BIRCH CREEK, 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 20, 1973

Bureau of Outdoor Recreation
Alaska Task Force

PRELIMINARY DRAFT ---
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BIRCH CREEK

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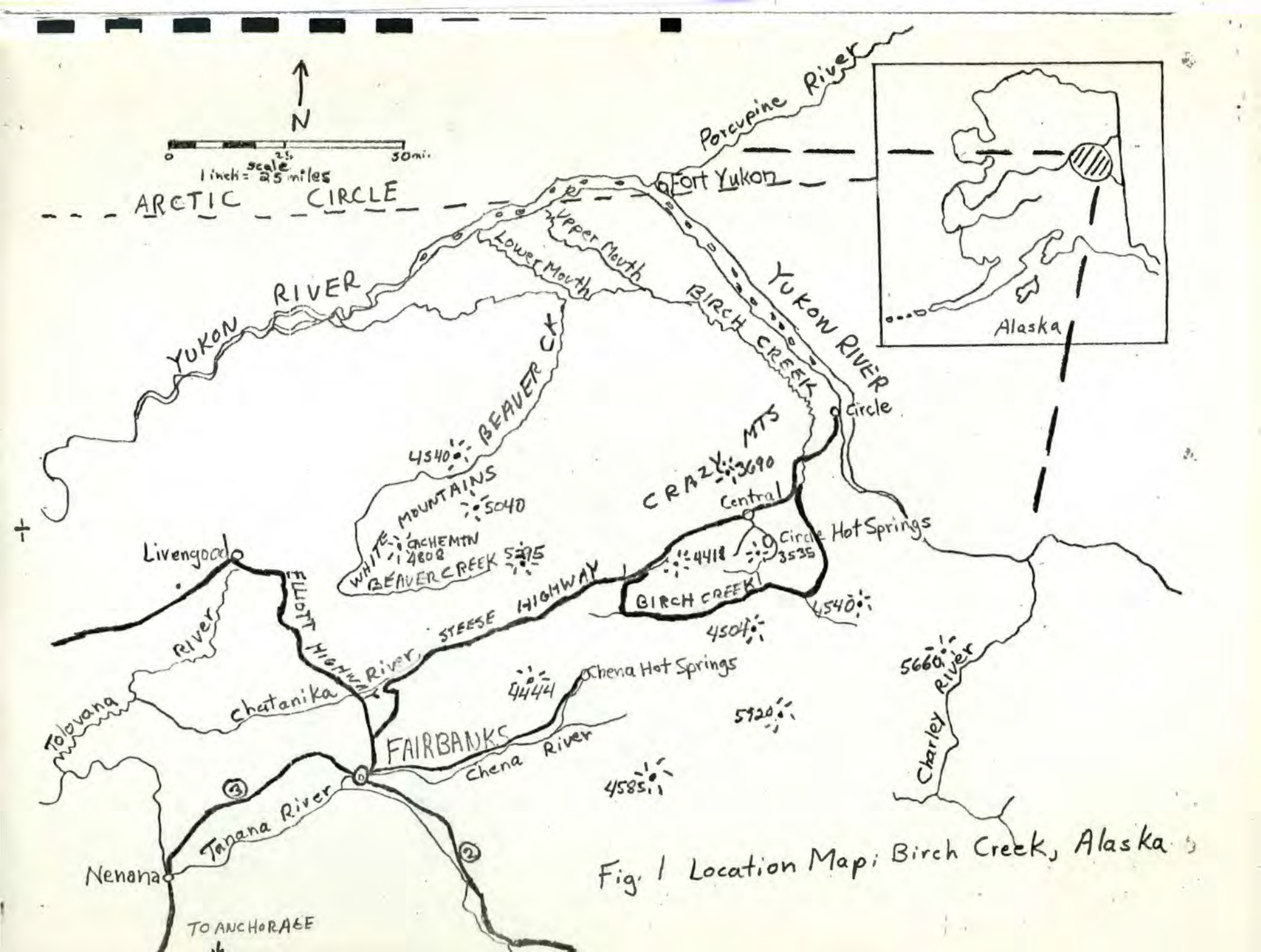

Fig. 1 Location Map; Birch Creek, Alaska

I. INTRODUCTION

This report evaluates the free-flowing character of a segment of Birch Creek, Alaska, as a basis for determining whether the river qualifies for inclusion in the National Widl 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 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. 92-542, was approved on October 2, 1968. As stated by the Congress of the United States in that Act:

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

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

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

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

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

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

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

Alaska Native Claims Settlement Act

The Alaska Native Claims Settlement Act (ANCSA), P.L. 90-203 was approved on December 18, 1971. In that Act the Congress declared that:

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

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

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

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

The upper segment of Birch Creek, Alaska has been withdrawn under this provision of ANCSA.

Background

It is probable that all Alaskan rivers meet the minimum criteria established by the Congress for inclusion in the National Wild and Scenic Rivers System. Therefore, the first task was to determine the types of Alaskan rivers which sould 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 has having high potential value (see Fig. 5, p. 29). These rivers were selected without regard to existing or potential ownership by Federal, State or Native groups.

For many years prior to the passage of the Wild and Scenic Rivers Act in 1968, the outstanding values of Birch Creek were recognized by the Bureau of Land Management in their planning processes. The unique character of upper Birch Creek was first officially recognized in 1969 when the land manager, BLM, identifield it as one of 12 road-accessible waterways in the publication "Alaska Canoe Trails." Birch Creek was subsequently included in the current Alaska Statewide Comprehensive Outdoor Recreation Plan's (SCORP) inventory of 399 miles of "formal" canoe trails in Alaska. The SCORP is prepared by the State of Alaska and the current plan was published in 1970.

Birch Creek was also identified by BLM as one of several Alaskan rivers having potential for inclusion in the National Wild and Scenic Rivers System. A list of these potential rivers, including Birch Creek, was included in the Alaska SCORP (Volume II. p. 51).

On May 9, 1970, the Bureau of Land Management published notice in the Federal Register of a proposed classification of the White Mountain unit under the provisions of the Classification and Multiple-Use Act. The upper Birch Creek drainage was included in that proposed classification as an area to remain in Federal ownership and administration under the concepts of multiple use. The proposed classification was not finalized.

On September 11, 1970, the Secretary of Interior and the Secretary of Agriculture announced a list of 47 rivers, including Birch Creek, identified as potential additions to the National Wild and Scenic Rivers System. These rivers were identified under the terms of Section 5(d) of the Wild and Scenic Rivers Act of 1968 which provides for the evaluation of identified rivers in planning reports by all Federal agencies as potential alternative uses of the water and related land resources.

In March 1972, the upper Birch Creek basin was initially withdrawn by the Secretary of the Interior as "public interest lands" under the terms of Section 17 (d)(1) of the Alaska Native Claims Settlement Act (ANCSA).

On September 15, 1972, the Secretary of the Interior made final revisions of the March withdrawals. A two-mile corridor -- one mile to either side of the river -- was withdrawn around the entire 135 mile upper segment of Birch Creek under Section (d)(2) of ANCSA.

Conduct of the Study

As the designated lead agency for wild and scenic river studies, the Bureau of Outdoor Recreation established an Alaskan Task Force on May 16, 1972, for the sole purpose of studying and making recommendations on rivers in Alaska having potential for inclusion in the National System. Aerial reconnaissance and on the ground inspection

via canoe was conducted on Birch Creek during the summer of 1972 in the course of these studies.

The conduct of the Birch Creek study is viewed as a cooperative venture among appropriate Federal, State, and local agencies and organizations. During the course of this study, participation from all concerned Federal, State, and local agencies and organizations was solicited. This report reflects all preliminary comments and information received. 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 Indian Affairs
Bureau of Land Management
Bureau of Mines
Bureau of Sport Fisheries & Wildlife
Geological Survey
National Park Service

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

II. SUMMARY OF FINDINGS AND RECOMMENDATIONS

Findings

This study found that the upper Birch Creek, Alaska possessed values which qualify it for inclusion in the National Wild and Scenic Rivers System. The upper Birch Creek and its immediate environment fulfill the requirements of the Wild and Scenic Rivers Act, and 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 92-542, February 1970.

- Birch Creek is an intermediate sized north-flowing clearwater tributary to the Yukon River.
- The character of Birch Creek and its immediate environment is primitive, reflecting virtually no signs of man.
- A road intersects the primitive river segment at an upstream and downstream point.
- Outstanding examples of the Birch Creek schist formation are found along the river.
- The rare and endangered American peregrine falcon is known to nest in cliffs adjacent the river.

- Some archeologic evidence of early Native peoples has been found in the lower section of the Birch Creek segment.
- The vegetation, topography, and rock formations combine to give the segment exceptional scenic values.
- The primitive character, limited road accessibility, the swift current and whitewater of the river, wildlife, and scenic qualities all contribute to the outstandingly remarkable recreational values of the river area.

It has also been found that:

- Development of the recreation resources of Birch Creek area is consistent with the Alaska Statewide Comprehensive Outdoor Recreation Plan (1970).
- The range and quality of the outstanding resources of this river area are not duplicated by other Alaskan free-flowing river areas having high potential for inclusion in the National Wild and Scenic Rivers System.
- Virtually the entire river areas is in federal ownership, and there is a continuing overall Federal interest in the long-term management of public resources in the Birch Creek area.
- There are no significant commercial timber resources

or mineral resources in the immediate river area.

- No water resource projects are proposed along this river segment.

Recommendations

- It is recommended that a 135 mile segment of Birch Creek from the Butte Creek confluence in the headwaters (T. 7 N., R. 10 E., Fairbanks Meridian) to the vicinity of the Jumpoff/Crooked Creek confluence (the north limit of T. 9 N., R. 16 E., Fairbanks Meridian) be included in the National Wild and Scenic Rivers System, along with approximately 150,000 acres of public land comprising the immediate environment of the river. The corridor included in the National System would average no further than 2 miles to either side of the mean highwater line of Birch Creek.
- Approximately 15 miles of river downstream of the proposed lower boundary has been withdrawn under the Alaska Native Claims Settlement Act for Native selection. Ownership, public access, and other land questions will not be settled in this area for several years. However, this section has been found to possess outstanding recreational potential and would be a logical extension to a wild and scenic river designation upstream. It is recommended that this section be studied at a later date in full cooperation with Native groups, for potential inclusion in the national system.

- It is recommended that the entire segment be classified and managed as a "wild river area" as defined in section 2 (b)(1) of the Wild and Scenic Rivers Act.
- It is recommended that the entire corridor be administered by the Federal government, and further that the Federal agency managing the lands adjacent the river corridor, the Bureau of Land Management, be designated the manager of the corridor. The managing agency would prepare detailed management and development programs and lateral boundaries within one year of inclusion of the segment in the National System by Congress.
- It is recommended that, subject to valid existing rights, the minerals in Federal lands which are made part of the wild river area be withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws.

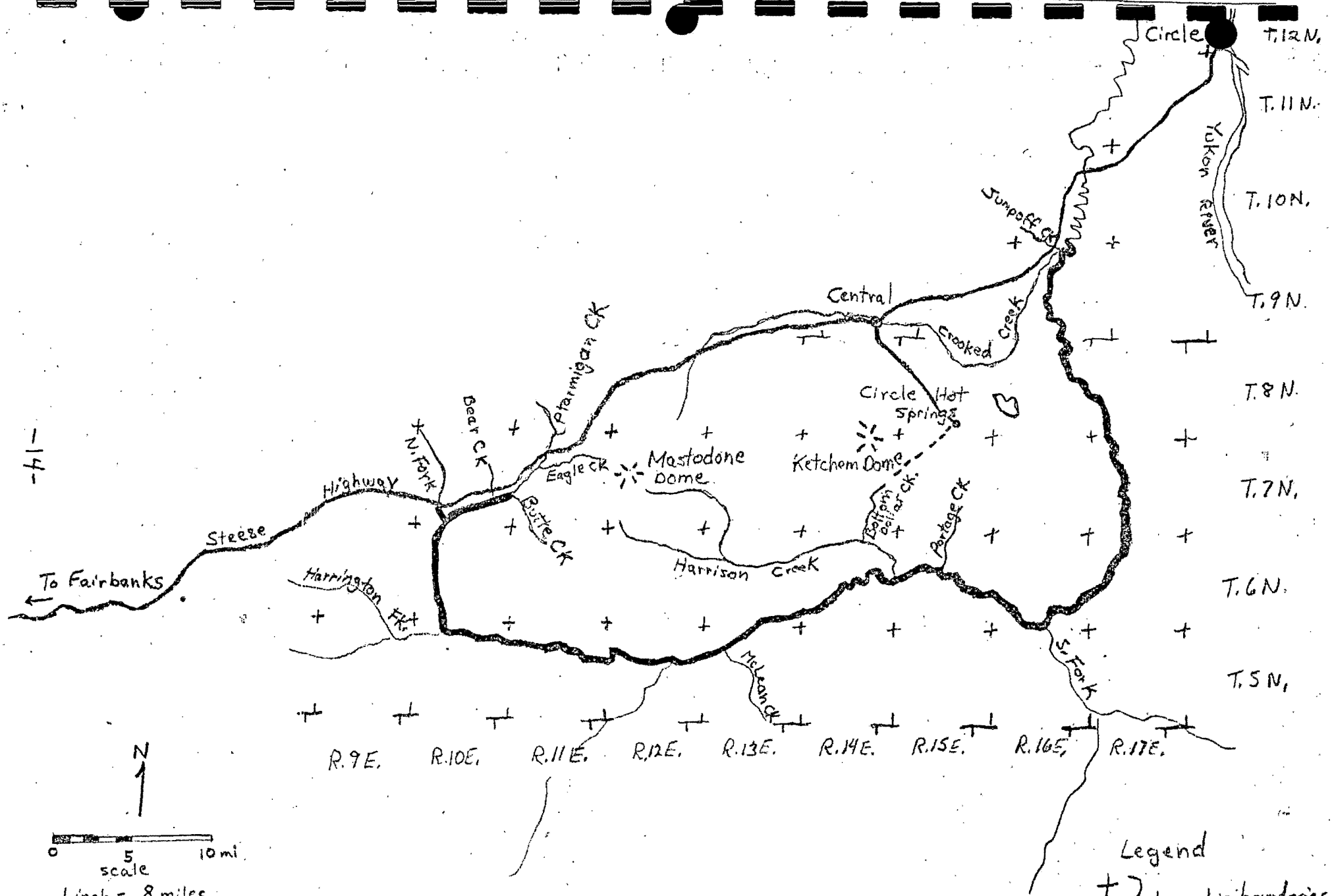

Figure 2
The Proposed Birch Creek Wild River

III. STATE AND REGIONAL SETTING

Landscape

Birch Creek is located approximately in the center of an immense region generally referred to as Interior Alaska. This region is generally comprised of the lands drained by the Tanana River and upper Yukon River. From the Brooks Range in the north and from the Alaskan Range in the south waters drain into the interior focalizing on the Yukon River which transects the region east to west (see Figure 3).

The Interior is characterized by alternating upland plateaus and marshy lowlands. The uplands are often made up of rounded, even-topped ridges with gentle slopes, sometimes surmounted in places by compact rugged mountain groups, 4,000 to 5,000 feet in altitude (e.g., White and Crazy Mountains).

Permafrost is discontinuous over the Interior except in the extensive "flats" areas (elevations - 200 to 1,000 feet) adjacent the Tanana and Yukon River where permafrost underlies most of the area. Because of the low relief and poor drainage of these areas, extensive marshes and muskegs are present.

The region is largely undeveloped except around Fairbanks. The thin spruce-birch forest covering much of the region is virtually uncleared. However, fires

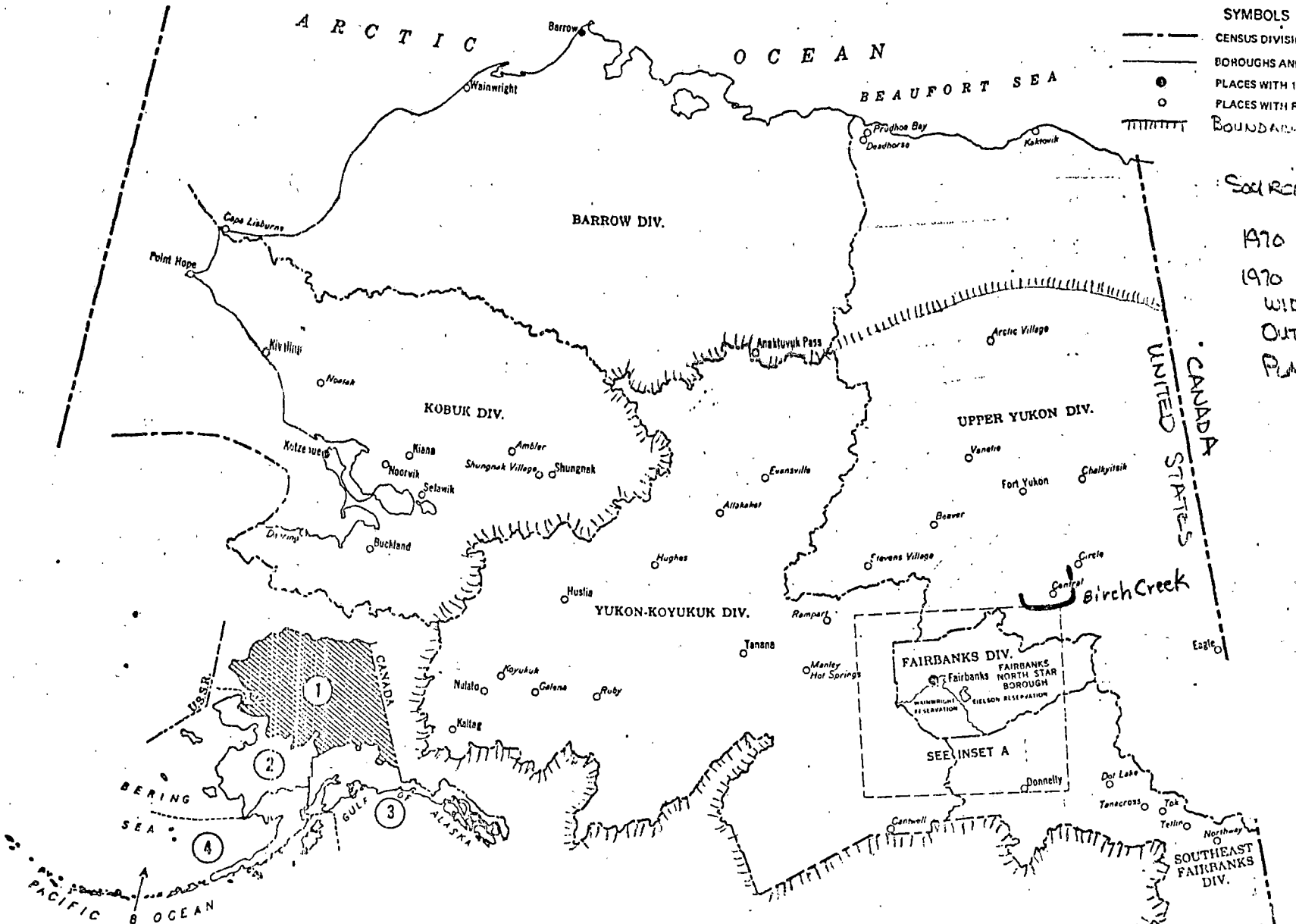

FIGURE 3 PLANNING REGIONS FOR POPULATION-ECONOMIC & RECREATION FACTORS, Birch Creek, ALASKA.

SOURCES:

1970 CENSUS -

1970 ALASKA STATE-WIDE COMPREHENSIVE OUTDOOR RECREATION PLAN

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(mostly lightening-caused) are endemic to the Interior and large areas show evidence of both recent and historic burns.

Climate

The region experiences a typical Sub-Polar continental climate, severe winters and warm summers. After freeze-up of the rivers and marshes in October, the region is a source for very cold, continental arctic air. Extended periods of 50 to 60 degrees below zero temperatures are common and 75 below has been recorded. Summers are short and warm with temperatures reaching the 80's each year and occasionally the 90's. Despite high summer temperatures, however, diurnal variations can be extreme; freezing temperatures have been experienced in each month of the year. Ice break-ups usually occur in May. Sunlight around the Arctic Circle runs the full gamut from 0 hours on December 21 to a full 24 hours on June 21.

The continental climate provides most of the precipitation within the region in normal form of convection showers. Between 5 and 15 inches of precipitation fall with snowfalls averaging between 45 and 60 inches.

The climate has a profound influence on the overall environment of the region. Soils, vegetation, wildlife, land uses, and even the human environment all show the marked effects of having to adapt to the harse natural elements.

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 precent 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 of Alaska will be 331,000 by 1975 and 565,000 by 2000.

The Birch Creek segment 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, has 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 closest to the Birch Creek segment are Central and Circle;Central has a 1970 population of 26 and Circle had 54.

Immediately to the south of the Upper Yukon Census Division is the Fairbanks Census Division. Because of the highway access from Fairbanks to Circle, this

population division has an influence on the Birch Creek area. The Fairbanks Division has a 1970 population of 45,864 or roughly 15% of the total state population.

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 education 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 spend $18.2 million to 130,000 visitors and $45 million. In 1972 there were slightly more than 161,000 tourists and a preliminary estimate of 190,000 in 1973. Expenditures by tourists were distributed as follows: 30 percent lodging, 20 percent each restaurants and transportation, and 10 percent each food stores, merchandise and other services.

Information developed by the University of Alaska indicates that of the over $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 for investment cost, transportation, resource ownership and climate that inhibit mineral development also depress outdoor recreation growth.

Sport fishing and hunting are also significant contributors to the Alaskan economy. Information developed by the Alaska Department of Fish and Game indicates that sport fishing in Alaska contributes 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 on 1970. There are similar imbalances in family incomes between white and non-white families.

A simple 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 is probable that minerals (other than oil and gas) and tourism will be the most significant economic growth poentials.

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 signficant activity in the region which now offers cash potential in this life style.

Transportation

Because of the state's great distances, sparse populations and adverse topography, Alaska relies heavily upon air rather than surface transportation. Figure 4

illustrates existing transportation systems in the region. In addition to the airports shown, numerous bush strips exist for use by light aircraft. Fairbanks is the Interior's transportation hub with four major highways radiating from the city: one to Anchorage, one to Canada and "outside," and two leading north further into the Interior (the Steese Highway and Elliott Highway). Via the Steese Highway, the Birch Creek segment is located approximately 100 miles northeast of Fairbanks.

Daily air service exists to Fairbanks and Ft. Yukon and periodic commercial service is available to all villages. Barge transportation exists on the Yukon river upstream to Fort Yukon. The Alaska Railroad connects Fairbanks with Anchorage.

Long-range considerations by the Alaska Department of Highways for expansion of the existing regional highway net include: a road from the Elliott Highway through Bettles to the North slope oil fields, a road from Circle to Ft. Yukon and north to Arctic Village and the North Slope, a road from Eagle to Circle and a road connecting the Alaska highway near Fairbanks with the Taylor Highway near Eagle.

Recreation

The current Alaska Statewide Comprehensive Outdoor Recreation Plan indicates a great need for additional recreational resources in the state to satisfy local,

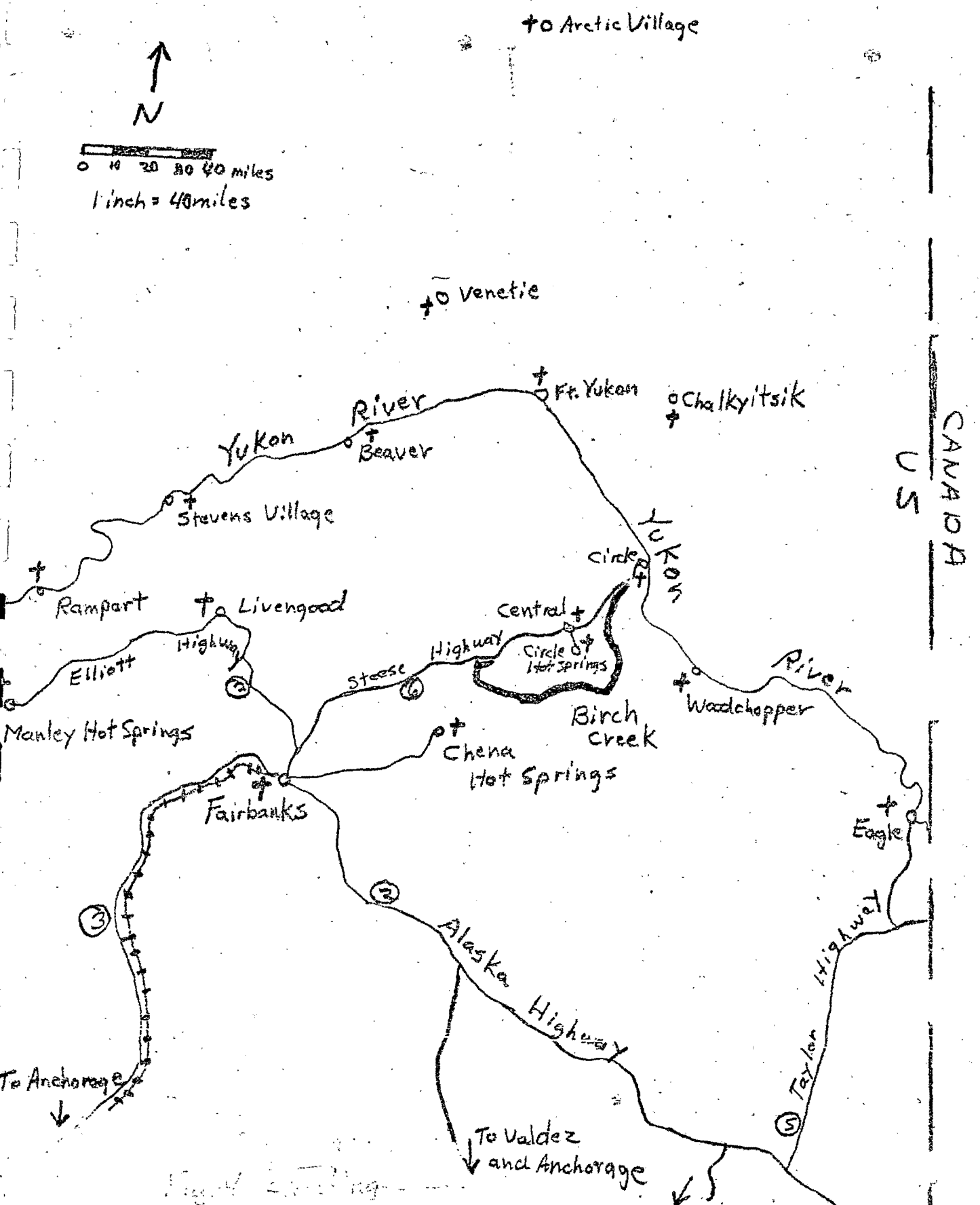


Fig. 4 Transportation Systems in the Interior Region

≠ railroad

+ airstrips at selected villages

statewide, and out-of-state demand. In Volume I of the SCORP (p. 27) it is stated:

> "The analysis of recreation needs indicates a major need for trail development in Alaska, 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 indicates an increase of between 235 and 516 percent for selected activities between 1967 and 1980. Of these, trail-related outdoor recreation activities are the most popular. By 1980 trail-related activities -- a form of outdoor recreation in which 85 percent of residents and nonresidents participate -- will increase by 249 percent. The State further anticipates that trail-related activities will maintain its top ranking as the most popular activity (table 1).

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 2).

It should be noted that the data presented in Tables 1 and 2 were based upon the primary assumption that approximate land status would continue. These projections would be most conservative in the event all or substantial portions of the public lands withdrawn under Sec. 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 in 1970 data appear conservative.

The Birch Creek has been identified by the Bureau of Outdoor Recreation as one of 40 Alaskan rivers (Fig. 5)

Table 1. Forecast of Total Annual Demand for Selected Outdoor Recreation Activities, Alaska, 1970, 1975 and 1980.

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.

having high potential for inclusion in the National Wild and Scenic Rivers System. Of these 40 select Alaskan free-flowing rivers, 15 (including Birch Creek) are located within the Interior Region. Within the close proximity of the Birch Creek are the following select river areas:

Table 2 Comparison of available Outdoor Recreation Facilities and Projected Peak Day or Average Day Demand for Selected Activities in the Interior Region, Alaska.

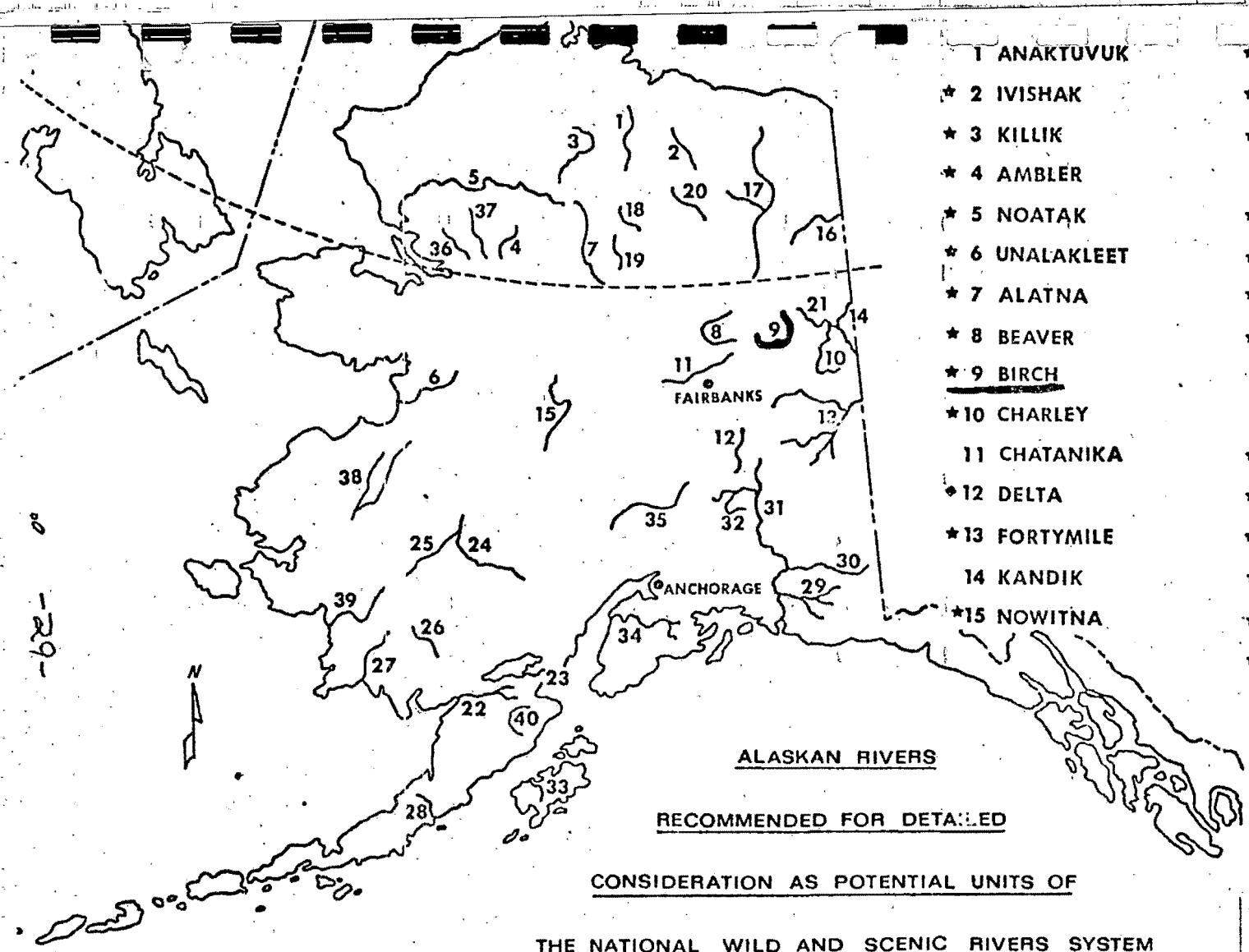
Activity	Facilities[1]	Participants[2] 1975	1980	2000
Hiking	54 mi.	3,500	3,800	6,200
Canoeing	137 mi[3]	2,200	2,400	3,200
Cross-Country Skiing	none	100	200	300
Snowmobiling	50 mi.	1,500	1,600	2,400
Motorboating	29 launching spaces	3,950	4,800	8,800
Picnicking	157 units	14,700	17,200	29,200
Developed 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



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

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 FORTYMILE
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

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Fig. 5 Alaska rivers having high potential for Inclusion in National Wild and Scenic

Beaver Creek

Charley River

Chatanika River

Yukon River between the United States-Canadian border and Circle

Each of the four rivers in the close proximity of the Birch Creek segment are distinctive from each other. These differences are summarized in Appendix B.

Although important to development of statewide system of free-flowing river areas which includes representation samples of the various types of rivers in Alaska, specific action has not been considered or recommended for the Chatanika. This river lies primarily within lands owned or selected by the state. Separate reports evaluating the values of the other three areas in the close proximity of the Birch Creek Segment 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 3). 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.

IV. DESCRIPTION AND ANALYSIS

The River and its Setting

The small mountain streams of Eagle Creek and Ptarmigan Creek converge to form Birch Creek approximately 65 air miles northeast of Fairbanks, Alaska (101 miles by road). From this point, the river flows generally northward for 314 miles before emptying into the Yukon River about 125 miles north of Fairbanks and three miles south of the Arctic Circle. The first 100 miles of the river flows through a broad valley surrounded by the rolling hills and low mountains of the Yukon-Tanana uplands. The next 50 miles traverse the upper regions of the Yukon "flats," where relief diminishes and the uplands are separated from the river by several miles of tundra marshlands. Beyond the Steese Highway bridge at Mile 147 Birch Creek meanders its way across the heart of Yukon "Flats." Relief is minimal and drainage is poor across this expanse of forest and muskeg. At times, the main channel is obscured by the hundreds of older channels and oxbow lakes. The river divides into two forks before converging with the Yukon - the upper Mouth joining the Yukon more than 15 miles upstream from the Lower Mouth.

The river drops from an elevation of 2200 feet in the upper reaches to less than 700 feet around the confluence of Jumpoff Creek or about 12 feet per mile.

In some sections the river drops over 30 feet per mile. From Jumpoff Creek to the confluence with the Yukon, the river drops only 300 feet in over 175 miles, less than 2 feet per mile.

The segment under study is approximately 135 miles long, running from the Butte Creek confluence near Mile 98 of the Steese Highway in the headwaters to the vicinity of Jumpoff Creek/Crooked Creek confluence near Mile 140 of the Steese (T. 7 N., R. 10 E. to T. 9 N., R. 16 E. Fairbanks Meridian).

The study corridor is largely covered with a mixed birch-spruce forest. Aspen groves are common on the hillsides. Along the river banks small stands of large white spruce and balsam poplar flourish. The forest is broken in many cases by black spruce tundra which often indicate areas underlain by permafrost.

Birch Creek is a nonglacial river with very clear waters. The transparent waters of the upper reaches turn slightly brownish in the lower reaches due to presence of organic matter from adjacent bogs and sloughs and from active bank erosion. The bottom is generally gravelly to stoney in character with stretches of exposed bedrock.

In the headwaters, the river averages 10 to 20 yards wide with depths of several inches to 4 feet. In the lower portions the river widens to 30 to 50 yards with

depths averaging 4 to 8 feet. Fifteen foot pools are not uncommon, however.

Maximum discharge of the river is usually reached after spring break-up in early May resulting from snow melt and spring rains. High water levels can also occur in late July or early August after a large summer rainstorm. Extreme low flows occur during winter. Water temperatures range from near 32° F. during winter to around 60° F. in July. Ice begins forming in October and by mid-winter thicknesses of 4 feet or more are common.

Water Quality

No water quality studies have been done on Birch Creek. However, the water throughout the study segment is readily used without chemical treatment by recreationists for drinking purposes. The only potential sources of pollution from sewage disposals would be the several homesites and one commercial establishment located in the headwaters above the study segment and from recreationists. No evidence of pollution from these sources has been observed or noted.

Low temperature conditions have been reported to be conducive to prolongation of the life of pathogenic bacteria. Although the present low use levels of the river area appear to pose no health problems, indiscriminate disposal of wastes by larger numbers of recreationists or river users could lead to health risks in the future.

Whereas the river generally carries a relatively small amount of sediment the water discharged by the tributaries, Harrison Creek, and Eagle Creek are sometimes opaque due to a heavy sediment load. Eagle Creek joins Birch Creek about 2 miles above Butte Creek in the headwater area. Harrison Creek converges with Birch Creek about 50 miles from the headwaters. For several miles downstream from these confluences a discoloration of the water can be perceived due to the influx of suspended sediment. This sediment is reported by BLM and State Fish and Game personnel to be a result of the placer gold mining methods being employed in the Harrison Creek and Eagle Creek drainages outside the study area.

Land Use

Virtually the entire study segment flows through a primitive environment showing little evidence of man. No permanant habitation, farming, lumbering, grazing mining or similar activities are being undertaken in the river area. Primary existing land uses include canoeing, hunting, fishing, trapping, and other primitive recreational pursuits. The only evidence of man's presence are several log cabins along the 125 mile segment. At least one of these cabins is still being used part of the year for trapping purposes; the rest appear to have been abandoned.

A small amount of subsistence hunting, fishing and trapping may be taking place in the lower section of the study segment.

Several placer gold mining claims exist along the river. These have not been developed and assessment work within the last five years has been recorded for only one of these claims (at McLean Creek).

There is also an oil and gas exploration lease covering approximately 1/2 mile of the river 2 miles upstream from the Jumpoff Creek confluence. No drilling has taken place.

Water Resources Development

No dams or channel improvements have taken place or are being proposed or planned for this river segment. The proposed Rampart Dam in the Yukon River at a maximum pool elevation of 660 feet would inundate Birch Creek upstream up to the lower study boundary (P.L.O. 3520, dated Jan 5, 1965). The boundary of the Rampart Power Site Withdrawal lies approximately 8 miles upstream of the lower study boundary. In the 1971 Report on the Rampart Canyon Project, the District Engineer, Corps of Engineers, recommended that "a project for hydroelectric power generation at the Rampart Canyon site, Yukon River, Alaska not be undertaken at this time.

Land Ownership

Virtually the entire study segment flows through

lands owned by the Federal government and presently managed by the Bureau of Land Management. The only known exceptions to Federal ownership and control are the following:

(1) A native allotment at the Portage Creek confluence. This is a 40 acre parcel filed Sept 27, 1968.

(2) An oil and gas lease in the Jumpoff Creek vicinity involving approximately 1/2 mile of river filed July 1, 1970

(3) A patented homesite at the Jumpoff Creek confluence. This is a 5 acre parcel patented May 9, 1951

(4) Two homesites of 5 acres each applied for May 10, 1968 at the Bear Creek confluence.

In addition, there are several mining claims along the river segment, although assessment work in the past five years has only been recorded for one claim near the confluence of McLean Creek.

With the exception of several small parcels, most of the entire Birch Creek drainage surrounding the study segment is in Federal ownership and managed by BLM. This land outside the 2 mile (d)(2) corridor is classified under section (d)(1) of ANCSA and is withdrawn from all forms of appropriation except metalliferous mining claims.

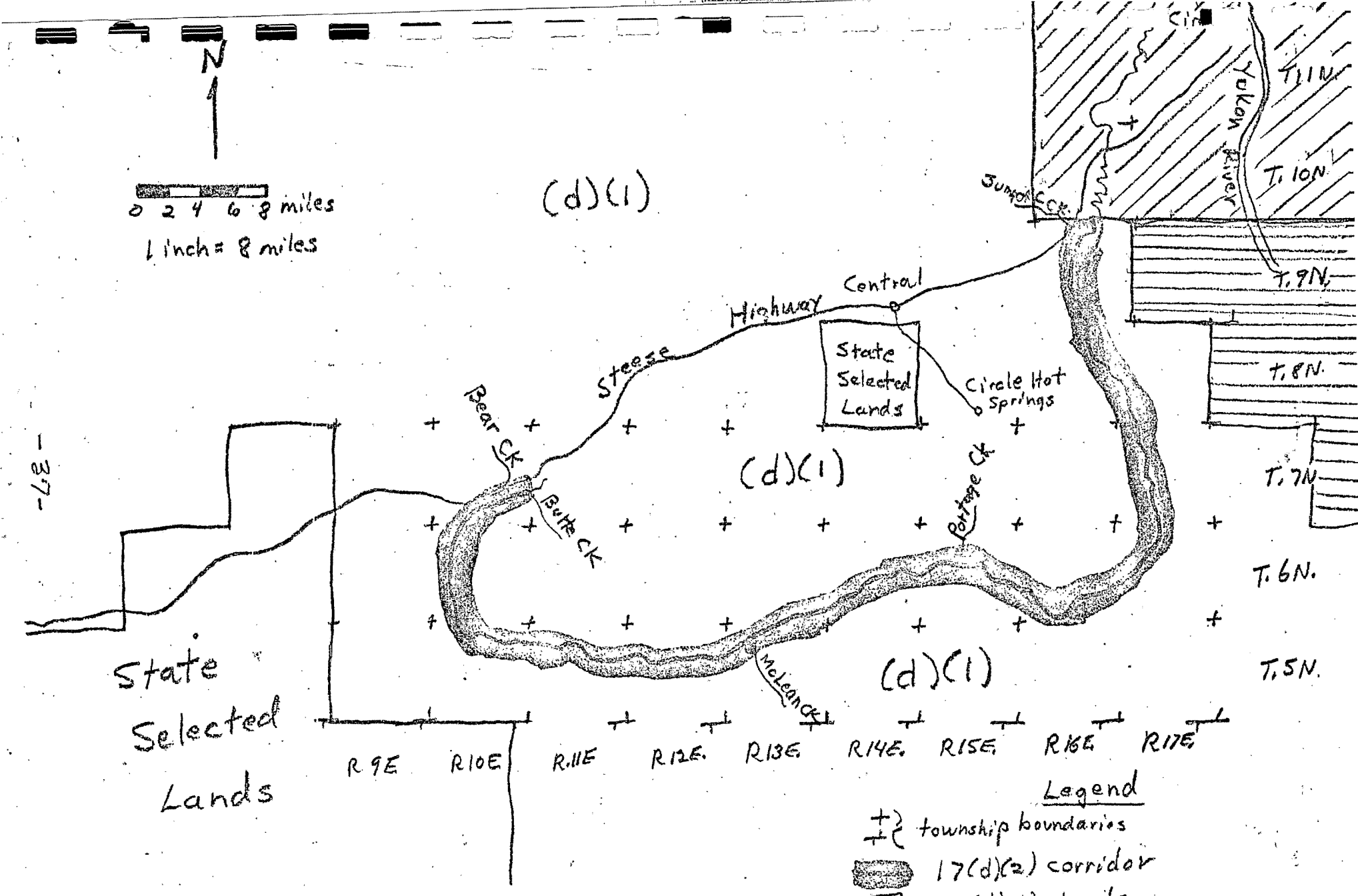


Fig. 6 Land Status, Birch Creek, AK.

If portions of the Birch Creek segment are determined to be navigable (see following section), the ownership of the stream bed on such portions would be retained by the State of Alaska.

The downstream study boundary marks the beginning of lands withdrawn for Native selections under the terms of ANCSA. Native selections are not, as yet, completed in this area. Approximately 60 miles of Birch Creek flow through these lands. Below this withdrawal the approximate 120 miles of Birch Creek are divided between lands withdrawn under Section (d)(2) of ANCSA and lands withdrawn for Native selections.

Water Rights, Navigability, and Streambed Ownership

No rights to water in the Birch Creek study segment have been applied for or granted by the State of Alaska. However, two applications for water rights above the study segment have been filed. One application is for the utilization of up to 800,000 gallons per day from Birch Creek at the Fish Creek confluence. The other would utilize up to 5,000 gallons per day from Eagle Creek. Both applications are for water use in placer mining operations. The effect of future removal (temporary or permanent) of these quantities of waters on downstream river areas has not been assessed.

Under the Alaska Statehood Act, the state owns the river bottom of all "navigable" streams and rivers. The question of which streams are "navigable" has not yet been determined in Alaska. However, under criteria being developed by the State of Alaska to determine streambed ownership, the Birch Creek segment would appear to be "navigable" upstream to the vicinity of Fryingpan Creek.

It is most unlikely that the river has been used as a "navigable" stream in terms of trade or the movement of goods. Upstream navigation by watercraft is precluded much of the segment by the swift current and shallow, rocky streambed. River travel has largely been limited to downstream "floating" by raft or canoe.

Access

The Steese Highway (Alaska State Highway No. 6) runs 162 miles from Fairbanks to Circle, Alaska. The road is presently unpaved and closed by snow from October to early May. This highway intersects the Birch Creek study area at Milepost 94 and Milepost 140. The areas in which this highway comes in contact with the river area generally coincide with the beginning and ending boundaries of the study segment.

At Milepost 94, the highway crosses the North Fork of Birch Creek which converges with Birch Creek approximately 1/2 mile from the road. A primitive four-wheel drive trail leads from the highway to the confluence of the North Fork. From Milepost 94 the road parallels the headwater reaches of

Birch Creek for about 7 miles. At Mile 98 the road approaches the river to within 1/4 mile of the upper study boundary at the Butte Creek confluence.

At milepost 140 a track approximately 1/4 mile long leads from the highway to a privately owned cabin at the Jumpoff Creek confluence. The trail crosses Federally owned lands and is passable by passenger cars in dry weather. The privately owned homesite blocks direct public access from this trail to the river. One mile downstream from Jumpoff Creek the Steese Highway again approaches the river to within 1/4 mile although no connecting trails are present. This point is within the study segment.

No other roads or established trails exist within the study segment. Fifteen miles downstream from the study area boundary, the Steese highway again crosses Birch Creek at Mile 147. This bridge crossing falls with lands withdrawn under ANCSA for Native selections.

Gravel bars throughout the study segment provide landing sites for small aircraft. Float plane access is restricted to the long oxbows and channels in the lower reaches because of shallow waters and short approaches in the upper reaches.

One primitive "bush" airstrip exists in the lower section in T. 7 N., R. 17 E., (Fairbanks Meridian). Small aircraft also land and take off on the Steese Highway.

A crude motoboat launching area presently is being used at the Steese Highway bridge at Mile 147. From this location

motorboat access is possible with normal water levels upstream into the lower study segment. Small rapids and shallow waters 30 to 40 miles upstream of the lower study boundary stop motorized use. Frequent log jams and sweepers all along the lower study segment can also impede motorboat access.

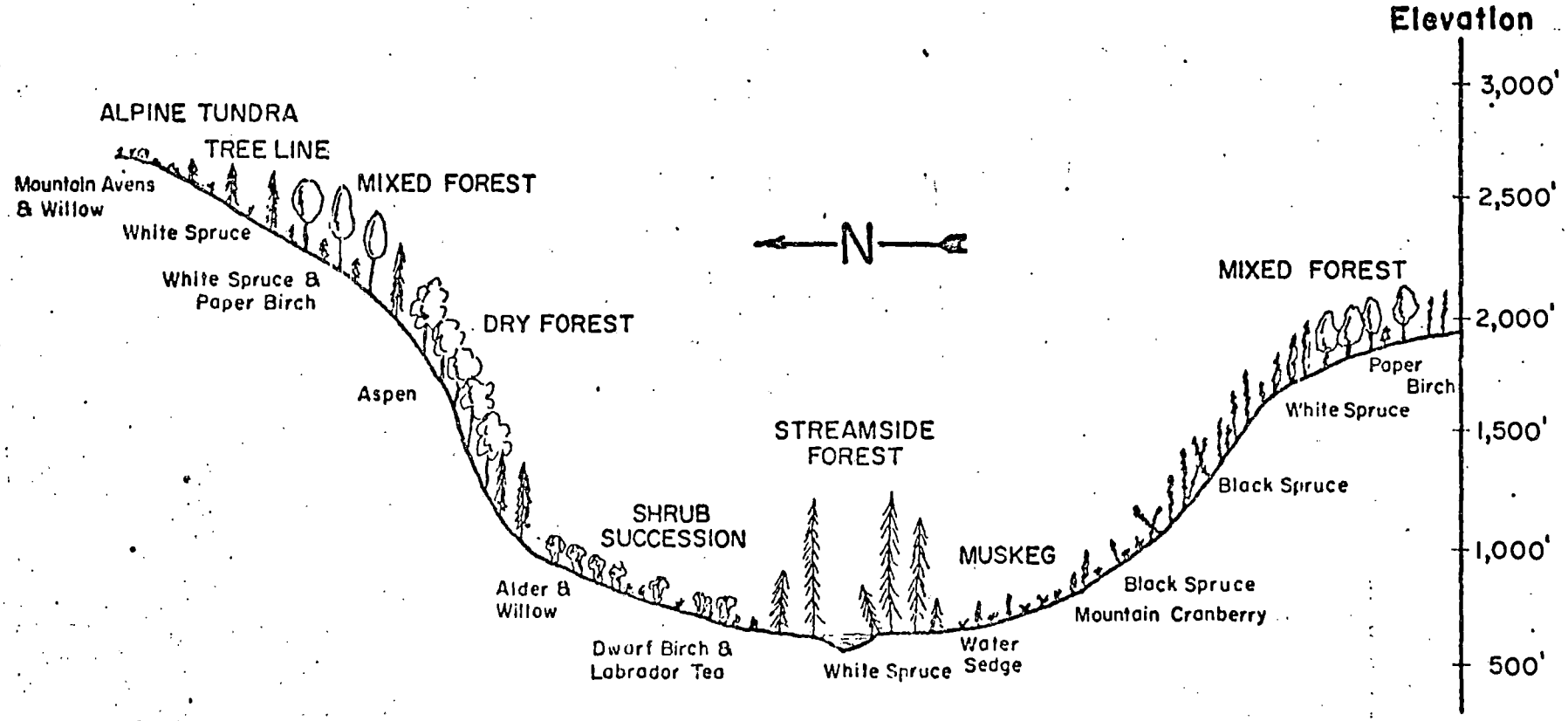
Soils

The severe winters, short growing season and low temperatures of the Birch Creek area result in extremely thin and fragile soils. The gravelly and stoney soils on the steep slopes of the upper and middle sections are subject to extensive solifluction and destruction of the vegetative cover can result in severe erosion. The valley floor is susceptible to marshiness and/or flooding and soils are largely silty and poorly drained. A large portion of the river area is underlain by permafrost which, because of shallow overlying soils, is quite incompatible with surface disturbance.

Vegetation/Timber

Vegetation within the Birch Creek area ranges from alpine tundra to white spruce-paper birch forests. These are especially noteworthy because existing plant communities reflect little evidence of man's activity. Plant associations within the immediate environment of the river are varied. The mosaic of patterns reflect past fire history, slope, aspect and the presence or absence of permafrost (figure 7).

FIG. 7 DIAGRAM OF VEGETATION TYPES ALONG A TOPOGRAPHIC GRADIENT IN THE BIRCH CREEK SEGMENT



Alpine tundra consists of bare rocks and frost heaved rubble interspersed between low mat herbaceious 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 snd grasses. This vegetative type generally occurs between elevations of 2,000 to 3,500 feet.

Closed spurce-hardwood is the dominant forest type along the river. The tree line extends up to 2,000 feet in elevation. White spurce 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 spurce are paper birch, balsam poplar, bearberry, red current, prickly rose, several willows, mountain-cranberry and bog blueberry.

Quaking aspen are found in upland areas on south-facing slopes. After 60 to 80 years quaking aspen are replaced are replaced by white spruce in all but the dryest conditions. If a distrubance 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 whter and black spruce, several willow, bearberry, prickly rose, buffaloberry and mountain-cranberry.

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

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 bushcranberry.

Open, sparse black spruce forests are found on north-facing slopes and poorly drained lowlands where permafrost is close to the surface. Associated with these black spruce is an underlying thick moss mat, often of sphagnum mosses, sedges and grasses.

Flood plain thickets grow on newly exposed alluvial deposits which are periodically flooded. The dominant shrubs are willows and sometimes alders, American red raspberry, and prickly rose.

In addition to aesthetic and wildlife values, the natural vegetation in the Birch Creek area is extremely important in maintaining water quality and a stable watershed. Dense ground cover of grasses, mosses, shrubs and trees retards surface runoff and insulates the underlying permafrost.

Some of the white spurce, aspen, birch and balsam poplar found along the river have commercial value. However, the topography, difficult access and small size of timber stands associated with the Birch Creek segment suggest little likelihood for economic development. In the past, a few trees have been cut for construction of trapping cabins and for related use as fuel.

Geological and Mineral Resources

Birch Creek schist, one of the oldest bedrocks in the state, is named after this river. Although this schist is reported to underlie 70 to 80 percent of the state, much of the original geologic study of this formation was done along Birch Creek. Spectacular examples of this formation are found along the river both in rock outcroppings on adjacent hillsides and in the river itself where sheer rock walls have resisted the erosive action of the water. The striations and coloration of this exposed bedrock is outstanding from both the layman's and geologist's viewpoint.

This formation is also associated with mineral deposits, notably gold. Active placer mining is taking place is some upper tributary areas outside the study corridor. Some gold exists in the study corridor along major tributaries, but these deposits are believed to be in quantities too small to be economically mined.

Although oil and gas leases have been let in the lower reaches, no wells have been drilled. No portion of the Birch Creek study area is included in the Yukon Flats Tertiary Province identified in U.S.G.S. studies (U.S.G.S. Bulletin 1095, "Geology of Possible Petroleum Provinces in Alaska, 1958.) No other commercial minerals to date have been located.

Fish and Wildlife Resources

Fish

Grayling is the only fish found in the upper reaches, whereas northern pike, sheefish, and whitefish are reported to be found in the lower reaches. Good grayling fishing in terms of numbers and size is found in the lower reaches. King and chum salmon spawn between Crooked Creek and the Steese Highway bridge at Mile 147.

Wildlife

Big game species common along the river include moose, black bear, and wolves. Caribou are also present at certain times of the year. Up to several years ago the study segment was crossed by the major portion of the Fortymile caribou herd (which numbers up to 20,000 animals) in their migrations to and from calving grounds. The reasons for the recent change in this migration pattern are not fully known. Grizzly bear are present though infrequently observed.

Many furbearers are common including lynx, otter, beaver, marten, fox, wolverine, and others. Game birds include ptarmigan, grouse, ducks and geese.

The area adjacent the lower 35 miles of the study segment has been identified by the Alaska Department of Fish and Game in their publication Alaska's Wildlife and Habitat as a significant waterfowl moulting and nesting

area for lesser scaup, pintails, widgeons, mallards, green-winged teals, white winged scoters, buffleheads, 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 the wet muskeg areas.

Rare and Endanged Species

The following wildlife species are found in the Birch Creek area and 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 (Canius lupus lycon)--endangered (only in conterminous 48 states)

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

Wolverine (Gulo luscus)-- status undertermined

Canada lynx (Lynx canadensis) -- status undetermined

American ospry (Pandion haliaetus carolineusis)--status undetermined

In addition, the northern bald eagle (Haliaeetus leucocephalus alascanus) is frequently observed. Although similar in overall appearance, the northern bald eagle is not the same as the endangerd southern bald eagle (Haliaeetus l. luecocephalus).

Both the osprey and peregrine falcon nest along the river.

As the peregrine falcon is the only species listed as being rare even in Alaska, the nesting cliffs found along Birch Creek are considered quite significant.

Historical and Archeological Resources

Gold was first found in the Circle Mining District in 1893 by two Russians who made the initial discovery somewhere on Birch Creek. Although no evidence of mining can be observed today along the study segment, the entire river area was undoubtedly prospected and played a part in the gold rush and the resulting settlement of Alaska. The several abandoned cabins along the study segment were probably built as a result of later prospecting and trapping activities borne from the original gold rush. These structures and accompanying implements illustrate some phases of life in the "bush" around the turn of the century and continuing to contemporary times.

Several historical and archeological sites have been identified in the lower Birch Creek area in an unpublished manuscript "Archeological Survey and Excavation in the Proposed Rampart Dam Inpoundment, 1963-1964" by Frederick Hadleigh West, University of Alaska, 1965. Although most of these sites are located downstream from the lower study boundary, at least two sites and several artifacts (stone tools) have been located in the Crooked Creek/Jumpoff Creek confluence area.

Recreation

Resources

There are no developed recreational facilities of designated recreational areas within the study segment. BLM in their planning process had identified sites for recreational development and access at North Fork, Jumpoff Creek, and the Steese bridge at Mile 147.

In the BLM publication, "Alaska Canoe Trails," put out in 1970, the entire study segment of Birch Creek is in the state offering canoeing opportunities. The "put-in" point is from Mile 94 or 95 of the Steese Highway (near the upper study boundary). The take-out point is described in the pamphlet as the bridge crossing of Birch Creek at Mile 147 of the Steese Highway. This bridge area has since been withdrawn under ANCSA for potential Native selections. The lower study boundary is located 15 miles upstream from this crossing.

Birch Creek offers outstanding recreational opportunites for nonmotorized "float boat" use (canoeing, kayaking, rafting). It is one of the very few clearwater rivers in the state which has road access at two points intersecting an otherwise untouched segment of river. The recreationist is offered essentially a wilderness experience along the river without having to endure the high costs of aircraft transportation - a unique proposition in

Alaska. Although the take-out point described in the BLM pamphlet is located outside the study boundary, there does exist another road accessible take-out point from Mile 140 of the Steese Highway. This point is within the study area at Jumpoff Creek confluence approximately 20 miles upstream from the Steese Highway bridge. However, 100 to 200 yards of privately owned land presently divide the river from the trail to the highway. A vehicle shuttle of about 50 miles (one-way) is necessary.

This river segment is ideal for the Intermediate experienced canoeist. There are many segments of Class II whitewater requiring some degree of skill but yet are not particularly dangerous (see Appendix A - International Difficulty Rating). There are also several short areas of Class III whitewater that offer challenges for the more advanced boatmen. At low water levels there is one spot of Class IV water which can be easily portaged. The current generally is moderate, and paddling in most cases is optional. High water levels tend to make most of the rapids generally easier to negotiate, although faster currents, floating debris, and possible new channel cuts present additional hazards to which canoeists must be alert. Campsites and firewood are plentiful throughout the study segment.

The scenery as viewed from the river is ever-changing and dramatic. The river gently winds through extensive areas

of broad canyonlands. Bluffs, rock outcroppings and small mountains are in both foreground and background much of the time in the upper and middle reaches. The twin peaks of Sheboub Mountain in the Sheep Creek area form a prominent landmark which can be seen downstream for many miles in the middle section. In the lower reaches, mountains can be seen across broad expanses of tundra marshlands. There are many areas of beautiful white spruce-birch forests along the river constrasting with the aspen groves on the hillsides and the low lying tundra and black spruce areas.

The resources of the study area are also well suited for other recreational activities adjunctive to a canoe trip down the river. Excellent fishing, nature study and photography, wildlife observation (especially raptors), wilderness camping, and hiking opportunities are abundant. Small quantities of gold at several tributary confluences present the opportunity for recreational panning.

The several abandoned cabins lend themselves to interpretation of past history for the recreationist.

Fishing, hunting and trapping are additional recreational activities independent of boating for which the river offers signficant potential. Grayling and northern pike, moose, bear, caribou, ptarmigan, waterfowl, wolves, lynx and other furbearers are common residents of the river areas.

Winter recreation is yet another potential offered by the river area. Cross-country skiing, snow-shoeing, dog sledding and snowmobiling opportunities abound.

Existing Uses

Present recreational uses over most of the segment are confined to canoeing and related uses such as primitive camping, wildlife observation, fishing, etc. Approximately 25 parties (averaging 3 persons per party) canoed down the segment during the summer of 1972. Additional use took place in the lower 10-20 miles of the segment in form of hunting and fishing. An estimated 100 trips were made into the lower segment for these activities during the 1972 summer season. Because access for these uses were primarily by motorboat or aircraft, significantly less time per trip was spent than compared to the canoe trips. Whereas the canoe trips averaged 6 days, the hunting and fishing trips generally lasted from several hours to 2 days. Some of these latter trips may have been associated with subsistence activities.

Outside the immediate river area recreational development includes the Pinnel Mountain Trail which has been designated a National Recreation Trail, the only one in Alaska. The trail follows the northern divide of the Birch Creek drainage and is accessible at Mile 85.6 and Mile 107.3 of the Steese. The Ketchum Dome/Medicine Lake area to the north and east of the river segment is a "de facto" recreation areas receiving significant hunting, fishing , and off-road

vehicle use. This area is accessible from the road to Circle Hot Springs from Central.

Future Uses

The resources of the Birch Creek segment are expected to attract increased numbers of recreationists in the near future. Most of this use is expected to be in the form of canoeing and hunting and fishing. The relative ease of accessibility provided by the Steese Highway in comparison to most areas of Alaska will further stimulate this increased use.

Off-road vehicle uses are also expected to increase in the area primarily from the Ketchem Dome area.

It is expected that in the future the Steese Highway will be maintained year-round. At such a time the Birch Creek area could be expected to receive a significant amount of winter use where little presently exists. Recreationists from the Fairbanks area can be expected to use the area for cross-country skiing, snow-shoeing, and snowmobiling. Winter hunting could also be expected to increase.

Limitations to recreation

Most of the limitations to recreation in the study area are related to the natural elements. The harsh Sub-Arctic climate allows relatively short season for the major recreational uses, June through September. Water temperatures remain cool all summer, prohibiting any prolonged body contact. Winters are extremely severe with cold temperatures

(down to -60° and colder) and deep snows (50-60") limiting winter sports use.

Only 5 to 6 inches of rain fall during the summer months resulting in periodic low water levels and high fire dangers. Frequent low water levels from the put-in point at Mile 94 of the Steese Highway to the Harrington Fork confluence can make canoeing difficut for the first 10 miles of the study segment. A 1/4 to 1/2 mile portage from the highway is often necessary. Conversely, a summer storm can quickly raise the river by a foot or more. Because of the fire danger, camp fires must be carefully tended.

Although precipitation is low, much standing water is present in the area. These waters give rise to hordes of mosquitoes and flies causing discomfort for recreationists much of the summer.

Recreational use is also limited by access which in turn is limited by the natural environment. The only road or trail access is the Steese Highway which intersects the river area at the extreme boundaries of the study segment. This road is usually closed from Mile 42 by snow from October to May. Road imporvements and new road and trail consturction are severaly limited by the short construction season, and more importantly, by the soil and topography of the area. Valley floors are very susceptible to marshiness and/or flooding. Much of the slope areas

are steep and very subject to solifluction. Bedrock is generally at a very shallow depth. A large portion of the study area is underlain by permafrost which, because of shallow overlying soils, is quite incompatible with surface disturbance. The soil limitations are generally difficult to overcome in this area and may affect alignment and location; special design requirements may be needed, and construction and ecological costs are high.

Recreational development such as campgrounds, picnic areas, playgrounds, etc., is also greatly limited by soil and topographic conditions. These limitations are generally very difficult to overcome without considerable expense and possible ecological damage.

Similarly, some recreational activities such as off-road vehicle uses are limited by soil conditions. Disruption of the thin soil can cause surface damage which may persist for long periods of time. Erosion from such disturbed areas could have a significant effect on the watershed and aesthetics of the area.

Public access at the downstream study boundary is presently blocked by private lands. A 5-acre parcel of patented land with a cabin is located at the Jumpoff Creek confluence. Although a 1/4 mile primitive road running from the Steese Highway crosses Federally owned land, 100 to 200 yards within the homesite separate this access road from the river frontage. Thus, a "portage" around this

parcel is presently the only legal means of access to and from the study segment in the lower reaches.

In the same vicinity the river flows within 1/4 mile of the highway, but no trails exist. Downstream from the Jumpoff confluence (20 miles). the highway crosses Birch Creek. This location has been the most used access point by Birch Creek canoeists and motorboat users. However, this area has been withdrawn under ANCSA for potential selection by Natives and is not included in the study segment.

Present mining operations in the headwaters of Eagle Creek and Harrison Creek cause periodic turbidity in the waters being discharged into Birch Creek at the confluences of these tributaries. A change in coloration can be detected in the otherwise clear waters of Birch Creek for several miles downstream. This conditions detracts from the otherwise pristine environment experienced by river users.

Hunting, fishing, hiking, and winter sports are also limited by the lack of road and trail access. Motorboating is obstructed in much of the segment by rapids, shallow water and "sweepers."

Potential limitations to recreation include the users themselves. It is quite possible that large numbers of canoeists or other recreationists on the river would detract from or destroy the primitive experience of the user. Thus, the most outstanding value of the present river area could be lost through overuse.

Another limitation to the primitive recreational opportunities now offered in the river corridor might be the future development of placer mining along the river or in the tributary headwaters. Unless placer mining activities are undertaken with extreme care, the existing highwater quality and aesthetic values would be significantly degraded. Temporary or permanent removal of water could also have an adverse affect on fish and wildlife populations.

Approximately 5 miles of the lower study segment was included in the 1965 land withdrawal order for the proposed Rampart Dam reservoir. It is not fully known what effect this reservoir would have on the study segment. Such activities as hiking, canoeing, and winter sports probably would be affected minimally. However, game and fish populations, vegetation, and even local climate could be altered significantly thus affecting hunting, fishing nature study, and the like.

Although potential for commercial or residential development, lumbering, and agricultural in the study segment is slight, these uses could seriously degrade the aesthetic values of the land and water, and hence, decrease the primitive recreational experience now present. These activities could also be detrimental to fish and wildlife resources, thereby limiting such recreational uses as hunting, fishing, trapping, and nature study.

V. CONCLUSIONS AND RECOMMENDATIONS

Birch Creek meets the criteria for inclusion in the National Wild and Scenic Rivers Systems in that:

- The river is free-flowing
- The river and its immediate environment possess outstandingly remarkable values
- There is sufficient volume of water to permit full enjoyment of these values
- The river is of sufficient length to provide a meaningful high quality recreational experience
- Water quality is good
- The river and its immeidate environment are capable of being managed to protect and interpret special values and protect the user.

A 135 mile segment of upper Birch Creek qualifies as a potential addition to the National Wild and Scenic Rivers System and it is recommended that Congress include it in the National System. It is further recommended that this river segment be managed wholly by the Bureau of Land Management. Virtually all lands within and adjacent the study corridor are presently administered by the Bureau of Land Management.

The study segment is a pristine waterway through an environment virtually untouched by man. For almost

its entire length no mark of man can be seen from along the river with the exception of several log cabins. The broad canyon lands, patchwork forests, and rock outcroppings are of outstanding scenic quality. Coupled with the aesthetic values of the river area, the recreational resources are probably the most significant values. The river provides an exceptional experience for "floaters" in nonmotorized craft. In only a very few places in the state is such a primitive segment of river road accessible at both an upstream and downstream point.

Although canoeing is considered the most important recreational activity, hunting, fishing, trapping, hiking, primitive camping, photography, rock hounding, nature study and winter sports are all potential uses throughout the study segment.

There is only road access at the extreme upstream and downstream boundaries of the study segment. There is presently no permanent year-round habitation or development along the river. Present land uses are limited to primitive recreational pursuits. Water quality is presumed to at least meet criteria for primary body contact. For these reasons, it is recommended that the Birch Creek segment be classified as a "wild river area" as defined in Section 2 (b)(1) of the Wild and Scenic Rivers Act:

> "Wild river areas - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America."

Overall boundaries of the river corridor would be from the Butte Creek confluence to the northern boundary of T. 9 N., R. 16 E. (Circle Quadrangle). In the upper section of the North Fork would be included up to 1 mile beyond the Steese Highway bridge at Mile 94 . Approximately 150,000 acres of the immediate river environment would be included in the System. Lateral boundaries would average no more than 2 miles to either side of the river. It is felt this corridor would be sufficient to protect the scenic, recreational wildlife and historic values of the river from outside influences and activities. The Bureau of Land Management would establish precise boundaries one year after inclusion of the Birch Creek segment in the national system by Congress.

Approximately 15 miles of river lie between the lower river boundary and the Steese Highway bridge at Mile 147. This stretch of river has been withdrawn under ANCSA for Native selection. Ownership, public access, navigability, and other land questions will not be settled in this area for several years. However, this section of river has been found to have outstandingly recreational potential and would be a logical extension to a wild and scenic river designation upstream. Thus, although not included in this proposal, it is recommended that this section be

studied at a later data for inclusion in the National System. Any lands not selected by Native corporations or groups should be included in the National System where appropriate.

It is recommended that, subject to valid existing rights, the minerals in Federal lands which are made part of this wild river area to be withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws. Minerals (including oil and gas) have not been identified within the immediate river environment in commercially exploitable amounts. However, even small "try-your-luck" prospecting and extraction activities could seriously detract from the existing primitive values of the river environment.

VI. CONCEPTUAL RIVER PLAN

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 Bureau of Land Management in developing detailed boundaries and plans for developments and management of the upper Birch Creek segment 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.

It is proposed that the river segment be classified as "wild" and be managed with the following objectives:

(1) Preservation of the river and its environs in a natural, wild state, essentially unaltered by man.

(2) Provision of a quality "primitive" recreational experience with primary emphasis on river-oriented activities.

(3) Protection of wildlife habitat with special emphasis on rare and endangered species habitat.

(4) Protection of historic and/or archeological resources.

Appropriate Boundaries

Within one year after inclusion of Birch Creek into the National Wild & Scenic Rivers System the Bureau of Land Management would establish detailed boundaries for the river corridor. In establishing these boundaries the following interralated criteria should be taken in account:

(1) the river corridor should be a unit; recreational, aesthetic, geological, wildlife, historic, and other values associated with the river environment should all be tied into the larger corridor as intergral components.

(2) A feeling of "spaciousness" should be maintained; perhaps unique to Alaska is the quality of "spaciousness" in many recreational pursuits. This feeling is based on the isolation and independance associated with the river environment. Insulation from the noise of "outside" uses should be given full consideration in this attempt.

(3) boundaries should reflect a "primary visual corridor." As illustrated in Figure 8, the corridor should generally include those lands which can be seen from the river or from the river bank. Obviously, distant mountains might be seen in places but would not be included.

(4) In the utilization of most of the boundary criteria, vegetation patterns and topographic features should be throughly studied and employed in the determination of boundaries.

(5) The lateral boundaries should average no more than two miles to either side of the river and include a land acreage not to exceed approximately 150,000 acres.

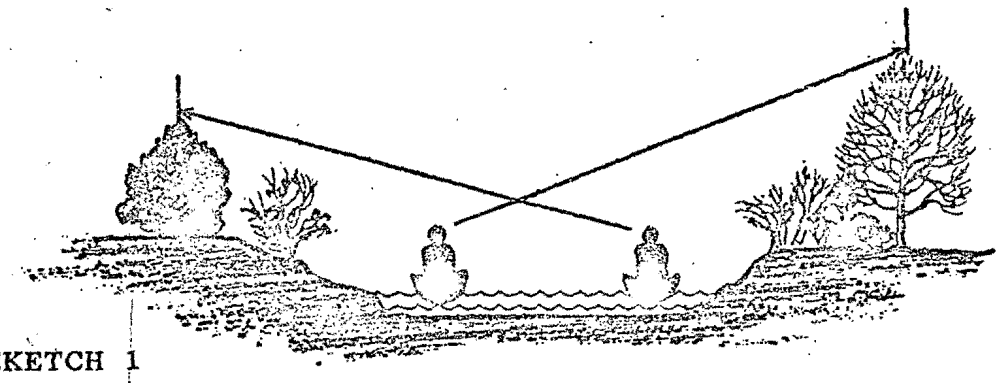
Acquisition Policies and Land-use Controls

Private Lands

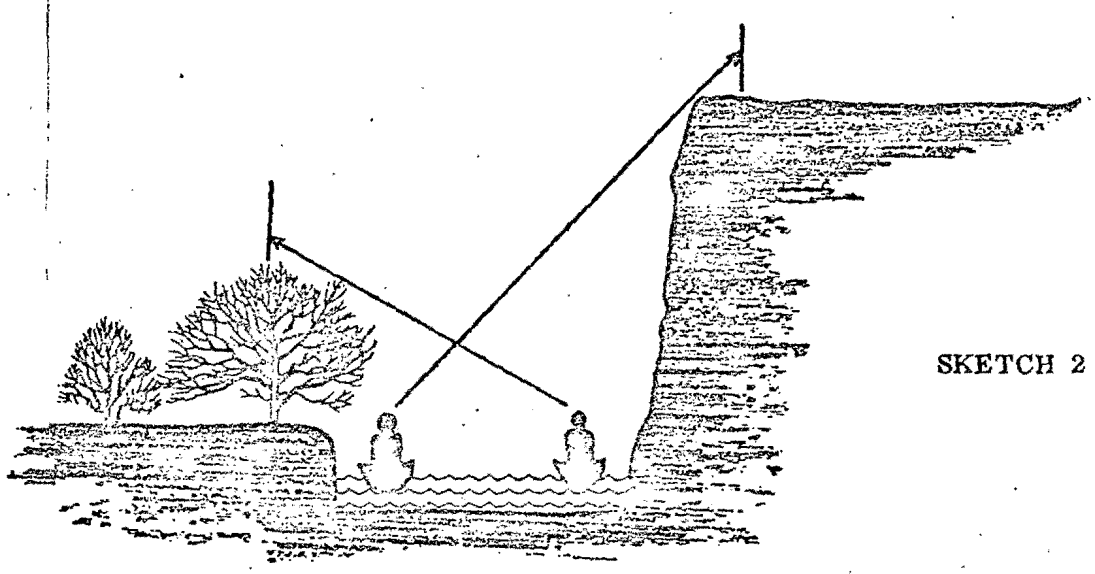
No valid existing land ownership rights located within the river boundaries would be condemned or denied. All land uses presently taking place under valid existing rights would be allowed to continue.

Should lands presently owned or controlled under valid existing rights be offered for sale by willing sellers, the Secretary of Interior would reserve the right of first refusal to such lands or such rights. Valid rights would be purchased in fee, where appropriate.

Subject to valid existing rights, all lands would



SKETCH 1



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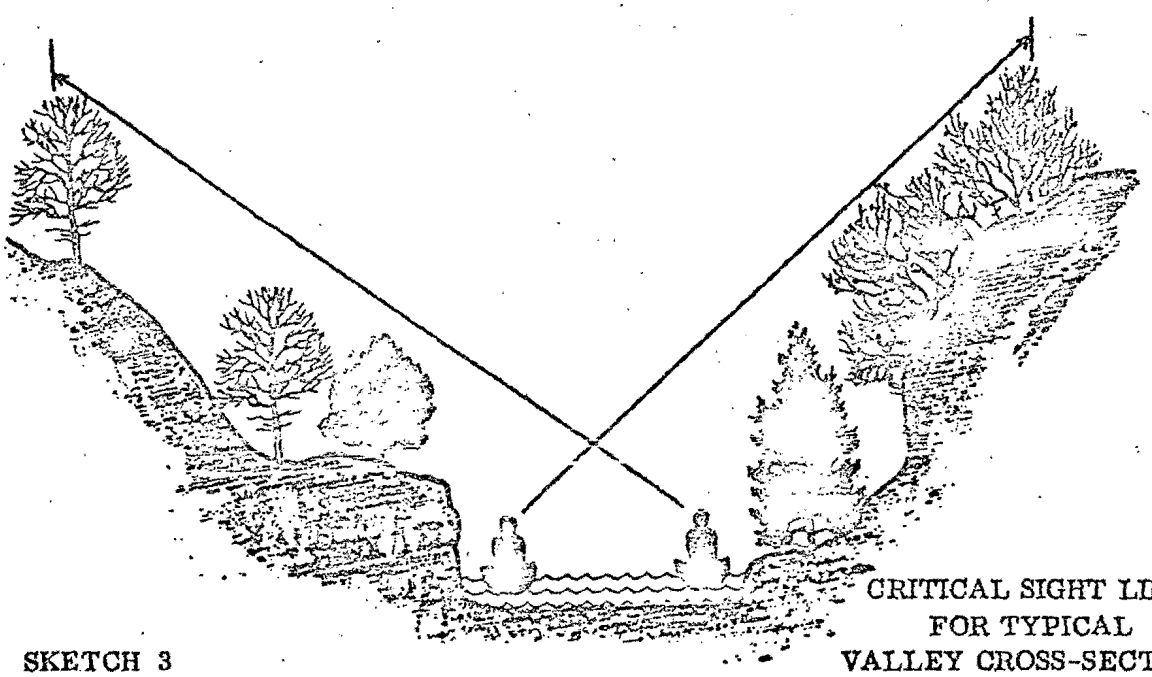

SKETCH 3

CRITICAL SIGHT LINES
FOR TYPICAL
VALLEY CROSS-SECTIONS

Figure 8

be withdrawn in the river corridor from future disposal under the public land laws, including the U.S. mining and mineral leasing laws.

Mining Claims

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; . . . and, 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."

Accordingly, Bureau of Land Management in consultation with the State of Alaska and all concerned user groups, should develop such mining regulations. These should consider: requiring notification of existing valid claims and annual assessment work to be filed with the administering agency; the denial of any claim for which notification is not received within a reasonable period of time or for which annual assessment work is not performed. For any valid existing claims which are developed at some future time regulations should consider the following: retention of top soil; restoration of topography; retention of topographic or vegetative screening between the mine and water's edge; replanting or reseeding the mined area; the removal of sediment from waste waters; protection from terrain damage due to the movement of heavy equipment or off-road vehicle access; and other safeguards.

Management Policies

Motorized Access

Uncontrolled off-road vehicle use in the corridor is not compatible with the management objectives for this river. Off-road vehicle use should be strictly regulated

to protect the fragile soils, vegetation, and wildlife, to prevent conflicts with other recreational uses, and to protect the inaccessible primitive nature of the river area. The land manager in consultation with State and local agencies and user groups would develop specific regulations after determining the extent to which off-road vehicle uses are compatible with management objections. Such considerations as winter-only use, subsistence use, and use on designated trails or areas should be taken into account in regulating off-road vehicle travel.

Similarly, the impact of indiscriminate aircraft landings and take-offs and the use of boat motors on the wildlife values and primitive recreation values would be severe. Thus, such controls as designated use zones, time zoning or other measures should be developed and utilized in the management of the corridor to protect the river values.

Timber

It is recommended that permits for commerical timber harvesting or free-use wood cutting not be granted. Although the timber resources are minimal in the river area, serious damage to the primitive environment could take place through such practices. Wood gathering by recreationists should be limited to dead or downed timber throughout the river segment.

Grazing

It is felt the limited forage potential of the area

could not sustain an economical number of animals without substantial degradation to the natural, primitive environment now existing. Therefore, the issuance of grazing permits is not recommended.

Watershed/Soils

The management direction for the entire segment would be to maintain and restore the condition of the soil and water to its natural state. In most cases this would take the form of letting the natural processes presently occurring in the watershed proceed unimpeded by man's action. No stream bed or bank alterations by man should be allowed.

An effort to stabilize or revegetate large eroded areas caused by natural or man-made activities should be made when erosion threatens the water quality and aesthetics of the river corridor. This work should be accomplished without motorized surface vehicles, and appropriate native plants used.

The Bureau of Land Management should cooperate with appropriate Federal and State agencies to prevent pollution of Birch Creek and its tributaries. This would involve protection from surface dumping of garbage and other contamination, waste water and sewage pollutants, sedimentation and wastes from mining operations, ground water cantamination, and others.

Wildlife/Fisheries

Fishing, hunting and trapping would continue within the entire segment under applicable State and Federal regulations. Management of game and fish would be handled by the appropriate State and Federal agencies.

The protection of rare or endangered species would be emphasized. In some cases this might include minor habitat manipulation for such species.

Recreational Use

The wild river environment would only tolerate a relatively small amount of recreational use. Use in the river corridor should not be allowed to reach a level at which the environment was degraded and the primitive experience was lost.

Special efforts should 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.

A regular system of monitoring recreational use and its effects on the river's environment should be established to insure long-term maintenance of the river's existing character.

Fire

The area should consider special fire prevention and suppression controls. A strong initial attack on small fires in the area should be made to prevent widespread burns in the river corridor. However, fires in the river corridor should be fought only with aircraft or non-mechanized surface equipment. Vehicular firefighting techniques in these fragile areas have resulting in more overall damage to the environment than from fires themselves in past experiences. Large burns would be allowed to revegetate naturally, as natural succession plants generally provide the fastest and most efficient soil cover in Alaska.

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

Adjacent lands

Adjacent lands owned by the Federal government should be managed to protect the Birch Creek corridor from any adverse land-use practices. High water quality in the tributary drainages should be maintained and background views protected.

Recreational Development

In order to preserve an "primitive" recreational experience, the development of access and recreational

facilities should be strictly limited.

In the immediate future development of recreational facilities should be considered at only two locations, an upper "put-in" point and a lower "take-out" point. In the upper section, a passenger car access road could be provided from the Steese Highway to the river. A parking area, sanitation facilities, and public information could be provided at this access point. Any overnight facilities should be developed at a separate location, outside the river boundary.

Another short access road could be constructed from the Steese Highway to the river in the Jumpoff Creek vicinity. A parking area, sanitation facilities and public information could be provided here also. Trails following the river might also originate from this location. Both these access roads could enhance recreational use of the river considerably without significantly altering the existing primitive environment of the major portion of the proposed wild river area. Each road would average no more than 1/4 mile in length.

Natural hazards in the river should not be removed.

Should the lower fifteen mile section of river to the Steese Highway bridge at Mile 147 be included in the similar facilties could be developed at the bridge location. These facilities could be managed either publicly or privately, such as by Native groups.

At some future time it can be expected that there will be demand for construction of a recreational access road from the Ketchem Dome-Medicine Lake area to the lower section of the Birch Creek segment. Such a road, should be considered in the long-range development plans for the river. One such road access point, if carefully located and engineered might not substantially detract from the management objectives and could provide additional recreational opportunities.

If, in the future, an access road should extend to Birch Creek in the lower section from the Ketchem Dome-Medicine Lake area basic recreational facilities could be developed at such a point.

The Ketchem Dome area north of the upper river corridor has been under ever-increasing recreational pressure and several additional access roads in this area have been proposed. One such proposal is to continue an existing road down Bottom Dollar Creek to the vicinity of Harrison Creek. Here overnight facilities are proposed approximately 6 miles north of Birch Creek. Should such a road and facilities be developed, it is recommended that vehicular access approach the river corridor to further than this point and that only a foot trail to the river be permitted.

Additional trails, primtive camping areas, and other low-use recreational facilities might be considered within

the corridor. Environmental and existing recreational values should be carefully assessed prior to any such development.

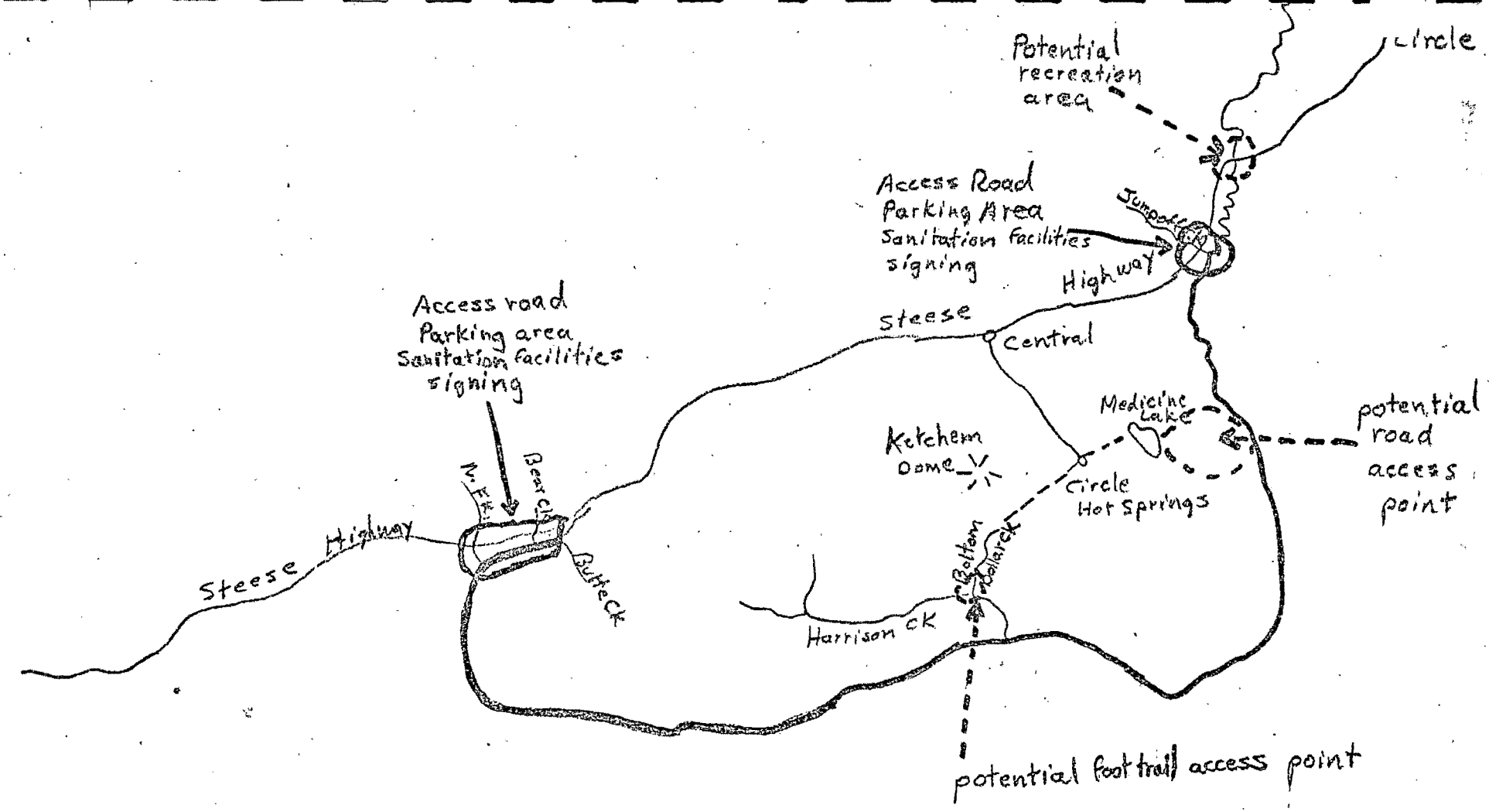

Figure 9

Proposed Recreational Development in the Birch Creek Wild River Area

Legend

- proposed development
- potential long-range development
- existing vehicle trail

VII. ECONOMIC EFFECTS OF INCLUSION IN THE NATIONAL SYSTEM

Recreational

Present uses are almost exclusively recreation in nature and numbers of users are quite small (fewer than 1000 annual visitors days estimated). Because of increasing population pressures and increasing desire for more recreational lands and opportunities, recreational uses in the river corridor can be expected to increase in the near future without inclusion of Birch Creek in the National Wild and Scenic Rivers System. However, inclusion in the National System and development of recreational access roads and facilities would stimulate more than this increase in use over the next 10 to 20 years. Inclusion in the National System at the same time would protect and enhance a quality, primitive recreational resource. Such a resource could not be expected to be maintained without the management measures associated with a "wild river" designation.

Access designation, the signing of the area, and the national significance of the river would, in essence, advertise its recreational values and attract users. It is safe to assume that use would approach the resource capabilities of the river area by the year 2000 (roughly estimated to be 5000 annual visitor days, summer season only). In addition to the provisions of an outstanding

recreational experience for additional users, economic benefits would accrue from this increased use. Users of the river area would require specialized equipment (e.g., backpacking, canoeing), gas, food, lodging, etc., from local merchants. This money would be respent several times in the region aiding the general economy.

Increased river use could also help stimulate new businesses. Guiding services, canoe and other equipment rentals, shuttle services between put-in and take-out points, and other recreational services could all be established. These new revenues would similarly be respent in the region. Property and sales tax revenues would also result from this commercial development (see Table 3). Management of the river area would also require additional manpower, providing local employment.

There would also be intangible benefits including the study segment in the National System. However, the benefits of such things as preservation of a "wild" environment, provision of a "primitive" recreational experience, protection of rare and endangered species, and other such values are extremely difficult, if not impossible, to put into economic terms.

Non-Recreational

Subject to valid existing rights, all lands within the river corridor would be withdrawn from appropriation under

Table 3. Comparison of Recreation Expenditures for Guided Trips on Selected Free-flowing Alaskan Rivers 1/

Rivers	Cost per Trip 2/ per person	Rounded Cost per person per day
Chilikadroitna/Mulchatna	9 days-$485 5 days-$375	$54 $75
Chulitna	2 days-$70	$35
Copper	6 days-$375	$63
Deshka	5 days-$185	$37
Little Susitna	2 days-$65	$33
Yukon	7 days-$280	$40

1/ Source: Alaska Wilderness River Trips, Inc., Eagle River, Alaska, 1973 Summer Schedule

2/ Prices include food but not transportation to and from departure points. Reduced rates may be available for children and large groups.

the public land laws. Thus, homesteads, trade and manufacturing sites, headquarter sites, mining claims and other new claims to land rights would not be permitted. Mineral leases would not be offered. Economic benefits precluded by the removal of the corridor from these uses would be minimal.

Because of the region's Sub-Arctic climate, the potential for agricultural development in this region is extremely small. Agriculture values presently add little to the economy of the region or state. There is no recorded commerical agriculture production in the Birch Creek area.

Although the demand for permanent residential land will increase in the state in coming years, most of this demand will center around the larger cities. In the Birch Creek region, most of this demand will occur around Fairbanks and to a lesser extent Central, Circle Hot Springs, & Circle. Because the Birch Creek corridor by road lies over 100 miles from Fairbanks, residential land uses foregone would be minimal even should the Steese Highway be maintained year round.

There does exist a significant demand in the region for recreational homesites (cabins, summer cottages, etc.). Inclusion of this river segment in the National System precludes the disposal of land for these uses. Any economic benefits which may have resulted from such use would be

foregone. However, considerable land has been transferred from Federal to State ownership in the Fairbanks area and more is expected to be conveyed in the near future. A large portion of this land is expected to be sold in small tracts to private citizens thereby satisfying some of the regional demand for recreational and rural homesites.

Demands for industrial and commercial land will occur mainly in the Fairbanks area. The economic benefits foregone by land withdrawal in the remote Birch Creek corridor are considered minimal. However, some potential commercial uses such as guiding operations might be affected. Any future demand for sites (T&M) would have to be met outside the corridor.

Total production and value for metal mining has decreased in the last ten years to where it now occupies an insignificant position in the region's economy. Revival of gold mining to the extent the area knew in the past is not likely. The remaining active mining near Birch Creek exists outside the corridor in tributary drainages. Gold in amounts large enough to be economically mined has not been identfied within the corridor and virtually no evidence of historical mining exists along the river. Signficant deposits of other metals in the river corridor has not be demonstrated. Thus, economic benefits from mining precluded by this proposal would be marginal.

Oil and gas exploration activity in the region has recently increased, principally in the Yukon "flats" area. Several leases have been let within the extreme lower Birch Creek segment. No wells have been drilled, and all but one of the leases within the river segment have lapsed. None of the Birch Creek segment has been included in provinces or basins identified by U.S.G.S. studies as having underlying geologic formations favorable to oil or gas locations. (U.S.G.S. Bulletin 1094, 1959).

Should timber harvesting not be permitted, significant adverse economic effects should not result. Although trees of potential commercial value exist along the river, they are generally located in small stands and patches. No timber has been taken out of the river corridor, and the potential for commercial development for external markets does not appear large. The external demand for wood products is now being filled mainly from other parts of the State. Local wood needs are in part being met by harvesting in the Chena River drainage and around the town of Central.

Domestic livestock grazing presently contributes little to the region or state economy. Because of the harsh climate and sparse suitable forage, the potential for future commercial grazing in the region and along the river is small. Thus, economic benefits foregone would be minimal if grazing were prohibited.

No water resource projects have been proposed within the study corridor. Although not an active proposal, the Rampart Dam project boundaries extend a short distance into the river corridor. This project would not be curtailed on the basis of this wild river designation. However, the Rampart reservoir could have an adverse effect on wildlife, vegetation, and other components of the river environment.

Access to areas adjacent the proposed corridor would not be significantly impaired by inclusion of the river corridor in the National System. Although road crossings and uncontrolled ATV use would not be compatible with the management objectives, no existing or potential land uses in adjacent areas are known to rely on cross-river access and no economic benefits would be foregone.

VIII. ALTERNATIVES

Several alternatives have been considered. These include: No action; State and local action; different classifications for the entire area or portions thereof; different boundaries; and inclusion in other national conservation systems.

No Action

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

(1) There is good probability that the existing high quality environment would be adversely affected through increased or unplanned human use and method of access.

(2) Development of public resources for short-term gain would cause significant adverse environmental impacts.

(3) The only practical method for assuring future availability of the high quality of the Birch Creek segment for the use and enjoyment of present and future generations is to devise a formal plan which provides for careful and thorough review of the environmental consequences of proposed resource development and human use programs as a means for determining whether to proceed with such programs.

State or Local Action

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

(2) There are no State or local programs to manage and protect free-flowing river areas in Alaska.

Different Classifications

Strong consideration was given to the possibility of classifying portions or all of the proposed Birch Creek Wild River as either scenic river areas or recreational river areas as defined in section 2(b) of the Wild and

Scenic Rivers Act. The following alternatives were considered:

(1) Classification of the entire segment as recreational.

The Wild and Scenic Rivers Act defines a recreational river as those "that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."

The guidelines[1/] issued pursuant to the Act further define "readily accessible" as "the likelihood of paralleling roads or railroads on one or both banks of the river, with the possibility of several bridge crossings and numerous river access points." High levels of recreational use could be accommodated. A full range of resource uses including mining, agriculutre, timber harvesting, and others could be compatible with a recreational classification.

These uses and developments are totally absent from the existing river environment. Thus, such a classification would enable such uses and development to take place. However, the primitive nature of the river environment for which this action and its subsequent management objectives are designed to preserve and enhance would be

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1/ 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.

severely degraded or lost by such actions and uses. Consequently, this alternative was rejected.

(2) Classification of the entire segment as a scenic river.

The Act describes scenic river areas as "those rivers or section of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped but accessible in places by roads."

The guidelines define the management objectives for a scenic river as allowing a wide range of resource uses, accommodating a moderate amount of recreation use and development, and provision of motor vehicle travel amoung other things.

These uses and developments are presently not found in the river environment and the remarkable values of the river can largely be attributed to the absence of these activities and facilities. The amount of use stimulated by this type of development would be more than the primitive resources of the Birch Creek environment could withstand without degradation.

However, the river environment could accommodate more recreational use than is presently taking place with careful management. But, it is felt a scenic classification is not needed to enable the development and management

latitude that may be desired to provide for increased recreational use. For example, a wild river does not prohibit the constriction of "one or two inconspicuous roads leading to the river area" (Guidelines). If, after thorough study, it is determined that increased access would result in increased recreational benefits while not substantially degrading the primitive environment, an access road might be constructed in the lower area. Similarly primitive camp sites, trails, and other recreational facilities might be developed at some later time with a wild classification.

Thus, a scenic classification was rejected in favor of a wild classification as the principal advantage of providing more recreational opportunities could also be met by a wild classification. The latter classification would have the added advantage of maintaining the authority to preserve the primitive existing environment.

(3) Classification of the lower 30-35 miles of the segment as a "scenic river area."

This lower section flows across the upper "flats". Three existing or potential activities have a bearing on this consideration: 1) the potential for increased recreational development and use in this area, 2) the use of motorboats in this section, 3) the existing and potential oil and gas leases in this section.

Recreational development and increased use could be compatible with both a "wild" or a "scenic" river. For

example, a wild river classification would not necessarily preclude a recreational access road from the Ketchem Dome/ Medicine Lake area. Trails, primitive camp sites and similar facilities could also be compatible with a "wild river area."

Controlled motor boat use could occur in both a "wild" or "scenic" river. Under regulations to be developed by the designated land manager, the use of boat motors could be compatible with the "wild river" management objectives in the lower section.

Future gas and oil leases would not be offered in the proposed "wild river area." Such leases could be offered with a "scenic" classification. Although several leases have been let in the past in the lower section, this area proposed for inclusion as a wild river area is not identified as a potential oil and gas province by US Geologic Survey studies (USGS Bulletin 1094, "Geology of Possible Petroleum Provinces in Alaska"). It is felt that possible damage to the environment and to primitive recreational experiences by exploration and drilling activities within the narrow corridor would not be justified by the remote chances of extracting oil or gas.

In the consideration of these three elements, it was concluded that the outstanding values of the river area were dependent on the primitive nature of the corridor.

These outstanding values could not be adequately protected without the management objectives and actions associated with a "wild river area." At the same time, no significant conflicts would arise by the management guidelines and policies inherent in a "wild river" classification.

In the rejection of either scenic or recreation river classifications was also the knowledge that several other river areas in the region were better suited for a broader range of resource uses and development. This is due to more conducive environments, prior development, and/or the presence of existing non-recreational resource uses. In the selection of potential wild and scenic rivers in Alaska, the Bureau of Outdoor Recreation envisioned a wide range of resource uses and levels of use among the forty rivers initially recommended for study. In the vicinity of the Birch Creek segment are several rivers recommended for further study which appear compatible with the broader and higher levels of uses associated with a scenic river classification, for example. These include selected segments of the Chatanika and Fortymile Rivers. In addition, there are probably additional river areas in the region which were not recommended for potential inclusion in the National System which would be more suitable for higher levels of development and use.

Different Boundaries

(1) Because there are no major tributaries which

have outstandingly remarkable values different from those found on the Birch Creek segment or in its immediate environs, no tributary streams were included outside of the recommended corridor.

(2) A reduction in the 135 mile segment was not considered because outstandingly remarkable values are found along the entire segment. There are no current resources use conflicts along this entire segment.

(3) Extension of the segment to include all or part of Birch Creek downstream of the recommended lower boundary was given serious consideration. The 15 miles of river below the recommended downstream boundary to the Steese Highway bridge was found to possess exceptional recreational values and would be a logical extension to the upstream river area. However, the land surrounding this section has been withdrawan for Native selection under the terms of ANCSA. Pending the final disposition of this land, it was felt that a recommendation for inclusion of these lands in the National Wild and Scenic Rivers System would be inappropriate as adjacent land owners would not have been consulted and potential land uses not known. It is hoped that a study of these lands will be conducted in full cooperation with land owners when final land status is determined.

Because of low relief, diminished river current,

extensive meanders, homogenous vegetation patterns, and repetitious scenery, recreational and aesthetic values do not appear to be outstanding beyond the Steese Highway bridge at Mile 147. Also, the vegetation, wildlife, aesthetics, etc. of the lower 35 miles of the recommended segment appear to typify the environmental characteristics of Birch Creek below the recommended boundary. Thus, it was felt that the lower segment of Birch Creek does not warrant inclusion. However, overall fish and wildlife values in the lower Birch Creek river area may equal or exceed those in the recommended segment.

Inclusion in Another National Conservation System

The Bureau of Land Management presently manages the river and adjacent lands and is developing plans for future management of the area. No other federal agencies are studying the upper Birch Creek area and no proposals for inclusion of lands adjacent the river in other national systems have been made.

APPENDIX A

SMOOTH AND WHITE WATER RATING SCALE:

International Difficulty Rating of canoeable waters, to be used in connection with Personal Ratings

Rating	Water Characteristics
Smooth Water	
A	Pools, Lakes, Rivers with velocity under 2 miles per hour.
B	Rivers, velocity 2-4 mph.
C	Rivers, velocity above 4 mph (max. back-paddling speed) may have some sharp bends and/or obstructions.
White Water	
I	Easy — Sand-banks, bends without difficulty, occasional small rapids with waves regular and low. Correct course easy to find but care is needed with minor obstacles like pebble banks, fallen trees, etc. especially on narrow rivers. River speed less than hard back-paddling speed.
II	Medium — Fairly frequent but unobstructed rapids, usually with regular waves easy eddies and easy bends. Course generally easy to recognize. River speeds occasionally exceeding hard back-paddling speed.
III	Difficult — Maneuvering in rapids necessary. Small falls, large regular waves covering boat, numerous rapids. Main current may swing under bushes, branches or overhangs. Course not always easily recognizable. Current speed usually less than fast forward paddling speed.
IV	Very Difficult — Long extended stretches of rapids, high irregular waves with boulders directly in current. Difficult broken water, eddies, and abrupt bends. Course often difficult to recognize and inspection from the bank frequently necessary. Swift current. Rough water experience indispensable.
V	Exceedingly Difficult — Long rocky rapids with difficult and completely irregular broken water which must be run head on. Very fast eddies, abrupt bends and vigorous cross currents. Difficult landings increase hazard. Frequent inspections necessary. *Extensive* experience necessary.
VI	Limit of Navigability — All previously-mentioned difficulties increased to the limit. Only negotiable at favorable water levels. ***Cannot be attempted without risk of life.***

NOVICE (N) — Should be familiar with the elementary flat-water strokes as taught in the basic Red Cross or CCA canoeing courses. The Novice should also expect to encounter the difficulties described under Class I whitewater unless the trip is specifically described as Smooth Water. Exceptions to the paddling knowledge requirement may be made with the approval of the trip leader when the purpose of the trip itself is instruction.

INTERMEDIATE (I) — Should have a good "feel" for the performance of his boat and himself as a unit. Eddy-turns, leans, braces, and self rescue techniques have been added to his basic skills. Although a decked boat is not a necessity, actual river experience is required to the extent described in Class II whitewater. Hazards equivalent to Class III whitewater may be encountered upon occasion.

ADVANCED (A) — Several years experience with an organized group and eskimo roll ability are recommended. Whitewater difficulty will range from Class III to IV. Decking is recommended and often required (check trip leader).

EXPERT (E) — A cool head and a quick paddle along with extensive "Advanced" trip experience are required. A decked boat and a highly reliable eskimo roll are mandatory.