1209

BIRCH CREEK, ALASKA

A Wild and Scenic River Analysis

Discussion Draft

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

PRELIMINARY

Bureau of Outdoor Recreation
Alaska Task Force
December 28, 1972

PRELIMINARY DRAFT---
NOT FOR PUBLIC DISTRIBUTION OR PUBLIC USE
---SUBJECT TO REVISION

Foreword

The following report is a discussion draft outlining initial findings and recommendations regarding Birch Creek as a potential addition to the National Wild and Scenic Rivers System. This report is based on both an aerial and field reconnaissance of the Birch Creek area, on an office review of available information, and on comments and materials provided by task force members. The concepts and recommendations contained in this draft do not necessarily reflect the views of all study participants.

Because of time limitations and the absence of pertinent information, several sections are missing from this draft and will be supplied prior to the completion of the final report. These include: a general description of the resources and economies of the state and region; the relationship of Birch Creek to other potential wild and scenic rivers in the state; water quality information; water rights and ownership of the river bottom; development costs; and projected recreation use.

In addition, several sections have had to be superficially treated because of limited information available. These include: specific physical characteristics of the river; historical, cultural and archeological resources; economic effects of inclusion in the national system; and

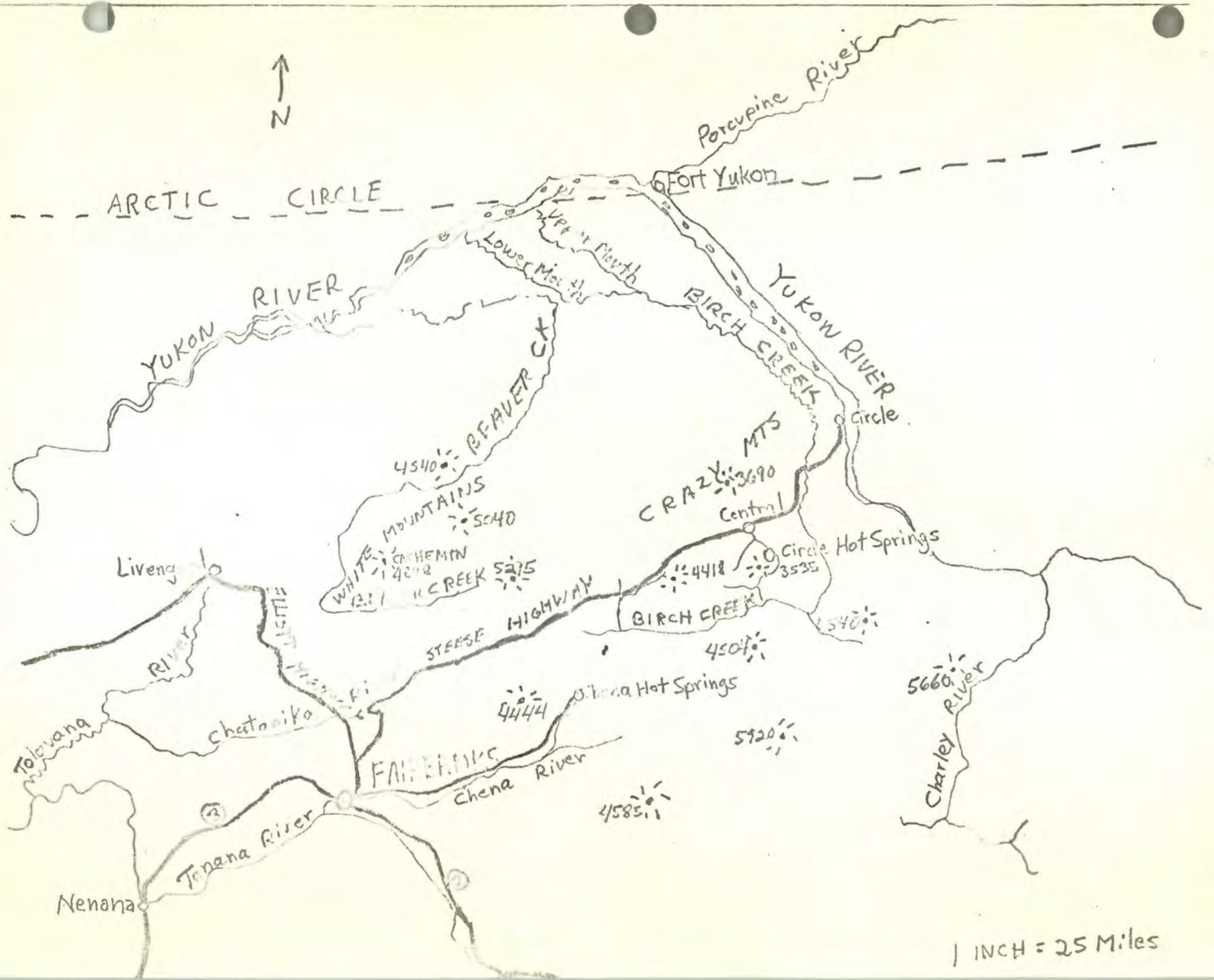
appropriate maps. These sections will be expanded as additional information becomes available.

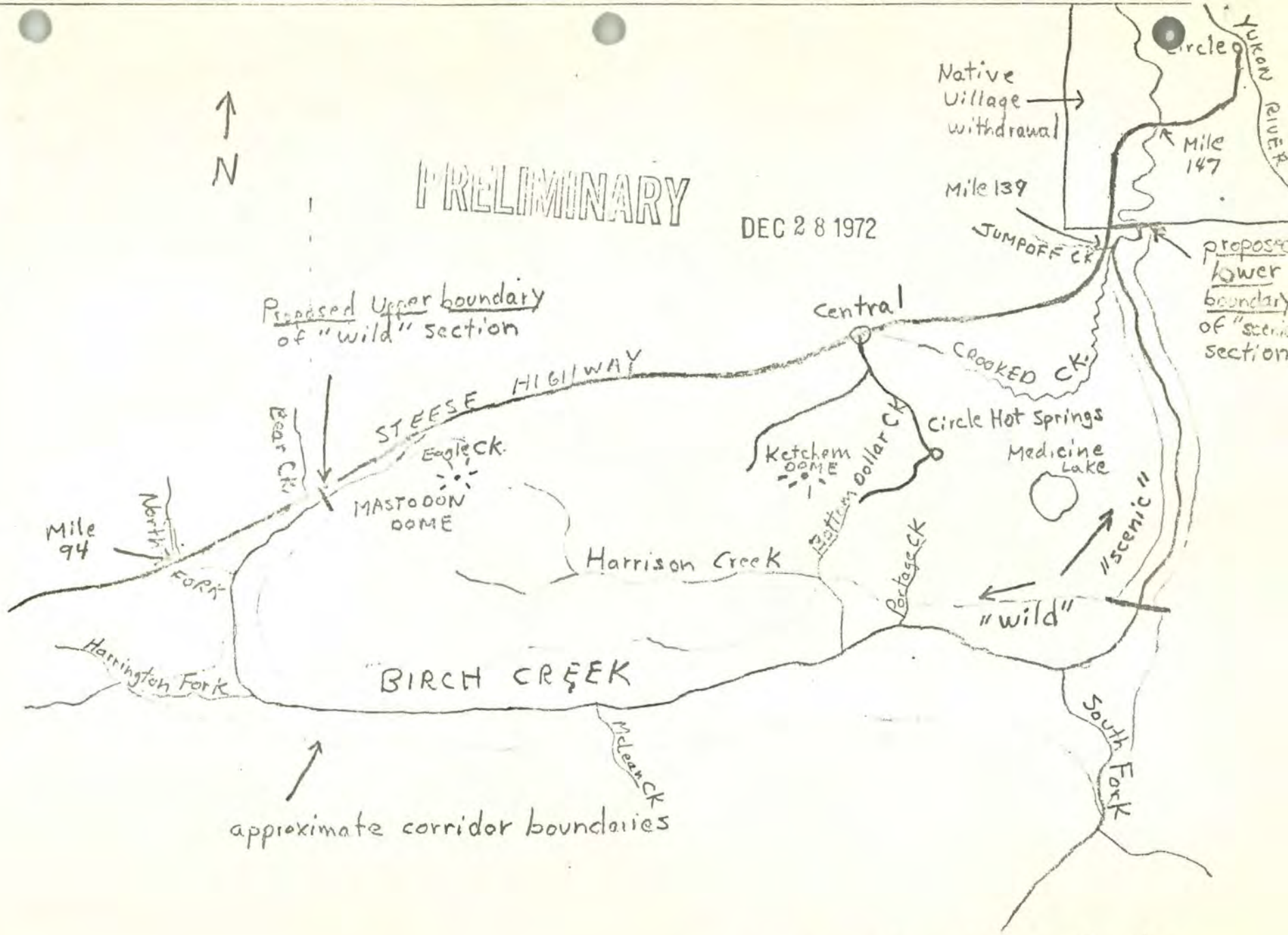
The management plan described is to be viewed strictly as a conceptual plan. It is intended only as a guide or framework in which normal management latitude could be taken on specific site locations, uses, etc. As such, the type and locations of recreational uses and development detailed herein could be altered at a later date should Birch Creek be added to the national system.

Summary of Findings and Recommendations

1. Birch Creek has been found to possess outstandingly remarkable scenic and recreational values.
2. It is recommended that Birch Creek from 1 mile above Bear Creek in the headwaters to the vicinity of the Jumpoff/Crooked Creek confluence be included in the National Wild and Scenic Rivers System.
3. It is recommended that the upper section be classified as "wild" to the point where the river flows from the uplands onto the "flats." A corridor averaging 2 miles from either side of the river would be included. The lower section would be classified as "scenic" with a corridor averaging 1/2 mile to either side of the river.
4. It is recommended that the entire segment be managed by the Bureau of Land Management.

5. 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.


N
Porcupine River
Fort Yukon
ARCTIC CIRCLE
Lower Mouth
YUKON RIVER
BEAVER Ck
BIRCH CREEK
YUKON RIVER
Circle
CRAZY MTS
3690
Central
Circle Hot Springs
3535
4418
4540
WHITE MOUNTAINS
5040
5375
BIRCH CREEK
STEESE HIGHWAY
Hot Springs
4444
5920
5660
Charley River
RIVER
Chatanika
Tolovana
FAIRBANKS
Chena River
4585
Tanana River
Nenana
1 INCH = 25 Miles


N
PRELIMINARY
DEC 2 8 1972
Native Village withdrawal
Circle
YUKON RIVER
Mile 147
Mile 139
JUMPOFF CK
proposed lower boundary of "scenic" section
Proposed Upper boundary of "wild" section
Central
CROOKED CK
STEESE HIGHWAY
Bear Ck
Eagle Ck
MASTODON DOME
Ketchem DOME
Dollar CK
Bottom
Circle Hot Springs
Medicine Lake
Mile 94
North Fork
Harrison Creek
Portage CK
"scenic"
"wild"
Harrington Fork
BIRCH CREEK
McLean CK
South Fork
approximate corridor boundaries
rough scale - 1 inch = 5 miles

Birch Creek

Background Information

The unique character of upper Birch Creek was first officially recognized in 1969 when the land manager, BLM, identified it as one of 12 road-accessible waterways in the publication "Alaska Canoe Trails." On May 9, 1970, a notice of proposed classification of lands for Multiple-Use Management was published in the Federal Register. These lands generally comprised the entire White Mountain region including the Birch Creek drainage. This notification withdrew these lands from appropriation as Homesteads, Trade & Manufacturing sites, Headquarters, Homesites, and Native Allotments.

In the planning process that followed, BLM analyzed the resources and developed a management framework plan for the entire region, including upper Birch Creek. Recommendations from this planning process have not as yet been made public, and the land withdrawal notice lapsed on _____.

On September 11, 1970, the Secretary of Interior and 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.

The Alaska Native Claims Settlement Act (ANCSA) was passed on December 18, 1971, and threw open the whole question of land status and land planning for the Birch Creek area as well as the entire State. In March of 1972 the Secretary of Interior withdrew most of the upper Birch Creek area as "public interest" lands under section 17(d)(1) of ANCSA.

Under the terms of ANCSA, certain lands were to be studied as potential additions to four national systems: Parks, Wildlife Refuges, Forests, and Wild and Scenic Rivers. On July 26, 1972, after preliminary investigations, the Bureau of Outdoor Recreation recommended the upper Birch Creek as one of 35 Alaskan rivers for detailed consideration as a potential unit of the National Wild and Scenic Rivers System.

On September 15, 1972, the Secretary of Interior withdrew a two-mile corridor along the upper Birch Creek under section 17(d)(2) of ANCSA. No land within this corridor can be appropriated under the public land laws pending a formal recommendation from the Secretary of Interior to Congress. Such a recommendation for inclusion

in the National Wild and Scenic Rivers System must be forthcoming by December 18, 1973. If Congress does not act on the Secretary's recommendation within five years the (d)(2) withdrawal will terminate.

PRELIMINARY

BIRCH CREEK

General Description and Evaluation of River

Physical characteristics and setting

Small mountain streams converge to form Birch Creek approximately 65 air miles northeast of Fairbanks, Alaska. From this point the river flows generally northward for 314 miles before emptying into the Yukon River about 125 miles north of Fairbanks. The segment under study is **approximately 125 miles long, running from about Mile 97 of the Steese Highway in the headwaters to the vicinity of Jumpoff Creek/Crooked Creek confluence (T. 7 N., R. 10 E. to T. 9 N., R. 16 E., (Circle Quadrangle).**

In the study segment, the river drops from an elevation of 2200 feet in the upper reaches to less than 700 feet around the confluence of Jumpoff Creek. From Jumpoff Creek to the confluence with the Yukon, the river flows across the Yukon "flats" dropping only 300 feet in over 175 miles. (see Appendix A - Gradient Profile).

Birch Creek rises in the uplands between the Yukon and Tanana Rivers. The first 75 miles of the river flow through a broad valley surrounded by rolling hills and low mountains up to 4000 feet in elevation. The lower 50 miles of the study segment traverse the upper regions of the Yukon "flats," an area of little relief and expansive tundra **marshlands.**

The vegetation of the study corridor would generally be classified as birch-spruce forest. In the upper reaches black spruce dominate the landscape, while aspen groves are common on the hillsides of the middle section. Along the river banks throughout the corridor small stands of large white spruce and balsam poplar flourish. In the lower section the forest adjacent to the river is quite dense with a variety of trees and shrubs. Even in the lower section, however, the forest of the floodplain is broken in many cases by black spruce tundra lands which offer outstanding vistas of nearby hills and mountains. These open areas are often indicative of underlying permafrost (see Appendix B-Vegetation Profile).

The waters of Birch Creek are generally clear and swift. In the "flats" area, the current diminishes and the waters become brownish colored due to the 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 10-20 yards wide with depths of several inches to 4 feet. In the lower portions the river widens to 30-50 yards with depths averaging 4-8 feet. Fifteen foot pools are not uncommon, however.

Maximum discharge of the river is reached after spring break-up in early May resulting from snow melt and spring rains. Normal flows occur during summer, with extreme lows occurring 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. 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 a tributary, Harrison Creek, is opaque due to a heavy sediment load. This creek converges with Birch Creek about 50 miles from the headwaters. For several miles downstream from this confluence a discoloration of the water can be perceived due to the influx of suspended sediment. Because the only active mining operations in the Birch Creek drainage occur in the headwaters of Harrison Creek, and because no other tributary discharges a similar amount of sediment, it is assumed this condition is a result of the placer mining methods being employed in the Harrison Creek drainage.

One of the reasons for the general lack of control of waste solids in effluents from placer mining operations in Alaskan river basins is a statutory clause, and recently a statutory definition, in the state laws which in effect have exempted all placer mining and gravel washing operations from compliance with a waste water discharge permit system. New legislation at the federal level, specifically the Water Pollution Control Act Amendments of 1972, will effect a Federal permit system that will be applied to the placer mining industry throughout Alaska.

These changes may not be implemented, however, until 1973 or 1974, because the Alaska Statutes and the Alaska Water Quality Standards enabling control of placer mining operations will need to be amended by legislative process.

Existing land use

Virtually the entire study segment flows through a "wilderness" environment. No permanent habitation, farming, lumbering, grazing, mining, or similar activities are being undertaken in the river area. 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.

There does exist one active mining claim at the confluence of McLean Creek. It is not known what work has been done on the ground, however.

There is also an oil and gas exploration lease covering approximately 1/2 mile of the river 2 miles from the Jumpoff Creek confluence. Again, it is not known what work has been done on the ground.

No dams or channel improvements have been proposed or planned for this river segment. The proposed Rampart Dam on the Yukon River would have a maximum pool elevation of 660 feet which would inundate Birch Creek upstream to the vicinity of the lower study area boundary. The exact

PRELIMINARY

boundary of the reservoir pool is not known. However, under PLO 3520 (1/5/65) a block of land was withdrawn from appropriation for use in the proposed project. This order reserved lands along Birch Creek approximately 3 miles upstream from the Jumpoff Creek confluence. Rampart Dam would have an estimated installed capacity of 5,040,000 KW.

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."

Both the Corps of Engineers and the Alaska Power Administration have expressed an interest in participating in any wild and scenic river studies which involve water resource projects such as Rampart Dam. Thus, this study is being closely coordinated with the agencies.

Land ownership

Virtually the entire study segment flows through lands owned by the Federal government and managed by the Bureau of Land Management. A two-mile corridor - 1 mile on either side of the mean high water level of the river - has been withdrawn from all forms of appropriation under section 17(d)(2) of the Alaska Native Claims Settlement Act (ANCSA, P.L. 92-203) along the entire 125 mile study segment.

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 September 27, 1968.

PRELIMINARY

(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) An active mining claim at the McLean Creek confluence. No further information is known concerning this claim.

With the exception of several small parcels, the entire headwater area above the study segment is in Federal ownership and managed by BLM. 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.

Existing access

The Steese Highway (Alaska State Highway No. 6) runs 162 miles from Fairbanks to Circle, Alaska. This highway intersects the Birch Creek study area at Milepost 94 and Milepost 139. 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 6 miles above the study segment. The road at times approaches the river to within 1/4 mile.

At Milepost 139 a 1/4 mile track leads from the highway to a privately owned cabin at the Jumpoff Creek confluence. This trail is in Federal ownership and is passable by passenger cars in dry weather. The privately owned cabin site blocks direct 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. This bridge crossing falls within lands withdrawn under ANCSA for Native selections.

Access by small aircraft on wheels is possible on occasional gravel bars throughout the study segment. Float plane access is restricted to the long ox-bows and channels in the lower reaches because of shallow waters and short approaches in the upper reaches. No airstrips exist along the study segment. Planes do land and take off on the Steese Highway in the headwater areas.

Water rights and ownership of river bottom

To be supplied at later date.

Recreation resources and values

There are no developed recreational facilities or designated recreational areas within or near the study

segment. There are also no known plans for any recreational development in this area.

In the BLM publication, "Alaska Canoe Trails," put out in 1970, the entire study segment of Birch Creek is identified as one of 12 highway-accessible water routes in the state offering canoeing opportunities. The "put-in" point is from Mile 94 or 95 of the Steese Highway (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 Native selections. The lower study boundary is located 15 miles upstream from this crossing.

Birch Creek offers outstanding recreational opportunities for nonmotorized small craft use (canoeing, kayaking, rafting). It is one of the very few rivers in the state which has road access at two points intersecting an otherwise untouched segment of river. The recreationist is allowed four to seven days of 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 139 of the Steese Highway. This point is within the

study area at the Jumpoff Creek confluence approximately 20 miles upstream from the Steese Highway bridge. However, 100-200 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 C-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 is generally 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 is ever-changing and dramatic. The river gently winds through extensive areas of broad canyon lands. Bluffs and small mountains are in both foreground and background much of the time in the upper and middle reaches. In the lower reaches, mountains can been seen across broad expanses of tundra marshlands. There are many areas of

beautiful white spruce-birch forests along the river contrasting 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, wilderness camping, and hiking opportunities are abundant. Small quantities of gold at several tributary confluences present the opportunity for recreational panning.

In addition to nonmotorized craft uses, the lower section of the study segment is suitable for small boats with motors.

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

Winter recreation is yet another potential offered by the river area. The frozen river is an excellent corridor for cross-country skiing, snow-shoeing, dog sledding and snowmobile use.

Historical resources and values

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 historic and archeological sites have been identified in the lower birch Creek area in an unpublished manuscript "Archeological Survey and Excaration in the Proposed Rampart Dam Impoundment, 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 have been located in the Crooked Creek/Jumpoff Creek confluence area.

Geological and Mineral resources and values

Birch Creek schist, one of the oldest bedrocks in the state, is named after this river. Although this schist is report to underlie 70-80% 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.

Also of geologic as well as historic interest is the presence of gold in the Birch Creek drainage. Active placer mining is still taking place in some upper and 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 basins in this area have been located. No other minerals have been located in any appreciable amounts.

Fish and wildlife resource values

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. Excellent 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.

Big game species common along the river include moose, black bear, and wolves. Caribou are also present at certain times of 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.

Several speicies of eagles, hawks and owls are common residents of the river area. Another raptor, the peregrine falcon, has been observed, and potential nesting cliffs have been identified along the river. As this bird is identified in the Secretary's Red Book as a rare species, this habitat area is considered quite significant.

Limitations to recreation

Most of the limitations to recreation in the study area are related to the natural elements. The harsh arctic climate allows relatively short season for the major recreational uses, June through August. Water temperatures remain cool all summer, prohibiting any prolonged body contact. Winters are extremely severe with cold temperatures (down to -60°) 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 make canoeing difficult 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 improvements and new road and trail construction are severely 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 may be excessive.

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 is in Federal ownership, 100-200 yards within the cabin site separate this access road from the river frontage. This, a "portage" around this parcel is presently the only legal means of access to and from the study segment in the lower reaches.

At several other points 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 Native land selections and is not included in the study segment.

Present mining operations in the headwaters of Harrison Creek are believed to cause the turbid waters being discharged into Birch Creek at the Harrison Creek confluence. A change in coloration can be detected in the otherwise clear waters of Birch Creek for several miles downstream. This condition 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. Fish populations can be reduced by low flows and heavy sediment loads. Motorboating is obstructed in the headwaters by rapids and shallow water.

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 "wilderness" recreational opportunities now offered in the river corridor might be the future development of placer mining along the river

or in the tributary headwaters. Placer mining activities that can degrade water quality and modify stream characteristics include stripping and sluicing of overburden by hydraulic means, stream diversions, and sluicing of gold bearing deposits in stream valleys. Waste waters from hydraulic stripping and from sluicing or washing of placer deposits are often returned to a stream without any attempt to control solids in the waste effluent.

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 know 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.

There is very limited potential for commerical, (other than guiding, boat rentals, etc.), or residential development, lumbering, and agriculture in the study segment. However, these activities could seriously degrade the aesthetic values of the land and water, and hence, decrease the "wilderness" 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.

Evaluation and recommendations

Birch Creek meets the criteria for inclusion in the National Wild and Scenic Rivers System 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 immediate environment are capable of being managed to protect and interpret special values and protect the user

The study segment is a pristine waterway through a virtually untouched "wilderness" environment. For 125 miles 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 resource is probably the most significant value. 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. Motorboating in the lower reaches is also offered.

The study segment of 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 Federal government. Virtually all lands within and adjacent the study corridor are owned and administered by the Federal government.

These federal lands are presently being managed by the Bureau of Land Management. Nootherfederal agencies have expressed an interest in the management of Birch Creek as a wild and scenic river. It is recommended that BLM be the principal manager of the entire river corridor.

Although both the upper and lower sections of the river are largely inaccessible by road, and virtually undeveloped, it is recommended that the upper section be classified as a "wild river" and the lower section be classified as a "scenic river." The "wild" section would run from the Steese Highway to the "breaks" or the area where the river flows from the uplands and onto the "flats" in T. 7 N., R. 17 E. of the Circle Quadrangle. From this point to the downstream boundary a "scenic" classification would be applied.

The difference in classifications is justified on the basis of potential rather than present recreational uses. The upper section would most appropriately offer a "wilderness" experience and as such would tolerate little recreational development and only a small amount of use. The lower section is more suitable for an increase in present recreational development and use.Here a "scenic" classification could accommodate the increasing recreational demands of the region and provide balanced recreational opportunities.

Overall boundaries of the river corridor would be from one mile above the Bear Creek confluence to the southern boundary of T. 10 N., R 16 E. (Circle Quadrangle). In the upper section the North Fork would be included up to one mile beyond the Steese Highway bridge at mile 94. A "visual corridor" would be included in the System which would average approximately two miles to either side of the river along the "wild" section. This distance could be extended to four or five miles from the river along major tributaries. It is felt this corridor would be sufficient to protect the scenic and recreational values of the river from outside influences and activities.

Along the "scenic" section the corridor would average about 1/2 mile to either side of the mean high water mark. Because of the lesser relief and denser forest conditions in this section, the smaller corridor is thought to be sufficient.

Precise boundaries would be drawn by the study team when topographic and vegetation patterns are studied in depth. Approximately 200,000 acres would be included in the System.

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 outstanding 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 date for potential inclusion in the National System.

Conceptual Management Plan

The following objectives, directions, and proposed development generally constitute the conceptual management plan as administered by the Bureau of Land Management.

Management objectives

It is proposed that the river segment be divided into two classifications, "wild" and "scenic." The upper segment from the headwaters to the edge of the foothills in T. 7 N, R. 17 E. (Circle Quadrangle) would be classified as "wild" and would 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, "wilderness" recreational experience with primary emphasis on river-oriented activities.

(3) Protection of rare and endangered species habitat.

The lower segment from the foothills to the lower boundary in T. 9 N., R. 16 E. (Circle Quadrangle) would be classified as "scenic" and would be managed with the following objectives:

(1) Protection of the river and its environs in a natural, primative state.

(2) Provision of a quality, primitive recreational experience

(3) Protection of rare and endangered species habitat.

Management Direction

1. Lands

No valid existing rights to lands located within the proposed boundary would be condemned, denied, or infringed upon. 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 be withdrawn in the river corridor from future disposal under the public land laws.

2. Transportation/Vehicles/Utilities

In the upper "wild" segment no new roads would be proposed with the exception of a short access road from the Steese Highway to the river at the upper study boundary. Any roads crossing or paralleling this segment would significantly degrade the values of the river corridor and defeat management objectives. Minimum trail development is recommended with no trails paralleling the river.

One potential alignment of the proposed Eagle to Circle highway would cross the lower "scenic" section. It is strongly recommended that all alternative alignments be thoroughly explored and rejected prior to selection of this alignment. Should this prove to be the only prudent and feasible alternative, it is felt that one such road crossing, if carefully engineered, would not substantially detract from the management objectives of this river portion. Moderate trail development could take place to and along the "scenic" section.

Off-road vehicle use along both the upper and lower sections would be limited to winter travel only. With adequate snow conditions snow machines would be permitted throughout the corridor. Before overuse and damage to the river environment occurs at some later time, snow machine use would be confined to designated trails or areas within the river corridor. During times of no or inadequate snow cover, no off-road vehicles would be permitted in the river corridor in order to protect the fragile soils and vegetation and to protect the inaccessible, primitive nature of the river area.

The use of boat motors would be permitted in the "scenic" section. A modest level of motorboat use is compatible with management objectives. However,

before significant environmental or recreational harm results due to higher levels of use in the future, motorboating would be limited by such means as time zoning where motors would only be allowed during certain times of the year. The use of boat motors would not be allowed in the upper "wild" section.

Airstrips would not be developed along the river. Because potential landing and takeoff sites in the upper section are greatly limited by natural conditions, no further controls would be placed on air access. Similarly, aircraft could land, where possible, in the lower section.

No bridges, utility, or cable crossings would be constructed or permitted in the "wild" section. Such crossings would be compatible in the same area as a road crossing, should it be constructed across the "scenic" section.

3. Minerals

All valid existing mining or mineral rights in the river corridor would be fully respected, and any activities permitted by such rights would be allowed.

Following a determination of validity, the following terms of the National Wild & Scenic Rivers Act would apply to certain existing rights: All prospecting, mining operations, and other activities

on mining claims that have not been perfected or on leases shall be subject to regulations which would, among other things, provide safeguards against pollution of the river and unnecessary impairment of the scenery within the river boundaries. Also, subject to valid existing rights, the perfection of, or issuance of a patent to any mining claim shall confer a right or title only to the mineral deposits and such rights only to the use of the surface and surface resources as are reasonably required to carrying on prospecting or mining operations and are consistent with any regulations prescribed by the Secretary.

The federal government would reserve the right of first refusal should valid mining rights be offered for sale. Should a willing seller exist, valid mining or mineral rights would be purchased where appropriate.

Subject to valid existing rights, all lands within the river corridor would be withdrawn from future disposition under the U.S. mining and mineral leasing laws.

Any valid mining claim initiated prior to September 15, 1972, under the general mining laws shall be protected in his possessory rights, if all requirements of the general mining laws are complied with for a period of five years from the date of enactment of Federal legislation designating the river as a component of the National Wild and Scenic Rivers System. If at that time all requirements of the general mining laws are complied with, the mining claim applicant may proceed to patent. At the end of the proposed period all claims not patented would be voided and the minerals withdrawn from location and entry.

4. Timber

Commercial timber harvesting would be allowed under certain controls in the "scenic" section. Harvesting could take place during the winter months when terrain disturbances would be minimal and access roads

would not be needed. Access points and cut over areas would be blocked and revegetated after the timber was removed. Cutting would not be permitted within one-quarter mile of the mean high water mark to protect the natural aesthetics along the river. Free-use wood cutting permits would be similarly controlled and limited to certain areas.

Commercial timber harvesting or free-use wood cutting would not be compatible with management objectives in the upper "wild" section and would not be permitted. Wood gathering by recreationists would be limited to dead or downed timber throughout the river segment.

5. Livestock forage

The river corridor would not be open to commercial livestock 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. Permits for small numbers of animals used for recreational purposes may be granted in specific areas where forage conditions are determined to be adequate.

6. 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 would be allowed.

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

The river manager would 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 contamination, and others.

7. Wildlife/Fisheries

Fishing and hunting of game animals would be fully allowed within the entire segment under applicable state regulations. Management of game and fish would be handled in cooperation with appropriate state agencies.

The protection of rare or endangered species would be emphasized. In some cases this might include

minor habitat manipulation for such species. Habitat manipulation for other species would not be practiced.

8. Recreation

The most significant differences in management direction between the "wild" and "scenic" sections would be in recreation. In order to preserve a "wilderness" recreational experience in the "wild" section, the development of access and recreational facilities would be strictly limited. A minimum of facilities would be provided only at access points. Visitor information and safety signing would occur only at access points. No facilities, signing, removal of water hazards, etc. would be provided or done along the "wild" river proper. The "wild" river environment could only tolerate a relatively small amount of recreational use. Use in the river corridor would not be allowed to reach a level at which the environment was degraded and the "wilderness" experience was lost. The problems of sewage, litter, fires, and even fire wood would grow increasingly acute as the number of recreationist increase. Thus, it would be necessary to limit the number of recreationists on or along the river at any one time.

On the "scenic" section a larger number of recreationists would be compatible with management objectives. Although access would be limited to only

a few places, more extensive facilities could be provided at these points to accommodate larger numbers of people. The use of motorboats and the greater fishing potential in the "scenic" section would undoubtedly lead to greater numbers of recreationists in this section. In order to protect the rivers' resources from indiscriminate waste disposal, primitive camping and picnicking areas might be designated at intervals along the river where facilities would be provided for sanitation and litter.

Throughout the corridor, historic cabins and sites would be stabilized and protected for user appreciation.

9. Protection/Fires

Because of the remoteness of this river area and the lack of roads, recreationists who become hurt, lost, or stranded could be in real danger. Therefore, periodic trips down the river would be made in the interest of user safety. These safety checks would also be utilized to look for potential hazards such as log jams, rapids, channel changes, etc. No attempt would be made to remove such natural obstacles, but rather they would be identified on informational signs at the access points. In addition, policing of the area against

littering, unlawful motor vehicle use, and other illegal activities would be accomplished.

The area would be under special fire prevention and suppression controls. A strong initial attack on small fires in the area would be made to prevent widespread burns in the river corridor. However, fires in the river corridor would be fought with only non-mechanized equipment. Vehicular fire-fighting techniques in these fragile areas have resulted in more overall damage to the environment than from fires themselves in past experiences. Large burns would be revegetated with native plants to prevent erosion.

10. Adjacent lands

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

Recreation Development

Development of recreational facilities is proposed at only two locations, an upper "put-in" point and a lower "take-out" point. In the upper section, an access road would be provided from the Steese Highway to the river. This road would accommodate passenger cars and would not extend more than 1/4 mile from the

Steese Highway. A parking area, sanitation facilities, and public information would be provided at this access point. Any overnight facilities would be developed at a separate location, outside the "wild" river boundary.

Another short access road would be constructed from the Steese Highway to the river in the Jumpoff Creek vicinity. A parking area, sanitation facilities and public information would be provided here also. Trails following the river might also originate from this location.

Should the lower fifteen mile section of river to the Steese Highway Bridge at Mile 147 be included in the Wild & Scenic River System at a later time, similar facilities could be developed at the bridge location. These facilities could be managed either publicly or privately, such as by Native groups. In addition to parking and sanitation facilities, overnight areas, launching ramps, boat rental and guiding operations might be developed.

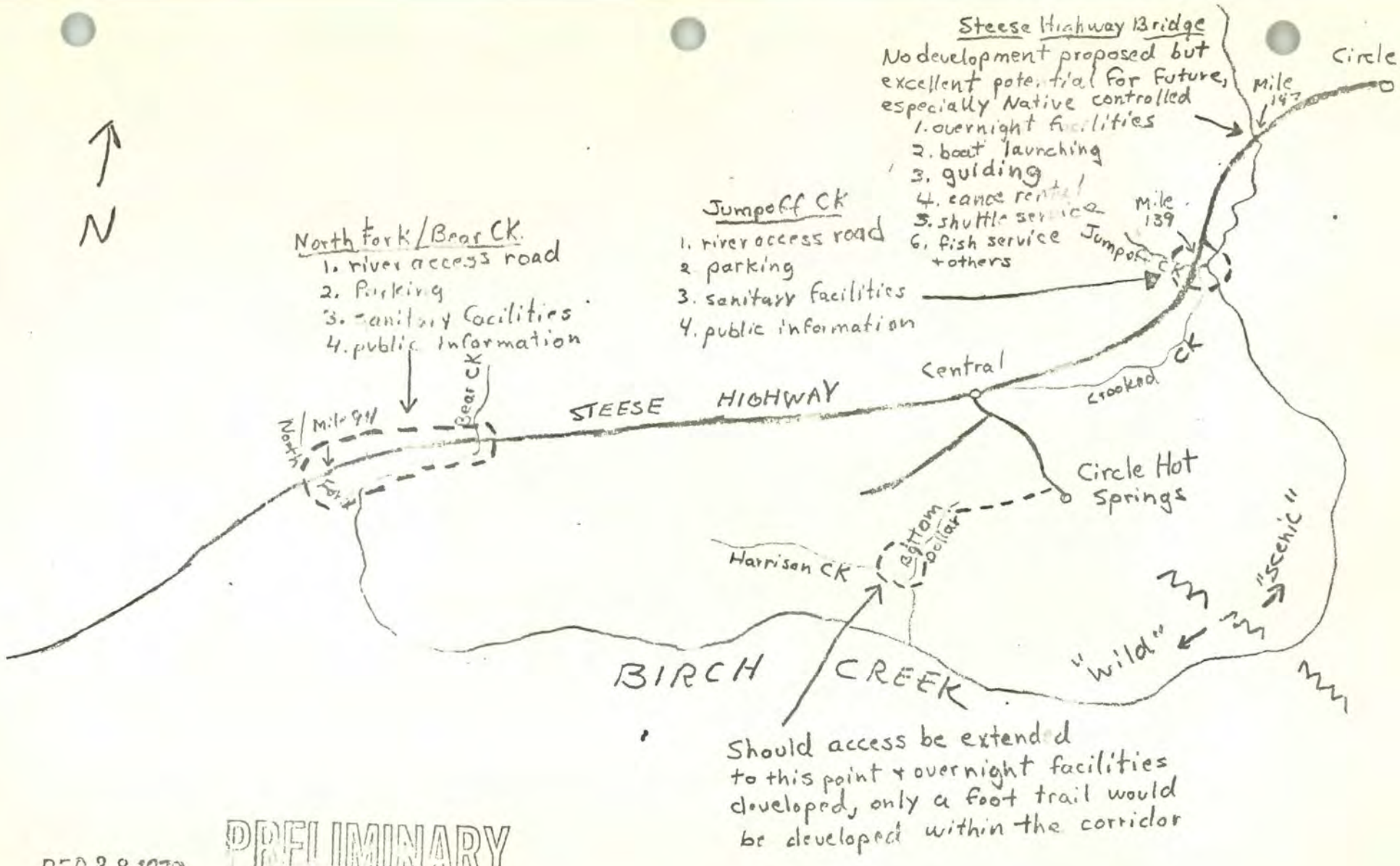
If, in the future, a highway should cross Birch Creek in the lower section, basic recreational facilities would be developed at such an intersection.

The Ketchem Dome area north of the "wild" 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 no further than this point and that only a foot trail to the river be permitted.

Management and Development Costs

To be supplied later. No development proposed for first five fiscal years.



DEC 2 8 1972

PRELIMINARY

Proposed Development

Economic Effects of Inclusion in the National System

Potential uses of the river area that would be created or enhanced

Present uses are almost exclusively recreational in nature and numbers of users are quite small. Fewer than 30 parties canoed down Birch Creek during the 1972 summer season. It is estimated that less than 100 other visits occurred during this season for hunting, fishing, and other recreational pursuits. Inclusion of the Birch Creek segment in the National Wild and Scenic Rivers System would undoubtedly result in a significant increase in recreational use in the designated corridor.

The provision of access roads, the signing of the area, and the national significance of the river would, in essence, advertise its recreational values and attract users. No estimates have been made but it is safe to assume that use would approach the resource capabilities of the river area by the year 2000. In addition to the provision of an outstanding recreational experience for additional users, economic benefits would accrue from this increased use. Users of the river area would require 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 stimulate new businesses. Guiding services, canoe rentals, shuttle services between put-in and take-out points, motorboat and fishing services, boat launching ramps, 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.

The building of access roads and parking areas, and sanitation facilities would also result in some short-term employment and local economic benefits. Management of the river area would also require additional manpower.

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

Potential non-recreational uses which would be curtailed or eliminated

Subject to valid existing rights, including Native selections under ANCSA all lands within the river corridor would be withdrawn from appropriation under 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. Grazing and mineral leases would not be offered, and timber harvesting permits would only be issued in the "scenic" section.

Because of the region's 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 commercial agriculture production in the Birch Creek area. Thus, it is doubtful if any economic benefits would be foregone by including the river corridor in the national system.

Although the demand for 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. Because the Birch Creek corridor lies over 100 miles by road from Fairbanks, residential land uses foregone would be minimal.

Similarly, 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 commercial uses such as guiding operations might be affected. Although no guiding operations presently exist

along the river, 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 identified within the corridor and virtually no evidence of historical mining exists along the river. Significant deposits of other metals in the river corridor has not been demonstrated. Thus, economic benefits from mining precluded by this proposal would be marginal.

Oil and gas exploration activity has recently increased, principally in the Yukon drainage. Several leases have been let within the lower Birch Creek segment. No discoveries are known to have been made, and all but one of the leases within the river segment have lapsed. However, should basins be found in the general area, it is felt the withdrawn river corridor would not preclude economic benefits from oil and gas resources. The corridor through lands with the most potential for oil and gas deposits averages only 1/2 mile from either side of the river. Modern drilling techniques used in off-shore operations have

demonstrated how oil and gas deposits can be tapped from much longer distances. Thus, any underlying minerals could be pumped from outside the corridor.

Although trees of potential commercial value exist along the river, they are generally located in very 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 being filled mainly from commercial forests in other parts of the State. Local wood needs are in part being met by harvesting in the Chena River drainage located closer to Fairbanks.

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. There will exist some future demand for grazing areas for limited numbers of horses utilized in guiding operations. Permits for such use could be granted in suitable areas within the corridor and economic benefits arising from this use would not be foregone.

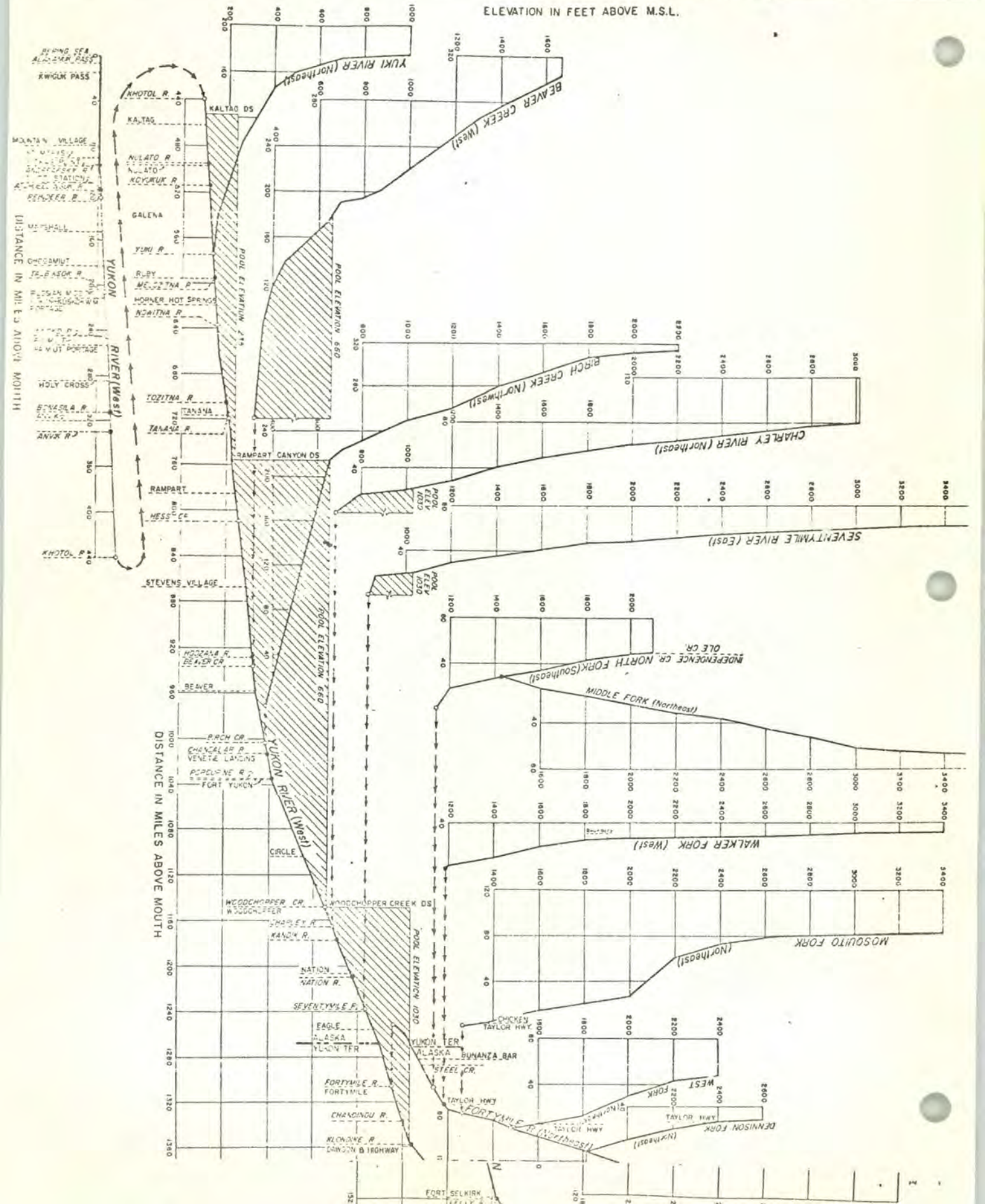
No water resource projects have been proposed within the study corridor. The Rampart Dam project boundaries extend a short distance into the river corridor but the

reservoir would probably not extend that far. This project would not be curtailed on the basis of this wild and scenic river designation. However, it could have an adverse effect on wildlife, vegetation, and other components of the river environment.

Summary

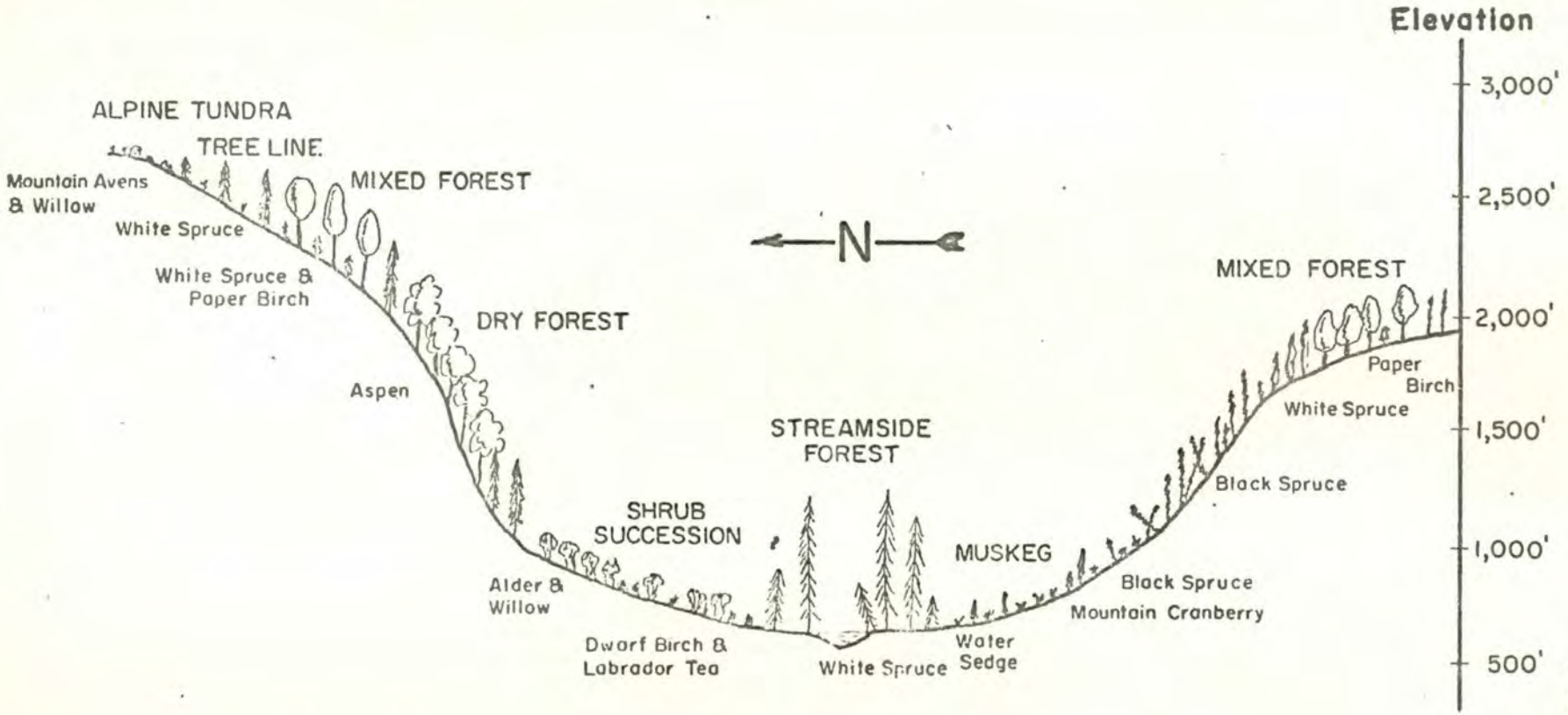
The overall comparison of potential land uses enhanced or precluded by including Birch Creek in the national system favors those enhanced from an economical standpoint. By far, the most important resource of the river corridor is its recreational values. The economic benefits resulting from identification and development of this resource appear to outweigh those which might accrue from such other land uses as lumbering, mining, farming, etc. No proposed road and water resource projects would be curtailed by inclusion in the national system.

Appendix A


ELEVATION IN FEET ABOVE M.S.L.
DISTANCE IN MILES ABOVE MOUTH
YUKON RIVER (West)
BERING SEA
ALASKA-YUKON BOUNDARY
KWIGUK PASS
KNOTOL R.
KALTAG DS
KALTAG
NULATO R.
NULATO
KOYUKUK R.
GALENA
YUKI R.
RUBY
MCGRATH R.
HOPPER HOT SPRINGS
NOWITNA R.
HOLY CROSS
TOZITNA R.
TANANA
TANANA R.
RAMPART CANYON DS
RAMPART
HESS CR.
KNOTOL R.
STEVENS VILLAGE
MOZANA R.
BEAVER CR.
BEAVER
PORCUPINE R.
FORT YUKON
CIRCLE
WOODCHOPPER CR.
WOODCHOPPER CREEK DS
CHARLEY R.
KANDIK R.
NATION
NATION R.
SEVENTYMILE R.
EAGLE
ALASKA
YUKON TER
FORTYMILE R.
FORTYMILE
CHANDINDU R.
KLONDIKE R.
DAWSON & TRGHWAY
FORT SELKIRK
POOL ELEVATION 660
YUKI RIVER (Northeast)
BEAVER CREEK (West)
RICH CREEK (Northwest)
CHARLEY RIVER (Northeast)
SEVENTYMILE RIVER (East)
INDEPENDENCE CR.
NORTH FORK (Southeast)
MIDDLE FORK (Northeast)
WALKER FORK (West)
MOSQUITO FORK
(Northeast)
CHICKEN
TAYLOR HWY.
BUNANZA BAR
STEEL CR.
TAYLOR HWY
FORTYMILE R. (Northeast)
WEST FORK
DENNISON FORK
(Northeast)
TAYLOR HWY
N

Appendix B

FIG. 1 DIAGRAM OF VEGETATION TYPES ALONG A TOPOGRAPHIC GRADIENT IN THE WHITE MOUNTAINS PLANNING UNIT



Appendix C

VII. If You Spill

1. BE AWARE OF YOUR RESPONSIBILITY TO ASSIST YOUR PARTNER.
2. HOLD ON TO YOUR BOAT; it has much floatation and is easy for rescuers to spot. Get to upstream end so boat cannot crush you on rocks. Follow rescuers' instructions.
3. LEAVE YOUR BOAT IF IT IMPROVES YOUR SAFETY; your personal safety must come first. If rescue is not imminent and water is numbing cold or worse rapids follow, then strike for the nearest shore.
4. STAY ON THE UPSTREAM END OF YOUR BOAT; otherwise you risk being pinned against obstacles, or, in waves, may swallow water.
5. BE CALM, but don't be complacent.

VIII. If Others Spill

1. GO AFTER THE BOATER; rescue his boat only if this can be done safely.

SMOOTH AND WHITE WATER RATING SCALE:

International Difficulty Rating of canoeable waters, to be used in connection with Personal Ratings on page 12.

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.*

As a general guide, the paddler should match his own abilities to the following scale in order to determine his capability for handling any scheduled trip (see page 8 for river difficulty classifications):

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.

One further word. Non-paddlers are usually welcome on trips of *any* rating — they can be an invaluable aid in running a shuttle. If you would like to see interesting whitewater, watch shooting the rapids, and get in some breathtaking photography from the shore, then give the trip leader a call and tell him your story.

Leader's Responsibilities

Leaders who are unable to fulfill their trip commitments should obtain a substitute leader and notify a Cruise Chairman as early as possible.

Month before trip:

Determine purpose of trip — training_ cruising_ exploration_ other _____
Determine put-in point _____
Determine take-out point _____
Determine rendezvous point, time _____
Select alternate trip _____
Obtain guidebook and map of area (see page 39) _____
Determine camping arrangements _____
List meals to be eaten on river _____
List expected difficulty _____ decking? _____ wet suit? _____

Week before trip:

Maintain roster of persons signed up for trip with name, address, phone, type of boat, partner, experience, and any physical limitations.

Refuse to accept any applicant who does not satisfy your trip's ability standards.

If necessary, limit the number of boats.

Reread the AWA Safety Code (see page 6).