilities ^{1/}	Participants ^{2/}		
		1975	1980	2000
Hiking	54 mi.	3,500	3,800	6,200
Canoeing	137 mi. ^{3/}	2,200	2,400	3,200
Cross-Country Skiing	none	100	200	300
Snowmobiling	50 mi.	1,500	1,600	2,400
Motorboating	29 launching spaces	3,950	4,800	8,800
Picnicking	157 units	14,700	17,200	29,200
Developed Camping	1,202 units	7,200	9,100	23,200
Undeveloped Camping	20 units	2,800	3,500	6,800
Sightseeing	209 ^{4/}	12,400	15,400	37,600
Driving for Pleasure		15,100	17,800	32,000

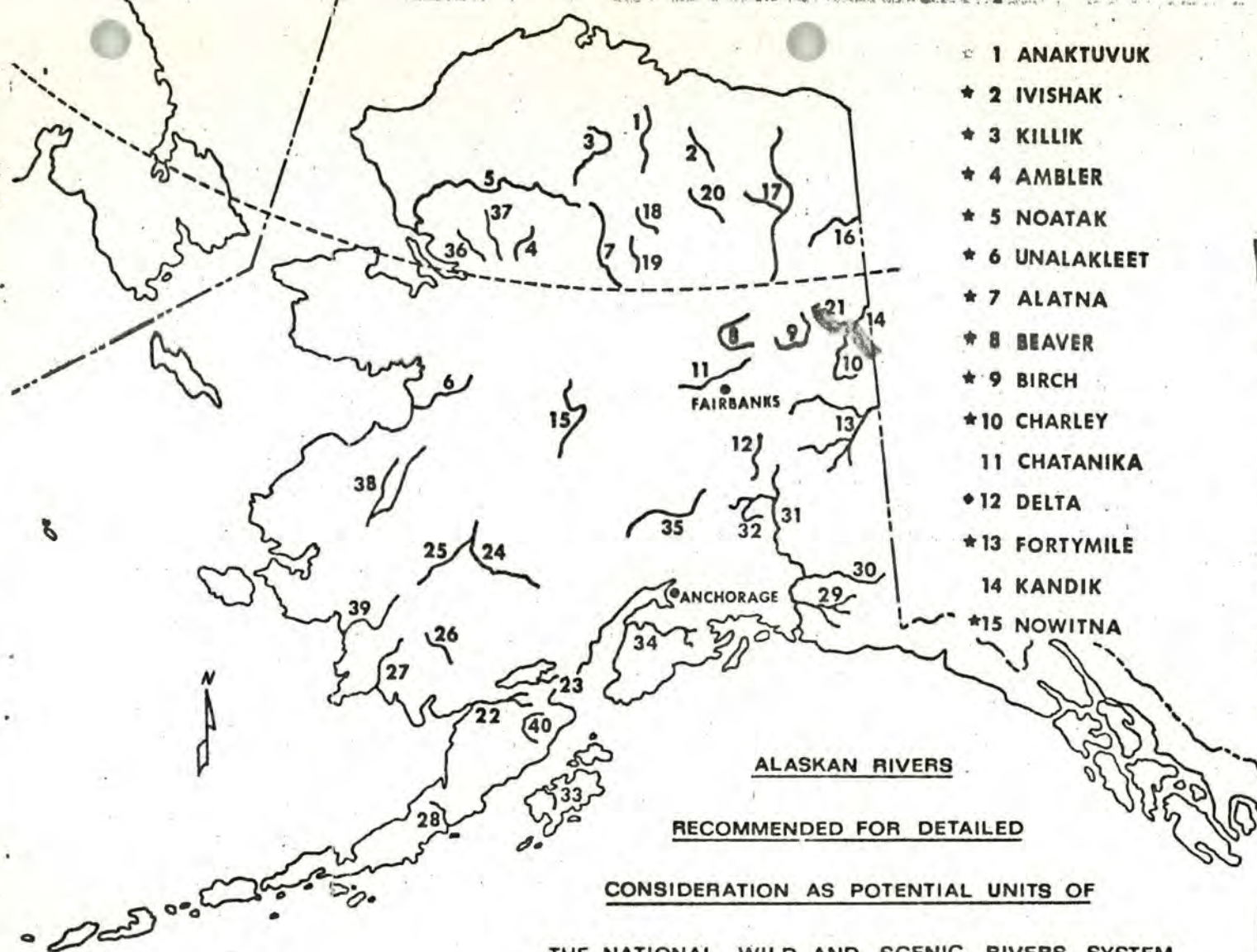
^{1/} Statewide Comprehensive Outdoor Recreation Plan, 1970, Vol. II, Exhibit IV-15.

^{2/} Ibid., Vol. IV, Appendix J.

^{3/} 125 miles are inventoried as in Federal ownership

^{4/} Parking spaces in scenic turnouts

* Computed on the basis of the number of people during a given time period that would require use of the outdoor recreation resource at any one time.



- * 1 ANAKTUVUK
- * 2 IVISHAK
- * 3 KILLIK
- * 4 AMBLER
- * 5 NOATAK
- * 6 UNALAKLEET
- * 7 ALATNA
- * 8 BEAVER
- * 9 BIRCH
- * 10 CHARLEY
- 11 CHATANIKA
- * 12 DELTA
- * 13 FORTY MILE
- 14 KANDIK
- * 15 NOWITNA

- * 16 PORCUPINE
- * 17 SHEENJEK-KONESS
- * 18 TINAYGUK
- 19 WILD
- * 20 WIND
- * 21 YUKON
- * 22 ALAGNAK
- * 23 COPPER (ILIAMNA)
- 24 HOHOLITNA
- 25 HOLITNA
- * 26 NUYAKUK
- * 27 TOGIAK
- * 28 ANIAKCHAK
- * 29 BREMNER
- * 30 CHITINA
- * 31 COPPER
- * 32 GULKANA
- 33 KARLUK
- 34 KENAI-RUSSIAN, SWANSON R.-SWAN LK.
- 35 SUSITNA
- * 36 SQUIRREL
- * 37 SALMON
- * 38 ANDREAFSKY
- * 39 KANEKTOK
- * 40 AMERICAN CREEK

ALASKAN RIVERS
RECOMMENDED FOR DETAILED

CONSIDERATION AS POTENTIAL UNITS OF
THE NATIONAL WILD AND SCENIC RIVERS SYSTEM

BOR, OCTOBER, 1972

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

* RIVERS WHERE DETAILED STUDIES HAVE BEEN REQUESTED

FIG. 4.

ALASKAN RIVERS HAVING HIGH POTENTIAL FOR INCLUSION IN THE NATIONAL WILD & SCENIC RIVERS SYSTEM

the Yukon River drainage. In the close proximity of the Upper Yukon River are the following select river areas:

Beaver Creek

Birch Breek

Charley River

Chantanika River

Fortymile River

Kandik River

Each of the six rivers in the close proximity of the Upper Yukon River are distinctive. These differences are summarized in Appendix A.

Although important to a statewide system of free-flowing river areas including representative samples of the various types of rivers in Alaska, specific action has not been recommended for either the Chatanika or Kandik Rivers. The former lies within lands owned by the State, whereas the latter is located largely within an area withdrawn for potential Native selection under the provisions of ANCSA. Separate reports evaluating the values of the remaining four river areas in the close proximity of the Fortymile River have been prepared.

The Alaska Statewide Comprehensive Outdoor Recreation Plan makes reference to the availability of 399 miles of "formal" canoe trail (137 miles in the Interior Region, see table 4). The term "formal" is misleading in that there are no specific State or local plans or programs

to protect or manage these resources, and the vast majority of the identified "formal" canoe trails are located on Federal land.

The Alaska Statewide Comprehensive Outdoor Recreation Plan, also identifies the Upper Yukon River as an area with significant potential for future recreation as one of three which "...could be developed... to serve a wide range of camping, hunting, fishing, boating, and trail related activities demanded by the residents of the State's second largest urban area." (1970, Vol. II, p. IV-65).

IV.

DESCRIPTION AND ANALYSIS

River Setting

The Yukon River is Alaska's largest and best known river and the fifth longest river system in North America. Having a total length of about 1,875 miles, it rises in a series of mountain lakes along the border between British Columbia and Yukon Territory, Canada. Before emptying into the Bering Sea, it travels some 1,200 miles through interior Alaska. The Yukon River basin is crescent-shaped being approximately 1,300 miles long. It encompasses an area of 330,000 square miles of which 197,000 square miles--almost 60 percent--are in Alaska. The Yukon River drains approximately 40 percent of Alaska.

The portion of the Yukon River considered in this report lies between the United States-Canada border and the village of Circle--a distance of approximately 165 river miles.^{1/} Principal tributaries in this segment are the: Seventymile, Tatonduk, Nation, Kandik, and Charley Rivers. (Figure 5).

Mertie (U.S.G.S. Bull. No. 872 dated 1937) describes this segment of the river as the "Eagle-Circle Canyon", because the river is generally flanked on one side or the other by forested bluffs or colorful cliffs rising boldly from the river's edge.

Characteristic features of the "canyon" are the abundance of well-defined river terraces marking former valley floors occupied by the Yukon

^{1/} U.S. Army Corps of Engineers, Stream Profiles Yukon River and Tributaries, December 1, 1959.

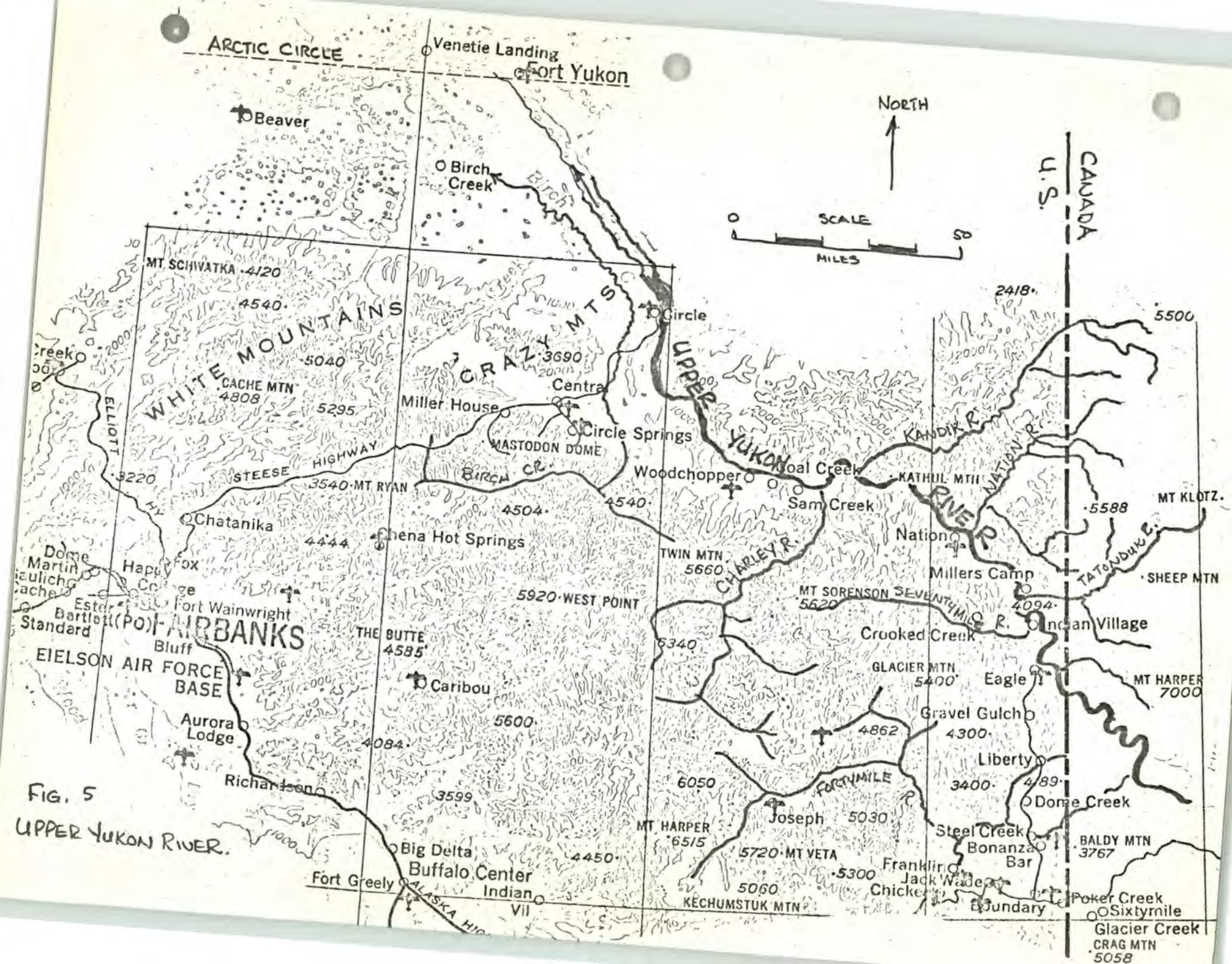


FIG. 5
UPPER YUKON RIVER.

River. A pronounced terrace is found in the upper study area rising 75 to 100 feet above the present level of the river. A second terrace represents a prehistoric river valley some 500 feet higher than now. A third terrace is 700 to 800 feet above the river.

Because of the huge scale of the river and its immediate environment, side drainages large and small are often unnoticed.

Flood plains are narrow and discontinuous. However, cut banks six to ten feet high proclaim the erosive force of the river where it charges into islands and the river bank. Tangled piles of trees in sloughs and on the heads of islands likewise attest to the river's power.

Average width of the river is about one mile with places to one and one-half miles wide. In general, the river becomes wider as it proceeds downstream.

Single islands up to one and one-half miles long and one-half mile wide are common as are smaller island groups. These range from bare gravel bars exposed at low water to dense cottonwood-spruce forested islands. The frequency of islands increases in the vicinity of Circle where the bluffs recede from the river bank.

The depth of the primary channel is estimated to be from six to eight feet. Maximum reported depth is near Woodchopper Creek where the river is approximately twelve feet deep. There are many shallow areas where there may be only one or two inches of water covering gravel bars several hundred feet in width.

Total fall in the river between the United States-Canada border is 303 feet^{1/} for an average gradient of 1.9 feet per mile. There are no falls or major rapids.

Because of the size of the river and distance from assistance, the river is rated as Class II on the International Difficulty Rating Scale (Appendix B).

Stream flow

Stream gauging stations are located at Eagle and Circle. In addition, pilot logs of sternwheelers which once pilled the Yukon River provide good indications of stream flow.

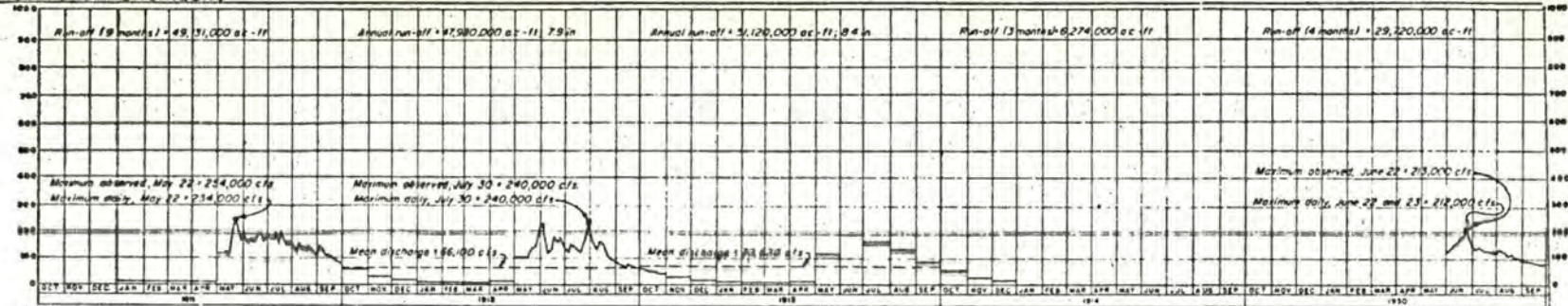
Annual flows are concentrated in the summer months when 80 percent of the total annual runoff takes place. Peak discharges coincide with the spring breakup with flows often approaching 300,000 c.f.s. at Eagle (high of 686,000 c.f.s. instantaneous flow on June 2, 1957). Low flows in the range of 16,000 to 20,000 c.f.s. occur in late February and March when the river is encased in five to six feet of ice. Figure 6 shows the average flows of the Yukon River at Eagle during the spring and early summer.

The Yukon is an awesome river to the uninitiated travelling in a small boat. Current is swift averaging four to six m.p.h. and in places to eight m.p.h. At Circle, the current slows preceptibly as the river broadens and meanders through numerous tree-covered islands and sloughs.

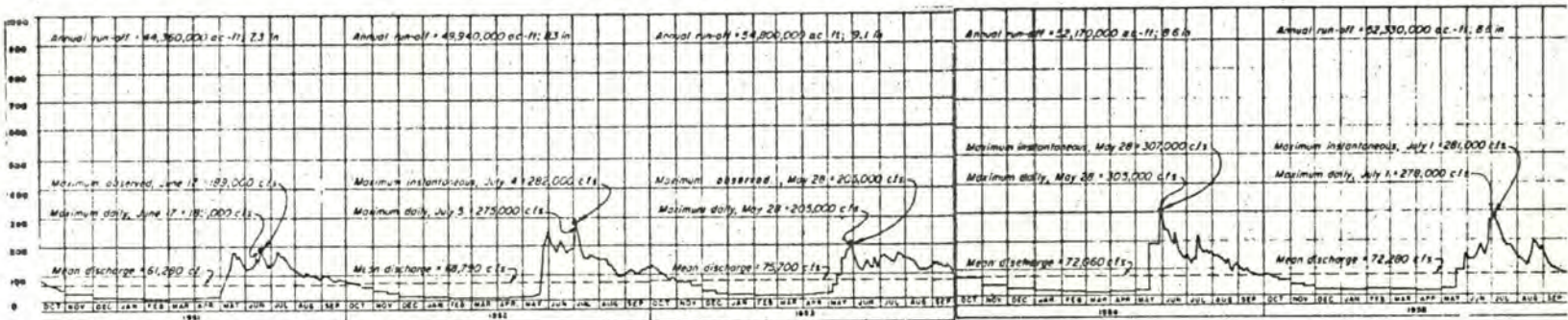
^{1/} U.S.G.S. topographic maps 1:63,360 scale.

CORPS OF ENGINEERS

U.S. ARMY



DISCHARGE IN THOUSANDS OF C.F.S.



DISCHARGE IN THOUSANDS OF C.F.S.

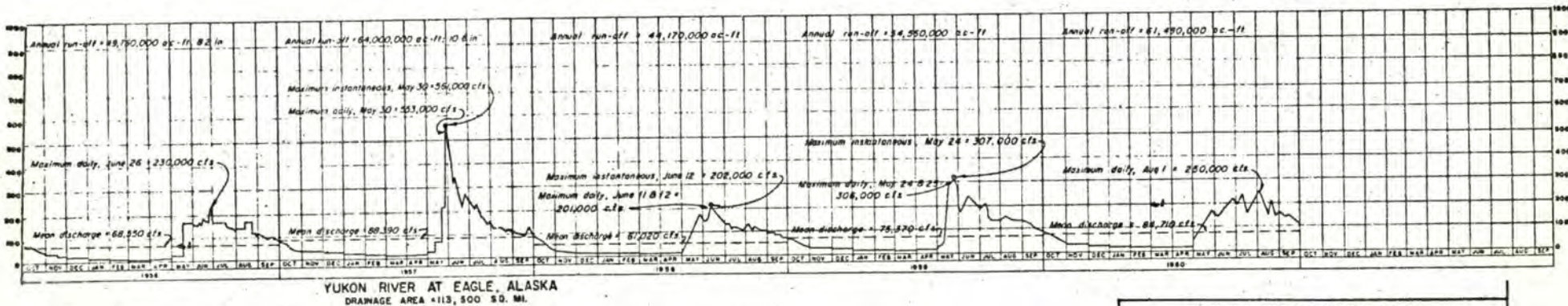
YUKON RIVER AT EAGLE, ALASKA
DRAINAGE AREA = 113,500 SQ. MI.

FIG 6

U.S. ARMY ENGINEER DISTRICT, ALASKA CORPS OF ENGINEERS ANCHORAGE, ALASKA	
HARBORS AND RIVERS IN ALASKA YUKON AND KUSKOKWIM RIVER BASINS DAILY DISCHARGE HYDROGRAPHS	
DESIGNED DRAWN TRAFFIC CHECKED REVIEWED SUBMITTED	RECOMMENDED DATE AS SHOWN DATE 1 JUNE 22 DRAWING NUMBER Q 19-9-22 SHEET 7 OF 8
APPROVED [Signature] DISTRICT ENGINEER	

The sound of water rushing against the base of rock bluffs and at places where erosion resistant rock is exposed in the river bed as at Nation Reef carry for several miles commanding respect. Although safe for use in small hand-propelled craft, caution is necessary to avoid eddies and boils which suddenly thrust canoes, small power boats, or floating logs laterally several feet.

Daily fluctuations resulting from glacier meltwater in the headwaters or rainstorms can cause a sudden rise in the river of as much as a foot.

Water Quality

The Upper Yukon River is turbid. Flowing swiftly over fine sediments, sand and small grains of clay are constantly picked up at one place and deposited in another. To a major degree, turbidity reflects the extremely large load of glacial silt flowing from the glaciated Alaskan Range via the White River.

Water quality is assumed to be good to fair. It is not known what effect, if any, disposal of wastes at Eagle and Circle and to a lesser extent individual cabins along the river banks have on water quality. At Eagle, water from the river is used for domestic purposes during the winter months when the glacial sediments from the White River are not pronounced. During the summer when turbidity is high, water at Eagle is obtained from wells. The suspended sediment load

ranges from 200 mg/liter in the summer when stream flow is swift and there is abundant surface stream runoff to less than 15 mg/liter in the winter when most surface waters are locked up as ice.

Because of the high turbidity of the river during the summer, drinking and cooking water is best obtained from clear water tributary rivers and streams. Back-water pools or depressions on gravel bars and islands also permit the sediment load to settle so that clear water can be found.

Water temperatures range from approximately 50° to 60° F. during the summer and fall and from 32° to 35° F. during the winter and spring.

The turbidity of the water affects its aesthetic appeal for swimming; otherwise there is no evidence of floating debris, undesirable aquatic life, or objectionable substances. As indicated earlier, the turbidity is a function of glacial tributary streams dumping large quantities of silt and rock flour into the Yukon and from the combination of low gradient, swift current and river bed materials. These turbidity factors are of a natural origin.

Land Use

There are no appreciable mining, forestry, or other commercial or industrial activities in the watershed at this time.

Today, the Upper Yukon and its immediate environment--two miles back from each river bank--looks much the same as it probably always

has. Except for an occasional cabin or white navigation marker and the communities of Eagle and Circle, the river is primitive in character to the casual observer. Yet upon close inspection, evidence of man in the form of plastic jugs, rusted cans, abandoned gasoline drums mark the river for the highway that it is.

Residences

Nearly all permanent residents have gravitated to the townsites of Eagle and Circle. Eagle is composed of approximately equal numbers of Natives and non-Natives while Circle is predominately Native.

One permanent resident is known approximately seven miles upstream from Circle on the right bank. Cabins are found throughout the river area but tend to be located near the mouths of clear tributary streams. These cabins are apparently used on a periodic basis for subsistence fishing and trapping. However, the number of recreation cabins appears to be increasing. These appear to be owned by non-residents of the local area and range from simple log structures to peeled log and aluminum-roofed cabins constructed in the last several years.

There are a number of sound cabins at placer gold dredging sites on both Coal and Woodchopper Creeks. At present, these are unoccupied.

Many of the existing structures, occupied and abandoned, have great historic interest.

Forestry

Commercial forest land--that capable of annually producing 20 cubic feet of usable wood per acre--is limited within the immediate river environment.

Topography, discontinuous and small size of good stands of timber and difficult access restrict the economic potential of existing timber.

There is, however, a substantial history of timber use along the Upper Yukon. Considerable timber has been cut to construct cabins and for placer mining operations in tributary areas such as Coal, Woodchopper, and Fourth-of-July Creeks and the Nation and Seventymile Rivers. In addition to cabin construction and mining, trees provided the principal fuel for heating and cooking.

Significant amounts of timber were cut for fuel on the numerous sternwheelers that plied the Upper Yukon River between the gold fields in Canada and the United States.

A sawmill for local consumption of timber products is located at Circle.

The existing pattern of local consumption of timber products is expected to continue into the foreseeable future.

Mining

There has been no significant amount of mining in the river bed or adjacent stream banks. There has, however, been substantial mining in several tributary areas, notably Coal, Woodchopper, Fourth-of-July, and Mission Creeks and the Seventymile and Nation Rivers.

Within the Eagle and Circle districts, over 740,000 ounces of gold have been produced—almost exclusively from placer deposits. Available

data for the production of gold shows that from 1913-64, Woodchopper Creek placers produced 117,654 ounces of gold and 9,783 ounces of silver. Between 1908-57, placer deposits in Coal Creek produced 94,495 ounces of gold and 9,668 ounces of silver while Fourth-of-July Creek contributed 9,315 ounces of gold and 955 ounces of silver between 1917-52. These operations are respectively located 3 miles, 2 miles, and 7 miles distance from the river bank. With the recent increase of world gold prices, it is anticipated that placer gold mining will resume at the larger deposits.

Barite, a mineral used in the oil drilling industry, occurs along the Upper Yukon where 30 claims were active in 1969.

Phosphate outcrops of unknown value are found in portions of the Upper Yukon between the Nation and Kandik Rivers.

A low grade iron deposit has been noted in the Tatonduk drainage.

Extensive deposits of low-grade coal are near the river along the Tintina Fault. This field extends 90 miles westward from the general vicinity of the United States-Canada border to well beyond Woodchopper Creek. This deposit--the Eagle coal field--is from 2 - 10 miles wide. Near the mouth of the Nation River, a deposit of bituminous coal reported to be of coking grade has been sporadically mined for local use. Around the turn of the century, about 2,000 tons were mined to fuel river streamers.

The Kandik petroleum sub-province underlies most of the Tintina Valley and Ogilvie Mountain physiographic provinces (see figure 2). In Canada, these formations have two producing oil fields. Accordingly, the U. S. Geological Survey considers the Kandik-Nation area of the Upper Yukon to have considerable potential for oil and gas development. About 66 percent of the total basin is located in the United States.

Oil shale outcrops in a broad arc from Coal Creek to the upper portions of the Nation River. Preliminary tests indicates a yield of 28 gallons of crude oil per ton of shale.

Water Resources Developments

There are no existing or authorized water resource development projects in the Upper Yukon River.

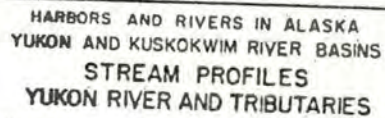
There are, however, two potential hydroelectric projects which would have a pronounced effect on this river area: Rampart and Woodchopper (figure 7). If constructed, the Rampart Project at pool elevation 660 feet would inundate all the river to the vicinity of Woodchopper Creek. The power site withdrawal (P.L.O. 3520) proceeds upstream through the study area to a point about midway between the mouths of the Kandik and Charley Rivers (Sec. 6, T. 6 N., R. 25 E).

The potential Woodchopper Project has been identified by the Alaska Power Administration as one of five most important hydroelectric potentials in Alaska. The site for the dam is about one-half mile downstream from Woodchopper Creek where a concrete arch dam would create

- RIGHT BANK TRIBUTARY
- LEFT BANK TRIBUTARY

POTENTIAL POWER PROJECT

1. Direction of flow follows name of stream.
2. Tanana River Basin Stream Profiles
transmitted with INTERIM REPORT No. 4,
TANANA RIVER BASIN, dated 1 May 1951.



SHEET NO. 8

1 DEC 1959

11504

11/15/10

RECOMMENDS

William George

DEPT. OF ENGINEERING
SCHEMATIC BY: LSC & EYH

TRACED BY *R. J. [illegible]*
 CROSSED BY *E. J. [illegible]*

APPROVED

W. C. C. C. C.

DISTRICT ENGINEER

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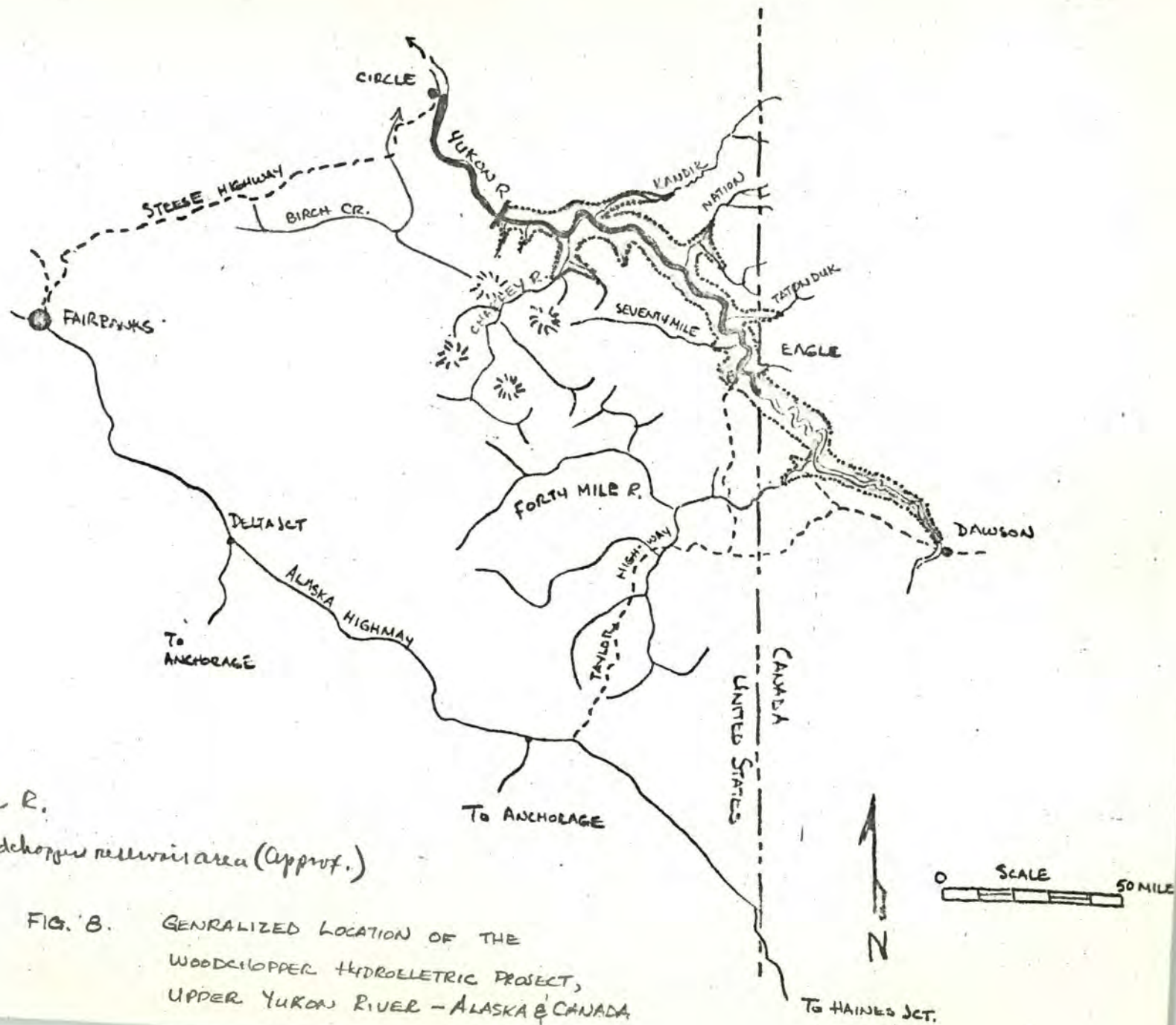


FIG. 8. GENERALIZED LOCATION OF THE
WOODCHOPPER HYDROELECTRIC PROJECT,
UPPER YUKON RIVER - ALASKA & CANADA

a reservoir with a depth of more than 360 feet deep. At a pool elevation of 1,020 feet, the reservoir would store 52 million acre-feet of water, have a shoreline of about 800 miles, and a surface area of about 563 square miles. The pool would extend into Canada almost to Dawson, Y.T.

Estimated firm power potential is 2.16 million kilowatts at 75 percent annual load factor with firm energy production of 14.2 billion kilowatt hours. Accordingly, the Alaska Power Administration believes the project to be of statewide and national significance. Since a substantial portion of the reservoir would be in Canada, the project must also be considered of international significance.

Studies of the Woodchopper site have been largely limited to consideration as a single-purpose hydroelectric development operating in conjunction with the Rampart Project. The Alaska Power Administration indicates that evaluation of the Woodchopper Project as a separate, multiple-purpose development would greatly emphasize the importance of the site.

Preliminary construction costs of the project, exclusive of environmental aspects, is \$1.7 billion.^{1/} While revenues from the sale of electrical power are estimated to be about \$100 to \$150 million per year at an average cost of 7 to 10 mills per kilowatt hour.

^{1/} Costs are on an October 1965 base price. All data related to the project are preliminary approximations for inventory purposes.

The Woodchopper project at maximum stage of development involves Canada in two ways: the physical inundation of Canadian resources and the necessity for renegotiation of the May 8, 1871, Treaty of Washington guaranteeing Canada navigation rights to tidewater via the Yukon River.

In addition to the international negotiations that would be required, the Woodchopper Project has several social and environmental aspects which would weigh heavily upon the decision to construct the project.

Social aspects include the necessity for the relocation of the residents of Eagle and the necessity for a major shift in the present life-style. Also lost would be the historic aspects of the Yukon River as the primary transportation route through interior Alaska to and from the Klondike gold fields.

Environmental considerations include the following:

- * It is probable that a substantial portion of the anadromous fish runs that pass the Rampart site also pass the Woodchopper site.
- * The reservoir area of the Woodchopper project also includes excellent wintering habitat for a high density moose population.
- * Significant portions of the Steese-Fortymile caribou herd cross the potential reservoir area in their migrations to and from Canada.
- * There would be moderate to significant impacts to waterfowl, fur-bearing and game animals other than moose and caribou.

- * It is also probable that the significant and critical nesting habitat in the reservoir area for the rare peregrine falcon would be adversely affected.

In addition to the Yukon River becoming a lake between Dawson and Woodchopper Creek, the reservoir would destroy the:

- * Lower 10 to 12 miles of the Fortymile River and part of Clinton Creek;
- * Lower 12 to 15 miles of the Seventymile River;
- * All of the U. S. portion of the Tatonduk River;
- * Lower 12 to 15 miles of the Nation River and part of Hard Luck Creek;
- * Lower 20 to 25 miles of the Kandik River;
- * Lower 20 to 25 miles of the Charley River;
- * Lower one-third of Coal Creek; and
- * Lower one-half of Woodchopper Creek.

Also, any mineral values including the known gold and silver placer area would be flooded.

There are no active proposals to construct the Woodchopper project and studies to date relate primarily to establishing the resource values involved. However, because of its strategic location and large energy potential of the Woodchopper project, the Alaska Power Administration recommends that the option be retained to consider development of the project at some future date.

Another water resource program which might involve Upper Yukon River is related to spring break-up. To reduce the incidence of flooding caused by ice jams in narrow places, the U.S. Army Corps of Engineers conducts a "dusting" program to promote rapid, uniform break-up of the river ice at strategic locations. The basic principal in the "dusting" program is to spread ash, sand, or other dark materials on the surface of the river ice in late spring to induce greater melting and thereby weaken the ice in a predictable manner. At present, there is no such program in this section of the Yukon. Should such a program become necessary, it is believed that it can be conducted in a manner compatible with other resource values.

Although there are no active bank stabilization programs in the Upper Yukon, it is conceivable that stabilization of the river bank at Eagle and Circle as well as at historic sites may be desirable. Similarly reestablishment of ferry service could require modest stream bank and river bed modifications at selected points.

Land Ownership

Approximately 39.5 miles of the river from the United States-Canada border (to the south boundary of T. 3 S., R. 31 E.) and the 14 miles upstream from Circle (to the south boundary of T. 10 N., R. 18 E.) have been withdrawn under the provisions of ANCSA for potential selection by Natives. Until selected, these lands are largely in Federal ownership and are administered by the Bureau of Land Management.

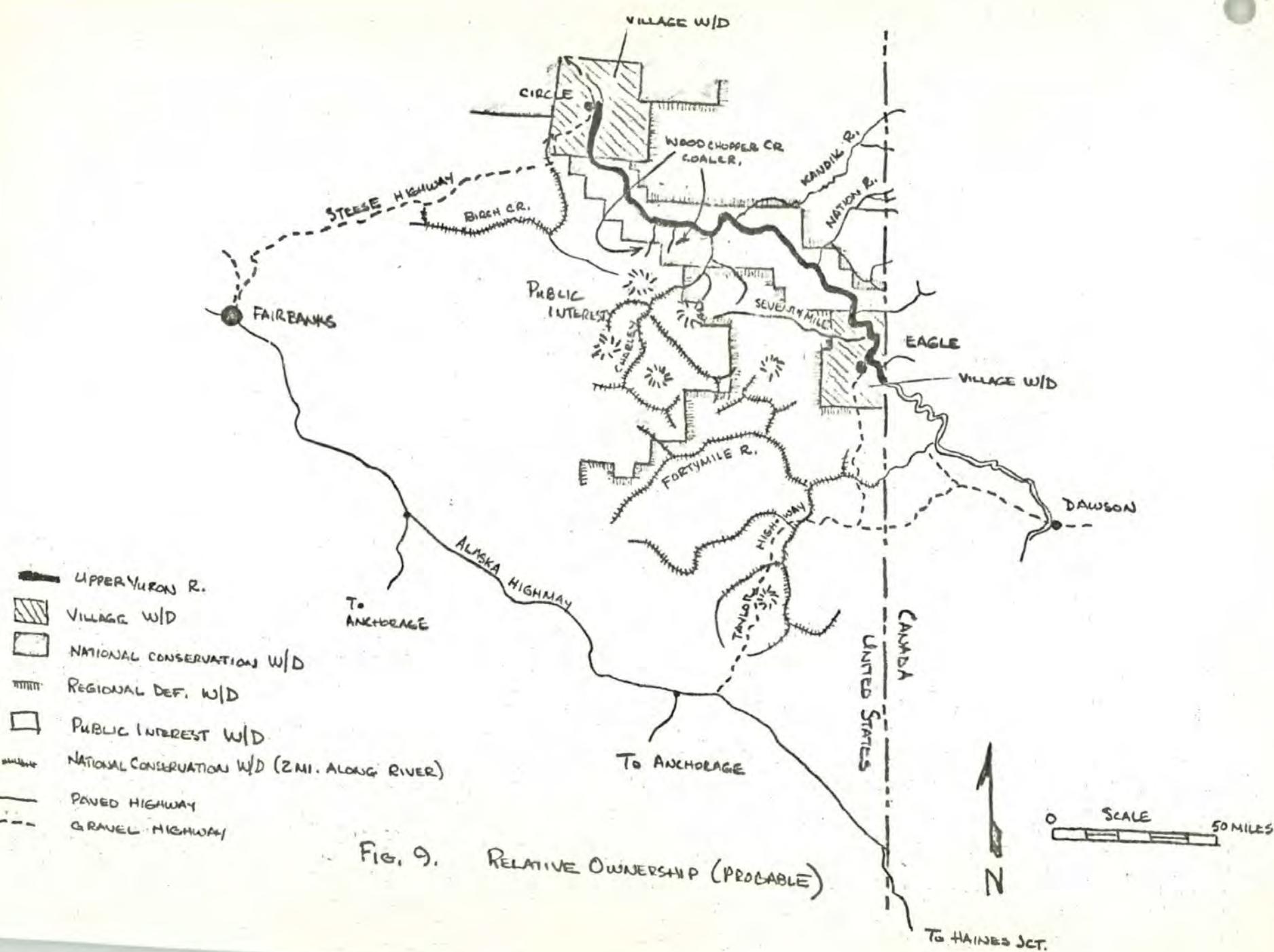
The remaining 111.5 miles of the Upper Yukon River and its immediate environment have been withdrawn under Section 17(d)(2) for potential addition to a national conservation system. Within this latter area, a total of 45 acres has been transferred to private ownership--a 40-acre tract in 1939 and a 5-acre tract in 1972. Within this same area, but not within the immediate environment of the Upper Yukon, are 233.4 acres patented in 1949 under the provisions of the U.S. Mining Laws. The last area encompasses the gold placer operations in Woodchopper Creek.

In addition to the 45 acres of land now in private ownership, seven applications for tracts ranging in size from 40 to 100 acres have been applied for under the provisions of the 1906 Native Allotment Act. A mineral survey has also been completed for placer operations on Coal Creek. The former are considered to be in the immediate environment of the Upper Yukon whereas most of the latter is not.

Final adjudication of pending applications has not been made by the Bureau of Land Management.

Although lands withdrawn for potential Native selection and pending applications are still in Federal ownership, these are considered as "private" for the purposes of this evaluation. It is noted, however, that more land has been withdrawn for potential Native selection than can be selected and, therefore, it is probable that portions of the river environment will remain in Federal ownership.

Figure 9 shows the relative land status along the Upper Yukon River.



Prior to the enactment of ANCSA, the Bureau of Land Management initiated action to classify the Upper Yukon as part of the 12.4 million acre "Fortymile Unit" for Federal management under the classification and multiple-use Act of September 19, 1964. At a series of public meetings, it became apparent that special action was necessary to protect the nesting habitat of the rare peregrine falcon. Accordingly, the proposed classification would have withdrawn key bluffs along the Upper Yukon from location and entry under the U. S. Mining and Mineral Leasing laws. This action was suspended with enactment of ANCSA.

Oil and gas leases for the Kandik petroleum sub-province have been applied for pending settlement of ANCSA.

The riverbed in its entirety is in State ownership.

Water Rights, Navigability, and Riverbed Ownership

Present uses of the Upper Yukon River are for subsistence fishing, domestic and municipal water supply, recreation and wildlife. The Yukon River is navigable and is so recognized in the Treaty of Washington, May 8, 1871. Accordingly, under the provisions of the Alaska Statehood Act, which gave to the State ownership of all "navigable" waters, the bed of the Upper Yukon River is owned by the State of Alaska.

During winter months when the Yukon is relatively silt free, the community of Eagle obtains its water directly from the Yukon River. Wells are used during the remainder of the year. Cabins scattered along the river bank rely upon clear water tributaries for potable water supplies.

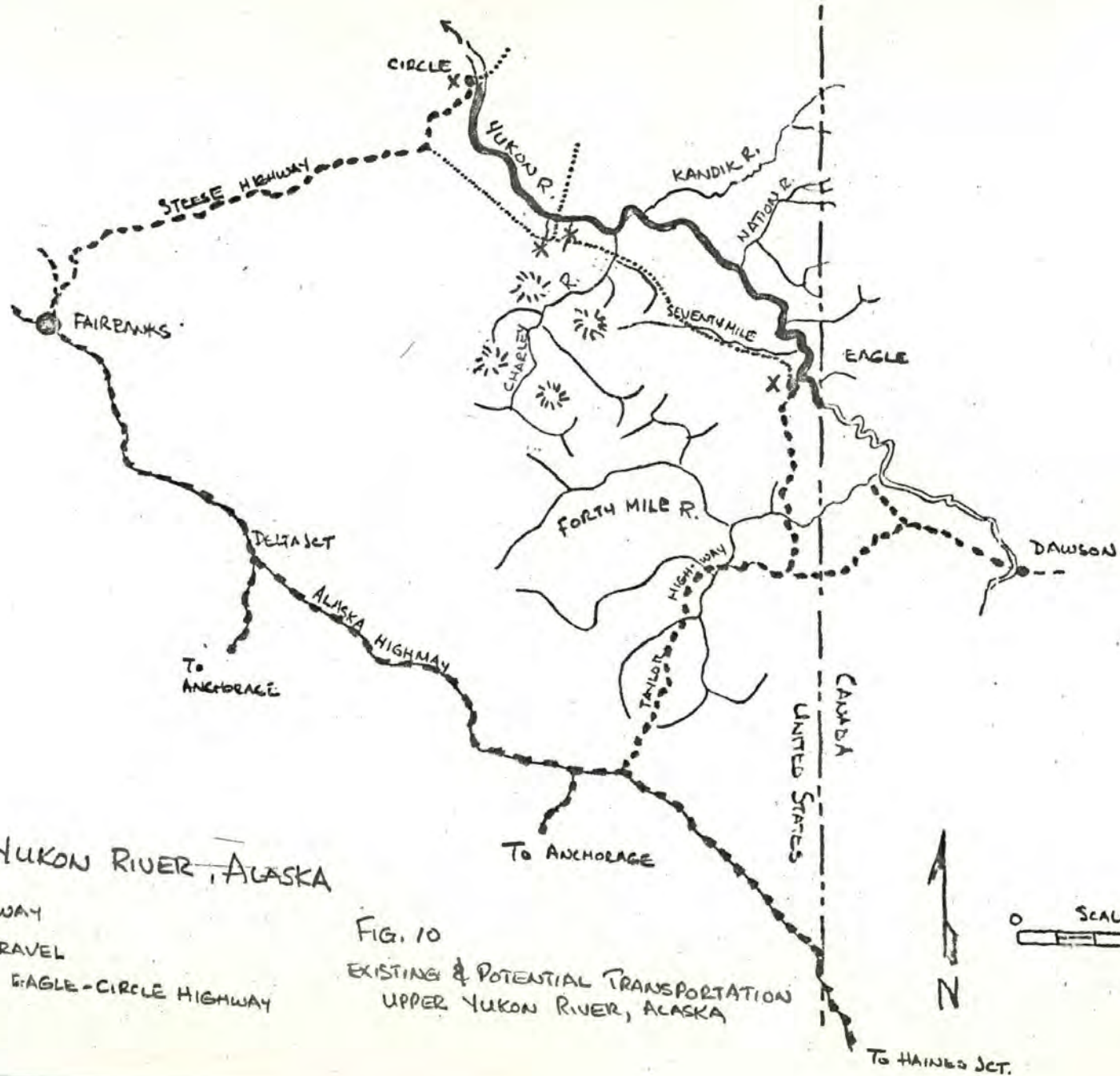


FIG. 10
EXISTING & POTENTIAL TRANSPORTATION
UPPER YUKON RIVER, ALASKA

Access

By Alaskan standards, access is good.

Past

The Yukon River has been and still remains the principal route through interior Alaska. In 1899, there were 56 sternwheelers hauling supplies and people to the gold fields via the Yukon. A summer mail trail was maintained between Eagle and Circle from 1926 to the late 1930's. Even with completion of the road to Eagle in 1948 and to Circle in 1939, the Yukon River has maintained its status as the "highway".

Existing

The Taylor Highway provides highway access to the upper river area at Eagle whereas the Steese Highway provides highway access to the downstream terminus of Circle. Roads connect the river bank with placer operations on Woodchopper and Coal Creeks. Another connects placer operations on Fourth-of-July Creek with the River.

Air transportation is of major importance, particularly in the winter when roads are not maintained to either Eagle or Circle. Eagle has a 3,600-foot long gravel strip and a somewhat similar one is located at Circle and at Woodchopper Creek. Access by float plane is possible on almost the entire Upper Yukon and small aircraft can also land on many of the gravel bars.

The primary means of access, however, is by boat. Small river-boats and, during certain years, cruise boats, run the river as well as lower portions of the larger tributary streams for hauling machinery, materials, hunting access, fishing, and pleasure. Local residents use the Upper Yukon as a main highway, by boat in summer and snowmobile in winter.

Future

A proposal has been made to construct a highway connecting Eagle and Circle by generally paralleling the south bank of the Yukon River. In 1958-59, this route was given preliminary consideration by Donald Belcher & Associates, Ithica, New York. The preliminary route selected would involve construction from the Eagle area generally via the Seventy-mile River and crossing the Charley River in the vicinity of Bonanza Creek. From the Charley River, the highway would generally follow a low ridge some distance from the Upper Yukon.

Bridge crossings of the Upper Yukon River in the vicinity of Wood-chopper Creek and at Circle for a northward extension of the highway network to the Porcupine River and ultimately to Canada are proposed by the Alaska Department of Highways.

In 1967, a small ship and barge operated on the Yukon River and as a result of that experience, a feasibility study including a proposal for passenger and car ferry service between Dawson, Y.T., Canada, Eagle, and

Circle has been recommended. The proposal considered a 60-foot diesel-powered towboat towing a 150-foot barge capable of carrying 88 overnight passengers and 18 vehicles. The run upstream would require 35 hours and 18 hours downstream on the 285 river miles. A bill to support a feasibility study has been introduced in the Alaska State Legislature.

Geology, Paleontology, and Soils

Geology

South of the Tintina Fault, a sequence of metamorphosed sedimentary and volcanic rocks interfingered with large granitic intrusions are found. These have been found to contain a large quantity of minerals including well known deposits of placer gold and asbestos of unknown value.

North of the Tintina Fault are found an unusually complete sequence of sedimentary formations which are little altered. The greatest diversity is noted in the vicinity of the Nation River and at Woodchopper Creek. Type sections for a number of geologic formations are exposed in bluffs and along the Upper Yukon and its tributaries. Formations north of the fault provide a record of geologic events during 600 million year span.

Paleontology

Many of the formations are rich in fossils. Many of these sites are in bluffs along the river's edge such as Calico Bluff where 117

genera and 250 species of Mississippian age were reported in 1937.^{1/} Others are on treeless ridges or bluffs back from the river. An intensive program of geologic mapping and sampling of radiometric age dating and paleomagnetic studies near the Nation and Tatonduk Rivers and at Woodchopper Creek has been proposed by the University of Alaska and the University of California, Santa Barbara. The oldest known microfossils in northwestern North America have only recently been collected along the Upper Yukon near Nation.

Soils

Nearly all upland soils in the Upper Yukon area reflect their direct relationship to permafrost. On steeper slopes, soils are usually well-drained, moderately deep to shallow wind blown deposits (loess) over gravel or bedrock. Benches and adjacent uplands consist of peaty organic soils of variable depth which is typically poorly-drained because of the permafrost being at a shallow depth.

Floodplain soils are primarily well-drained, loamy alluvium of moderate to deep depth over sand or gravel.

So long as natural vegetative cover is maintained, soils are relatively stable throughout the river area except where the river is actually eroding the river bank.

^{1/} Mertie, U.S.G.S. Bull. #872. 1937.

Climate

The only unusual aspect of the Upper Yukon different from the region as a whole is the tendency to have strong winds funnel between the bluffs and mountains encasing the river. Although generally not dangerous, such wind can be annoying when blowing upstream and one is trying to float downstream in a non-motorized boat or raft.

Vegetation

Plant associations within the Upper Yukon, especially the immediate environment of the river, are varied.

The green mosaic is pleasing to the eye in that there is a constant variety which locally reflect past fire history, slope, aspect, and the presence or absence of permafrost.

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-campion and several sedges and grasses. This vegetative type occurs at elevations above 3,000 feet.

Closed spruce-hardwood is the dominant forest type along the Upper Yukon River drainage. White spruce stands are found on the warm, dry, south-facing slopes where drainage is good and permafrost is lacking or not close to the surface. Associated with white spruce are paper birch,

balsam poplar, bearberry, red current, prickly rose, several willows, mountain-cranberry, and bog blueberry.

Wildfire in the Upper Yukon River basin has had a pronounced effect on the vegetation cover in the immediate environment. Placer mining operations also have local impacts as have past timber harvest for firewood to fuel stern-wheelers.

The fire induced ecology is significant in that fire can produce major impacts on outdoor recreation opportunities for 10-25 year periods. Burned areas frequently have soil instability thereby increasing turbidity and surface runoff; change in the scenic backdrop of the river valley; and cause major shifts in the abundance and kinds of wildlife in the area.

Burns of several thousands acres are not uncommon. These are primarily associated with lightning, but the incidence of man-caused fires is increasing. The Chicken Fire, which burned a substantial portion of the Fortymile drainage east of the Taylor Highway is a good example of the potential magnitude of wild fire. Started by lightning on July 23, 1966, that fire destroyed vegetation on more than 250,000 acres before being brought under control on September 13.

Because of the higher moisture content, vegetation on the stream bank is often not burned, or if burned, frequently screened from view by the entrenched character of the river.

In general, fires or surface disturbances where at least some topsoil is left are first covered with light-seeded willows, prickly rose, labrador-tea, dwarf blueberry, and mountain-cranberry.

Following the willow stage, fast-growing quaking aspen stands develop in upland areas on south-facing slopes. After 60 to 80 years, quaking aspen is replaced by white spruce in all but the driest conditions. If the disturbance or fire occurs on well-drained lowland river terraces, the quaking aspens are often replaced by black spruce. Other plants commonly associated with the quaking aspen type are white and black spruce, several willows, bearberry, prickly rose, buffalo-berry, and mountain-cranberry.

If the fire or surface disturbance occurs on east or west-facing slopes (and occasionally on north-facing slopes and areas of low relief), the paper birch type is the initial tree community. Paper birch stands may be in pure stands, but are more often in mixed stands of black and white spruce. Understory plants are commonly labrador-tea and mountain-cranberry.

In addition to the above plant communities, there are locally well developed stands of the balsam poplar type, and open-black spruce.

The balsam poplar type reaches its greatest size and abundance on flood plains. Other important plants associated with this type are alders, black cottonwood, willows, prickly rose, and high bush cranberry.

Open, black spruce forests are found on north-facing slopes and poorly-drained lowlands where permafrost is close to the surface. A thick moss mat, often of sphagnum mosses, sedges, and grasses, and tamarack occurs.

Dry, steep rock south-facing slopes provide localized environments favorable for sagebrush growth.

The natural vegetation is extremely important in maintaining water quality and a stable watershed. Dense ground cover of grasses, mosses, and shrubs, especially in the alpine tundra and the lower tree-covered areas, retards surface runoff and insulates the underlying permafrost.

Blueberries are locally abundant, ripen during the last week of July, and are found in edible quantities for some six weeks thereafter. Low bush cranberries ripen in late August. Rose hips are edible in late August and early September.

Scenery

Overall, the scenic setting of the Upper Yukon River is a vast green rolling sea of forest punctuated at intervals by colorful bluffs and cliffs rising boldly from the river's edge. Especially noteworthy are Eagle, Calico, and Takoma Bluffs.

During the summer, green is the predominate color of the immediate environment. There is sharp contrast in the spring and fall. During the spring, deciduous trees provide contrasting shades of green to the adjacent coniferous forests, while in the fall, yellows, golds, and reds provide an extremely attractive setting.

Wildlife and Fishery

Wildlife

There are an abundance and wide variety of wildlife associated with the Upper Yukon.

Moose, caribou, wolves, black and the brown-grizzly bear are distributed throughout the river area. Lynx, otter, beaver, marten, fox, and wolverine are also found. Depending upon the time of year and location, these animals or their tracks or other sign may be observed along the river's edge.

The immediate environment provides a key wildlife habitat for wintering moose in most of the alder-willow thickets along the river bank and on islands. Also, the river area between Calico Bluff and the Nation River and along the south bank in the vicinity of Circle are caribou wintering areas.^{1/}

In addition to big game habitat, the Yukon Flats portion of the Upper Yukon River (see figure 2; page 15) provides nesting habitat for lesser scaup, pintails, widgeons, mallards, green-winged teals, white winged scoters, bluffleheads, American golden eyes, Canvas backs, and shovelers. Less common are redheads, ring-necked ducks, blue-winged teals, and gadwalls. Trumpeter swans also may nest in the area. Canada and white-fronted geese and little brown cranes are common in

^{1/} Alaska's Wildlife and Habitat. Alaska Dept. Fish and Game, Jan. 1973.

the wet muskeg areas. The entire river is a migration route to and from the Yukon Flats.

Birds other than waterfowl include the spruce grouse, rock and willow ptarmigan, several owls, and a mixture of song birds. Because the Upper Yukon River is a northward extension of the Great Plains and also is on the fringes of coastal areas, there is a mixture of birdlife not typical of interior Alaska.

Cliffs and bluffs along the river area are used for nesting sites by eagles, falcons, ravens, and swallows.

Rare and Endangered Species

The following wildlife species associated with the Upper Yukon River basin are listed in the Department of the Interior's 1968 "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 arctor)--Endangered (only in conterminous 48 states)

Wolverine (Gulo luscus --status undetermined

American osprey (Pandion haliaetus carolineus)--status undetermined

Canada lynx (Lynx canadensis)--status undetermined

In addition, the northern bald eagle (Haliaeetus leucocephalus alascanus) is frequently observed along the banks of the Upper Yukon

and its tributaries. Although similar in overall appearance, the northern bald eagle is not the same as the endangered southern bald eagle (Haliaeetus l. leucocephalus).

The osprey and bald eagle nest along the water courses in the area. The peregrine falcon uses cliff areas for nesting along the entire river.

The Yukon River above the Tanana River is noted for its unusually high numbers of bald eagles, gyrfalcons, rough-leg hawks, and other raptors, and has been recommended for protection.^{1/} This area has been identified as having special significance because of the unusually high concentration of nesting pairs of peregrine falcons which is not typical of the entire forested region between the Brooks Range and the Alaska Range. Studies of the peregrine falcon show that nesting habitat is critical. Therefore, historic and traditional nesting cliffs must be protected.

It has been observed by Cade and others^{2/} that cliff-like formations are a limiting resource controlling both distribution and density of the peregrine falcon and that "traditional" nesting areas carries over from one generation to the next. Thus, it seems that certain cliffs are used year after year while nearly seemingly similar cliffs are ignored. Before "traditional" nesting cliffs can be protected, they must be

^{1/} A proposal for an ecological reserve system for the Taiga and Tundra of Alaska, Institute of Northern Forestry, Jan. 14, 1972.

^{2/} Ibid.

identified. However, identification also endangers the nesting site by inviting recreationists to get close and see the birds, or for the unscrupulous, a chance to capture young birds and sell them to falconiers. Suffice it to say that the entire Upper Yukon has nesting habitat. Cade and others^{1/} have recommended that a zone of protection be established around all peregrine falcon "historic" nesting cliffs since nesting falcons are not tolerant of man's activities. A zone or no less than one-half mile around each "historic" nesting cliff has been proposed as an area where human occupancy should not be permitted. This is similar to the protection given to eagle and osprey nest trees by establishing a no-cut zone around each tree.

Fishery

Chinook, Coho, King, and chum salmon, northern pike, sheefish, whitefish, and grayling are found in the Yukon but, because of the heavy turbidity, sport fishing is, at best, fair. Clear tributary streams, however, do provide good to excellent sport fishing. Salmon are caught on a subsistence by the Natives.

History and Archaeology

History

Decendants of the Athapaskan residents of Eagle, Circle, and Fort Yukon were the first to use the resources of the Upper Yukon.

^{1/} Ibid.

upper Yukon

Today, two Native groups - the Han Kutchin and the Kutchakutchin - of the Athapaskan linguistic groups inhabit the area. The Han Kutchin live along the river upstream from Takoma Bluff while the Kutchakutchin live primarily on the Yukon Flats. Although permanent residences are concentrated in the three villages, seasonal residences are established throughout the Upper Yukon as evidenced by applications for land under the 1966 Native Allotment Act. The location of these seasonal residences are related to the availability of good salmon catching places, hunting camps, or trapping lines.

The first non-native explorers of the Upper Yukon were fur traders and in early 1800's trapping became a major activity in the Upper Yukon area. By the middle 1860's, the Upper Yukon area was generally known to non-natives residing in Canada or at Fort Yukon. When purchased from Russia in 1867, there were no non-native settlements in the Upper Yukon.

About 1873, a trading post was established on an island across from the present site of Eagle. In the 1880's, the settlement of interior Alaska was assured with the cry of "Gold!"

Gold brought thousands of people to the Upper Yukon and as new finds were made, men rushed madly back and forth through the river area.

In 1866, gold was discovered on the Fortymile River, and in 1867, a trading post was established at the confluence of the Yukon and

Fortymile Rivers in Canada. Circle City was founded in 1887 following the strike on Brich Creek. In 1888, gold was discovered on Seventy-mile River near the present community of Eagle, and in 1895, gold was discovered on Mission Creek in the same area. During the winter of 1897-98, Star City was established near the mouth of the Seventymile River and in 1898, became established at its present location. Star City, later Nation, Miller's Camp, Boundary, Woodchopper Road house, Slaven's Cabin, and Biederman's are all associated with the gold rush era centered around the strike in the Klondike, Fortymile, and Birch Creek-Fairbanks areas.

In 1901, under charter signed by President Theodore Roosevelt, Eagle became the first incorporated city in interior Alaska. Circle soon followed. Each rapidly grew to 3,000 and 1,200 inhabitants respectively. But as gold was discovered at a new location, the population dwindled.

Because of its uncertain status as a new possession, the military played a prominent role in Alaska and especially in the interior gold fields. Between 1899 and 1925, Eagle was the site of Fort Egbert. Here was located the District of North Alaska. In 1925, the Fort was deactivated. In 1900, Eagle became the seat of the first judicial court in interior Alaska where Judge James V. Wickersham, Alaska's most renowned jurist, presided. In 1904, however, the center of mining activity shifted to Fairbanks and accordingly, the court was moved to Fairbanks.

Circle has a similar history to that of Eagle and at one time had a music hall, two theaters, eight dance halls, and twenty-eight saloons, and was locally known as the "Paris of Alaska". As with other mining boom towns, Circle became almost a ghost town as its inhabitants followed the "yellow-brick-road".

The fury of prospecting rapidly diminished with the diversion of men and materials during World War II, and the Upper Yukon River began its retreat into the past. Although the session of mining in Alaska was sudden, the signs of the early booms were long evident. Dawson had dwindled from a population of about 30,000 to several hundred. Similar reductions were observed at Eagle and Circle. Today, Star City-Nation, Woodchopper Roadhouse, Miller's Camp, and other early settlement sites are overgrown and crumbling ruins.

Through the energetic action of the citizens of Eagle, the historic attractions of this community have been preserved and made available to the visiting public.

On January 6, 1971, the State of Alaska nominated the Eagle/Fort Egbert area for inclusion on the National Register of Historic Places: Theme XXI, Political and Military Affairs, 1865-1910-Alaskan History (Appendix ____). This is a forward step, but much remains to be done if significant elements of Alaskan history are to be protected.

The Eagle-Valdez and Eagle-Dawson telegraph lines are historically significant.

Today, the experience of travelling on the Yukon can be summarized as follows:

"Canoeing past abandoned Miller's Camp....only a few cabins remained, the blackened spokes of a wagon wheel reminded me of the hopes of another era....Names like Biederman Bluff echo off the walls of the canyon, only to blend with the sounds of my canoe cutting the Yukon's surface. I wonder what thoughts did the mail-carrier, Biederman, think, when he passed this bluff sledding up the frozen river in the 1930's...."^{1/}

Gold more than any other resource captured and focused the attention of the world on Alaska. The Yukon River, and especially that portion between Dawson, Yukon Territory, Canada, and Circle, Alaska, is rich in mining history.

The Canadian Government has implemented an active preservation program to protect and interpret historic aspects of Dawson, Y.T., Canada. A restoration program has been started by the Territorial Government to restore the mining-supply village of Fortymile at the mouth of the Fortymile River and has also identified and signed major stopping points along the Yukon River in Canada which relate to the winter mail route and at other historic places.

But in Alaska, there is no comparable program to preserve the history of the Upper Yukon except at Eagle. In one place along the river, an historic cabin is being cut up for firewood while "souvenir" hunters collect historically valuable artifacts.

^{1/} Robert J. Ritchie, Wildlife Cooperative Unit, University of Alaska, Unpublished, 12/22/72.

The Eagle Historic District is the only site included in the National Register of Historic Places. The Alaska State Heritage Resources Survey lists seven sites: two at Eagle, one at Charley River (Kandik?), one at Miller's Camp, and three in or near Circle.

Archaeology

Athapaskan Indians have lived, hunted, and fished throughout the Upper Yukon River area. There is only one known site on the river and preliminary investigations by archaeologists indicate the site is from 4-5,000 years old, but that a more recent age is possible.

Although not of ancient age, several former Native villages are important. Klatoklin, or Johnny's Village, was located on the north bank of the Yukon near the United States-Canada border. In 1875, a population of 200 was reported. This village subsequently moved downstream to the present location of Eagle as mining activities increased. The second, Tadush, or Charley's Village, was located at the mouth of the Kandik. In 1875, a population of 60 was reported. The spring breakup in 1914 washed away Charley's Village, and the residents moved downstream to Circle.

Recreation

Outdoor recreation opportunities in the Upper Yukon River area are abundant with its array of open space, frontier atmosphere, wildlife, and good highway access at its upper and lower ends make an exceptional

potential recreation mecca. History, especially that dealing with the gold rush era, is outstanding and of both national and international significance.

Every bend is a page of history in terms of man's use of the area, natural succession caused by fire, and geologic time.

A primitive, scenic setting is most attractive, but these same attractions are diminished as uncontrolled and often conflicting resource uses expand.

Hunting opportunities are good and of high quality.

From the viewpoint of a recreation experience, it is reasonable to expect to observe much evidence of wildlife including wolves, moose, black and grizzly bear, and numerous small game. A wide variety of bird-life including waterfowl and several rare and endangered species are found. The number and variety of wildlife observed would depend upon the time of the year and the part of the drainage visited.

Special geological features include excellent outcrops of colorful rock formations at locations such as Calico and Takoma Bluffs. Other geological features offer outstanding potential for study and interpretation.

Opportunities for boating are excellent for motor boats, canoes, and kayaks. With a current moving at 5-8 m.p.h., downstream distance covered in a non-motor powered boat is not a matter of how hard one

paddles, but of how many hours spent on the water. A leisurely distance of 20-30 miles can be easily covered without lifting a paddle if one so desires. The relatively placid waters of the Yukon provide much less challenge and excitement than most of Alaska's rivers. Rating the white-water characteristics of the Upper Yukon would be Class I, II on the International Difficulty Rating (Appendix B). There are no rapids.

Existing Uses

The primary recreation season in the Upper Yukon River is from May to October. This coincides with two events: (1) break-up and freeze-up and (2) maintenance of the Taylor and Steese Highways.

The amount of existing outdoor recreation is moderate throughout most of the recreation season and is concentrated at Eagle and Circle where good road access exists. During the hunting season, there is a significant influx of hunters, many from out-of-state. During field inspection of the river area in September, 1972, people from Ohio and Colorado were met on the river and at Circle vehicles from Kansas and Missouri were noted.

There are no good visitation data for the Upper Yukon River area but it is probable that fewer than 1,000 people annually venture far from either Eagle or Circle. Records maintained by the Bureau of Land Management for a campground under that agency's administration at Eagle showed there were 4,000 visitor-days in 1972 (a 212 percent increase

over the 1,600 observed in 1968). Approximately half of the campground use was by out-of-state visitors.

Future Uses

The Upper Yukon River is rich in high quality outdoor recreation opportunities. Much of this potential focuses on the lore of the Yukon River as the highway to the gold fields in '98 and upon wildlife.

Hiking opportunities abound, and with the advent of winter maintenance of the Taylor and Steese Highways, there are good potentials for development of ski, dog-sled, snowshoe, and motorski trails.

Although camping would generally be associated with all of the above recreation activities, some people engage in this activity as an end in itself.

Limitations

Limitations to existing and future use of the recreation resources of the Upper Yukon River are access, prospective private ownership, and the mosquito.

Although there is good access to both upstream and downstream points, a vehicle shuttle of approximately 520 miles one way is necessary.

A significant limitation is the relatively scarcity of clear water for drinking or cooking purposes. During the summer, the Yukon becomes quite silty from upstream glacial tributaries. This makes it desirable to find a side stream where clear water may be obtained. Portions of these same side stream areas are also included in applications for transfer to private ownership under the 1906 Native Allotment Act.

A major and significant limitation to future recreation use along the Upper Yukon will be the necessity for protecting historic nesting sites for the rare American peregrine falcon. Many of these bluffs are attractive for fossil collecting sites as well as colorful areas which are appealing to the recreationist to climb for a better view of the surrounding area. Also, at the base of these historic nesting sites are generally found clear water streams and good topography for primitive campsites. The latter could lead to a conflict between recreation use and the desire to protect the falcon.

V.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusion of this study is that the entire 165-mile reach of the Upper Yukon River between the United States-Canada border and Circle and its immediate environment possess values which qualify it for inclusion in the National Wild and Scenic Rivers System.

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

- * It is a free-flowing river without impoundment, straightening, rip-rapping, or other modifications of the waterway.
- * The river is long enough to provide a meaningful, high quality outdoor recreation experience.
- * There is sufficient volume of high quality water to permit full enjoyment of the outdoor recreation potentials of the Upper Yukon River area.
- * The river area is largely primitive in character and pleasing to the eye, although there are also areas where man's activity is evident.
- * The Upper Yukon River and its immediate environment possess an outstandingly remarkable combination of scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values.

- * There is an unusually high concentration of regular nesting sites for the rare American peregrine falcon along the cliffs and bluffs adjoining the river's edge.
- * There are potential mineral values--especially oil and gas--which could be developed in a manner compatible with the above noted values so long as critical nesting habitat for falcons and historic sites are protected.
- * There is substantial potential for development of hydroelectric energy with maximum development of the Woodchopper project
- * Development of the potential Woodchopper hydroelectric project would destroy significant existing and potential public values.
- * The Upper Yukon River and its immediate environment are capable of being managed to protect people and the resource; has historic values of national and international importance which can be interpreted to the public; has substantial geologic and natural values which can be interpreted; and will support a high quality outdoor recreation experience.
- * The existing and potential values of the Upper Yukon and not similar to those of the nearby Birch and Beaver Creeks or Charley, Fortymile and Kandik Rivers. Further, the range and quality of the outdoor recreation potential of the Upper Yukon is not duplicated in the 34 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.

- * There is continuing Federal interest in the short- and long-range management of the Upper Yukon River and its immediate environment and high potential for development of an international riverway combining the historic aspects of the river associated with the Klondike and Alaskan gold rushes.
- * A carefully-designed, constructed, and maintained highways connecting Eagle and Circle as indicated by the Alaska Department of Highways could have beneficial impact on public use of the outdoor recreation resources associated with the Upper Yukon River area.

Recommendations

It is recommended that:

- * The 111.5-mile segment of the Upper Yukon River between Eagle and Circle previously withdrawn under the provisions of Section 17(d) (2) ANCSA for potential addition to a national conservation system be included in the National Wild and Scenic Rivers System unless included as part of the larger Yukon-Charley National Riverway, Alaska, as proposed by the National Park Service.
- * The 9.5 river miles of the Nation River downstream from Hard Luck Creek, and the lower 30 river miles of the Kandik withdrawn under

the provisions of 17(d)(2) ANCSA, should also be included as important tributary river areas to the Upper Yukon.

- * The Federal administering agency be that agency having primary responsibility of adjacent lands should the Upper Yukon not be added to the National Park System.
- * That the administering Federal agency in cooperation with the State and users have a period of one-year from the date of inclusion in the National Wild and Scenic Rivers System to establish lateral boundaries and prepare a plan for necessary developments and administration in accordance with the concepts set forth in this report.
- * The total area of the Upper Yukon River as a unit of the National Wild and Scenic Rivers System not exceed 646,500 acres. This would include the following:

Land adjoining the Upper Yukon.....	571,000 acres
River bed.....	35,500 acres
Kandik.....	32,500 acres
Nation.....	7,500 acres

Such boundaries would average approximately four miles on each bank of the Upper Yukon River and one and one-half miles on both the Kandik and Nation Rivers.

- * Detailed plans for development and management recognize potential mineral development.
- * Overall administrative arrangements for active participation of Natives should the upper 39.5 river miles of the Upper Yukon at Eagle and the 14 miles upstream from Circle be selected by Natives.
- * At such time as land ownership has been determined for the 53.5 miles of the Upper Yukon River area withdrawn for potential Native selection, the Federal managing agency of the adjacent 111.5-mile segment consider in cooperation with the State and adjacent landowners the desirability and feasibility for inclusion of these land areas in the National Wild and Scenic Rivers System.
- * Management and development plans give first priority to protection of critical nesting habitat for the rare American peregrine falcon.
- * Management and development plans give priority to protection and interpretation of the historic aspects of the Upper Yukon and that historic aspects be coordinated with Canadian programs to the maximum extent practicable.
- * At such time as land status becomes more firm, the administering agency should work with the landowners to determine the desirability and feasibility of including all of the U. S. portions of the Kandik and Nation Rivers in the National Wild and Scenic Rivers System.

Classification

The Wild and Scenic Rivers Act requires that rivers in the National Wild and Scenic Rivers System be classified as "wild", "scenic", or "recreational" river areas. It is recommended that the proposed Upper Yukon River, Alaska, component be classified as a scenic river area in its entirety. Section 2(b) of the Wild and Scenic Rivers Act defines such areas as follows:

"2(b)(2) "Scenic river area - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely undeveloped, but accessible in places by roads."

Objectives

The Wild and Scenic Rivers Act, section 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 Alaskan portion of the Upper Yukon River 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 Upper Yukon River, Alaska, and its immediate environment are to:

- * Preserve the river in a free-flowing condition.
- * Protect water quality.
- * Preserve and make available the history of the river area.
- * Protect critical nesting habitat of the rare American peregrine falcon.

- * Provide for present and future generations a high quality outdoor recreation experience in a primitive setting which although in places shows evidence of man's activity still is pleasing to the eye.

Several elements of the proposal are dependant upon future land use and ownership. Therefore the following assumptions have been made:

- * The Taylor and Steese Highways will in the foreseeable future be maintained on a year-around basis.
- * Improved access by highway or reestablishment of ferry service or both will be provided.
- * With care mining and exploration for oil and gas can be conducted in most portions of the Upper Yukon Area without pollution, and unnecessary impairment of the scenery, disruption of critical falcon nesting habitat, or destruction of historic areas.
- * The Charley and Fortymile River areas and Birch and Beaver Creeks will be included in the National Wild and Scenic Rivers System or otherwise specifically protected and managed to optimize existing and potential free-flowing river values.

Appropriate Boundaries

Within one year after inclusion of the 111.5 miles of the Upper Yukon River Area in the national system the administering agency will determine specific lateral boundaries. The rationale used for determining appropriate boundaries are drawn upon 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 on the basis of five interdependent guidelines:

1. Maintenance of a feeling of "spaciousness" consistent with the type and extent of recreational uses and of other resources involved.
2. The primary Visual Corridor or view from the river or riverbank (see figure).
3. Type and extent of recreational use intended for a given river area (camp area, trail and canoe, canoe, trail, etc.).
4. Key wildlife and habitat areas shown in the publication Alaska's Wildlife and Habitat, Jan. 1973, by the Alaska Department of Fish and Game.
5. Critical nesting habitat for the rare American peregrine falcon.

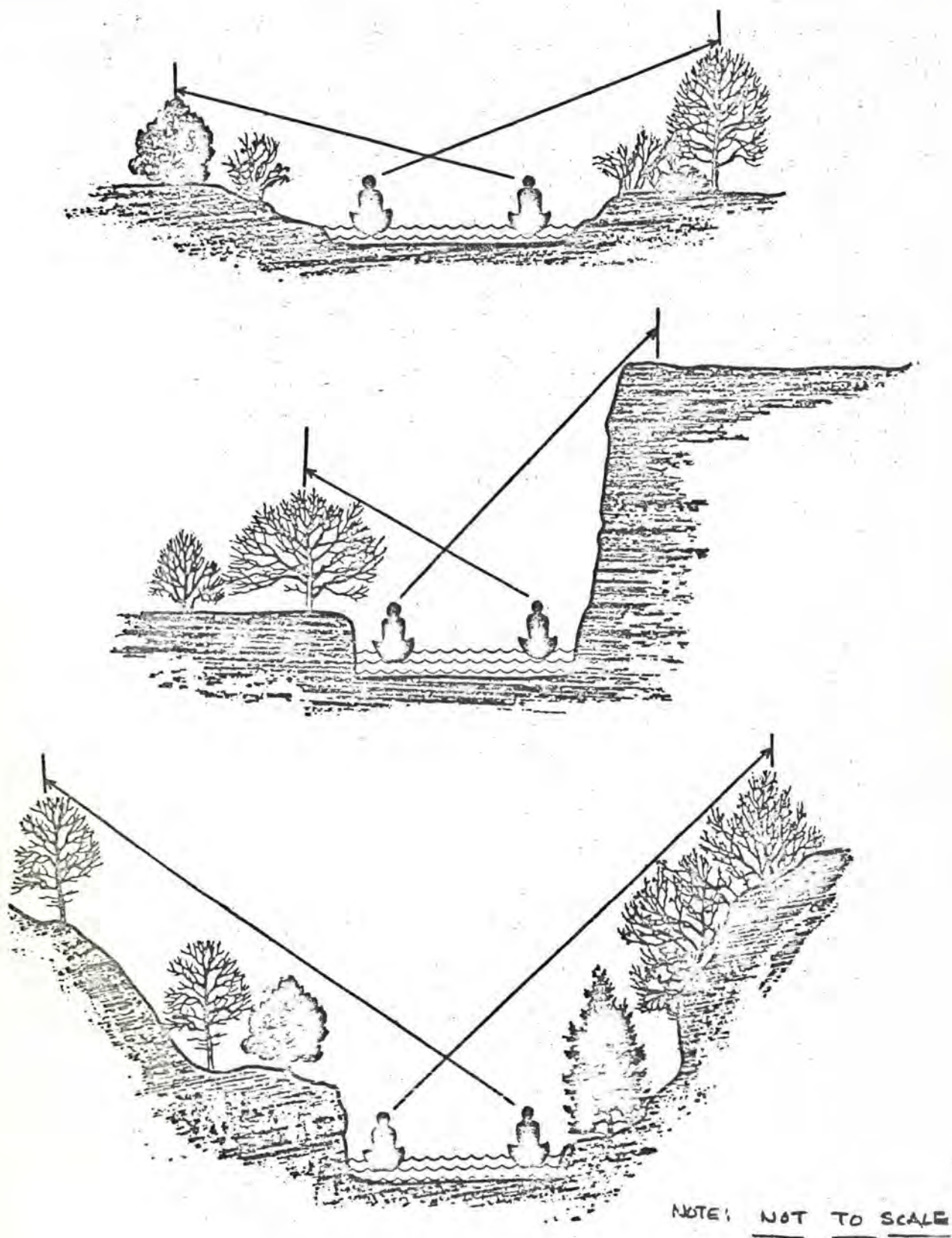


FIG 11 CRITERIA FOR SELECTING LATERAL BOUNDARIES ON THE BASIS OF THE
PRIMARY VISUAL CORRIDOR

6. Important archeological or historical sites.

It is expected that in almost all cases the lateral boundaries would be within four miles of the river's edge and in some cases considerably less. Available information suggests that application of the above lateral boundary guidelines would not exceed 646,500 acres.

Acquisition Policies and Land Use Controls

Private Lands

Almost 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 determined to be navigable. Navigable riverbeds are estimated to be approximately 35,500 acres.

Accordingly, acquisition of the few acres of land now in private ownership or lands pending transfer to Natives under the 1906 Native Allotment Act is not recommended unless offered for sale.

A positive program to acquire historic sites of structures should be implemented. This could include fee title ownership or cooperative agreements.

Land use controls through zoning or acquisition of scenic easements should be developed for the entire river area. Such controls should consider the desirability of protecting the bank lands by means of acreage, frontage, and setback requirements on developments; restricting large signs; preventing dumping; and controlling air, water and noise pollution.

Mining

Section 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 only 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."

Section 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 is a resource use which, with care, can be conducted in a manner consistent with the objectives set forth in the Wild and Scenic Rivers Act. Accordingly, the administering agency, in consultation with the State

of Alaska and all concerned user groups, should develop mining regulations to prevent pollution and unnecessary impairment of the scenery. These should consider the desirability of: having claim locations and notice of assessment work also filed with the administering agency; retention of top soil; restoration of topography; retention of topographic or vegetative screening between the mine and the water's edge, and; replanting or reseeding the mined area.

Prospecting and mining activities often require heavy equipment such as bulldozers, stationery engines, etc. Regulations covering such activities and when it is necessary to cross the river area or 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 or significantly altering existing overland routes to the river; 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 other users.

Management Policies

The management objectives for the Upper Yukon Scenic 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.

Off-Road-Vehicles

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, subsistence and mining 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.

Roads

Construction of new roads and relocation of existing road use should consider the following aspects: impacts upon the existing life style of local residents using the resources of the Upper Yukon River Area; air and water pollution probabilities; noise pollution; long-term effect on human population distribution and impacts on existing land and water uses; long-term effect on caribou migration; long-term effect on Dall sheep populations, and; long-term effect on key wildlife habitat areas.

Water Quality

The Upper Yukon River is an International stream. The State of Alaska in cooperation with the administering agency and all concerned user groups should prepare water quality standards to recognize the special values of the Upper Yukon River.

Hunting, fishing and trapping

Hunting, fishing and trapping would continue to be managed by the State of Alaska. The management plan for the Upper Yukon River, however, should consider whether zones should be designated, or periods when hunting should be restricted because of public safety, administration or public use and enjoyment of the river area.

Litter

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.

Forest fire

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

Timber

Consideration be given to developing a specific timber harvest plan within the river corridor which will maintain the scenic character of the area while permitting economic development of a renewable resource where prudent and necessary.

Cooperative management

Consideration be given to entering into cooperative agreements with adjacent upstream and downstream landowners for coordinated management and development of the river corridor and adjacent lands.

Consideration should also be given to the potential development of an international historic and recreation program for the Yukon River between Dawson, Y. T., Canada, and Circle, Alaska.

Recreation Development

The recommended conceptual recreational development plan is based upon the primary objectives of: maintaining the existing environment in as natural a condition as possible, and providing appropriate recreation facilities for the public use and enjoyment of the river.

The administering agency, within one year of the date of inclusion in the national system would prepare a detailed development plan for the Upper Yukon Scenic River Area. The conceptual development plan emphasizes public access to historic structures and sites would be protected and interpreted throughout the river area.

Several aspects of the conceptual river plan are dependent upon future resource uses and land ownership outside the river area. For example, development of major recreation facilities at both Eagle and Circle are dependant upon the availability of suitable land after completion of Native selections and the desire of the local residents to have such facilities.

"Scenic river areas" being accessible in places by road are managed to preserve and enhance a natural though sometimes modified environment and provide a modest range of facilities for public use and enjoyment. Major public areas such as large campgrounds, interpretive centers or administrative headquarters normally would be located outside the river area. Simple convenience facilities would be provided as necessary to protect popular sites and provide an enjoyable experience. Facilities would be of a location and design to harmonize with this surrounding.^{1/}

Boating--power and non-power, visiting historic places, hiking and fishing, nature study and simple relaxation are expected to be the principle attractions of the Upper Yukon River area.

Major recreation areas would be constructed at Eagle and Circle with the former also serving as the administrative headquarters area.

A supplemental, yet major recreation area would be located in the mid-section near Woodchopper or Coal Creeks. This would serve as a principle distribution point to and from the nearby Charley-Kandik River areas and to nearby historic sites including gold placer operations.

Primitive campground areas would be developed at regular intervals where fresh-clear water tributaries join the Upper Yukon River.

There is good potential for development of hiking, horseback, and motorized (scooter and snowmobile) trails along the Upper Yukon River between Eagle and Circle. The Eagle to Dawson telegraph line may offer similar potential for coordinated international development.

^{1/} 1970 Guidelines for Evaluating Wild, Scenic and Recreational River Areas. . . . USDA and USD

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

The Upper Yukon River and its immediate environment is richly endowed with a wide variety of natural and historic resources. The impact of the proposed program on potential uses of these resources is difficult to evaluate since future uses are largely dependent upon factors of ownership, transportation and overall demand for the several resources involved.

Recreation

Increasing population pressure and desire for more recreation lands and opportunities, recreational uses in the immediate environment of the Upper Yukon 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 together with development of outdoor recreation facilities as recommended herein will stimulate the long range rate of increased use. Inclusion of the Upper Yukon 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 a coordinated plan for the overall management and development of recreation and non-recreation resources.

Economic impacts resulting from public recreational opportunities made available as a direct result of the inclusion of the Upper Yukon River in the National Wild and Scenic Rivers System are difficult to identify.

Impacts at the National level are considered to be of an intangible nature.

Impacts on the local and state economics would result from three sources: construction of facilities, annual operation and maintenance, and returns from associated investments such as lodges, boat liveries, guiding and related services.

At the present time there are no base data to compare the economic impact of public recreation in the Upper Yukon River area since the general absence of public support or service facilities requires present users to purchase supplies and equipment before arriving at the river area. When comparing the Upper Yukon with similar opportunities at free-flowing river areas elsewhere it appears that impacts to the local and state economics should be substantial as indicated in table 7.

It is important to remember that these expenditures are for the duration of the specific trip only and that transportation costs to and from the area are excluded. Also in Alaska these would be adjusted upwards significantly because of the higher overall costs and for specialized transportation requirements such as long car shuttles and in some cases cost of air access into the specific river area.

Non-Recreation

Impacts on non-recreational uses of the immediate environment of the Upper Yukon River as a unit of the National Wild and Scenic Rivers System are expected to be minimal.

Table 7 Comparison of Recreation Expenditures at Selected Free-Flowing
River Areas Comparable to the Upper Yukon River, Alaska.

Area	Cost per trip <u>1/</u>	Daily Cost per person
<u>Canoe/Kayak (family)</u>		
Eel River, Ca.	\$280 <u>2/</u>	\$13.33 <u>3/</u>
Klamath River, Ca.	320 <u>2/</u>	26.66 <u>4/</u>
Trinity-Klamath Rivers, Ca.	285 <u>2/</u>	26.66 <u>4/</u>
Kipawa Area, Quebec, Canada	360 <u>2/</u>	13.33 <u>5/</u>
<u>Canoe/Kayak (individual)</u>		
Buffalo River, Ark. <u>6/</u>	\$120	\$20.00
Chilikadrotna and Mulchatna, Rivers, Ak.	485-375	53.88-75.00
Chilpitna River, Ak.	70	35.00
Current River, Mo. <u>6/</u>	110	15.71
Deska River, Ak.	185	37.00
Kenai Area, Ak.	365	20.27
Lewis and Clark Waterway, Mont.	140	17.50
Little Susitna River, Ak.	65	32.50
Salmon, Middle Fork, Ida. <u>6/</u>	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

- 1/ Excludes all transportation and related costs of food and lodging while in transit to and from home and river area.
 - 2/ 2 adults, 1 child, ea.
 - 3/ Additional child \$60 for entire trip.
 - 4/ Additional child \$80 for entire trip.
 - 5/ Additional child \$110 for entire trip.
 - 6/ Unit of the National Wild and Scenic Rivers System or related river conservation program.
-

Mining within scenic river area would continue. It is probable that any restrictions on mining operations causing water pollution, unnecessary impairment of the scenery, protection of critical falcon nesting habitat or historic preservation would be similar with or without wild or scenic river designation. Mining on adjacent lands outside the river area should not be affected and as indicated previously matters of water quality and changes in the existing environment from such uses would be expected to be the same with or without wild and scenic river designation.

Timber harvest is not expected to be affected.

Subject to existing valid claims there would be no disposition of public lands located within the 111.5 mile long river corridor for homesites, trade and manufacturing sites or related purposes. It is unlikely that the disposition of public lands for such purposes would be different with or without wild and scenic river designation. As there are ample opportunities for such uses at Eagle and Circle on lands tentively slated for private ownerships.

Development of the potential Woodchopper hydroelectric site would be foregone. Available information indicates it is unlikely that this hydroelectric potential would be developed without wild and scenic river designation.

Provision for a carefully selected highway crossing of the Upper Yukon in the vicinity of Woodchopper and Coal Creek would be maintained should studies for such potential road crossing show there are no other reasonable or feasible means of access to non-recreation resources adjacent to the river corridor on the north.

Hunting, fishing and trapping for subsistence or sport purposes in the Upper Yukon River area and its immediate environment would continue to be managed by the State of Alaska with or without wild and scenic 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 effects 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 Upper Yukon River, Alaska and its immediate environments in the National Wild and Scenic Rivers System. These include no action, state or local action, different boundaries, different classifications, and inclusion in another national conservation system.

No Action

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

- (1) There is good probability that the existing high quality environment would be adversely affected through increased and unplanned human use of the immediate river environment.
- (2) Development of public resources for short-term gain could cause significant impacts on the existing environment which now provide for sport and subsistence use of fur and game animals.
- (3) Important aspects of mining history would be lost.
- (4) Critical falcon nesting habitat could be irretrievably damaged.
- (5) The only practicable method of assuring future public availability of the recreation, historic and fish and wildlife values for the benefit and enjoyment of future generations is

to devise a formal plan which provide for careful and thorough review of human and environmental consequences in advance of implementation.

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 human and resource 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 Upper Yukon River and its immediate environment -- for example, fish and wildlife resources.

Substantial portions of the streambed may be in State ownership if determined to be navigable in accord with the Alaska Statehood Act and substantial portions of the Upper Yukon River area upstream and downstream from the 111.5-mile long segment may be selected by native groups. In both events significant portions of the immediate environment would still remain in Federal ownership.

The special values of the Upper Yukon River area is recognized in the Comprehensive Statewide Outdoor Recreation Plan (1970). At this time, neither the Natives or the State have any plans to manage free-flowing river areas. Accordingly, it is proposed that framework Federal management

plans reserve options for future active participation by State and Native groups should they desire.

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 Upper Yukon River and its immediate environment.
- (2) The Upper Yukon River is in an area where there will be continued Federal involvement, especially fire control, and the river has substantial International character.

Different Boundaries

Several options on boundaries were evaluated including protecting all lands withdrawn under the provisions of Section 17(d)(2) ANCSA and a substantially reduced area. These are summarized below:

- (1) The possibility of including all of the approximately 983,000-acre block of land withdrawn under the provisions of Section 17(d)(2) ANCSA was carefully examined. Excluding the Charley River, which is discussed in a separate report, the existing withdrawal does not provide complete watershed protection for even the segment of the Upper Yukon under study. Significant portions of the Kandik, Nation and Tatonduk River basins are withdrawn for potential Native selection. The last two also have considerable portions of their watersheds in Canada.

Generally lands located further than 2-4 miles from the river's edge are not visible. Since it is impossible to include all of the tributary drainages in the boundary and such action is not consistent with the objectives established by the Wild and Scenic Rivers Act that only the river and its "immediate environment" should be added to the National Wild and Scenic Rivers System, this possibility was rejected.

- (2) Include only a strip of land on the immediate river bank not to exceed an average of 320 acres per mile. This was discarded since the scale of the surrounding country is so large that significant portions of the primary visual corridor would have been excluded. Likewise some critical nesting habitat for the rare American peregrine falcon would have been excluded as would some of the historic sites.

Different Classification

The "Guidelines" adopted by the Departments of Agriculture and the Interior place "...primary emphasis upon the quality of the experience and overall impressions of the recreationist using the river or adjacent river-bank..." Accordingly the possibility of classifying the river as "recreational" was considered because of the long-range possibility of constructing a road generally paralleling the south river bank between Eagle and Circle. This was discarded because there is substantial uncertainty on whether the highway would be built and because existing information strongly suggests that the road would be at a sufficient distance from the river to maintain existing impressions.

The possibility of "wild" classification was considered and discarded on the basis of potential multiple-use values.

Inclusion in Another National Conservation System

In addition to the inclusion in the National Wild and Scenic Rivers System, there is potential that the 111.5-mile segment of the Upper Yukon 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 unit of the national park system. 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 111.5-mile segment of the Upper Yukon River in the National Wild and Scenic Rivers System in the event a National forest is established. 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 1970, the Bureau of Land Management withdrew the river environment as part of a larger classification action. 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 111.5-mile segment of the Upper Yukon 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 unit of the national park system has been considered. On the basis of information included in the National

Park Service proposal to create a Yukon-Charley National Riverway, Alaska, it is concluded that management of the area as a unit of the national park system would be consistent with the primary objectives established by the Wild and Scenic Rivers Act. 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 larger national riverway encompasses the 111.5-mile segment of the Upper Yukon and its immediate environment, creation of a National Wild and Scenic River is not recommended.

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Type all entries - complete applicable sections)

STATE: Alaska	
COUNTY: Fourth Judicial Division	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

1. NAME			
COMMON: Eagle Historic District			
AND/OR HISTORIC: City of Eagle/Ft. Egbert			
2. LOCATION			
STREET AND NUMBER: Sections 24, 25, & 36, Township 1 South, Range 32 East; Sections 19, 30, & 31, Township 1 South, Range 33 East; Section 1,			
CITY OR TOWN: Township 2 South, Range 32 East; Sections 4, 5, 6, Township 2 South, Range 33 East, Fairbanks Meridian			
STATE Alaska	CODE 99738	COUNTY: Fourth Judicial Division	CODE

3. CLASSIFICATION				
CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
<input checked="" type="checkbox"/> District <input type="checkbox"/> Building <input type="checkbox"/> Site <input type="checkbox"/> Structure <input type="checkbox"/> Object	<input type="checkbox"/> Public <input type="checkbox"/> Private <input checked="" type="checkbox"/> Both	Public Acquisition: <input type="checkbox"/> In Process <input type="checkbox"/> Being Considered	<input checked="" type="checkbox"/> Occupied <input type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress	Yes: <input checked="" type="checkbox"/> Restricted <input type="checkbox"/> Unrestricted <input type="checkbox"/> No
PRESENT USE (Check One or More as Appropriate)				
<input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Educational <input type="checkbox"/> Entertainment	<input type="checkbox"/> Government <input type="checkbox"/> Industrial <input type="checkbox"/> Military <input checked="" type="checkbox"/> Museum	<input checked="" type="checkbox"/> Park <input checked="" type="checkbox"/> Private Residence <input type="checkbox"/> Religious <input type="checkbox"/> Scientific	<input checked="" type="checkbox"/> Transportation <input type="checkbox"/> Other (Specify) _____	<input type="checkbox"/> Comments _____

4. OWNER OF PROPERTY			
OWNER'S NAME:			
STREET AND NUMBER:			
CITY OR TOWN:	STATE:	CODE	

5. LOCATION OF LEGAL DESCRIPTION			
COURTHOUSE, REGISTRY OF DEEDS, ETC:			
District Recorder			
STREET AND NUMBER:			
604 Barnette Street			
CITY OR TOWN:	STATE	CODE	
Fairbanks	Alaska	99701	02

6. REPRESENTATION IN EXISTING SURVEYS			
TITLE OF SURVEY: The National Survey of Historic Sites and Buildings, Theme XXI, Political and Military Affairs, 1865-1910; Special Study: Alaska History			
DATE OF SURVEY: 1961 <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> County <input type="checkbox"/> Local			
DEPOSITORY FOR SURVEY RECORDS:			
National Park Service			
STREET AND NUMBER:			
801 19th Street, N.W.			
CITY OR TOWN:	STATE:	CODE	
Washington	D.C.	11	

STATE:

COUNTY:

FOR NPS USE ONLY
ENTRY NUMBER
DATE

7. DESCRIPTION

CONDITION	(Check One)					
	<input type="checkbox"/> Excellent	<input type="checkbox"/> Good	<input checked="" type="checkbox"/> Fair	<input type="checkbox"/> Deteriorated	<input type="checkbox"/> Ruins	<input type="checkbox"/> Unexposed
	(Check One)			(Check One)		
	<input checked="" type="checkbox"/> Altered	<input type="checkbox"/> Unaltered	<input type="checkbox"/> Moved	<input checked="" type="checkbox"/> Original Site		

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

Focal point of the district is the City of Eagle, with its adjacent site of old Fort Egbert. Within the townsite are several historic buildings such as the old Customs House, Federal Courthouse, and commercial buildings. Fort Egbert ruins preserve such complete and partial structures as quarters, stables, a granary, and a hospital. Foundations of many other buildings are apparent, as are remains of an unusual heated pipeline that carried water to the fort from a nearby creek. Fort Egbert's parade ground is in use as a grass airstrip.

Over one-hundred buildings can be counted in photographic vistas of the fort and city, circa 1900; other historic pictures reflect a heavy river traffic, logging and mining activities.

Condition of surviving structures ranges from excellent, for the Federal Courthouse maintained by the Eagle Historical Society, to fair for Fort Egbert buildings, to literal "ruin" for pipeline remnants.

A variety of architectural styles are evident in Eagle Historic District. Surviving historic fabric in many instances displays the rudimentary construction technique applied in building what is known today as Amundsen's Cabin, but more sophisticated approaches can be seen in the pseudo classical false front of the old Alaska Commercial Company store and the pragmatic fire station-pumphouse structure. Buildings that remain from the period of brisk government activity in Eagle (the U.S. Customs House, U.S. Courthouse, Fort Egbert NCO Quarters, and the Mulecarn) typify a more technically competent approach to construction. But even these structures cannot be associated with defined architectural schools. In the more substantial buildings the use of balloon-type wood framing was common in Eagle, as it was in towns of the Western United States at the turn of the century.

SEE INSTRUCTIONS

SIGNIFICANCE

PERIOD (Check One or More as Appropriate)

☐ Pre-Columbian☐ 16th Century☐ 18th Century☒ 20th Century☐ 15th Century☐ 17th Century☒ 19th Century

SPECIFIC DATE(S) (If Applicable and Known)

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

☐ Aboriginal☐ Education☐ Political☐ Urban Planning☐ Prehistoric☐ Engineering☐ Religion/Phi-☒ Other (Specify)☐ Historic☐ Industry☐ PhilosophyJudicial☐ Agriculture☐ Invention☐ Science☐ Architecture☐ Landscape☐ Sculpture☐ Art☐ Architecture☐ Social/Human-☐ Commerce☐ Literature☐ itarian☒ Communications☒ Military☐ Theater☐ Conservation☐ Music☒ Transportation

STATEMENT OF SIGNIFICANCE

In its heyday, the City of Eagle served as military, judicial, communications, and transportation hub for interior Alaska. Contemporary pictures (circa 1900) show a sprawling town and military complex characterized by substantial buildings, modern communications, busy commerce and industry.

The Army established Fort Egbert in 1899 to maintain law and order along the upper reaches of the Yukon River, and later located headquarters of the District of North Alaska at the post, which was deactivated in 1925. In 1900, interior Alaska's first judicial seat operated there under the state's foremost jurist, Judge James V. Wickersham; however, in 1904 a shift in mining activity caused removal of the court to Fairbanks. In 1901 Teddy Roosevelt signed a charter making Eagle the first incorporated city in interior Alaska.

The Valdez-Eagle telegraph trail (partially work of the later famous Billy Mitchell) was completed in October 1901, providing an electronic link from sub-Arctic to continental United States. As northern terminus of the wires, Eagle attracted Arctic explorer Roald Amundsen. He reached Eagle in December 1905, trekking from his sloop Gloa, ice-locked in the Arctic Ocean, to announce discovery of the long sought Northwest Passage. (continued)

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Amundsen, Roald, My Life as an Explorer, Doubleday, Page, and Company (Garden City, New York: 1927).
The Army's Role in the Building of Alaska, Headquarters Inland States Army, Alaska (APO Seattle 98749: 1969)
 Wickersham, James V., Old Yukon Tales---Trails---and Trails, Washington Law Book Company (Washington, D.C.: 1938).

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds	
NW	64° 49' 14.445"N	141° 14' 23.21"W				
NE	64° 49' 14.445"N	141° 06' 20.002"W				
SE	64° 47' 46.28"N	141° 06' 20.002"W				
SW	64° 47' 46.28"N	141° 14' 26.21"W				

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 6.400

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE

11. FORM PREPARED BY

NAME AND TITLE: William S. Hanable, State Parks Historian		
ORGANIZATION Division of Parks	DATE Jan. 6, 1971	
STREET AND NUMBER: 323 E. Fourth Avenue		
CITY OR TOWN: Anchorage	STATE Alaska	CODE 99501
		02

12. STATE LIAISON OFFICER CERTIFICATION

NATIONAL REGISTER VERIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National ☒ State ☒ Local ☐

Name Theodore G. Smith
 for: THEODORE G. SMITH

Title State Liaison Officer for the
Historic Preservation Act of
1966

Date January 6, 1971

I hereby certify that this property is included in the National Register.

Chief, Office of Archeology and Historic Preservation

Date _____

ATTEST: _____

Keeper of The National Register

Date _____

SEE INSTRUCTIONS

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE	
Alaska	
COUNTY	
4th Judicial Div.	
FDR NPS USE ONLY	
ENTRY NUMBER	DATE

(Number all entries)

7. Boundaries of Eagle Historic District are drawn not only to protect the townsite and those more readily evident remains of Fort Egbert, but also to preserve the total historical environment. To the north Eagle Bluff dominates the district today as it did historically. The choice of Eagle's location may in part be attributed to Eagle Bluff's role in shielding the site from fierce willawas bringing Arctic air from polar regions. This natural feature is included then both for its aesthetic and historical value. Closer to the town (in R. 32 E.; T. 1 S.; Sec. 25; SE. $\frac{1}{4}$;) traces of the pipeline to American Creek can be found, as can ancillary heating units of the line. Elden Field, a modern gravel airstrip built during World War II, scars the landscape to the east and is omitted from the district, as are the impermanent structures of Eagle Village. These last two areas are shielded from Eagle proper by thick stands of birch, but the vista across the Yukon which extends along the line of magnetic North must be protected. This expanse is essential in presenting Eagle Historic District's role as gateway to the interior Arctic.

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Alaska	
COUNTY Fourth Judicial	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

(Number all entries)

8. Statement of Significance (continued)

Communications needs declined with decreasing population, and the radio link that had replaced the telegraph in 1922 subsequently passed into private hands.

U.S. Customs House records, still to be seen at Eagle, reflect scores of river packets vying for trade along the North's most populated river banks. Serving Yukon towns as far south as Whitehorse, these sternwheelers operated in an inland-international trade unique in United States inland river history. Not only was Eagle a major landing for river boats, it was also final break-in-bulk point on the "All American" or TransAlaska Military Road to the interior. Pack trains, mule-drawn wagons, and dog sleds traveled this route that paralleled the telegraph trail from Valdez.

Traces of insulated pipeline which carried hot water to Fort Egbert can still be seen, as can boilers and heating stations. The line is of both historic engineering interest and current ecological interest, as predecessor to a proposed North Slope-to-the-Sea oil pipeline.

Just as discovery of gold in the Fairbanks region had siphoned off Eagle's population, completion of the Alaska Railroad dried up Yukon River steamboat traffic and overland travel from Valdez. From a peak population of 3000 in its heyday, the City of Eagle had shrunk to 28 in the 1970 census. Even the soldiers' bodies have been exhumed from the Fort Egbert cemetery; however, the district's historical values, aura, and architecture remain.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF OUTDOOR RECREATION

IN REPLY REFER TO:

NORTHWEST REGION
~~ROOM X SECOND AVENUE X~~ 813 D Street
~~SEATTLE X WASHINGTON X 98104 X~~ Anchorage, Alaska 99501
Phone: 265-4850

Jan 9, 1973

Dear Wild & Scenic River Participants:

Enclosed is a discussion draft of the Upper Yukon, Alaska (between the U.S.-Canada border and Circle) Scenic River report. This report is based on aerial and field reconnaissance and information obtained from study participants. In some sections information is lacking and in other sections revisions will be necessary. We request your help in supplying whatever additional information you feel is appropriate for the final report which will be assembled by April 1, 1973.

The concepts and conclusions that are put forth in this draft will be contained in the final report should there be no serious objections from the Interdepartmental Study Group for Rivers or study participants. Thus, any comments or problems you have concerning the recommendations in this draft should be promptly indicated.

We would appreciate your comments and an indication of what additional information you feel should be included prior to or at the January 16, 1973 meeting of all agencies concerned with the Alaska Wild & Scenic River Studies. This meeting is to be held at 9 a.m. in the BSF&W conference room, 813 D St., Anchorage, Alaska.

Thank you for your cooperation.

Sincerely yours,

Jules V. Tieston
Alaska Task Force Leader

Enclosure

UPPER YUKON RIVER, ALASKA
(United States-Canada Border to Circle, Alaska)

A Wild and Scenic River Analysis

DISCUSSION DRAFT

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.

January 9, 1973

Bureau of Outdoor Recreation
Alaska Task Force

PRELIMINARY

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

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Appendix: National Register of Historic Places
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State of Alaska

FOREWORD

This discussion draft report evaluating the resources of the Upper Yukon River between the United States-Canada border and Circle, Alaska is incomplete and subject to substantial revision as additional data is received. In particular, information is needed on plans for management of adjacent areas, State highway programs, Native participation, and the probability of establishing an international wild and scenic river program with Canada for the Yukon River.

Special recognition is made of the data assembled for BSF&W in an unpublished report by Mr. Robert J. Ritchie, graduate student, Wildlife Cooperative Unit, University of Alaska.

Although various agencies and individuals have been consulted and library research conducted, the basic ideas in this discussion draft can not be construed as official policy of the Bureau of Outdoor Recreation, other Federal or State agencies or Natives.

In addition to review of available data, this report reflects on-the-ground investigation of the entire segment of the Yukon River and its tributaries, Fortymile, Kandik and Charley Rivers. The entire area has been examined by small aircraft.

A careful review of available data of the Alaskan portion of the Yukon River situated between the United States-Canada border and Circle together with its immediate environment indicates that:

- ① It is a free flowing river without impoundment, straightening, rip-rapping or other modifications of the waterway.
- ② The river is long enough to provide a meaningful outdoor recreation experience.
- ③ There is a sufficient volume of good quality water during normal years to permit full enjoyment of the outdoor recreation potential of the Upper Yukon River and its major tributaries.
- ④ Although there are major segments of the Upper Yukon River basin where man's activities have left substantial evidence, the basin is pleasing to the eye.
- ⑤ The Upper Yukon River and its principal tributaries and their immediate environments possess an outstandingly remarkable combination of scenic, recreational, geologic, fish and wildlife, historic, cultural and other similar values. Of these historic and natural values--especially critical nesting habitat for the peregrine falcon are paramount.

- There is substantial potential for hydroelectric energy with maximum development of the Woodchopper project
- Construction of the Woodchopper would destroy significant existing and potential public values.
- The Upper Yukon River and one of its major tributaries--the Fortymile River--are unusually accessible by automobile when compared to other Alaskan, free-flowing streams.
- The Upper Yukon River, its principal tributaries and their immediate environments are capable of being managed to protect both people and the resource; have significant values which can be interpreted to the public; and will support a high quality outdoor recreation experience at the desired level of use.

The Eagle-Circle Canyon segment of the Yukon River has all the attributes of a scenic river area as defined by the Congress. While Scenic River designation would surely protect the outstandingly remarkable historic and natural values, the primary consideration is to select the best overall management program.

It remains to be determined whether Scenic River designation would provide the best overall management.

UPPER YUKON RIVER, ALASKA
(United States-Canada Border to Circle)

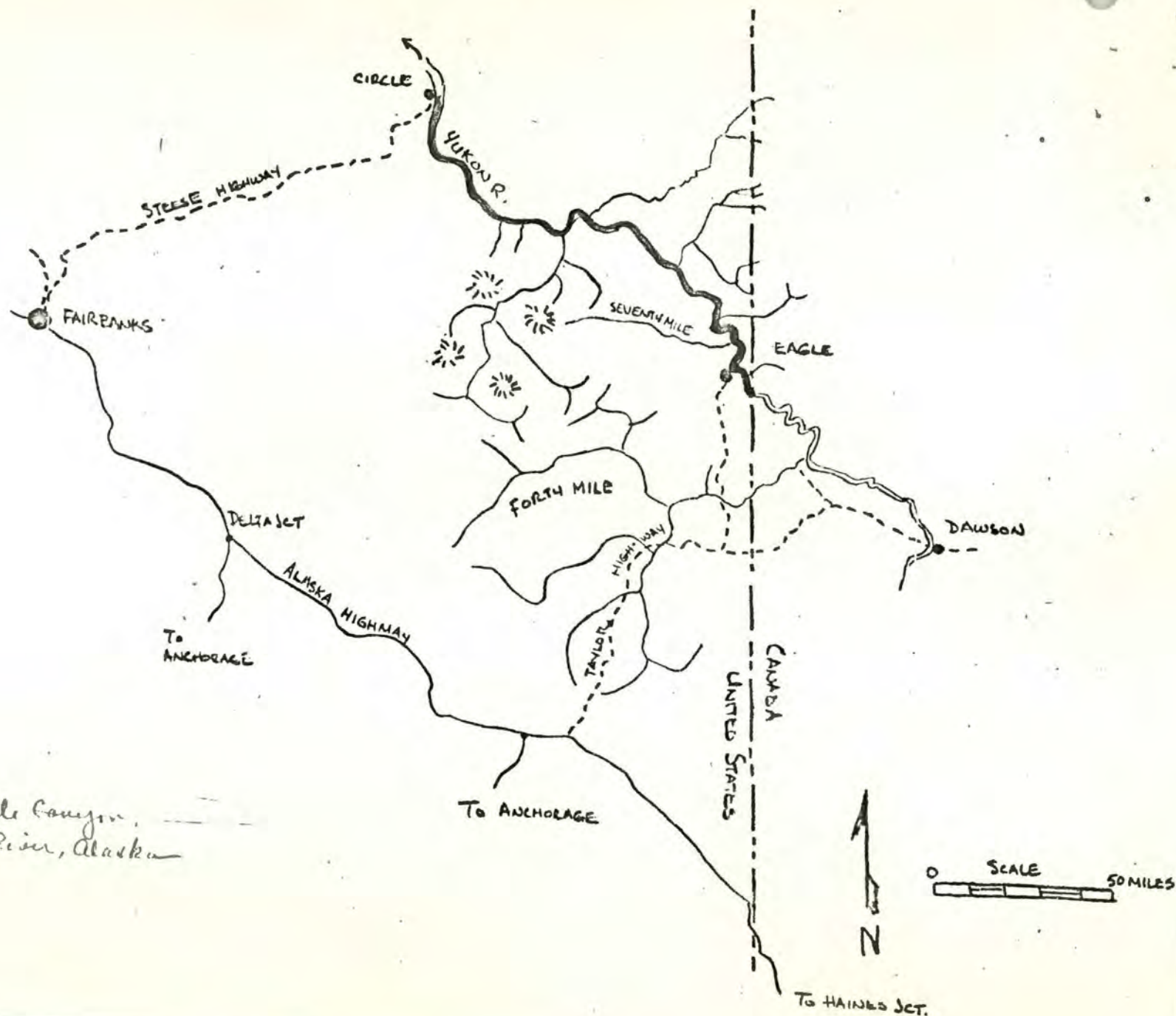
The River Setting

Physical Setting

The Yukon River is Alaska's largest river and the fifth longest river system in North America. Having a total length of about 1,875 miles, it rises in a series of mountain lakes along the border between British Columbia and Yukon Territory, Canada. Before emptying into the Bering Sea it travels some 1,200 miles through interior Alaska. The Yukon River basin is crescent-shaped being approximately 1,300 miles long. It encompasses an area of 330,000 square miles of which 197,000 square miles--almost 60%--are in Alaska. The Yukon River drains approximately 40 percent of Alaska.

The portion of the Yukon River considered in this report lies between the United States-Canada border and the village of Circle--a distance of 153 river miles. Principal tributaries in this segment are the: Seventy-mile, Tatonduk, Nation, Kandik and Charley Rivers. (Figure ____).

Mertie (U.S.G.S. Bull. No. 872 dated 1937) describes this segment of the river as the "Eagle-Circle Canyon".

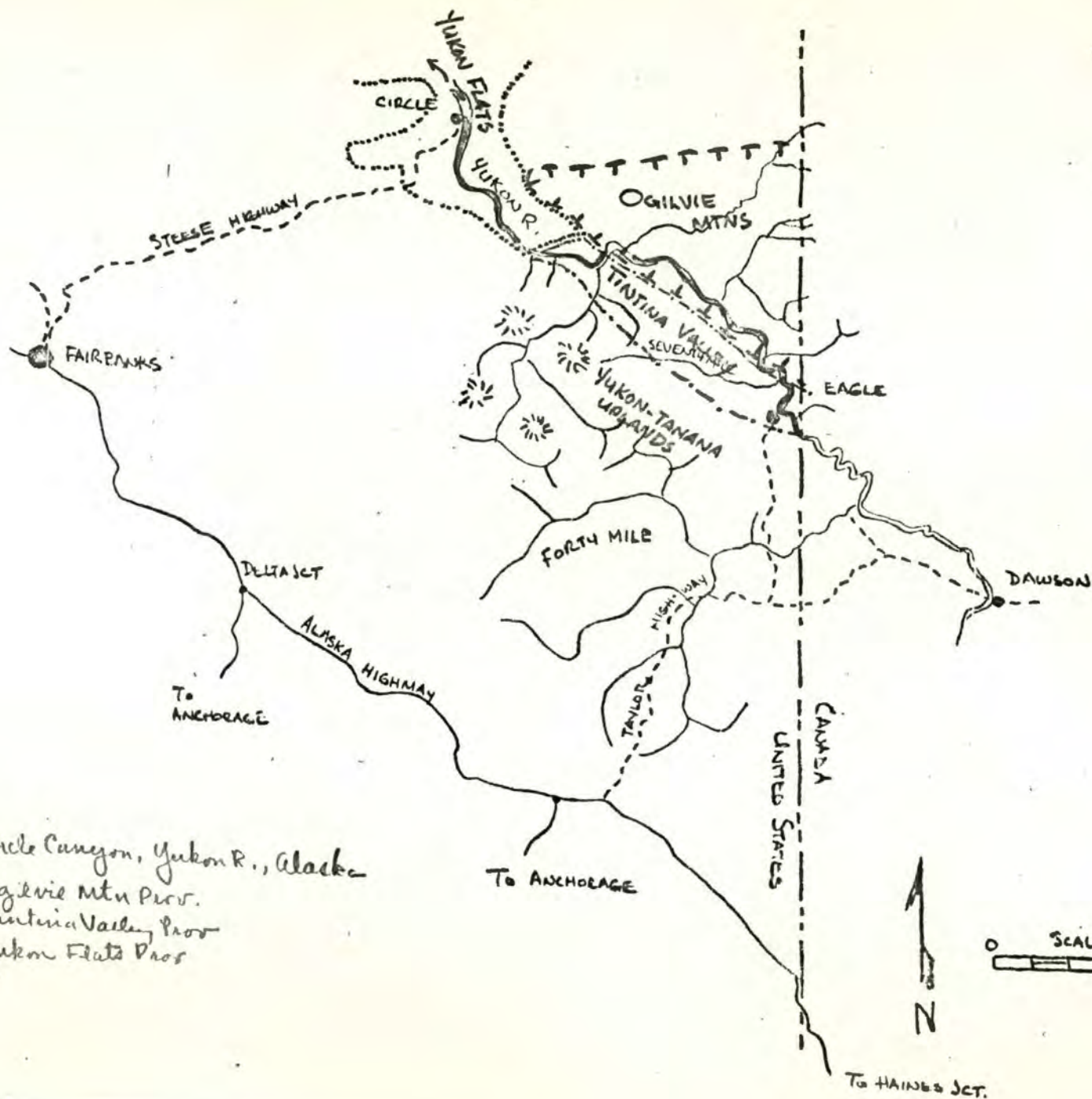


Eagle-Circle Canyon,
Yukon River, Alaska

Here the Yukon loosely meanders northwesterly in a large amphitheater. Average width of the river is one mile and in places it is one and one half miles wide. Gradient averages a uniform 0.89 feet per mile--having a total fall of 135 feet between the border and Circle. Bluffs and sometimes colorful cliffs rise boldly from the river bank on alternating sides. Average depth is estimated to be six to eight feet, but there are many shallow bars where there are only one or two inches of water covering areas up to several hundred feet in width. Single islands up to 1 1/2 miles long ^{and} are 1/2 mile wide are common, as are smaller island groups. The presence of islands becomes more evident near Circle.

Physiographic provinces crossed by the Yukon River between the border and Circle are the southwestern flanks of the Ogilvie Mountains, Tintina Valley and Yukon Flats (Figure ____). Although each are geologically distinctive in origin, soil and structure, only the Yukon Flats provides any marked contrast to the untrained eye.

The Ogilvie Mountain area crossed by the Alaskan portion of the Yukon is characterized by precipitous, steep slopes with deep, narrow valleys having rather sharp crest lines. The valleys formed by the Tatonduk, Nation and Kandik rivers all trend in a southwesterly



- Eagle-Circle Canyon, Yukon R., Alaska
 TTTT Bdry. Ogilvie Mtn Prov.
 - - - - Bdry. Tintina Valley Prov.
 Bdry. Yukon Flats Prov.

direction from their headwaters in the Yukon Territory, Canada before joining the Yukon in Alaska. These three rivers are small, distinctive, clear-water mountain streams contributing substantial values to the Eagle-Circle Canyon.

The Tintina Valley is a fault-formed narrow belt trending in an easterly direction. Here river valleys are open and are surrounded by low rounded ridges. The Seventymile River which flows east along the Tintina Fault (?) and the lower third of the Charley River which flows north are small clear-water and distinctive mountain streams characteristic of the Tintina Valley. These also contribute substantial value to the Eagle-Circle Canyon.

Downstream from Woodchopper Creek, increasing deposits of loess mantles the flat-topped ridges to hide bedrock. These provide a gentle gradation into the Yukon Flats which is typified by its muskeg and low topographic relief. There are no major tributaries to the Eagle-Circle ^{Canyon} in this area.

Characteristic features in the canyon ^{are} ~~is~~ the abundance of well defined river terraces marking former valley floors occupied by the Yukon River. A pronounced terrace rises 75 to 100 feet above the present river course, a second about 500 feet above the river's present surface and a third 700 to 800 feet above the Yukon river.

Climate is typical of interior Alaska in that winters are long and severe with short days while summers are pleasant and long days prevail. Mean low temperature is in January with -17 F. Extended periods of intense cold with temperatures dropping to -50 to -60° F. are common. Summer temperatures climb to +80° F. each year and occasionally reach into the +90° F. range. The mean temperature in July is +60° F. Although summer daytime temperatures are almost always above 70° F., there is rapid cooling as the sun passes its daily zenith. Therefore, diurnal temperature variations can be extreme with freezing temperatures during each month. In a typical year there are 53 days when temperatures reach or exceed +70° F.; 255 days with 32° F. or less; and 125 days with temperatures at or below 0° F.

Annual precipitation is about 11 inches of which about 30% is snow. Average snowfall is about 45 inches. Snow can occur ^{above} ~~about~~ 4000' elevation during each month. Thunderstorms are common during June and July. Ice forms on the Yukon River in the first week of November and lasts until middle May when breakup occurs. Ice forms to a thickness of as much as six feet.

Permafrost is present throughout most of the Upper Yukon River basin, although in this part of Alaska it is

discontinuous. In fine grained materials permafrost is found at a depth of 2 or 3 feet while it is generally about 10 feet deep in coarse grained materials. Ice lenses 15 or more feet long and 5 to 6 feet thick are exposed in most of the tributary stream banks. Ice wedge polygons are present and a few pingos are found.

Stream flow

Stream gauging stations are located at Eagle and Circle. In addition, pilot logs of stern wheelers which ~~one~~ ^{once} plied the Yukon River provide good indications of stream flow.

Annual flows are concentrated in the summer months when 80 percent of the total annual runoff takes place. Peak discharges coincide with the spring breakup with flows often approaching 300,000 c.f.s. at Eagle (high of 686,000 c.f.s. instantaneous flow on June 2, 1957). Low flows in the range of 16,000 to 20,000 c.f.s. occur in late February and March when the river is encased in five to six feet of ice. Figure ____ shows the average flows of the Yukon River at Eagle during the spring and early summer.

The Yukon is an awesome river to the uninitiated travelling in a small boat. Current is swift averaging

from four to six m.p.h. and in places to eight m.p.h. The sound of water rushing against the base of rock bluffs and at places where erosion ^{resistant} rock is exposed in the river bed as at Nation Reef carry for several miles commanding respect. Although safe for use in small hand propelled craft, caution is necessary to avoid eddies and boils which suddenly thrust canoes or logs laterally several feet.

Daily fluctuations resulting from glacier meltwater in the headwaters or rainstorms can cause the river to rise as much as a foot (?).

Water Quality

The Yukon River as it flows through the Eagle-Circle Canyon is turbid. Flowing swiftly over fine sediments, sand and small grains of clay are constantly ~~being~~ ^{at} picked up ~~from~~ one place and deposited in another. To a major degree, turbidity reflects the extremely large load of glacial silt flowing from the glaciated Alaskan Range via the White River.

Water quality is assumed to be good to fair. It is not known what effect, if any, disposal of wastes at Eagle and Circle and to a lesser extent individual cabins along the river banks effect water quality. At Eagle

water from the river is used for domestic purposes during the winter months when the glacial sediments from the White River are not pronounced. During the summer when turbidity is high, water at Eagle is obtained from wells. The suspended sediment load ranges from 200 mg/liter in the summer when stream flow is swift and there is abundant surface stream runoff to less than 15 mg/liter in the winter when most surface waters are locked up as ice.

Because of the high turbidity of the river during the summer, drinking and cooking water is best obtained from clear water tributary rivers and streams. Back-water pools or depressions on gravel bars and islands also permit the sediment load to settle so that clear water can be found.

Water temperatures are cool, but not nearly as cold as glacial streams. During the summer water temperature closely follows air temperature--including marked diurnal fluctuations. In general, waters are considered too cool and turbid for swimming.

Vegetation

Vegetation in the Eagle-Circle Canyon is subarctic. When viewed from the river, adjacent tree-covered bluffs and hills give the impression of a vast green rolling sea.

Good stands of birch and spruce crown the river banks and adjacent hills. Islands are frequently timbered with even-aged stands of poplar and spruce. An overall impression of the Eagle-Circle Canyon vegetation communities is one of sameness. However, this is not the case. A great variety of plants exist behind the river bank forests. A full range of plant succession from muskeg to alpine tundra may be seen from the river. Of special interest during the fall and spring are the thin fingers of distinctive plant associations which follow small stream and rivulets down bluffs and steeper hillsides. Here are found deciduous trees with contrasting shades of green during spring and yellows, golds, and reds in the fall. Tree communities are composed of mixed and pure stands of white spruce, black spruce, balsam poplar, black cottonwood, tamarack, birch and aspen. Shrubs range from willows to blueberries and low bush cranberries. Blueberries are locally abundant, ripen during the last week of July and are found in edible quantities for some six weeks thereafter. Low bush cranberries ripen in late August. Figure 2 shows the typical distribution of vegetation in stream valleys of the Upper Yukon River basin.

Timber is considered to be of a non-commercial nature. Although considerable timber was cut for the boilers

of sternwheelers and for mining operations, and for cabins, it is doubtful that there would be any significant demand for commercial timber harvest in the Eagle-Circle Canyon because good sized quality timber is scarce and limited to long, narrow stringers in isolated pockets.

Rapid climatic changes combined with long summer days cause abrupt ecological responses in plant life. Sharp increases in the length of daylight and temperature of both air and soil combined with equally rapid decrease in the fall causes plants to break dormancy, grow, flower and bear fruit in a very short time span.

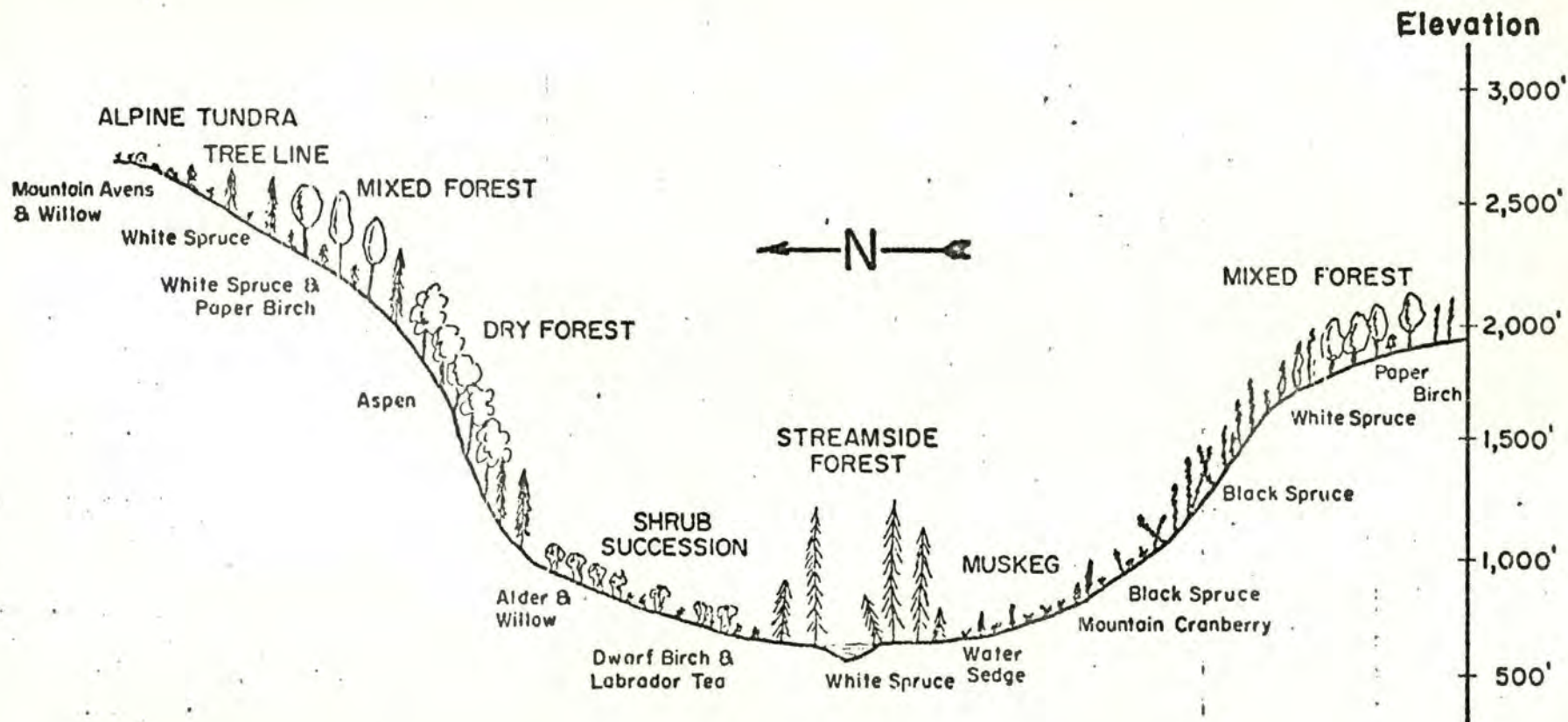
As in all of interior Alaska, wildfire plays a dominant role in plant succession and distribution in the Yukon valley.

Figure ____ shows the typical distribution of plant communities where terrain is relatively uniform. Steep bluffs and cliffs frequently have no major tree cover. Here, sagebrush is found on many of the drier slopes.

Land Use

In prehistoric times ancestors to the Han Indians occupied the Upper Yukon River valley just upstream of Circle eastward to Dawson. These Indians were salmon fishermen and basketweavers and from time to time lived

FIG. 2 DIAGRAM OF VEGETATION TYPES ALONG A TOPOGRAPHIC GRADIENT IN THE EAGLE-CIRCLE CANYON, YUKON RIVER



at various points along the banks of the Yukon. In Alaska, the only village with continuous ^{occupation} ~~acceptation~~ is near Eagle. This site, however, has moved at least once. Present day Indian inhabitants of Eagle also include former residents of John's or Johnny's Village which moved to Eagle as mining camps developed and Charlie's Village at the mouth of the Kandik River. The latter village was destroyed in 1914 by a flood caused by the spring breakup.

Except for a few fur-trappers and exploration parties, the Upper Yukon region remained unknown and essentially unexplored until gold was discovered in the 1880's. With the cry there's a "Ton of Gold" the stampede was on ^{to} Dawson, Forty mile, Mission Creek, Star City, Woodchopper, Nation, Stewart, Eagle and Circle. From about 100 miners and trappers ^{and 200 Nav Indians} along the entire ^{Upper} Yukon in 1882, Eagle (incorporated in 1891) and Circle (incorporated in 1895-96) grew from virtually zero population to about 1,000 and 3,000 people each.

With the advent of World War II, gold mining activities shut down as supplies and labor were diverted for National defense. Dredges at Woodchopper and Coal Creek are vivid reminders of the golden era. Today, traces of Nation, Mission Creek and Millers Camp consist of a few decaying

buildings and rectangular hummocks indicating where people once lived. Forty^{one} mile in Yukon territory is a ghost town protected for its historic significance. Circle and Eagle have dwindled to _____ and _____ respectively and only recently has future looked promising. Circle as a center for oil exploration activities and Eagle for its recreation potential.

Transportation

The Yukon has been the principal route to the Interior of Alaska. Although not fully explored until 1883 when Lt. Schwatka, U.S. Army mapped the River from its headwater to the sea. By 1899 there were 56 stern wheelers plying the Yukon, ^{most in response to the need for supplies and transportation} between the U.S. and Canadian gold camps. The last sternwheeler completed its run in ¹⁹⁵⁷ 1955 (?) and ~~in~~ 1972 saw the last commercial ^{supply} barge operation between Circle and Eagle (?).

In 1939, the primitive trail between Circle and Fairbanks was improved so that truck traffic could traverse what is today known as the Steese highway; while it was not until 1948 that the Taylor Highway was passible to autos and trucks. Both roads are closed during winter months.

Air transportation is possible throughout most of the area with the Yukon River suitable for landing and take-off

(A summer mail trail between Eagle & Circle 1926 to late 30s)
Winter mail trail preceded, 12

of float planes. Good airfields are at Eagle and Circle while more primitive bush strips are located at gold mining areas on Woodchopper and Coal Creeks.

In 1949, a potential highway route between Eagle and Circle was surveyed. Information on the status of this road is unknown (to be supplied by the State). It is believed that the general location of the potential highway would be on the south side of the Yukon River. A bridge crossing the Yukon at Circle is also apparently included in the long range State highway plans. Although details of the south side highway are not known a better location from the standpoint of recreation might be on the north side of the Yukon.

A considerable amount of transportation still uses the river's surface. Rather than sternwheelers or miner's rafts, the mode of transportation is now a 20-25 foot long river boat pushed by a 50-75 hp. jet outboard motor. This form of transportation is especially important to the Natives and residents of Circle and Eagle.

Residency

Today the banks of the Yukon are similar to their pre-Klondike days. Except for Eagle and Circle, there are

no permanent residences along the Eagle-Circle Canyon. There are, however, several new cabins used as bases for hunting and fishing. Old cabins such as Slaven's and Biederman's and abandoned structures at Millers Camp are used by big game hunters.

During the summer months, gold prospecting at Coal and Woodchopper Creeks also accounts for periodic residency. Likewise, subsistence fishing for salmon with fish-wheels and nets contribute to occupying some of the cabins. During winter months, some cabins may be used as a base for trap lines.

Minerals

Mining in the stream bed or the river bank of the Yukon is infrequent. Past history of mining is associated with the adjacent upland areas such as the Seventymile River and Woodchopper ^{Fourth of July} and Coal Creeks. The banks of the Yukon in those instances were not used for mining, but were for winter quarters and supply points on the transportation net--the Yukon itself. An exception is localized, sporadic attempts to develop coal for generation of electricity to power gold dredges resulted in a narrow-gauge railroad being built up Washington Creek.

Outcrops of phosphate rocks occur and that part of the Canyon associated with the Kandik and Nation Rivers is also underlain by strata reported to have potential for oil. (*Taken into iron ore?*)

Other than gold, there are no past records of ^{metallic} mineral production in the Eagle-Circle Canyon and as noted above, the gold is associated with tributary streams.

Oil and gas leases existed along the north bank of the Yukon River between the Nation and Kandik Rivers and a small area on the south bank at Washington Creek.

Recreation

Recreation use in the Eagle-Circle Canyon can best be described as light. Primary recreation activities are associated with hunting, especially moose, and to a lesser extent, duck and goose hunting. Guiding services are available at both Circle and Eagle. Recreation boating is by canoe and motorized riverboat. Both account for a significant proportion of present use with non-motorized travel increasing rapidly.

Fish and Wildlife

Chinook, Coho, King and chum salmon, northern pike, sheefish, whitefish and grayling are found in the Yukon

but because of the heavy turbidity sport fishing is, at best, fair. Clear tributary streams however, do provide good to excellent sport fishing. Salmon are caught on a subsistence by the Natives.

Big game species include moose, caribou and black and grizzly bears. Small game such as grouse and waterfowl are locally abundant. Evidence of wolf and small fur bearers are common.

Of special importance in the Eagle-Circle Canyon is the peregrine falcon, an endangered species of bird. Both this and another endangered bird species--the bald eagle--are commonly seen.

The Yukon River above the Tanana River is noted for its unusually high numbers of bald eagles, gyrfalcons, rough-leg hawks and other raptors and has been recommended for protection.^{1/} This area has been identified as having special significance because of the unusually high concentration of nesting pairs of peregrine falcons which is not typical of the entire forested region between the Brooks Range and the Alaska Range. Studies of the peregrine falcon shows that nesting habitat is critical, ^{and that the pf is vitalluent of man's activities.} ~~and~~ and therefore historic and traditional nesting cliffs must be protected from human encroachment.

^{1/} A proposal for an ecological reserve system for the Taiga and Tundra of Alaska, Institute of Northern Forestry, Jan 14, 1972

It has been observed by Cade and others ^{1/} that cliff-like formations are a limiting resource controlling both distribution and density of the peregrine falcon and that "traditional" nesting areas carries over from one generation to the next. Thus, it seems that certain cliffs are used year after year while nearly seemingly similar cliffs are ignored. Before "traditional" nesting cliffs can be protected they must be identified. However, identification also endangers the nesting site by inviting recreationist to get close and see the birds, or for the ^u /inscrupulous, a chance to capture young birds and sell them to falconiers. Suffice it to say that the entire Eagle-Circle Canyon has nesting habitat. Cade and others ^{1/} have recommended that a zone of protection be established around all peregrine falcon "historic" nesting cliffs since nesting falcons are not tolerant of man's activities. A zone of no less than one-half mile around each "historic" nesting cliff has been proposed as an area where human occupancy should not be permitted. This is similar to the protection given to eagle and osprey nest trees by establishing a no-cut zone around each tree.

History

"Gold!" brought thousands of people to the Upper Yukon River. Eagle, located just 10 miles west of the United States-Canada border and 120 miles south of the

^{1/} Ibid

Arctic Circle was the main port of entry from Canada. Circle, to the north of Fairbanks, occupied a similar place in Alaskan history as a principal shipping point on the Yukon River. Eagle grew from a long house trading post established on an island in 1874 to an active mining camp in 1898. Eagle was named for the eagles nesting on the nearby "Eagle Bluff."

On October 19, 1905, the military telegraph line connecting interior Alaska with the outside via ^{Eagle and} Valdez was completed. _^

In 1901, Teddy Roosevelt signed a charter making Eagle the first incorporated city in interior Alaska. Eagle also was the seat of the first Judicial Court in the Interior where Judge James Wickersham presided.

Eagle made headlines in December, 1905 when word was flashed around the world that a successful crossing of the Northwest Passage by Ronald Amundsen.

Between 1899 and 1911 Eagle was the site of Fort Egbert, a significant military post maintain law and order in the Yukon. Lt. Billy Mitchell was ^{once} ~~one~~ stationed there. Mule barns and the old parade grounds, and picturesque historic buildings in Eagle today remind visitors of Alaska's past.

Today the experience of travelling on the Yukon can be summarized as follows:

"Canoeing past abandoned Miller's Camp.... only a few cabins remained, the blackened spokes of a wagon wheel reminded me of the hopes of another era....Names like Biederman Bluff echo off the walls of the canyon, only to blend with the sounds of my canoe cutting the Yukon's surface. I wonder what thoughts did the mail-carrier, Biederman, think, when he passed this bluff sledding up the frozen river in the 1930's...." 1/

Gold more than any other resource captured the attention of the world. The Yukon River and especially that portion between Dawson, Yukon Territory, Canada and Circle, Alaska is rich in mining history.

The Yukon was the route to the Interior first to the Klondike then later from the Klondike to the gold strikes at Fortymile and Fairbanks.

The Canadian Government has implemented an active preservation program to protect and interpret historic aspects of Dawson, Y. T., Canada. A restoration program has been started by the Territorial Government to restore the mining-supply village of Fortymile at the mouth of the Fortymile River and has also identified and signed major stopping points along the Yukon River which relate to the winter mailroute and at other historic places.

✓ Robert J. Ritchie, Wildlife Cooperative Unit, University of Alaska, Unpublished
12/22/72

There is no comparable active program along the Alaskan portion of the Yukon. In one place an historic cabin is being cut up for firewood while "souvenir" hunters collect historically valuable *artifacts*. An exception to the above is at Eagle. Here the town has banded together to save and interpret historic aspects to the visiting public.

On January 6, 1971, the State of Alaska nominated the Eagle/Ft. Egbert area for inclusion on the National Register of Historic Places: Theme XXI, Political and Military Affairs, 1965-1910-Alaskan History (Appendix ____). This is a forward step, but much remains to be done if significant elements of Alaskan history are to be protected.

The Eagle-Valdez and Eagle-Dawson telegraph lines are historically significant.

Geology

Three formations are expecially noteworthy in the Eagle-Circle Canyon: Eagle Bluff, Calico Bluff and Takoma Bluff. The first is a prominent landmark overlooking Eagle. The second is a spectacular outcrop of colorful banded and folded bed of alternating sandstone, shale and some slate. Fossils are plentiful with 117 genera and 250 species of Upper Mississippian age being reported in 1937.^{1/}

1/ Mertie, U.S.G.S Bull. No. 872, 1937

The last is a striking outcrop of volcanic rock which has been eroded into a gargoyle-like formations which from the river resembles castles and giants.

Land Ownership

The areas adjoining both Eagle and Circle are withdrawn for Native Village selections under the provisions of ANCSA. In addition there are ____ claims pending for individual Native allotments where trapping cabins, fish wheels or related activities were centered. There are some mining claims but these are largely located away from the Yukon River on tributary areas.




Except as noted above, the remainder of the Eagle-Circle Canyon was classified on March ___, 1972 as a national conservation area under the provisions of section 17 (d)(2) ANCSA. Figure ____ shows the present overall land status.

The area downstream from Woodchopper Creek is withdrawn ~~from~~ ^{the Rampart} ~~under a~~ power site (Public Land Order 3250).

Water Rights and Ownership of the Stream Bed

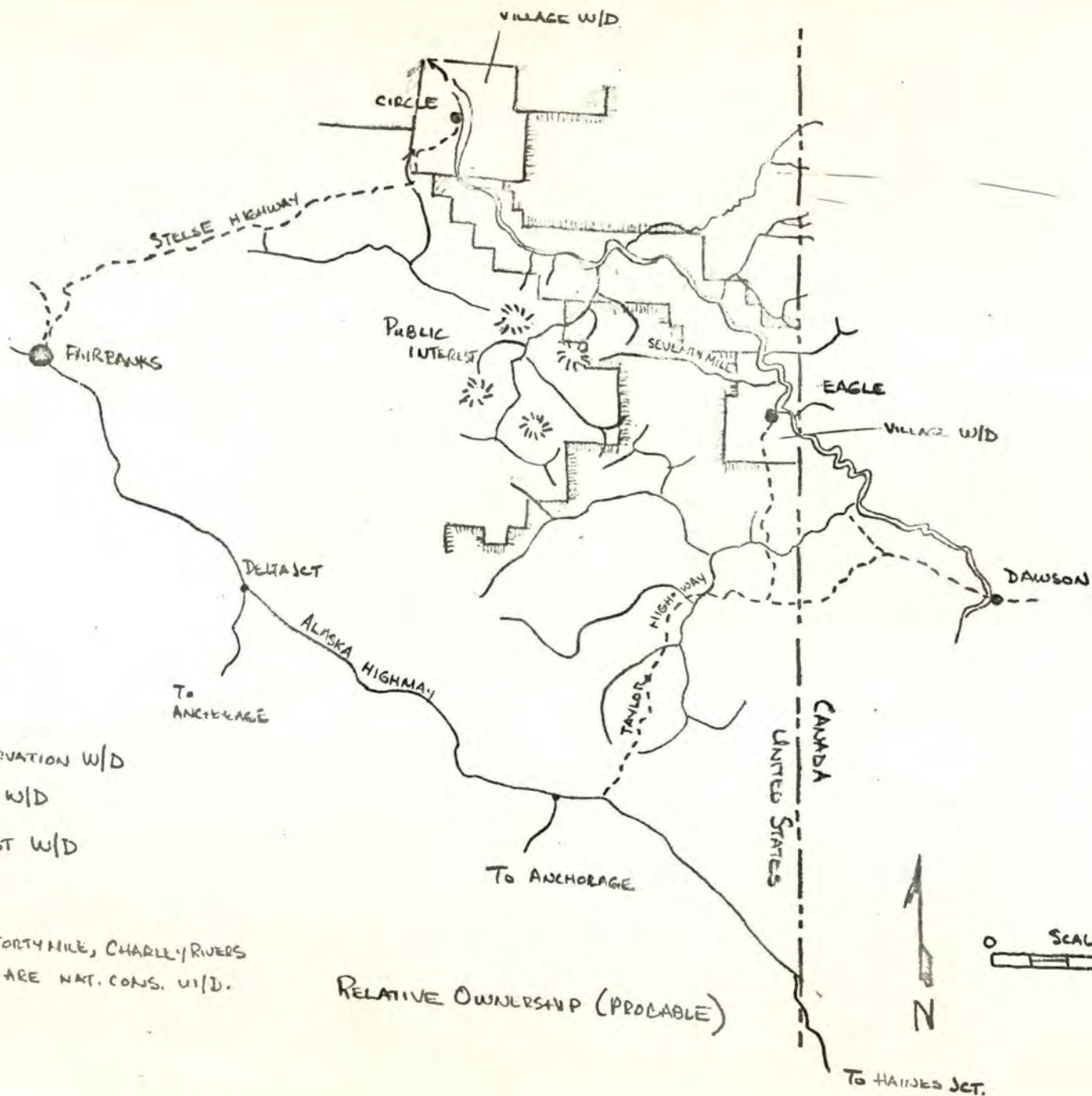
Ownership of water rights and the stream bed are unknown.

All of the Yukon River in Alaska is considered navigable by the U.S. Army Corps of Engineers.

-  NATIONAL CONSERVATION W/D
-  REGIONAL DEF. W/D
-  PUBLIC INTEREST W/D

NOTE: PORTIONS OF FORTY MILE, CHARLEY RIVERS
AND BIRCH CR. ARE NAT. CONS. W/D.

RELATIVE OWNERSHIP (PROBABLE)

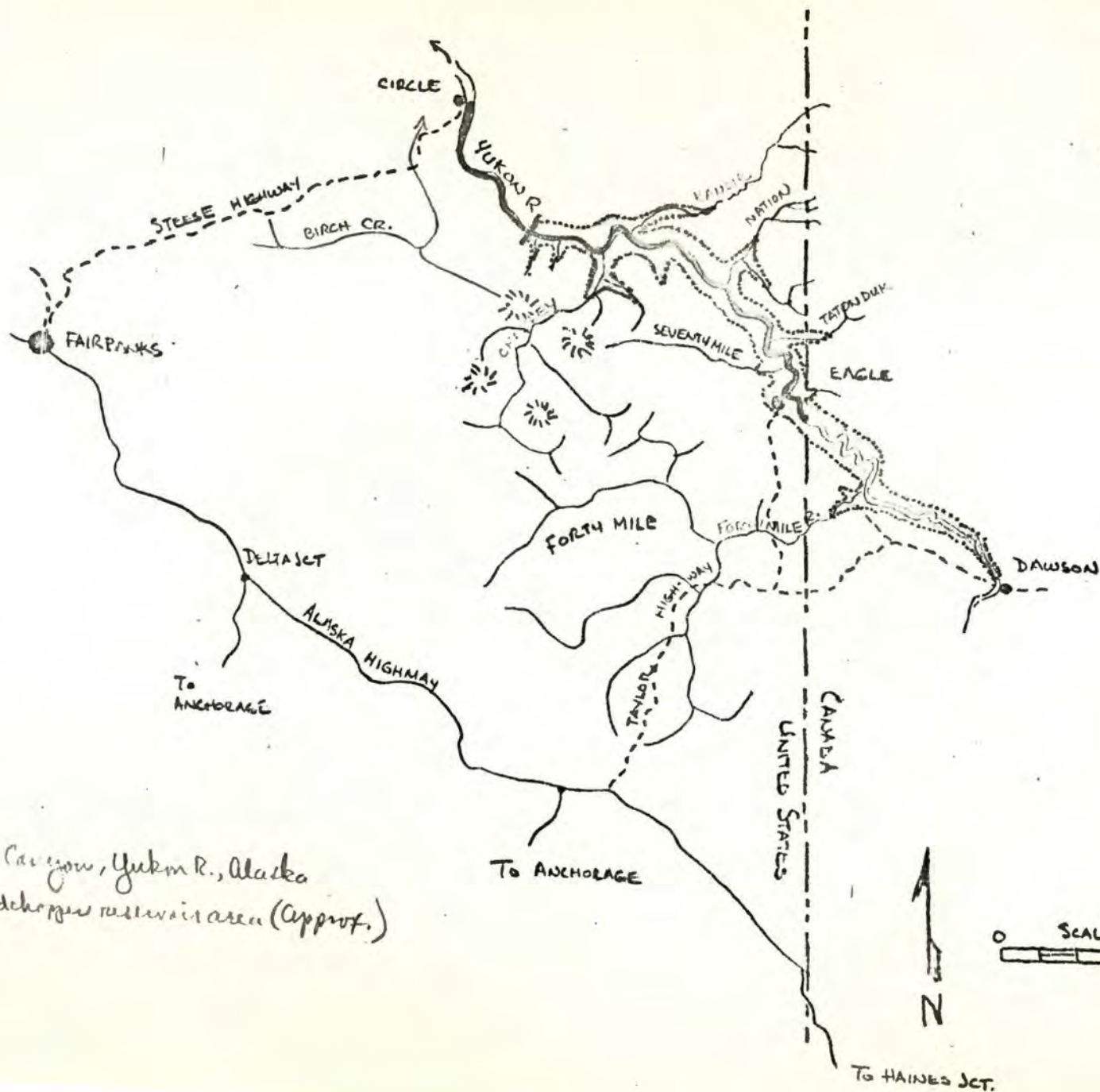


Water Uses

Present uses of the water are for subsistence fishing, domestic and municipal, recreation and wildlife. Through this past year the Yukon through Eagle-Circle Canyon was also used for navigation.

A potential major hydroelectric power project is located in the Eagle-Circle Canyon. The Woodchopper site is an identified major water resource development potential. The site for the dam is about one-half mile downstream from Woodchopper Creek. Here a concrete arch dam would create a reservoir with a surface 360 feet above the present level of the river. At elevation 1020 feet the reservoir would have a surface area of 563 square miles, a shoreline of about 800 miles and an active storage capacity of 92 million acre feet. A major portion of the reservoir would be in Canada (Figure ____) backing water almost to Dawson, Yukon Territory, Canada. Eagle would be inundated.

Estimated firm power potential for this plan is 2,160,000 kilowatts at 75 percent annual load factor with annual firm energy production of 14.2 billion kilowatt hours. The Woodchopper site is reported by the Alaska Power Administration to be of the five most important hydroelectric potentials in Alaska.



Eagle-Circle Canyon, Yukon R., Alaska
Potential woodchopper reservoir area (approx.)

Studies of the Woodchopper project have been largely limited to considerations of the project as a single-purpose hydroelectric development operating in conjunction with the Rampart Project. The 1965 Department of Interior Field Committee Report, "Rampart Project, Alaska" made the following points about the Woodchopper site:

- It is probably that a substantial portion of the anadromous fish runs that pass the Rampart site also pass the Woodchopper site.
- The reservoir area also includes excellent wintering habitat for a high density moose population.
- Significant portions of the Steese-Fortymile caribou herd cross the Yukon in the reservoir area in their migrations to and from Canada.
- There would be moderate to significant impacts to waterfowl, furbearing and game animals other than those previously described for moose and caribou.

In addition to the Yukon River becoming a lake between Dawson and Woodchopper Creek, the reservoir would destroy the:

- lower 10 to 12 miles of the Fortymile River and part of Clinton Creek
- lower 12 to 15 miles of the Seventymile River
- all of the U.S. portion of the Tatonduk River

- lower 12 to 15 miles of the Nation River and part of Hard Luck Creek
- lower 20-25 miles of the Kandik River
- lower 20-25 miles of the Charley River
- lower one-third of Coal Creek and
- lower one-half of Woodchopper Creek

It is probable that all of the critical nesting habitat for the peregrine falcon would be destroyed and that all of the historic settlements and features associated with the Eagle-Yukon Canyon and substantial historic areas in Canada including Fortymile Village *would be flooded by Woodchopper.*

There are no active proposals to construct the Woodchopper project and studies to date relate primarily to establishing the resource values involved. Because of its strategic location and large energy potential the Woodchopper project is considered by the Alaska Power Administration to have statewide, national and international significance. Accordingly, that agency recommends that the option be retained to consider development of the project at some future date.

It is noted that there are major uncertainties on the feasibility for development of the Woodchopper project to its maximum potential when a major part of the reservoir would be situated in Canada. Any decision to develop

and operate the Woodchopper project would require joint U.S. and Canadian consideration of the significant historic and natural resource values foregone and the long range needs and alternatives.

Another water resource program which might involve Eagle-Circle Canyon is related to spring break-up. To reduce the incidence of flooding caused by ice jams in narrow places the U.S. Army Corps of Engineers conducts a "dusting" program to promote rapid, uniform break-up of the river ice at strategic locations. The basic principal in the "dusting" program is to spread ash, sand or other dark materials on the surface of the river ice in late spring to induce greater ^{melting} heat and thereby weaken the ice in a predictable manner. At present, there is no such program in this section of the Yukon. Should such a program become necessary it is believed that it can be conducted in a manner compatible with other resource values.

QUALIFICATIONS FOR INCLUSION IN THE
NATIONAL WILD & SCENIC RIVERS SYSTEM

A careful review of the Alaskan portion of the Yukon River situated between the United States-Canada border and Circle together with its immediate environment indicates that:

- It is a free-flowing river without impoundment, straightening, rip-rapping or other modifications of the waterway.
- The river is long enough to provide a meaningful outdoor recreation experience.
- There is a sufficient volume of ^{good quality} water during normal years to permit full enjoyment of the outdoor recreation potential of the Upper Yukon River and its major tributaries.
- Although there are major segments of the Upper Yukon River basin where man's activities have left substantial evidence, the basin is pleasing to the eye.
- The Upper Yukon River and its principal tributaries and their immediate environments possess an outstandingly remarkable combination of scenic, recreational, geologic, fish and wildlife, historic, cultural and other similar values. Of these historic and natural values--especially critical nesting habitat for the peregrine falcon are paramount.

(Margin)

- There is substantial potential for hydroelectric energy with maximum development of the Woodchopper project
- Construction of the Woodchopper would destroy significant existing and potential public values.
- The Upper Yukon River and one of its major tributaries--the Fortymile River--are unusually accessible by automobile when compared to other Alaskan, free-flowing streams.
- The Upper Yukon River, its principal tributaries and their immediate environments are capable of being managed to protect both people and the resource; have significant values which can be interpreted to the public; and will support a high quality outdoor recreation experience at the desired level of use.

The Eagle-Circle Canyon segment of the Yukon River has all the attributes of a scenic river area as defined by the Congress. While Scenic River designation would surely protect the outstandingly remarkable historic and natural values, the primary consideration is to select the best overall management program.

It is probable that substantial portions of the Eagle-Circle Canyon will remain in public ownership and there is strong possibility for an international program to protect and interpret the scenic, historic and wildlife values that a Federal land managing agency be designated by the Congress. In addition, it is probable that much of the river area adjacent to Eagle and Circle will be selected by Natives under the provisions of ANCSA. Therefore, a coordinated approach involving the active participation of the Natives, State and Federal agencies is recommended.

The overall administration and type of national conservation program will be assigned by the Congress taking into account the recommendations of the various Federal departments, the Governor of Alaska and the Joint Federal-State Land Use Planning Commission. It is recommended that the land manager of the river corridor be the same as the manager of adjacent lands.

Potential administrative arrangements include the State of Alaska, The Tanana Chiefs Conference and the Native villages of Eagle and Circle, the U.S. Forest Service, Bureau of Land Management and the National Park Service.

Hunting, fisheries and trapping are important recreational and subsistence activities in the Upper Yukon River valley.

It is assumed that these would continue to be managed by the State.

The interest of Natives in participating in the comprehensive program for the entire segment is unknown. However, since there is long range opportunity for economic gain through the provision of guiding services, rental equipment, and supplies to people visiting the area, it is assumed that there may be interest.

The U.S. Forest Service fully concurs with the recommendation that the Upper Yukon River possesses these qualities necessary and is a good potential for inclusion in the National Wild & Scenic Rivers System. Although that agency has recommended establishment of a Fortymile National Forest, there are no plans which can be related to the river corridor even in conceptional form.

The Bureau of Land Management is, and has been, the land manager of the Upper Yukon River Valley. It was through the efforts of that agency in 1963 that information was assembled in the resource values of the river. In 1970 the "Fortymile Unit" encompassing some 12,450,000 acres in east-central Alaska and included all of the U.S. portion of the Upper Yukon River basin discussed in this report. In 1969 a draft proposal for classification of

the much larger unit was prepared and in 1970 a series of public meetings were held to obtain public comment. The preliminary plan was also sent to the Alaskan Congressional delegation, the House and Senate Committees and Interior and Insular Affairs, the Governor of Alaska, and the Public Land Law Review Commission. On May 9, 1970, the proposed classification was published in the Federal Register, Vol. 35, No. 91, p. 7311-12. Final action was suspended with enactment of ANCSA.

Materials in the official files of the Fairbanks District Office, Bureau of Land Management, relating to the proposed classification were carefully reviewed. These documents, combined with field investigations during 1972, are the basis for the concepts of protection, development, and management of the river corridor.

A significant element of the proposed classification was the concept that peregrine falcon nesting sites should be protected. Major sites identified for withdrawal from location and entry under the U.S. mining laws or mineral leasing laws were: Calico Bluff, Montauk Bluff, Nation Reef, Kathul Mountain, McGregor Bluff and Tacoma Bluff. Additionally, it was proposed that public use areas be reserved

at the mouths of the following clear water streams:

Severnymile River, Tatonduk River, Nation River, Kandik River, Charley River, and Webber and Thanksgiving Creeks.

The plans of the National Park Service are unknown at this time.

Specific plans for protection and management of the unique historic and natural values of the Eagle-Circle Canyon and its relationship to adjacent areas are not available. However, it is the preliminary judgement that inclusion in the National Wild & Scenic Rivers System may not be the best method for preserving these high public values for the use and enjoyment of present and future generations of Americans.

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Type all entries - complete applicable sections)

STATE: Alaska	
COUNTY: Fourth Judicial Division	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

1. NAME				
COMMON: Eagle Historic District				
AND/OR HISTORIC: City of Eagle/Ft. Egbert				
2. LOCATION				
STREET AND NUMBER: Sections 24, 25, & 36, Township 1 South, Range 32 East; Sections 19, 30, & 31, Township 1 South, Range 33 East; Section 1,				
CITY OR TOWN: Township 2 South, Range 32 East; Sections 4, 5, 6, Township 2 South, Range 33 East, Fairbanks Meridian				
STATE Alaska	CODE 99738	COUNTY: Fourth Judicial Division	CODE	
3. CLASSIFICATION				
CATEGORY (Check One)		OWNERSHIP	STATUS	ACCESSIBLE TO THE PUBLIC
<input checked="" type="checkbox"/> District <input type="checkbox"/> Site <input type="checkbox"/> Object	<input type="checkbox"/> Building <input type="checkbox"/> Structure <input type="checkbox"/> Both	<input type="checkbox"/> Public <input type="checkbox"/> Private <input checked="" type="checkbox"/> Both	<input checked="" type="checkbox"/> Occupied <input type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress	Yes: <input checked="" type="checkbox"/> Restricted <input type="checkbox"/> Unrestricted <input type="checkbox"/> No
PRESENT USE (Check One or More as Appropriate)				
<input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Educational <input type="checkbox"/> Entertainment	<input type="checkbox"/> Government <input type="checkbox"/> Industrial <input type="checkbox"/> Military <input checked="" type="checkbox"/> Museum	<input checked="" type="checkbox"/> Park <input checked="" type="checkbox"/> Private Residence <input type="checkbox"/> Religious <input type="checkbox"/> Scientific	<input checked="" type="checkbox"/> Transportation <input type="checkbox"/> Other (Specify)	<input type="checkbox"/> Comments
4. OWNER OF PROPERTY				
OWNER'S NAME:				
STREET AND NUMBER:				
CITY OR TOWN:		STATE:	CODE	
5. LOCATION OF LEGAL DESCRIPTION				
COURTHOUSE, REGISTRY OF DEEDS, ETC:				
District Recorder				
STREET AND NUMBER:				
604 Barnette Street				
CITY OR TOWN:		STATE	CODE	
Fairbanks		Alaska	99701 02	
6. REPRESENTATION IN EXISTING SURVEYS				
TITLE OF SURVEY: The National Survey of Historic Sites and Buildings, Theme XXI, Political and Military Affairs, 1865-1910; Special Study: Alaska History				
DATE OF SURVEY: 1961 <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> County <input type="checkbox"/> Local				
DEPOSITORY FOR SURVEY RECORDS:				
National Park Service				
STREET AND NUMBER:				
801 19th Street, N.W.				
CITY OR TOWN:		STATE:	CODE	
Washington		D.C.	11	

STATE:

COUNTY:

ENTRY NUMBER

DATE

FOR NPS USE ONLY

7. DESCRIPTION

(Check One)

CONDITION

☐ Excellent☐ Good☒ Fair☐ Deteriorated☐ Ruins☐ Unexposed

(Check One)

☒ Altered☐ Unaltered

(Check One)

☐ Moved☒ Original Site

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

Focal point of the district is the City of Eagle, with its adjacent site of old Fort Egbert. Within the townsite are several historic buildings such as the old Customs House, Federal Courthouse, and commercial buildings. Fort Egbert ruins preserve such complete and partial structures as quarters, stables, a granary, and a hospital. Foundations of many other buildings are apparent, as are remains of an unusual heated pipeline that carried water to the fort from a nearby creek. Fort Egbert's parade ground is in use as a grass airstrip.

Over one-hundred buildings can be counted in photographic vistas of the fort and city, circa 1900; other historic pictures reflect a heavy river traffic, logging and mining activities.

Condition of surviving structures ranges from excellent, for the Federal Courthouse maintained by the Eagle Historical Society, to fair for Fort Egbert buildings, to literal "ruin" for pipeline remnants.

A variety of architectural styles are evident in Eagle Historic District. Surviving historic fabric in many instances displays the rudimentary construction technique applied in building what is known today as Amundsen's Cabin, but more sophisticated approaches can be seen in the pseudo classical false front of the old Alaska Commercial Company store and the pragmatic fire station-pumphouse structure. Buildings that remain from the period of brisk government activity in Eagle (the U.S. Customs House, U.S. Courthouse, Fort Egbert NCO Quarters, and the Mule barn) typify a more technically competent approach to construction. But even these structures cannot be associated with defined architectural schools. In the more substantial buildings the use of balloon-type wood framing was common in Eagle, as it was in towns of the Western United States at the turn of the century.

SEE INSTRUCTIONS

PERIOD (Check One or More as Appropriate)

☐ Pre-Columbian☐ 16th Century☐ 18th Century☒ 20th Century☐ 15th Century☐ 17th Century☒ 19th Century

SPECIFIC DATE(S) (If Applicable and Known)

AREAS OF SIGNIFICANCE (Check One or More as Appropriate)

Aboriginal

☐ Prehistoric☐ Historic☐ Agriculture☐ Architecture☐ Art☐ Commerce☒ Communications☐ Conservation☐ Education☐ Engineering☐ Industry☐ Invention☐ Landscape☐ Architecture☐ Literature☒ Military☐ Music☐ Political☐ Religion/Philosophy☐ Science☐ Sculpture☐ Social/Humanitarian☐ Theater☒ Transportation☐ Urban Planning☒ Other (Specify)Judicial

STATEMENT OF SIGNIFICANCE

In its heyday, the City of Eagle served as military, judicial, communications, and transportation hub for interior Alaska. Contemporary pictures (circa 1900) show a sprawling town and military complex characterized by substantial buildings, modern communications, busy commerce and industry.

The Army established Fort Egbert in 1899 to maintain law and order along the upper reaches of the Yukon River, and later located headquarters of the District of North Alaska at the post, which was deactivated in 1925. In 1900, interior Alaska's first judicial seat operated there under the state's foremost jurist, Judge James V. Wickersham; however, in 1904 a shift in mining activity caused removal of the court to Fairbanks. In 1901 Teddy Roosevelt signed a charter making Eagle the first incorporated city in interior Alaska.

The Valdez-Eagle telegraph trail (partially work of the later famous Billy Mitchell) was completed in October 1901, providing an electronic link from sub-Arctic to continental United States. As northern terminus of the wires, Eagle attracted Arctic explorer Roald Amundsen. He reached Eagle in December 1905, trekking from his sloop Glean, ice-locked in the Arctic Ocean, to announce discovery of the long sought Northwest Passage. (continued)

9. MAJOR BIBLIOGRAPHICAL REFERENCES

Amundsen, Roald, My Life as an Explorer, Doubleday, Page, and Company (Garden City, New York: 1927).
The Army's Role in the Building of Alaska, Headquarters United States Army, Alaska (APO Seattle 98749: 1969)
Wickersham, James V., Old Yukon Tales--- Trails---and Trails, Washington Law Book Company (Washington, D.C.: 1938).

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds	
NW	64° 49' 14.445N	141° 14' 23.21W				
NE	64° 49' 14.445N	141° 06' 20.002W				
SE	64° 47' 46.28N	141° 06' 20.002W				
SW	64° 47' 46.28N	141° 14' 26.21W				

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 0.400

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

11. FORM PREPARED BY

NAME AND TITLE:
William S. Hanable, State Parks Historian

ORGANIZATION
Division of Parks

DATE
Jan. 6, 1971

STREET AND NUMBER:
323 E. Fourth Avenue

CITY OR TOWN:
Anchorage

STATE
Alaska

CODE
99501

CODE
02

12. STATE LIAISON OFFICER CERTIFICATION

NATIONAL REGISTER VERIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National ☒ State ☒ Local ☐

Name Theodore G. Smith
for: THEODORE G. SMITH

Title State Liaison Officer for the Historic Preservation Act of 1966

Date January 6, 1971

I hereby certify that this property is included in the National Register.

Chief, Office of Archeology and Historic Preservation

Date _____

ATTEST: _____

Keeper of The National Register

Date _____

SEE INSTRUCTIONS

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE	
Alaska	
COUNTY	
4th Judicial Div.	
FDR NPS USE ONLY	
ENTRY NUMBER	DATE

(Number all entries)

7. Boundaries of Eagle Historic District are drawn not only to protect the townsite and those more readily evident remains of Fort Egbert, but also to preserve the total historical environment. To the north Eagle Bluff dominates the district today as it did historically. The choice of Eagle's location may in part be attributed to Eagle Bluff's role in shielding the site from fierce willawas bringing Arctic air from polar regions. This natural feature is included then both for its aesthetic and historical value. Closer to the town (in R. 32 E.; T. 1 S.; Sec. 25; SE. $\frac{1}{4}$;) traces of the pipeline to American Creek can be found, as can ancillary heating units of the line. Elden Field, a modern gravel airstrip built during World War II, scars the landscape to the east and is omitted from the district, as are the impermanent structures of Eagle Village. These last two areas are shielded from Eagle proper by thick stands of birch, but the vista across the Yukon which extends along the line of magnetic North must be protected. This expanse is essential in presenting Eagle Historic District's role as gateway to the interior Arctic.

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE Alaska	
COUNTY Fourth Judicial	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

(Number all entries)

8. Statement of Significance (continued)

Communications needs declined with decreasing population, and the radio link that had replaced the telegraph in 1922 subsequently passed into private hands.

U.S. Customs House records, still to be seen at Eagle, reflect scores of river packets vying for trade along the North's most populated river banks. Serving Yukon towns as far south as Whitehorse, these sternwheelers operated in an inland-international trade unique in United States inland river history. Not only was Eagle a major landing for river boats, it was also final break-in-bulk point on the "All American" or TransAlaska Military Road to the interior. Pack trains, mule-drawn wagons, and dog sleds traveled this route that paralleled the telegraph trail from Valdez.

Traces of insulated pipeline which carried hot water to Fort Egbert can still be seen, as can boilers and heating stations. The line is of both historic engineering interest and current ecological interest, as predecessor to a proposed North Slope-to-the-Sea oil pipeline.

Just as discovery of gold in the Fairbanks region had siphoned off Eagle's population, completion of the Alaska Railroad dried up Yukon River steamboat traffic and overland travel from Valdez. From a peak population of 3000 in its heyday, the City of Eagle had shrunk to 28 in the 1970 census. Even the soldiers' bodies have been exhumed from the Fort Egbert cemetery; however, the district's historical values, aura, and architecture remain.