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draft wild and scenic river study
february 1984

KISARALIK RIVER



ALASKA

This report was prepared pursuant to Public Law 90-542, the Wild and Scenic Rivers Act, as amended. 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 this report is to provide the information and alternatives for further consideration by the National Park Service, the secretary of the interior, other federal and state agencies, and the public.

P99/D-2181

KISARALIK RIVER
Alaska

DRAFT WILD AND SCENIC RIVER STUDY

Prepared by the National Park Service, U.S. Department
of the Interior, in cooperation with
Alaska Department of Fish and Game;
Alaska Power Authority; Calista Corporation;
City of Akiachak; Kokarmuit Corporation;
Kwethluk, Inc.; Tulukisarmute, Inc.;
and U.S. Fish and Wildlife Service,
U.S. Department of the Interior

Abstract: This study finds that the Kisaralik River is eligible for inclusion in the national wild and scenic rivers system as a wild river. However, it does not find the river suitable for inclusion because the Alaska State agencies involved in the study, as well as local residents, do not support this action. Also, the U.S. Fish and Wildlife Service, which manages that portion of the river within the Yukon Delta National Wildlife Refuge, does not favor designation of the Kisaralik as a wild river. Alternatives that were considered during the study, but that were dropped for one reason or another, are also described.

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Comments on the draft study should be sent to the above address and should be received no later than _____.

U.S. Department of the Interior / National Park Service

SUMMARY

WILD RIVER ELIGIBILITY

The Kisaralik River is a 111-mile-long free-flowing river issuing out of Kisaralik Lake in the Kuskokwim Mountains of southwestern Alaska. It was authorized to be studied as a potential wild and scenic river by the Alaska National Interest Lands Conservation Act, Public Law 96-487 (December 1980). After evaluation of the river in accordance with the criteria defined in the Wild and Scenic Rivers Act, an 84-mile segment upstream from the Akiak land selections was found to be eligible for designation by Congress as a wild river. Eligibility is based on the river's free-flowing natural character and its outstandingly remarkable values, which include scenery and recreational opportunities. Although fishery values were not considered to be outstanding, the sportfishing opportunities add significantly to the recreational experience.

The upper 18 miles of river and Kisaralik Lake are on land owned by the state of Alaska. The middle and lower river segments are within the Yukon Delta National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service. Numerous native allotments and private land selections are adjacent to the middle and lower river segments.

SUITABILITY FOR DESIGNATION

Once a river has been found to be eligible for inclusion in the national wild and scenic rivers system, a determination is made as to its suitability for inclusion. Generally, suitability is based on such factors as extent of public lands in the river area; costs required for acquisition, development, management, and operation; public, local, or state interest in acting to protect and manage the river; the feasibility and timeliness of such action; and governmental agency and public input.

Local residents near the Kisaralik are concerned about additional regulations and restrictions that might result from designation of a portion of the river as wild. Furthermore, the U.S. Fish and Wildlife Service, which will prepare a management plan for the Yukon Delta National Wildlife Refuge, does not favor river designation. Because most of the river is located within this national wildlife refuge, the river already is afforded a high level of resource protection, and wild and scenic river status would not add significantly more protection. Therefore, the Kisaralik River is considered nonsuitable for inclusion in the national wild and scenic rivers system, and alternative 1, no action, is the preferred alternative.

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INTRODUCTION

The Wild and Scenic Rivers Act (Public Law 90-542, 16 USC 1271-87) seeks to preserve certain selected rivers in the United States that "possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values . . . in their free-flowing condition . . . for the benefit and enjoyment of present and future generations." Besides establishing the initial components of the system, the act prescribes methods and standards by which other rivers may be added. Criteria have also been developed by the secretaries of agriculture and interior, in accordance with the act, in the form of "Guidelines for Eligibility, Classification and Management of River Areas" (see appendix).

In 1980, the Alaska National Interest Lands Conservation Act (ANILCA, PL 96-487) directed that 12 rivers in Alaska, including the Kisaralik, be studied as possible additions to the national wild and scenic rivers system (16 USC 1276). The Kisaralik River study was undertaken by an interdisciplinary team under the direction of the NPS Alaska regional director and in cooperation with the state of Alaska and the U.S. Fish and Wildlife Service. Additional information was gathered in cooperation and consultation with other federal, state, and local governmental agencies and with private groups and individuals. The study is to be submitted to Congress concurrently with the Bristol Bay cooperative management plan.

STUDY PURPOSES

The purposes of the study are (1) to determine if the Kisaralik River is eligible for inclusion in the national wild and scenic rivers system; (2) if eligible, to determine the appropriate classification (wild, scenic, or recreational), based upon current conditions; (3) if eligible, to identify a proposal and reasonable alternatives for designation and management; and (4) if eligible, to determine if it is suitable for inclusion. The proposals and alternatives are presented in compliance with the Wild and Scenic Rivers Act and NPS policies.

Following review of the draft study, the comments received will be analyzed, and a final report reflecting these comments will be prepared and submitted to the president by the secretary of the interior. The president will report to Congress his recommendations with respect to designation of the Kisaralik River as a component of the national wild and scenic rivers system.

STUDY PROCESS

The undertaking of a wild and scenic river study for the Kisaralik River was announced by the National Park Service on July 15, 1981. On July 17 letters about the study were sent to several hundred individuals and organizations. An interagency and interdisciplinary team was also formed to study the river, and it included the National Park Service, U.S. Fish

and Wildlife Service, Alaska Department of Fish and Game, Calista Corporation, Alaska Division of Parks, and Alaska Power Authority. Four village corporations--Kokarmuit, Inc. (Akiak); Akiachak, Ltd.; Kwethluk, Inc.; and Tulukisarmute, Inc. (Tuluksak)--were also represented on the team.

The study team completed a trip down the Kisaralik River in July 1981 to gather firsthand information and to gain familiarity with the drainage. The team met the following November to discuss the eligibility of the river, resource values, and possible alternatives for a public information brochure. This brochure was released in January 1982, and it described the purpose of the study, the area involved, the outstandingly remarkable resource values of the drainage, and the following four alternatives:

Alternative A--no action (no designation of the river)

Alternative B--designation of eligible segments (about 84 river miles, including the middle federal area and the upper state-managed area)

Alternative C--designation of only the federal land within the Yukon Delta National Wildlife Refuge (about 66 river miles)

Alternative D--designation of the upper state-managed area (about 18 river miles)

Public meetings were then held in February/March 1982 in Anchorage, Bethel, and Akiachak (for the Unit Four villages of Akiak, Akiachak, Kwethluk, and Tuluksak). Participants at the meetings, as well as individuals and organizations who were mailed copies of the brochure, were asked to identify important issues, additional resource information, and preferences for an alternative.

The study team met again after the public meetings and a review period to discuss the alternatives and public input that had been received. No additional alternatives were identified. The lack of state support, however, and the prohibition of ANILCA from including any state or private land within a designated river corridor resulted in alternatives B and D being dropped from further consideration. Therefore, two basic alternatives for the future management and use of the Kisaralik River are considered in this draft study. Alternative 1 would not call for designation of the river, and it is the action recommended in this document. Alternative 2 would include the middle portion of the river in the national wild and scenic rivers system. These alternatives, as well as other alternatives that were dropped from consideration, are further described in this document.

EVALUATION PROCEDURES

ELIGIBLITY

To be eligible for inclusion in the national wild and scenic rivers system, a river segment must meet two criteria (set forth in section 2(b) [16 USC 1273(b)] of the Wild and Scenic Rivers Act): It must be in a substantially free-flowing, natural condition, and it must possess at least one outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar value. The act further provides three potential classifications for eligible river segments--wild, scenic, or recreational--depending upon the condition of the river and adjacent land areas at the time of designation.

With regard to the first criterion, the study team found that the Kisaralik River is free-flowing over its entire length, and it flows through a natural environment with very little evidence of past or present uses. There are no roads or railroads in the study area, and consequently, this area meets the wild classification.

With regard to the second criterion, the study team defined that for the Kisaralik River outstandingly remarkable values are those that set the river apart from others in the region. It was subsequently determined that the river area does have outstandingly remarkable recreational and scenic values in the middle and upper river areas, as described below:

> Recreational Values--The entire river is floatable by raft or kayak and includes a moderate amount of whitewater and riverboat access to Upper Falls (see Vicinity map). In addition there are hiking and backpacking opportunities along the river and around Kisaralik Lake, and excellent sportfishing for lake trout, grayling, salmon, and char in the middle and upper river, and especially for rainbow trout downstream of Golden Gate Falls. (Fishery values are not deemed outstanding. Salmon-spawning areas, however, are important to local, commercial, and subsistence fishing, and the sportfishing waters in the middle river area up to Golden Gate Falls are along the northwestern edge of rainbow trout distribution.)
>
> Scenic Values--Diverse short- and long-range vistas consist of exposed bedrock, bluffs, and canyons along the river, moderately steep riverbed gradients and associated whitewater, and the rugged, snowcapped peaks of the Kuskokwim Mountains, which are reflected in Kisaralik Lake.

The Alaska state agencies involved in the study do not agree with the study team's findings that the Kisaralik River is eligible for inclusion in the national wild and scenic rivers system and that a wild classification is appropriate. The state remains opposed to any designation of the Kisaralik River until the management implications of designation, relative to the state's "General Issues List for Conservation System Unit Planning" (ADFG 1982b), have been clarified by the National Park Service and the U.S. Fish and Wildlife Service. Both agencies responded to the issues list in the spring of 1982. The state of Alaska and federal agencies also

completed, through the Alaska Land Use Council, "A Synopsis for Guiding Management of Wild, Scenic and Recreational River Areas in Alaska" (December 1982).

CLASSIFICATION

After it was determined that the Kisaralik River qualifies for inclusion in the national wild and scenic rivers system, the following criteria from section 2(b) of the Wild and Scenic Rivers Act were considered in determining an appropriate river classification:

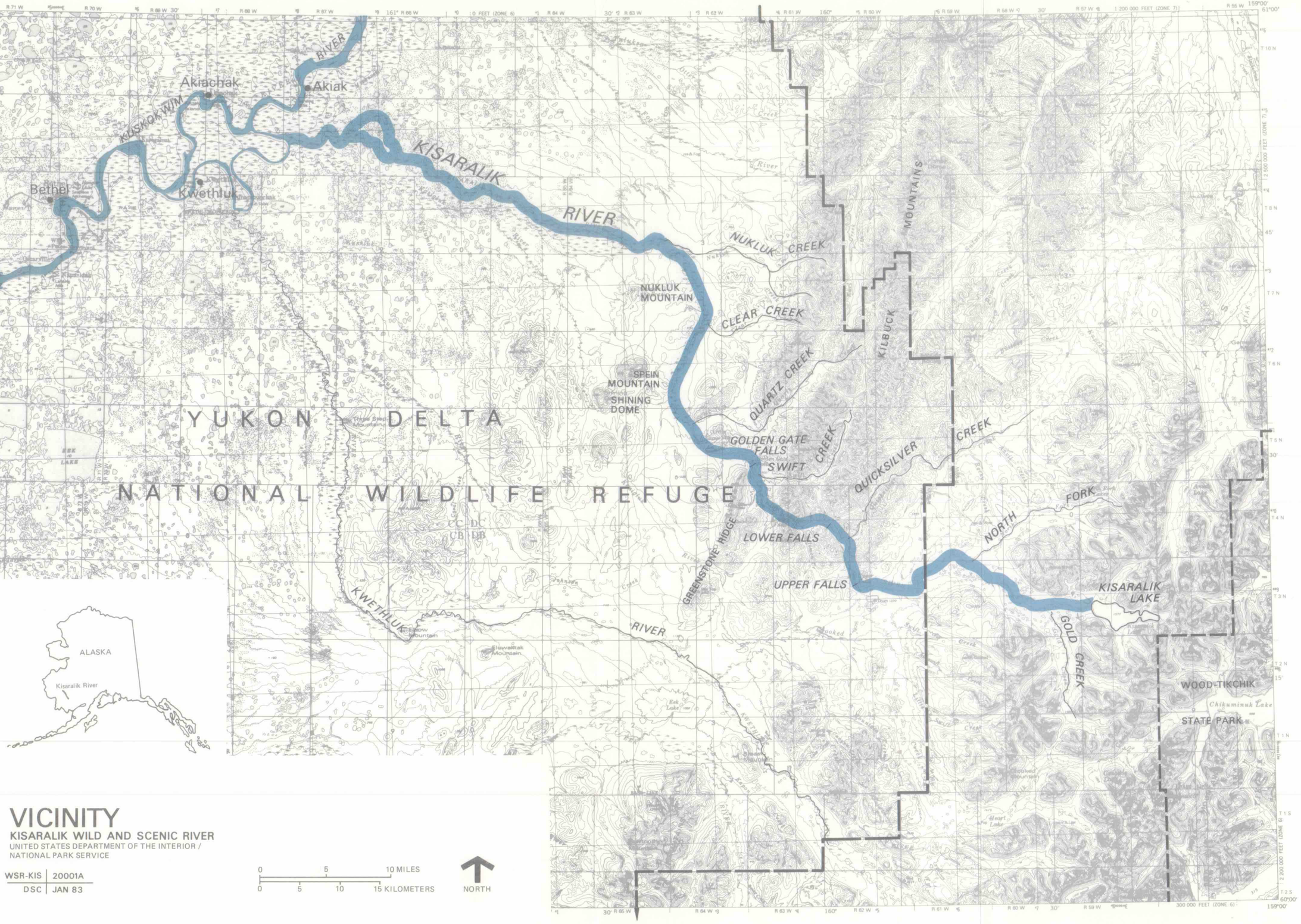
> Wild river areas - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
>
> Scenic river areas - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
>
> Recreational river areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have undergone some development along their shorelines, and that may have undergone some impoundment or diversions in the past.

In reviewing the existing conditions on the Kisaralik River and adjacent land area, the National Park Service concluded that the river best meets the wild classification. This is based on the free-flowing natural character of the river, high water quality, and lack of roads or development in the area or along the river.

SUITABILITY

If a river with its immediate environment is found eligible for addition to the national system, a determination is made as to whether the river corridor is suitable for addition. Generally, suitability is based on such factors as extent of public lands in the river area; costs required for acquisition, development, management, and operation; public, local, or state interest in acting to protect and manage the river; and the feasibility and timeliness of such action; and governmental agency and public input.

A major portion of the Kisaralik River is within the Yukon Delta National Wildlife Refuge. The U.S. Fish and Wildlife Service will be preparing a comprehensive management plan for the refuge and expects to continue current management practices, which will maintain the area as it now is. Consequently, little additional protection would be gained by including the river in the national wild and scenic rivers system, and the Fish and Wildlife Service does not favor river designation. Local residents and the state agencies involved in the river study also do not support adding the river or their lands to the national system. Therefore, the Kisaralik River is considered nonsuitable for inclusion in the system.



VICINITY

KISARALIK WILD AND SCENIC RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

WSR-KIS	20001A
DSC	JAN 83

0 5 10 MILES
0 5 10 15 KILOMETERS

NORTH

PROPOSAL AND ALTERNATIVES CONSIDERED

ALTERNATIVE 1--NO ACTION (PROPOSAL)

Under alternative 1, neither the state nor the federal government would recommend inclusion of the Kisaralik River in the national wild and scenic rivers system. The river area would continue to be managed under existing federal, state, and private ownership authorities.

The draft Bristol Bay cooperative management plan, now being prepared by the state of Alaska and the U.S. Fish and Wildlife Service and scheduled for completion in 1984, addresses the refuge and state lands. The plan indicates these lands are to be managed for the production and harvest of fish and wildlife and for recreation. Future uses of state lands will depend on state administrative policies and the land use classification applied to the upper river area. The Bristol Bay cooperative management plan will guide land management and use of state lands in the region. The Alaska Department of Natural Resources has not identified the lands in the upper Kisaralik area as requiring a more detailed management plan.

Under the provisions of ANILCA, a comprehensive conservation plan for the Yukon Delta National Wildlife Refuge is to be prepared by the U.S. Fish and Wildlife Service. This plan, scheduled to start in 1984, will describe how the refuge will be managed, what resources will be protected, what compatible uses will be allowed, and where special management emphasis will be directed. Land management alternatives for the plan will be identified on the basis of national laws, U.S. Fish and Wildlife Service policies and management concerns, public input, and resource opportunities.

Private land use decisions will remain at the discretion of owners. Under provisions of section 907 of ANILCA, which establishes the Alaska Land Bank Program, private owners may enter into cooperative land management agreements with the U.S. Fish and Wildlife Service, which manages adjoining federal land. They may also develop their own land management strategies.

ALTERNATIVE 2--DESIGNATION OF THE MIDDLE KISARALIK RIVER AS WILD

Under this alterntive the middle Kisaralik River (from the eastern boundary of T41N, R61W, to the western boundary of T8N, R65W) would be recommended for designation as a wild river. Administrative responsibility for the river would be delegated to the U.S. Fish and Wildlife Service, which would be responsible for river administration and the preparation of a river management plan. Privately owned lands would not be included within the river corridor boundaries, and the use of these lands would not be affected by the management plan. This is in accord with section 606 of ANILCA, which applies to current Alaskan rivers in the national system.

The purposes of the river management plan would be to ensure the continuation of resource uses and to protect and maintain the environment and resource uses (subsistence, recreation, etc.) essentially in the condition existing at the time of designation and consistent with the provisions of the Wild and Scenic Rivers Act and refuge regulations. The management plan would provide a basis for cooperative management of the corridor to protect the outstandingly scenic and remarkable recreational values, to protect private property and interests, and to deal with potential conflicts among river users.

As part of the river management plan, cultural resources would be located, identified, and evaluated pursuant to Executive Order 11593, and methods and procedures would be developed for the preservation and interpretation of cultural values to the public. Actions to protect cultural resources would be developed in consultation with the Alaska historic preservation officer and the Advisory Council on Historic Preservation, pursuant to the procedures outlined in 36 CFR 800. This alternative is in compliance with the Wild and Scenic Rivers Act, the "Guidelines for Eligibility, Classification and Management of River Areas," and NPS policies.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

During the study process several suggested alternatives were proposed by the public and other groups; however, they were not considered in detail for the reasons described below.

Alternative River Classifications

The "Guidelines for Eligibility, Classification and Management of River Areas" indicate that if a river or river segment qualifies for a more restrictive classification (that is, wild), then it also qualifies for the less restrictive classifications (that is, scenic or recreational). A review of existing policies and of section 10(a) of the Wild and Scenic Rivers Act (16 USC 1281(a)), however, indicates that any proposal for designation should be based on the existing characteristics of the river. If a river is eligible for inclusion and meets the classification criteria for wild, then all of the alternatives that propose designation should propose that classification, not less restrictive classifications. Alternatives should not be developed on the basis of potential future conditions or management. Therefore, a recreation or scenic classification alternative would not be appropriate for a river eligible as wild.

Designation of the Middle and Upper River as Wild, with Federal and State Administration

Another alternative was congressional designation of the middle and upper portions of the Kisaralik River, including federal land (within the Yukon Delta National Wildlife Refuge) and state land, as well as Kisaralik Lake, as a wild river. Several private native allotments along this portion of

the river would not be contained within the river boundary. The U.S. Fish and Wildlife Service and the state of Alaska would cooperate in the management of the river and the preparation of a river management plan. This alternative was dropped because Alaska does not agree that the river qualifies for the national rivers system or that a wild classification is appropriate.

Designation of the Upper River as Wild, with State Administration

This alternative would recommend a wild designation for the upper Kisaralik River to complement federal management of the middle river segment. Upon application by the governor, the secretary of the interior would be requested to approve a state-administered river as part of the national system under provisions of section 2(a)(ii) of the Wild and Scenic Rivers Act (16 USC 1273(a)). This would require the river to be designated pursuant to a state act. This could also be accomplished through Alaska statute, section 38.04.070(4), which grants the commissioner of natural resources authority to classify a stream on state land as part of the state system of wild and scenic rivers when the adjoining portion of the stream is already part of the national wild and scenic rivers system. These alternatives were dropped from further consideration because the state does not agree that the river qualifies for such designation and because the federal portion is not being recommended for designation.

THE STUDY AREA

THE REGION

Physical Setting

The headwaters of the Kisaralik River are located in southwest Alaska about 85 air miles northeast of Bethel and 360 air miles west of Anchorage. Flowing northwest from Kisaralik Lake in the Kuskokwim Mountains, the Kisaralik River joins the Kuskokwim River about 30 miles upstream from Bethel. Because of numerous channels and braids along the main stem, the river's length may vary from 107 to 115 miles, so an average length of 111 miles was selected for this report.

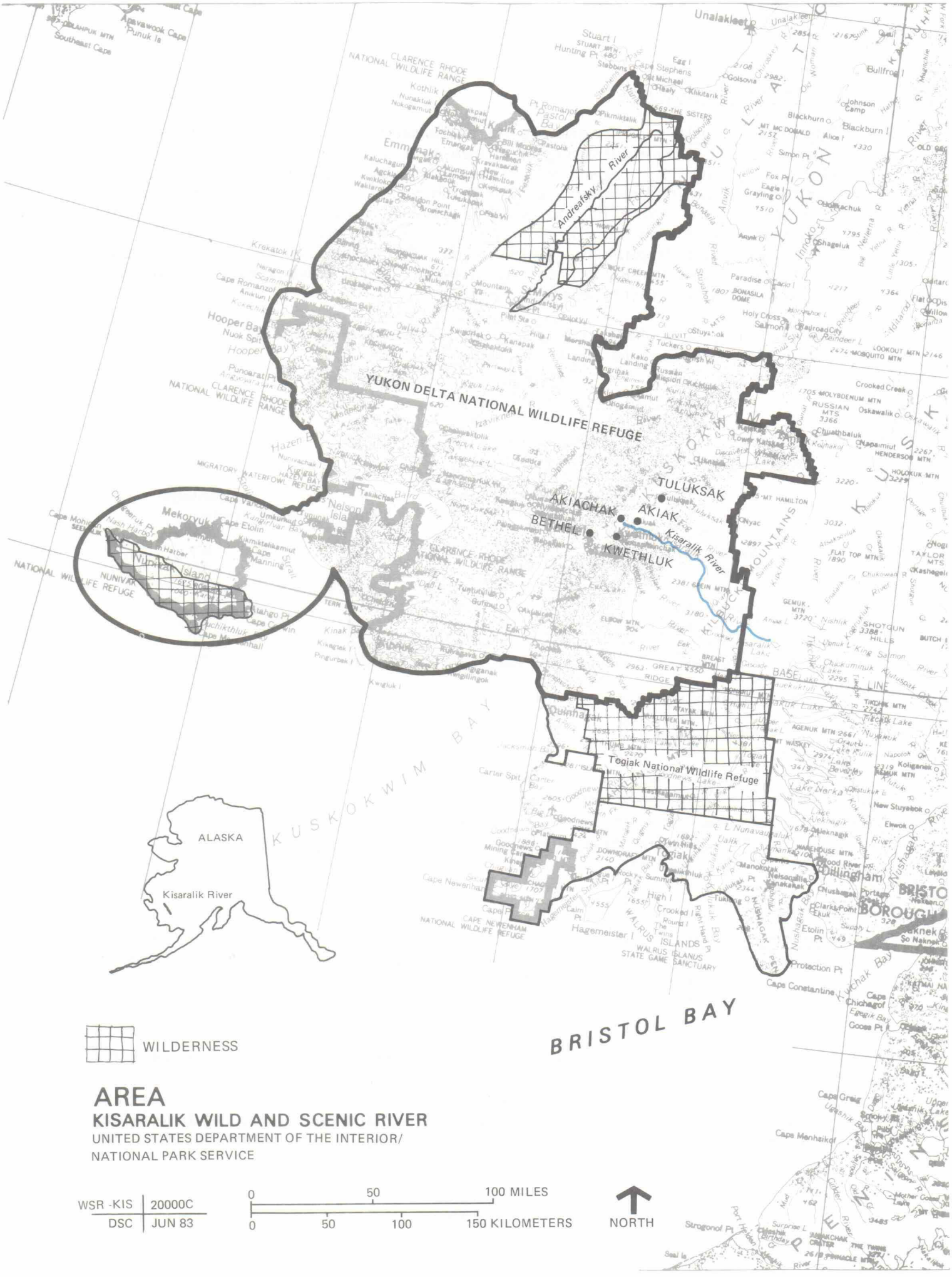
Clear and blue-green in color, the Kisaralik flows along a rocky streambed for most of its distance. For its first 20 miles in the Kuskokwim Mountains the river flows through a basinlike area. Then it cuts a ½- to 2-mile-wide valley for 40 miles through the Kilbuck Mountains. Once out of the Kilbucks, the remaining stretch of river flows through the Kuskokwim lowlands. Elevations along the river range from 4,000-foot peaks around Kisaralik Lake (elevation 1,577 feet) to 3,000-foot ridges through the Kilbuck Mountains to less than 50 feet in the lowlands.

There are no existing roads, railroads, or airstrips (other than unimproved gravel bar strips) in the river area, nor are there any known summer trails. After the rivers freeze in winter, they are used as access routes. The lower river area is used by people from the vicinity of Bethel, who gain access by riverboat, snowmachines, or dog sled, depending on weather conditions. Riverboat access, depending on water conditions, is possible upstream to Upper Falls.

Climate

The Kisaralik River lies in an area having a mean annual precipitation of between 20 and 40 inches, with an additional 40 to 60 inches of annual snowfall. There are no weather-gathering stations along or near the river. However, the Bethel and the Nyac stations (about 30 miles west and north, respectively) are in the same climatic zone. At Bethel summer temperatures range from 39°F to 62°F, and winter temperatures from -3°F to 20°F; extreme temperatures of -46°F and 86°F have been recorded. Average annual precipitation is 16 inches, including 50 inches of snow. At Nyac summers range from 37°F to 60°F, and winters from -4°F to 12°F, with extreme temperatures of -49°F and 87°F. Average annual precipitation is 23 inches, including 71 inches of snow (University of Alaska, AEIDC 1976). Breakup of lake and river ice occurs in early June, with freeze-up occurring in mid September.

Due to its northern latitude, much of Alaska has extreme periods of light and dark. From about June 10 to July 4 there is continuous sunlight in the river area; from about May 1 to August 15 the area receives about 18 hours of light each day. In contrast, from December 4 to January 15 the river area receives only about 8 hours of light each day.



AREA

KISARALIK WILD AND SCENIC RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR/
NATIONAL PARK SERVICE

WSR -KIS	20000C
DSC	JUN 83

0 50 100 MILES

0 50 100 150 KILOMETERS

NORTH

Socioeconomic Setting

Population Centers. There are no settlements or year-round residents in the Kisaralik River drainage, although several cabins are used on a seasonal basis by hunters, fishermen, and trappers. There are, however, seven population centers within 30 miles of the river. Three communities are north of the Kisaralik and include Tuluksak, Akiak, and Akiachak; four are south of the river and include Kwethluk, Bethel, Oscarville, and Napaskiak. Also numerous individual cabins are located on the Kuskokwim River upstream and downstream from the Kuskokwim/Kisaralik confluence.

Between 1970 and 1980, the population increased in the communities near the Kisaralik River, as shown in table 1.

Table 1: Population Changes

	1970	1980	Percentage Increase
Akiachak	312	439	41
Akiak	184	198	8
Bethel	2,416	3,576	48
Kwethluk	408	454	11
Napaskiak	188	244	30
Oscarville	41	56	37
Tuluksak	195	236	21
Bethel Census Area	8,917	10,999	23
State Totals	302,583	401,851	33

Source: U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, vol. 1: Alaska PC 80-1-A3, pp. 3-10--3-14.

Economy. The rural economy of the communties in this area, except for Bethel, has not been examined in any detail from either the subsistence or the cash wage aspect. Subsistence uses of the natural resources and the areas of use are similarly undocumented, except in the most general terms.

The lower Kuskokwim region (outside Bethel) is characterized by generally commercial resource use and subsistence fishing and hunting. Bethel serves as a regional center for the Kuskokwim Bay area. It is a transshipment point for goods such as groceries, fuel, and building supplies. It is also a center for medical, legal, and other services not

available in the villages. Bethel provides daily commercial air service to communities in the Yukon-Kuskokwim region and other parts of Alaska.

Seasonal employment in the region is generally limited to construction and commercial fishing. Some residents may migrate to other large population centers for the construction season or to Bristol Bay for cannery and commercial fishing employment. Year-round jobs are quite limited except in the bigger communities such as Bethel where local, state, and federal governments are usually the largest employers and contribute the most to the cash economy (see tables 2 and 3). (The Federal Aviation Administration, Public Health Service, and the Rural Education Attendance Area all maintain offices in Bethel.) In the smaller communities, however, state-operated schools, local governments, and village stores afford limited employment opportunities.

Table 2: Taxpayer Data

	1978 Average Wages	Number of 1978 Tax Returns
Akiachak	$ 4,267	91
Akiak	5,020	56
Bethel	14,935	1,466
Kwethluk	5,713	106
Napaskiak	4,975	49
Oscarville	6,126	8
Tuluksak	5,338	71

Source: Alaska Department of Revenue, Federal Income Taxpayer Profile - 1978, December 1981.

Employment statistics for 1981 show a civilian labor force of 3,551 people in the Bethel census division. The annual unemployment rate is 12.1 percent, with a March high of 14.3 percent and a July low of 9.5 percent; statewide statistics show an annual unemployment rate of 9.6 percent (Alaska Department of Labor 1981). These figures may be somewhat misleading for rural areas because unemployment figures exclude anyone not actively seeking work. Some individuals may be self-employed in subsistence or wage employment, depending on the season.

Throughout 1980 government employment (local, state, and federal) was highest, followed by employment in the services and retail trade industries, with important seasonal influxes from commercial fishing (see table 3).

Table 3: 1980 Average Annual Full-Time Employment, Bethel

Industry		Employment		Percentage of Total
Fishing		30		1.8
Construction		93.5		5.5
Manufacturing		14		0.8
Transportation, Commerce, and Utilities		240.5		14.2
Retail Trade		238		14.1
Finance, Insurance, and Real Estate		24		1.4
Service		255		15.1
Government				
Federal	303		17.9	
State	200.5		11.9	
Local	292.5		17.3	
		796		47.1
Total		1,691.0		100.0

Source: City of Bethel Coastal Management Program, Preliminary Report, February 1982.

These data may be misleading because they do not accurately reflect the nature of employment seasonality in most Alaska rural areas. For example, the 163 limited-entry fishing permits owned by Bethel residents are used seasonally, but many of these people have other jobs. This same situation probably exists throughout the other employment categories.

The annual commercial harvest in the entire Kuskokwim River fishery is small in comparison to those in other areas of the state, but it is extremely important to local economies. The average annual gross value to salmon fishermen from 1975 through 1980 was $2,485,327 (USDI, BLM 1981).

Existing Public Uses

The region around the Kisaralik is used for subsistence, mining, recreation, sport hunting, and fishing activities, and for seasonal residence. There are several small concentrations of residential, service, and industrial land uses between Bethel and Tuluksak on the Kuskokwim River. A few families and individuals also reside most of the year outside the Kuskokwim River villages and pursue subsistence lifestyles.

There are no commercial agriculture or forestry activities in the region. Timber is important on a local scale for firewood and house logs.

Mining occurs to the north near Nyac and south near Goodnews, with the principal commodities being platinum, gold, and mercury. The Kuskokwim Bay subregion is the only significant source of mercury in Alaska and of platinum in the entire United States (University of Alaska, AEIDC 1976). Petroleum exploration has not resulted in significant finds in the region to date.

Recreational uses of the region include river travel, sport hunting, fishing, and camping. Several rivers in the area can be ascended by riverboat, providing numerous sportfishing and general recreational opportunities. The Kuskokwim Mountains provide better opportunities for backpacking than do the lower elevations. Moose, grizzly bear, and caribou are sought by sport hunters but few are taken, as shown by Alaska Department of Fish and Game records (see table 6).

Landownership

The major existing and potential landowners in the region include the federal government, state of Alaska, Calista Corporation (a regional native corporation), and numerous village corporations (see the Land Status map). Most of the federal land is managed by the U.S. Fish and Wildlife Service as part of the Yukon Delta National Wildlife Refuge.

The Bureau of Land Management has land management responsibilities in the Nyac area to the north and the Goodnews area to the south. The state of Alaska owns a large block of land north, south, and east of the river corridor, including the river headwaters at Kisaralik Lake. East of Kisaralik Lake, on the east flank of the Kuskokwim Mountains, is Wood-Tikchik State Park. The submerged land beneath the Kuskokwim River is also owned by the state, but the ownership of the bed of the Kisaralik River has yet to be determined. Pending the settlement of the question of navigability on the Kisaralik and other rivers in the area, additional blocks of land in the region may be transferred to state ownership.

THE RIVER AREA

Natural Resources

Scenic Resources. Kisaralik River and Lake are in a natural environment that offers diverse and highly pleasing scenery and that bears little evidence of man's presence. The area is characterized by snowcapped mountains, narrow and deep valleys, small canyons, changing vegetation, lakes, and exposed rock outcroppings and bluffs, as well as the river's own changing character.

Kisaralik Lake is a deep, clear lake bordered by towering mountains snowcapped year around. From the lake many glacial cirque basins and morainal deposits are readily visible. Horned peaks and aretes

(knife-edged ridges carved out between basins) can be found in the area. Washed gravels backed by hummocked tundra cover the lakeshore.

From the lake to Upper Falls the river passes through a broad glacial-drift plain. Glacial terraces are seen frequently. Evidence of glacial scouring and outwash deposits is present. Steeply dipping shale and sandstone outcroppings have produced several bluffs visible from the river, and dense willow and alder brush line the river. Several lakes lie close to the river in this section, and they are a part of any view for hikers on nearby ridges.

Between Upper Falls and Golden Gate Falls the river flows through a narrow "canyon" area as it breaches the Kilbuck Mountains. Jagged, rock-topped ridges and mountains rise 2,000 feet above the river. The topography has been influenced by glacial and tectonic action, and contorted beds of shale are visible. Many resistant sedimentary rocks and some intrusive rocks form columns, pinnacles, and rugged bluffs. The vegetation changes here, with tundra occupying the upper mountain slopes and alder brush dominating the mid and lower slopes. Cottonwood trees stand on well-drained alluvial sites near the riverbanks, and white and black spruce begin to occur. The tributary streams to the Kisaralik River flow out of the mountains through twisted, narrow valleys, often lined with exposed rock bluffs and cliffs.

Low foothills backed by the Little Crow Hills, Spein Mountain, and Shining Dome provide the main visual attractions along the river between Golden Gate Falls and Spein Mountain. Floodplain vegetation is dominated by paper birch, aspen, white spruce, and cottonwood. Moist tundra dominates the area beyond. Rock outcroppings add contrast to the scenery.

From Spein Mountain to the Kuskokwim River, the Kisaralik meanders first through a lowland spruce/hardwood forest along the river and backed by moist tundra. The river then meanders through a wet tundra-dominated landscape. The riverbanks along approximately the lower 20 miles rise 5-10 feet above the water, and along with the vegetation, they effectively block any views for river travelers. This river area has low scenic value because of a lack of diverse views.

Geology. Large areas of bedrock that are part of the Kilbuck Mountains are exposed in the vicinity of the Kisaralik River. The largest area is of Mesozoic age and consists of shale, sandstone, conglomerate, graywacke, argillite, and volcanic rocks.

Small but widespread intrusives of Tertiary and Cretaceous granitic rocks occur, along with Tertiary age intrusive rocks of diorite, gabbro, and subordinate pyroxenite (USDI, GS 1977).

From Kisaralik Lake to the Kilbuck Mountains, the meandering river crosses a glacial moraine and glacial drift deposits. Through the mountains, the river is cutting and more erosional, with rapids, rifts, and pools. The mountains are rounded ridges with steep slopes and sharp bluffs near the streams and the river. Upon leaving the mountains, the character of the river changes, with the streambed

becoming a cut-and-fill outwash deposit that is being covered gradually by an ever thickening layer of silt. The gravel size decreases as the river travels from the mountains, the silts become deeper, and the river channel becomes more incised in the old meandering channel.

Soils. The Kuskokwim River drainage in general is characterized by poorly drained soils often covered with a thick peat mat. The mountainous area from Kisaralik Lake to about Golden Gate Falls is generally underlain by isolated masses of permafrost. Downstream of the falls to about 15 river miles above the Kuskokwim River, the lowland area is generally underlain by numerous isolated masses of permafrost. The area along the lower 15 river miles is generally underlain by moderately thick to thin permafrost.

Soils around the upper fourth of the river have been influenced by earlier glacial activities, and glacial terraces are frequent. The effects of glacial scouring, leveling, and deposition of coarse till and outwash deposits are easily visible.

The soils in the area around the second quarter of the river are more susceptible to surface damage than most other sections of the river, with the exclusion of certain high-water-content permafrost areas. The fine textured soils derived from shales combine with steep, uniform, relatively unprotected slopes, indicating potential erosional problems following disturbance. The soils are relatively fertile, owing to the shale parent materials and the primary minerals from tectonic activities, but the steep slopes and fine textures make revegetation more difficult than along other portions of the river.

The soils in the area around the third quarter of the river are very acidic, with a pH range of 3.5 to 5.5. Depth to permafrost ranges from 15 to 30 inches. These areas, especially the gently rolling areas underlain by permafrost, are highly susceptible to damage by surface traffic. Thermal erosion of the permafrost will lead to soil erosion in many cases.

The area around the lower fourth of the river has uniformly deep deposits of fine textured glacial silt. Gravel and coarse-textured materials are difficult to find. Gravel bars and sand bars are infrequent.

Streamflow. The Kisaralik River drainage covers about 1,100 square miles. The river is nonglacial, flowing out of the snow-fed Kisaralik Lake. Water clarity is related directly to riverbed materials. In the rocky upper portion the water is clear, and in the lower sand/silt portion it is brown and turbid 1 inch beneath the surface. The river's mean annual runoff is about 5 cubic feet per second (cfs) per square mile. Its tributaries are all small and clear; Gold Creek, North Fork, Quicksilver Creek, Quartz Creek, and Nukluk Creek are the major ones.

In July 1975, the Alaska Department of Fish and Game measured streamflow in several locations below Golden Gate Falls. The measurements ranged from about 2,300 cfs to just over 2,200 cfs. In 1980 the U.S. Geological Survey established a river gauge about 1 mile above Upper Falls. Flows varied from 1,300 cfs in May to 4,000 cfs in

June and July to 550 cfs in early September. For the 1980 water year (October 1979 - September 1980) the mean flow was 1,379 cfs. The 1981 and 1982 water year means were 1,012 cfs and 815 cfs, respectively (USDI, GS 1981-1983).

The elevation of Kisaralik Lake is 1,577 feet above sea level, and the mouth of the Kisaralik River is at an elevation of about 20 feet. This drop in elevation gives an overall gradient of about 14 feet per mile. However, most of the elevation drop occurs along the upper river from the lake to just below Golden Gate Falls, resulting in a gradient of almost 20 feet per mile.

Downstream from the lake for about 75 miles, the streambed is composed of rock, varying from gravel to 5-foot boulders to unbroken volcanic stems. The usual material consists of a mixture of gravel and fist-sized rock. Upper Falls and Golden Gate rapids are areas of large boulders; the remaining fast water areas have smaller boulders. The riverbed along the lower 30 miles is characterized by a mixture of sand and silt.

Water Quality. Water chemistry and quality measurements taken by the Bureau of Land Management for the Kisaralik River and several tributaries are shown in table 4. The water is relatively soft, and dissolved oxygen levels were at or near saturation at all stations sampled. The pH of the water was mildly basic (7.6), except one tributary just upstream of Quicksilver Creek had a pH of 8.2. Water chemistry measurements detected no other unusual conditions for those parameters measured.

Table 4: Kisaralik River Water Quantity and Quality

	Kisaralik Lake Outlet (7/17/80)	Gold Creek (7/18/80)	T4N, R62W Sec. 36 SE/NE (7/21/80)	Quicksilver Creek (7/21/80)	Swift Creek (7/22/80)
Dissolved Oxygen (mg/l)	12	12	12	12	12
pH	7.3	7.8	8.2	7.7	7.8
Alkalinity (mg/l)	34	53	103	68	53
Hardness (mg/l)	34	34	137	68	86
Air (°C)		17	21	22	23
Water (°C)		11	7	11	10
Turbidity	Clear	Slight	Clear	Slight	Clear
Flow (cfs)	645	700 (est)	20	645	
Width (ft)	69.0		13.9	154	
Maximum Depth (ft)	2.8		1.1	2.3	2.1

Note: Water quality measurements taken with a Hach kit; flow measurements taken with a Marsh-McBurney meter.

Vegetation. The Kisaralik River traverses four major ecosystems, as defined in Major Ecosystems of Alaska (Joint Federal-State Land Use Planning Commission for Alaska 1973). They are alpine tundra, moist tundra, wet tundra, and upland spruce/hardwood forest. These ecosystems are within the tundra biome, and Kisaralik Lake is the only area within the lake/river system characteristic of true alpine tundra conditions. In the Kilbuck Mountains area, from Upper Falls to Golden Gate Falls, alpine tundra conditions exist on the higher ridges but do not extend to the lower elevations near the riverbed. Plants associated with the alpine areas are primarily aster and cinquefoil, and these species are rooted in lichens at the base of small boulders. On the relatively flat slope terraces, lupine, yarrow, and red fescue are found in addition to aster and cinquefoil. In the more protected areas, such as depressions and nonwindswept slopes, a variety of low-growing shrubs and forbs are found, including crowberry, blueberry, cranberry, bearberry, mountain avens, various heaths including alpine azalea, and decumbent willow. Mosses and lichens provide a rooting substrate. Portions of the lake shoreline and adjoining valleys are covered with 4- to 10-foot-high willows; alder appear on the lower valley slopes.

The major ecosystem within the river drainage is moist tundra. This ecosystem extends from the alluvial plains surrounding Kisaralik Lake to approximtely 30 miles east of Kuskokuak Slough (excluding the immediate riparian community), where it grades into the wet tundra ecosystem. Vegetation associated with moist tundra is predominantly low-growing shrubs, herbs, grasses, and sedges rooted in a continuous mat of mosses and reindeer lichens.

Besides the plant species found on the higher slope terraces, dwarf birch, lousewort, violets, cotton grass, and club moss also dominate the area. To a lesser extent, roseroot, dogwood, burnet, geranium, fireweed, shooting star, dryas, forget-me-not, delphinium, chickweed, and Labrador tea can be found. The larger petaled flowers (geranium, fireweed, etc.) generally favor more secluded areas such as depressions or are adjacent to large communities of willow.

Within the floodplain corridor along the areas upstream of Lower Falls, the riparian system is dominated by dense willow and various grasses. Alder and some balsam poplar appear along the stream corridor; poplar intermixed with spruce start to occur in pure stands upstream from Upper Falls. In the vicinity of Golden Gate Falls, more spruce and paper birch appear on the mid slopes of the canyons. Spruce/birch/poplar stands replace the growth of willow and poplars in the immediate riparian system and sometimes extend laterally to the moist tundra region. Willow, with scattered alder, is prevalent on the numerous gravel bars between Upper Falls and the lower 30 miles of the river.

The lower 30 miles of the river are predominantly a wet tundra region. Low shrubs and herbaceous vegetation are quite similar to those associated with the moist tundra. Blueberry, dwarf birch, decumbent willow, cranberry, cotton grass, and Labrador tea are evident. Dense brush is found along each bank, and alder and willow are the most prevalent. Some spruce and birch are found in the drier areas.

In summary the vegetation is consistent throughout the drainage, with the greatest diversity of species in the Lower Falls-Golden Gate Falls area. No threatened or endangered plant species are known to exist in the study area.

Fisheries. The Kisaralik River system, including Kisaralik Lake, is an important contributor to the subsistence, commercial, and sport fisheries of the area. Throughout the river system, a sport fishery exists for grayling, salmon, and char. Rainbow trout are generally found downstream of Golden Gate Falls. Kisaralik Lake provides a moderate lake trout fishery. There are no detailed sportfishing use estimates available for the Kisaralik River drainage.

The king and silver salmon sport fishery is seasonally important, as is the char sport fishery. The greatest sportfishing attraction of the drainage, however, is rainbow trout, and the area is along the northwestern edge of rainbow trout distribution.

The Kisaralik system is also a spawning and rearing area for king, sockeye, coho, pink, and chum salmon. King and coho salmon and char can reach Kisaralik Lake. The salmon produced in this system contribute to the subsistence and commercial salmon catch in the Kuskokwim River. Upper Falls at some water levels can be a barrier to migrating salmon, and it has been identified as a potential rehabilitation site.

The char populations are all believed to be resident, with no anadromous populations known in the Kuskokwim River drainage upstream from Eek River. Sheefish are occasional summer feeding residents of the very lower meandering portions of the river, but they spawn elsewhere in the Kuskokwim River drainage. Both boreal and pond smelt use the lower river portions for spring spawning (USDI, BLM 1978). This lower meandering river section and adjacent sloughs are used by northern pike, nine-spine stickleback, Alaska blackfish, and burbot.

The Kuskokwim River drainage is one of the largest in the state, second only to the Yukon River in size and length. Although the Kuskokwim is heavily laden with silt, many of its major tributaries, such as the Kisaralik River, are relatively clear streams with important spawning areas that support the regionally significant commercial salmon fishery. Commercial fishing is allowed in the main stem of the Kuskokwim River to the downstream edge of the Kolmakoff River (ADFG 1982a).

Estimates of overall salmon escapements are not available because of the stained (murky) water in the lower river downstream of Golden Gate Falls. Estimates of more than 10,000 chum and pink salmon spawning in this area were made the few times that the water was somewhat clear. The Alaska Department of Fish and Game made preliminary salmon escapement objectives for 1982 for several streams in the Kisaralik area. These are shown in table 5.

Table 5: 1982 Salmon Escapement Objectives for Selected AYK Region Spawning Areas (in 1,000s of fish)

	King	Chum
Kwethluk River		
Main river upstream from Three Step Mountain	1.0	6.7
Canyon Creek	0.2	
Kisaralik River		
Main river upstream from airstrip	1.0	7.5
Kasigluk River		7.5
Tuluksak River		
Main river upstream from Fog River	0.4	5.0

These escapement objectives, most of which represent approximate average annual counts, are subject to revision as additional data are accumulated. Data have been primarily derived from aerial surveys made during several years and should be regarded as minimum estimates of actual escapements. Aerial survey counts rated as poor or incomplete were not used in this analysis. Based on these objectives, abundance trends and the effectiveness of fishery management strategies will be evaluated.

Wildlife. Large mammals present in the river area include the black bear, grizzly bear, caribou, wolf, wolverine, and moose. Harvest records for moose and grizzly bear are shown in table 6 and should be considered as minimums. Small furbearing mammals present include the red fox, otter, mink, short-tailed weasel, lynx, beaver, muskrat, and snowshoe and arctic hares.

Table 6: Grizzly Bear and Moose Harvest (fall and winter seasons)

Season	Grizzly Bear	Moose
1977 - 1978	3	0
1978 - 1979	0	0
1979 - 1980	4	0
1980 - 1981	8	0
1981 - 1982	6	8
1982 - 1983*	8*	1

*Harvest data for winter 1983 (bear) and fall 1983 (moose) not available.

Although not present in large numbers, waterfowl species in the Kisaralik River area include greater scaup, pintail, old squaw, American widgeon, green-winged teal, common scoter, harlequin, Canada goose, whistling swan, and white-fronted goose. Sandhill cranes are also present in the lower river area. Golden eagles and rough-legged hawks inhabit the mountainous area along the Kisaralik River. Other birds in the river area include ptarmigan, yellowlegs, arctic terns, common loon, and gulls.

Peregrine falcons (subspecies not known) have been observed in the Kisaralik drainage in the past, and two were observed on a nest along the river during the 1981 field season. The nest was not used during 1982. Six river drainages in the Bethel-Kilbuck Mountains region were examined by the Bureau of Land Management, and it was found that the Kisaralik had the most desirable habitat and more raptors than the other rivers examined (USDI, BLM 1978).

In general, wildlife resources are not considered to be outstandingly remarkable for the Kisaralik River basin.

Cultural Resources

Archeological Resources. Human occupation of the lands around the Kisaralik River extends back to the period of the retreat of the last glaciation, some 11,000 years ago. At that period, the occupants were hunters of Pleistocene herd animals, including bison, caribou, horse, and mammoth. Their tools were of a tradition known as the American Paleoarctic, which was widespread both in northern North America and parts of Asia (Anderson 1970).

The period after the beginning of the glacial retreat appears to represent the development of cultures that used resources of the interior, typified by the northern Archaic tradition. Sites from this tradition date from 4,200 to 6,300 years ago. Like the American Paleoarctic, this tradition was quite widespread in Alaska. Some sites have been found on the coast, but at least in southwestern Alaska, there is no evidence of sea mammal hunting during this period.

Early Eskimo cultures began moving into the area perhaps 3,000 years ago, first with tools of the arctic small tool tradition and later with the tools of the Norton tradition that derived from it (Dumond 1977). At this period there was substantial emphasis on sea mammal exploitation, during parts of the year at least. Sites on the Kisaralik River, of course, will not relate to this use, but they may contain artifacts made from sea mammal parts, which would reflect such exploitation.

The last phase before the historic period of contact between European and native cultures was the fully developed Eskimo culture, dating from as long as 1,200 years ago. At this period, there was a dependence on many resources, with sea, river, and interior areas all playing substantial roles.

The tools used in this area changed over time, and the number of game species involved declined (to an emphasis almost totally on caribou).

Nevertheless, the archeological record of the Kisaralik vicinity is dominated by sites connected with the hunting of migratory herd animals along the river valleys that provide travel routes--for both man and animal--through the mountains. For example, the upriver portion of the Kisaralik River and Lake form a cul-de-sac; although the area appears to have excellent potential for human habitation, it was not on a caribou migration route, and an archeological survey of the area revealed no sites. In contrast, the North Fork of the Kisaralik descends from a pass that leads to Aniak Lake and beyond, and 10 sites were found along this stream (Ackerman 1980).

A variety of archeological site types can be expected along the Kisaralik River (some 30 such sites have been found to date); these include lookout sites, kill sites, raw material sources, and campsites. The specific content of sites will vary both with type and age, but all are important to an overall understanding of the prehistory of the area.

History. The recorded history of the area is brief. The Russians began attempts to penetrate the area in 1818. In the early 1840s, Lieutenant Zagoskin (of the Imperial Russian Navy, but in the service of the Russian-American Company) explored the Kuskokwim as far as the mouth of the Takotna River (near present-day McGrath). However, Russian influence through trade and the missionaries did not have a major impact. The Russians did establish trading posts in 1832 at the mouth of the Holitna River and in 1833 at the mouth of the Kwik River, but both were shortly abandoned. Russian influence is reflected primarily in the reconcentration of aboriginal people around centers that provided opportunities for trade and missionary services.

Purchase of Alaska by the United States in 1867 had little effect on the area. American traders replaced the Russian traders, and the Moravian church principally assumed the role of the Russian church. The terrain, sparse population, and the limited trapping opportunities in the general area discouraged American interest, much as it had Russian interest. The Alaska Commercial Company had a post at the village of Mumtrekhlogamute, now Bethel. The area was visited periodically by missionaries and traders.

Gold was discovered in 1907 in the upper reaches of the Kuskokwim River, to the north and east of the Kisaralik River. The Kuskokwim River became a major trade artery between the goldfields and Bethel. By 1911 the entire drainage was traveled by prospectors, but the Kuskokwim gold boom was already declining. Since then gold-mining activity has risen and fallen with the price of gold. There were several quartz and placer claims in the area by 1912. One miner proposed an electric railroad that would generally follow the river from Golden Gate upstream and into the Tikchik Lake system. Nothing became of this proposal, or another one for bridges, but the Alaska Road Commission did place ferryboats near the mouths of the Kisaralik and Kushluk rivers (USDI, BLM 1983).

Historically, as well as today, the Kuskokwim River area has been populated by several territorial and linguistic groupings of the Yupik Eskimos, who continue to practice a subsistence lifestyle. However, the

area has a moderate biological carrying capacity, which has made survival of the aboriginal groups chronically difficult. Much of the population has, in recent years, settled in Bethel. This site of an Eskimo village and an Alaska Commercial Company trading post was selected in 1884 by Moravian missionaries as the location for a new mission, and it was named Bethel by these missionaries (University of Alaska, AEIDC 1976).

In summary, cultural resources are not remarkable.

Current and Potential Public Uses

Current and potential uses of resources in the river corridor are discussed in terms of access and transportation, water resource development, mineral resource development, subsistence uses, and recreational uses.

There are no known active mining, farming, timber harvesting, or grazing activities in the river area. However, the lands around the river are considered suitable for grazing reindeer or caribou (University of Alaska, AEIDC 1976), and about 1.8 percent of the river corridor may have some agricultural cropland potential (USDA, FS 1982). Both uses would require more detailed study for site-specific information. The forested portions are of value to area residents for use in cabin building and for firewood. Two guides are currently operating camps in the Kisaralik drainage for big-game hunting in the spring and fall.

Access and Transportation. There are no existing roads, railroads, or airstrips (other than unimproved gravel bar strips) in the river area, nor are there any known summer trails. During summer access is generally by riverboat or floatplane. Riverboats can usually reach Golden Gate Falls, and a jetboat recently reached Upper Falls. Floatplanes can land on Kisaralik Lake, Gold Lake, a small lake upstream of Upper Falls, or areas of the main stream itself. Travel down the river from the headwaters is usually by canoe, kayak, or raft, with occasional portages, depending on water levels.

During winter, rivers in the Kuskokwim drainage, particularly the Kuskokwim itself, are used as trails (mainly by snowmachines) after freeze-up. The lower Kisaralik River is also used by residents of surrounding villages and the city of Bethel, who may use snowmachines or dogsleds. Winter landings with ski-equipped aircraft are common throughout the drainage.

The Multimodel Transportation and Utility Corridor Systems Study (USDI, BLM 1974) identified two potential corridors that are near the Kisaralik River study area. One is the Kuskokwim River, which is and will continue to be used as a general water transportation route. The second is a combination highway and gas/oil pipeline corridor that would parallel the Kuskokwim River along the north shore and provide access from the lower Kuskokwim delta area to the interior. There are, however, no current or proposed plans to further study either corridor.

Mineral exploration and development is an identified land use in the upper state-managed area (according to the draft Bristol Bay cooperative management plan). If development took place, a transportation corridor could be proposed that would cross or follow the river corridor. However, there are no identified or proposed corridors.

Water Resource Development. Currently no dams, channel improvements, or diversions are located along the Kisaralik River. Several hydroelectric sites have been identified in the area. Three sites are within the drainage (Upper Falls, Lower Falls, and Golden Gate Falls) and four others are outside the drainage; all of these sites were studied by the Alaska Power Authority as part of the Bethel area plan feasibility assessment. None of these sites was determined to be economically viable. At the present time a site at the outlet of Chickuminuk Lake (about 20 miles east of the Kisaralik River drainage) appears to have the most promise.

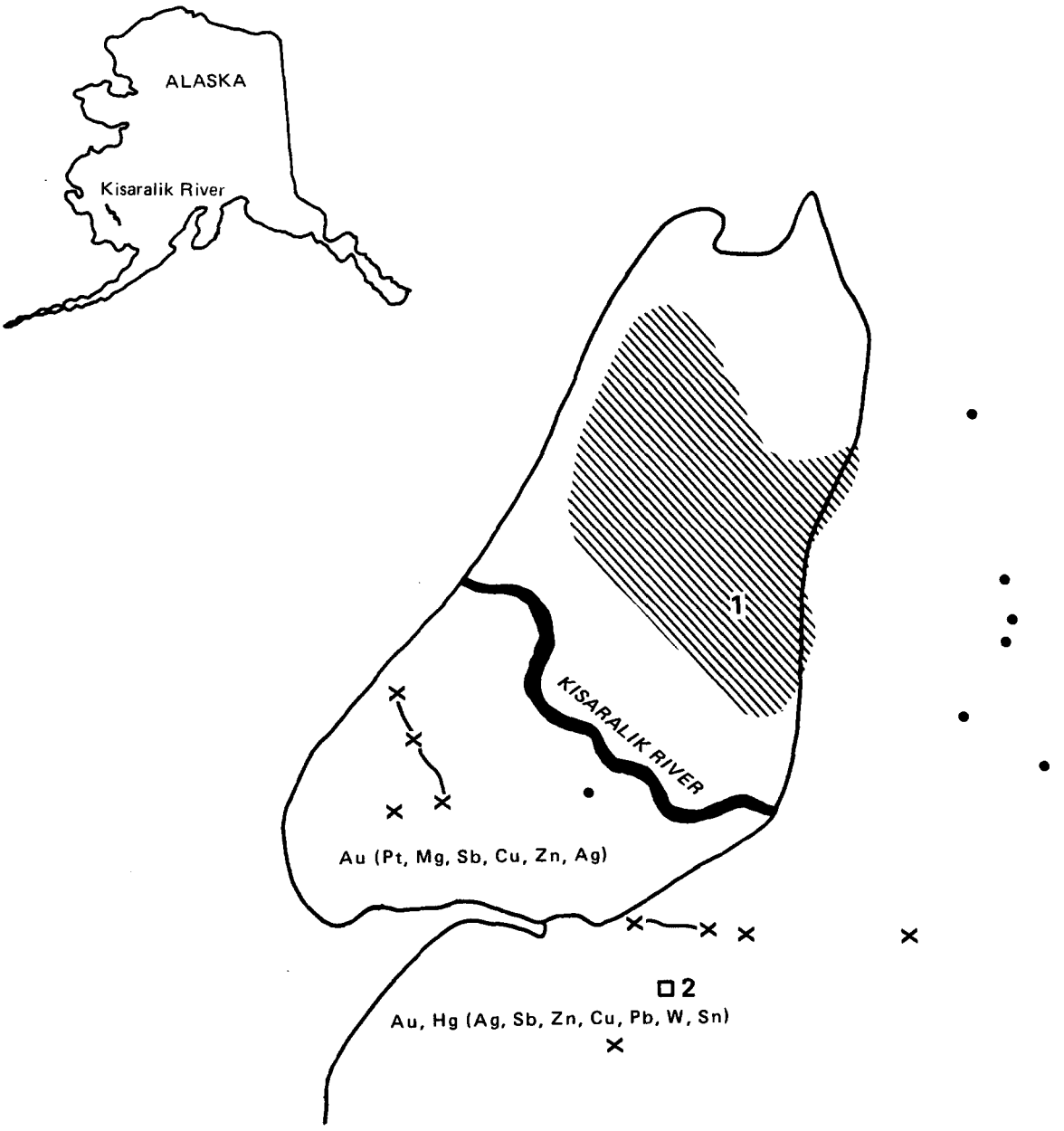
Mineral Resource Development. A metallic mineral resource appraisal of the central Alaska region, which concentrates on geological, geochemical, and geophysical data available through December 1977, was completed by the U.S. Geological Survey (USDI, GS 1978a). The appraisal was part of the Alaska mineral resource assessment program (USDI, GS 1978d). The study results for the Kisaralik River area are described below.

The river flows through a terrain geologically favorable for the occurrence of gold placers, with minor deposits of platinum, mercury, and antimony as by-products; lodes containing antimony, mercury, copper, zinc, and silver are also present. Although there are mining claims in the Kilbuck Mountains, no claims are known within the river corridor. Mining records for the river area indicate that the only past mining activity was near Golden Gate Falls. Claims were staked for quartz; however, no evidence of annual assessment or other activity was found in the area. Numerous claims occur outside the Kisaralik drainage: Over 50 claims, more than half of which are active, are located in the upper Salmon River and tributaries north of the Kisaralik drainage; 91 placer claims, most of which were active through 1979, are in the upper Kushluk River and Little Kasigluk River area south and west of the Kisaralik; and seven active (1979) claims are in the upper Kwethluk drainage along Crooked Creek south of the study area. A Geological Survey map shows a disseminated copper-gold lode and gold placer occurrence on, or adjacent to, the Kisaralik River (USDI, GS 1978b).

The entire Yukon delta lies within a sedimentary basin, but the petroleum potential for the Kisaralik area is unknown. There may be some potential for geothermal steam, but exploration would be necessary to determine whether geothermal or petroleum development would be feasible.

Sand and gravel are of extremely high value in all of the lower Kuskokwim River area, but transportation costs have limited development. The lower stretches of the Kisaralik River cross large sand and gravel deposits that have not been used (USDI, BLM 1976).

Mineral exploration and development is an identified land use in the upper state-managed area (draft Bristol Bay cooperative management plan). If a



MINERAL OCCURRENCES AND AREAS GEOLOGICALLY FAVORABLE FOR THE OCCURRENCE OF MINERAL DEPOSITS

X	Mining Claim Or Group Of Claims
▨	Area Of Many Closely Spaced Mining Claims
□	Mining Claim Or Group Of Claims With Recorded Production
•	Mineral Deposit And / Or Occurrence
1	Nyac-Ophir Creek Mining Area
2	Canyon Creek Mining Area

MINERALS

KISARALIK WILD AND SCENIC RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

0 23 Miles
0 40 Kilometers

NORTH

WSR -KIS	20003
DSC	SEPT 82

significant mineral deposit was found and development took place, considerable change could occur in the headwaters area.

Subsistence Uses. The Kisaralik River area is currently used for subsistence hunting, fishing, and trapping, and for gathering of berries, firewood, and house logs.

The Kuskokwim River salmon subsistence fishery remains the largest and most intense of its kind in the state. King and chum salmon are the two most important species taken for subsistence purposes. Coho salmon are not quite so heavily taken because of the lateness of the run and because most of the residents are returning to their villages. In addition, fall rainy weather prevents proper drying of the catch. Besides salmon, nearly all other species of fish present are used for subsistence. Whitefish, northern pike, burbot, and herring represent the majority of species harvested. An estimated 75-85 percent of this catch is used for human consumption. The Kisaralik River is commonly used for subsistence fishing from the river mouth to 1 to 2 miles upstream (USDI, BLM 1976).

Recreational Uses. The Kisaralik River area is currently used for hunting, fishing, trapping, gathering (berries and firewood), camping, picnicking, photography, boating, and guiding. Existing recreational use is low, being limited by distance, cost of access, and the short summer season. An estimated five to 10 groups of four persons each fly-in to fish Kisaralik Lake each year, and eight to 10 groups of four persons each float the Kisaralik each season. Estimated cost per person for a seven-day float trip is between $600 and $800. This includes round-trip airfare from Anchorage, air freight, air charter costs, depreciation/rental costs, and food.

Local residents sportfish in the lower and middle river. How many local residents use the river as a recreational resource is unknown, but presumably many of the villagers of Akiak and Kwethluk use the river several times each summer. Some Bethel residents also visit the lower river at least once each summer to sportfish.

During the open water months, local residents of Bethel, Kwethluk, Akiachak, Akiak, and Tuluksak travel up the Kisaralik River by riverboat to enjoy moose and bear hunting, sportfishing, and camping. Except for fall grizzly bear hunting, most of this use occurs downstream from Golden Gate Falls. When the rivers freeze-up, snowmachines are used by trappers as well as by moose and caribou hunters from Eek, Kwethluk, and Quinhagak. Aircraft are used in all seasons for trapping and hunting, as well as for nonconsumptive purposes (photography and camping). The upstream area receives some use from fishermen, hikers, and floatboaters flying into Kisaralik Lake, Gold Lake, or a small lake just upstream of Upper Falls.

Sportfishing is often combined with floating. The lower part of the river, because of its accessibility, provides a recreational fishery for Bethel area residents and visitors. Bethel and other village residents commonly travel each summer by riverboat past the lower meandering section of the river into the prime rainbow trout habitat, generally

downstream of Golden Gate Falls. Boats with outboard motors are usually used for fishing access.

The Kisaralik River and surrounding area offer outstanding opportunities for kayaking and rafting. The water is almost always moving at a comfortable speed (3-4 mph), and there are long stretches of exciting, yet readily navigable rapids. Most rapids are class II, but two short class III rapids and one class IV (a low falls) provide added attractions for floaters (the falls are also easily portaged). The river can be floated by kayak and raft at normal water levels. Put-in for a float trip is usually at Kisaralik Lake by small, fixed-wing float plane from Bethel. Takeout is by the same type of airplane in the lower river. Some takeouts are possible along the lower or mid reaches of the river on gravel bars and in the river, depending on water conditions.

Both day-hiking and backpacking opportunities are excellent in the upper half of the river area and around Kisaralik Lake. Side valleys, tributary drainages, nearby ridges, and the Kilbuck Mountains often provide tundra and rock surfaces that can be hiked by beginners. Steeper areas, often requiring the crossing of dense alder stands and some scrambling, offer opportunities for the more vigorous, experienced hikers. Excellent views of surrounding ridges, mountains, lakes, and the river are a part of the hikers' reward.

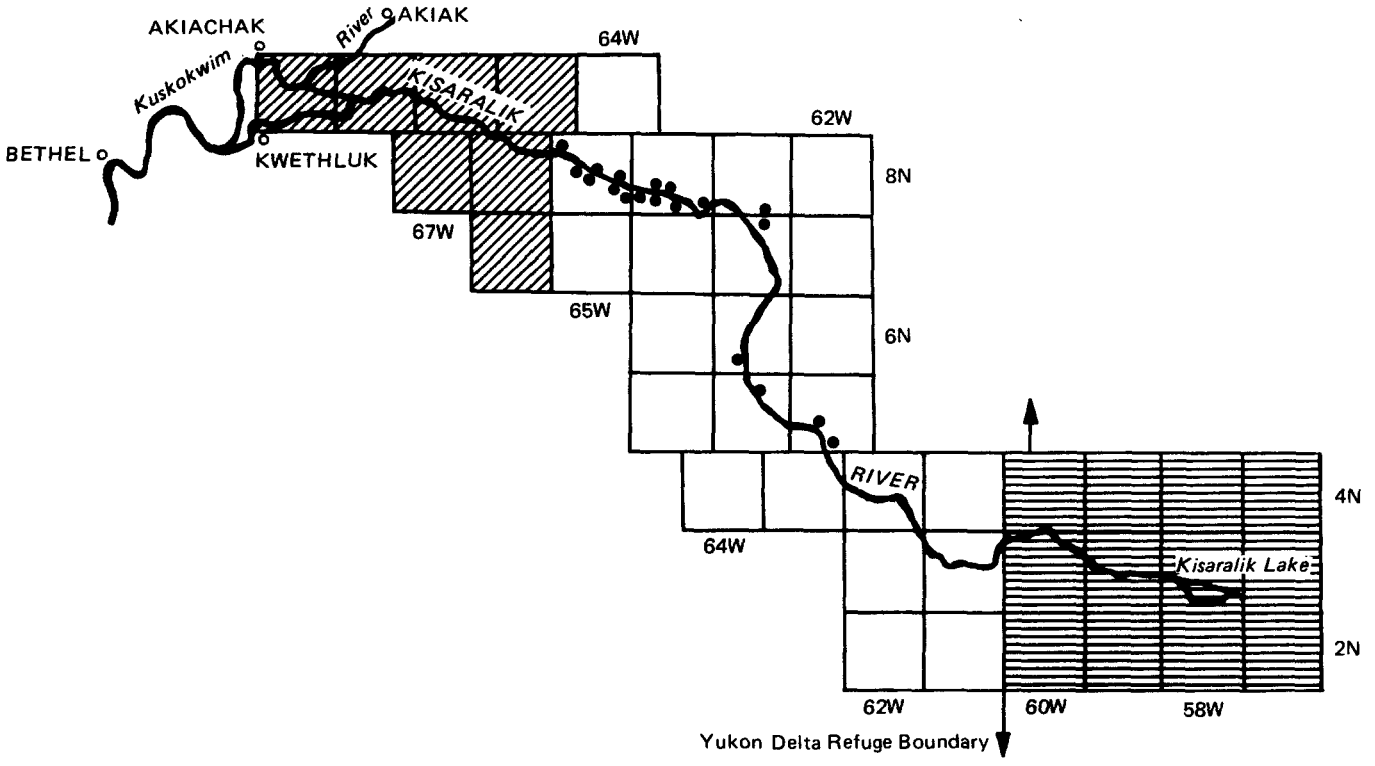
The wilderness aspects of the Kisaralik River area have not been evaluated. However, there are attributes such as certain wildlife species often associated in the public's mind with a wildernesslike environment (USDA, FS 1978). Of the 31 species identified, 14 have been identified in the Kisaralik River drainage.

Section 1317 of ANILCA requires that areas within the national refuge system in Alaska not designated as wilderness be reviewed as to their suitability or nonsuitability for preservation as wilderness. This will be accomplished at the same time as the comprehensive plan for the Yukon Delta National Wildlife Refuge (scheduled to begin in 1984).

Landownership

Kisaralik Lake and the river downstream for about 18 miles (west boundary of T3N, R60W) are within lands patented to the state of Alaska. From there downstream for about 66 river miles (west boundary of T8N, R65W), the river flows through federal lands managed by the U.S. Fish and Wildlife Service as part of the Yukon Delta National Wildlife Refuge. There are 24 native allotment selections totaling about 3,500 acres, and five cemetery and historical site selections on this stretch of the river. The remaining 27 miles of the river are within the refuge and also lie within lands selected by the Kokarmuit Corporation (Akiak Village Corporation). There are an additional 17 allotment selections in the village-selected lands.

Under provisions of the Submerged Lands Act, the state of Alaska owns the beds of navigable waters. The Alaska Department of Natural Resources asserts that all of Kisaralik River and Lake are navigable and,





Private Land

One Or More Private Land Selections

State

Yukon Delta National Wildlife Refuge

LAND STATUS

KISARALIK WILD AND SCENIC RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

0 14 28 Miles
0 14 28 Kilometers

NORTH

WSR -KIS	20002
DSC	SEPT 82

therefore, are owned by the state. However, the question of navigability has not been legally determined on the Kisaralik. There are no mining claims or oil and gas leases within the corridor.

The state of Alaska has also identified two parcels of land that could be offered for sale or settlement within the Kisaralik River drainage. These include the Gold (200 acres) and North Fork (500 acres) lakes areas, which could be used for settlement associated with mineral exploration and development on lands under the jurisdiction of the Bureau of Land Management and the state. The Bristol Bay cooperative management plan will address these two parcels and whether or not they will be available for sale or settlement, as well as other parcels in the region.

REVIEWING AGENCIES AND ORGANIZATIONS

FEDERAL AGENCIES

Advisory Council on Historic Preservation
Department of Agriculture
- Forest Service
- Soil Conservation Service

Department of Commerce
- National Marine Fisheries Service
- National Oceanic and Atmospheric Administration

Department of Defense
- Department of the Army, Corps of Engineers

Department of Education
Department of Energy
- Energy Research and Development Administration
- Federal Energy Regulatory Commission

Department of Health and Human Services
Department of the Interior
- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Mines
- Bureau of Reclamation
- Fish and Wildlife Service
- Geological Survey
- Minerals Management Service
- Office of Surface Mining, Reclamation, and Enforcement

Department of Transportation
- Federal Aviation Administration
- Federal Highway Administration

Environmental Protection Agency

ALASKA STATE AGENCIES (through State Conservation System Unit Coordinator)

Alaska Power Authority
Department of Administration
Department of Commerce and Economic Development
Department of Community and Regional Affairs
Department of Education
Department of Environmental Conservation
Department of Fish and Game
Department of Health and Social Services
Department of Labor
Department of Law
Department of Military Affairs
Department of Natural Resources
Department of Public Safety
Department of Revenue
- Division of Fish and Wildlife Protection
- Division of Policy Development and Planning

Department of Transportation and Public Facilities

LOCAL COMMUNITIES

Akiachak
Akiak
Bethel
Eek
Kwethluk
Napaskiak
Oscarville
Tuluksak

OTHER INTERESTS

Alaska Center for the Environment
Alaska Chamber of Commerce
Alaska Coalition
Alaska Conservation Society
Alaska Federation of Natives
Alaska Historical Commission
Alaska Historical Society
Alaska Land Act Coordinating Committee
Alaska Legal Services
Alaska Miners' Association
Alaska Native Foundation
Alaska Oil and Gas Association
Alaska Professional Hunters
Alaska Sportsmen's Council
Alaska Wilderness Council
American Petroleum Institute
Arctic Environmental Information and Data Center, University of Alaska
Association of Village Council Presidents
Calista Regional Corporation
Institute of Arctic and Alpine Research
Interior Powers Association
National Wildlife Association, Alaska Chapter
National Audubon Society
Nunam Kitlutsisti
Safari Club International
Sierra Club
Soil Conservation Society of America
Wilderness Society
Wildlife Management Institute

INDIVIDUALS

Additional mailings were made to over 150 individuals included on the mailing list located at the Alaska Regional Office, National Park Service, Anchorage, Alaska.

APPENDIX A: NEGATIVE DECLARATION FOR FEDERAL CONSISTENCY DETERMINATION REQUIRED BY SECTION 307(c)(1), COASTAL ZONE MANAGEMENT ACT

The wild and scenic river study of the Kisaralik River resulted in a determination that the river was not suitable for designation as a component of the national wild and scenic rivers system. The river will retain its natural condition, and uses will continue as in the past. As a result of the study, there will be (1) no changes in the manner in which land, water, or other coastal zone natural resources are used; (2) no limitations on the ranges of uses of coastal zone natural resources; or (3) no changes in the quality of the coastal zone natural resources.

Therefore, the National Park Service has determined that this study will not have a significant adverse effect on the Alaska coastal zone.

39454 Federal Register / Vol. 47, No. 173 / Tuesday, September 7, 1982 / Notices

DEPARTMENT OF THE INTERIOR

Office of the Secretary

National Park Service

DEPARTMENT OF AGRICULTURE

Office of the Secretary

Forest Service

National Wild and Scenic Rivers System; Final Revised Guidelines for Eligibility, Classification and Management of River Areas

AGENCY: National Park Service and Office of the Secretary, Interior; Forest Service and Office of the Secretary, USDA.

ACTION: Publication of final revised guidelines.

FOR FURTHER INFORMATION CONTACT: Bob Brockwehl (NPS), 202/272-3566. William R. Snyder (USFS), 202/382-8014.

SUPPLEMENTARY INFORMATION: Guidelines for the study of potential national wild and scenic rivers and management of designated rivers were first issued jointly by the Department of Agriculture and the Department of the Interior in 1970. On January 28, 1981 draft revised guidelines were published in the **Federal Register** for public comment (Vol. 46, No. 18, pp. 9148-9158). The document which follows was prepared after consideration of 50 letters of comment received from other Federal agencies, State governments, private industry, citizens' groups and individuals. Major comments and responses are summarized below. Many of the comments received were not addressed because they related to aspects of the wild and scenic rivers program beyond the scope of these guidelines. (See Preface of the revised guidelines.)

Comments and Responses

Comment: The definition of the term outstandingly remarkable value is too vague and too liberal. Too many rivers will be eligible for designation, unreasonably constraining economic development of natural resources. *Response:* Balancing of the need for protection versus development of each river area will be considered by the Congress in deciding whether or not to designate the river area. A determination that a particular river is eligible for designation does not necessarily imply that designation is the best use of the river in terms of the national interest.

Comment: The guidelines give inadequate emphasis to public involvement in the study process. *Response:* Public involvement is sufficiently addressed in the context of environmental statements or assessments prepared in the study process.

Comment: The guidelines do not make sufficiently clear which of the management principles apply to private lands. *Response:* The guidelines may be unclear to the general reader in this respect. The managment principles are to be implemented throughout each river area to the fullest extent possible under the managing agency's general statutory authorities and other existing Federal, State and local laws, including zoning ordinances where available. Some management principles obviously apply only to Federal lands within the river area. For instance, the Wild and Scenic Rivers Act does not open private lands to public recreation. Management principles may apply to private lands only to the extent required by other laws such as local zoning and air and water pollution regulations.

Comment: Restriction of timber harvest to selective harvest techniques is unnecessarily limiting from both the timber production and the natural resource preservation standpoints. *Response:* The guidelines have been amended in accordance with this comment.

Comment: Specific guidance contained in the 1970 guideline with respect to the granting of rights-of-way for transmission lines is omitted from the revised draft guidelines. *Response:* The subsection on rights-of-way has been amended in accordance with this comment.

Comment: A protected study area extending one half mile from each bank of the river is excessive when the final boundaries of a river area must average no more than one quarter mile from each bank (320 acres per mile). *Response:* The half-mile figure was intended to ensure that all areas likely to be included within the boundaries of a designated river area would be considered in the study process. Setting a study boundary based on the "visual corridor" concept was considered but rejected. The one-quarter-mile figure was finally selected to avoid unnecessary limitations on resource developments. Some developments which may be initiated beyond the one-quarter-mile boundary during the study period might be affected in the future if the area under development is included in the boundaries of the river area designated by Congress.

Comment: Evaluation of the study area in its existing condition for classification purposes does not allow for the fact that a forest area growing in relatively natural condition at the time of the study may be scheduled for clearcutting at some future date. The classification process should allow for authorized and scheduled future uses which could change the condition and, thus, the classification of the river area. *Response:* The guidelines have been amended to permit consideration of alternative classifications for the river area where authorized future uses could alter classification.

The following additional changes were made in response to suggestions from the reviewing public or from reviewers within the responsible agencies.

- Unnecessary definitions were deleted.
- Quotations and paraphrases of the Wild and Scenic River Act (including the whole of Section II—Policy) were eliminated as much as possible. Instead, the guidelines will reference the appropriate sections of the Act where necessary.
- The entire subsection titled "Findings and Recommendations" and portions of the subsection titled "General Management Principles" were deleted and their content was placed in other appropriate sections.

Additional copies of the guidelines, the Wild and Scenic Rivers Act, as amended, and further information on the National Wild and Scenic Rivers System may be obtained from: National Park Service, Rivers and Trails Division (780), 440 G Street, N.W., Washington, D.C. 20243.

Dated: July 12, 1982.

G. Ray Arnett,

Assistant Secretary for Fish and Wildlife and Parks (Interior).

Dated: August 26, 1982.

Douglas W. MacCleery,

Deputy Assistant Secretary for Natural Resources and Environment (Agriculture).

Department of Agriculture

Department of the Interior

National Wild and Scenic Rivers System

Guidelines for Eligibility, Classification and Management of River Areas.

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The Wild and Scenic Rivers Act (Pub. L. 90-542 as amended through Pub. L. 96-487)

Preface

The National Wild and Scenic Rivers System

The Wild and Scenic Rivers Act, (Pub. L. 90-542 as amended; 16 U.S.C. 1271-1287) established a method for providing Federal protection for certain of our country's remaining free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations. Rivers are included in the system so that they may benefit from the protective management and control of development for which the Act provides.

The preamble of the Act states:

> 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.

Addition of Rivers to the System

The Wild and Scenic Rivers Act provides two methods for adding a river to the National Wild and Scenic Rivers System. The first method is by an act of Congress. Congress can designate a river directly or it can authorize a river for study as a potential wild, scenic or recreational river. Upon completion of a study conducted by the Department of the Interior or the Department of Agriculture, a study report is prepared and transmitted to the President who, in turn, forwards it with his recommendations to Congress for action.

The second method for inclusion of a river in the national system is through the authority granted to the Secretary of the Interior in section 2(a)(ii) of the Act. Upon application by the Governor or Governors of the State or States involved, the Secretary can designate a river as a component of the national system provided that the river has been designated as a wild, scenic or recreational river by or pursuant to an act of the legislature of the State or States through which if flows to be permanently administered as a wild, scenic, or recreational river by an agency or political subdivision of the State or States concerned.

To be eligible for inclusion in the system through either method, rivers must meet certain criteria set forth in section 2(b) of the Act. Procedures for proposing State-administered rivers for designation have been issued by the Department of the Interior.

The Guidelines

Subsequent to enactment of the Wild and Scenic Rivers Act in October 1968, the Departments of Agriculture and the Interior initiated studies of twenty-seven rivers which the Act authorized for study as potential additions to the National Wild and Scenic Rivers System. As these studies progressed, it became evident that specific requirements of the Act concerning the evaluation, classification and management of these rivers were subject to differing interpretations within and between the two departments.

It was therefore agreed that a uniform evaluation and management approach should be formulated for use by the two departments, and through a cooperative effort, *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* was prepared and promulgated in February 1970.

The guidelines not only provide guidance for the congressionally mandated studies under section 5(a) of the Act, but are also useful for evaluations conducted by water resource development agencies under section 5(d) and for States applying for inclusion of State-designated rivers in the national system.

Revision of the Guidelines

While these guidelines were effective throughout a decade, it became clear that revision was necessary to incorporate changes identified through use and to reflect requirements of new laws and regulations. Therefore, on August 2, 1979, the President directed in his Environmental Message that "the Secretary of Agriculture and the Secretary of the Interior shall jointly revise their guidelines for evaluating wild, scenic and recreational rivers to ensure consideration of river ecosystems and to shorten the time currently used to study rivers for designation."

This revision of the guidelines has been prepared in response to the President's 1979 directive and includes:

- Clarification of the fact that free-flowing rivers which contain outstandingly remarkable ecological values are eligible for addition to the national system.
- Clarification of the fact that free-flowing river segments in or near urban areas that possess outstandingly remarkable values are eligible for addition to the national system.
- Elimination of the 25-mile minimum length guideline.
- Revision of the definition of sufficient river flow or volume of water in the river. Sufficient flow was not defined in the Act and the definition in the existing guidelines was unnecessarily limiting.
- Revised water quality guidelines to allow inclusion in the system of rivers where restoration to high water quality is planned.
- A revised section on management of designated river areas.
- A study schedule to accelerate completion of the river studies authorized by Congress.

Section I—Definitions

The following definitions are provided for the purpose of these guidelines only.

Act: The Wild and Scenic Rivers Act.

Carrying capacity: The quantity of recreation use which an area can sustain without adverse impact on the outstandingly remarkable values and free-flowing character of the river area, the quality of recreation experience, and public health and safety.

Classification criteria: Criteria specified in Section 2(b) of the Act for determining the classification (wild, scenic or recreational) of eligible river segments.

Classification: The process of determining which of the classes outlined in section 2(b) of the Act (wild, scenic, or recreational) best fit the river or its various segments.

Component: A river area designated as a unit of the National Wild and Scenic Rivers System.

Designation: Inclusion of a river area in the national system either by act of Congress or by authority of the Secretary of the Interior.

Development: Any manmade structure or modification of the natural or existing river environment.

Eligibility: Qualification of a river for inclusion in the national system through determination that it is free-flowing and with its adjacent land area possesses at least one outstandingly remarkable value.

Flow: The volume of water in a river passing a given point in a given period of time, usually expressed in terms of cubic feet per second or cubic meters per second.

Impoundment: A body of water formed by any manmade structure.

Management plan: The detailed development plan required under section 3(b) of the Act which states the boundaries and classification of the river area and presents a plan for its public use, development and administration.

Primary contact recreation: Activities in which there is prolonged and intimate contact with the water, (e.g., swimming, water skiing, surfing, kayaking, "tubing," and wading or dabbling by children.

River area: For a river study, that portion of a river authorized by Congress for study and its immediate environment comprising an area extending at least one-quarter mile from each bank. For designated rivers, the river and adjacent land within the authorized boundaries.

Secondary contact recreation: Activities in which contact with the water is either incidental or accidental, e.g., boating, fishing and limiting contact with water incident to shoreline activities.

Study agency: The agency within the Department of Agriculture or the Department of the Interior delegated the responsibility for a wild and scenic river study.

Study report: The report on the suitability or nonsuitability of a study river for inclusion in the national system, which section 4(a) requires the Secretary of Agriculture, or the Secretary of the Interior, or both jointly to prepare and submit to the President. The President transmits the report with his recommendation to the Congress.

Study team: A team of professionals from interested local, State and Federal agencies invited by the study agency and participating in the study.

Section II—The River Study

The Study Process

Section 4(a) mandates that all rivers designated as potential additions to the system in section 5(a) be studied as to their suitability for inclusion in the system:

> The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and submit to the President reports on the suitability or nonsuitability for addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system. The President shall report to the Congress his recommendations and proposals with respect to the designation of each such river or section thereof under this Act.

The purpose of a wild and scenic river study is to provide information upon which the President can base his recommendation and Congress can make a decision. Procedures for developing the necessary information and preparing the study report may vary depending on the agency which conducts the study, but generally will include the steps shown on Table 1, Accelerated Study Schedule.

Wild and scenic river studies will comply with all applicable statutes and executive orders, which may include the following: the National Environmental Policy Act (Pub. L. 91–190), the National Historic Preservation Act (Pub. L. 89–665), the Endangered Species Act (Pub. L. 93–205), the Fish and Wildlife Coordination Act (Pub. L. 85–264), the Water Resources Planning Act (Pub. L. 89–80), the Floodplain and Wetlands Executive Orders (E.O. 11988 and E.O. 11990), the National Forest Management Act of 1976 (Pub. L. 94–588), the Federal Land Policy and Management Act of 1976 (Pub. L. 94–579), the Wild and Scenic Rivers Act, (Pub. L. 90–542, as amended), and any rules and regulations issued pursuant thereto.

The Study Report

Each river study report will be a concise presentation of the information required in sections 4(a) and 5(c) of the Act as augmented by the Council on Environmental Quality regulations implementing the procedural provisions of the National Environmental Policy Act (40 CFR Parts 1500–1508).

Section 4(a):

> Each report, including maps and illustrations, shall show among other things the area included within the report; the characteristics which do or do not make the area a worthy addition to the system; the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land an water which woud be enhanced, foreclosed or curtailed if the area were included in the national wild and scenic rivers system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area, should it be added to the system, be administered; the extent to which it is proposed that such administration, including the costs thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the system.

In addition, section 5(c) requires that

> The study of any of said rivers * * * shall include a determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the national wild and scenic rivers system.

Study reports may be combined with draft and final environmental impact statements (EIS) as permitted by § 1506.4 of the Council on Environmental Quality regulations. Study reports will be reviewed by other Federal agencies, states and the public as requried by section 4(b) of the Wild and Scenic Rivers Act. Each of the following subsections describes the way in which the information is generated, analyzed and presented in the report.

Description of the River Area

Each report will contain a description of the area included in the study. The study area will cover, as a minimum, an area extending the length of the river segment authorized for study and extending in width one-quarter mile from each bank of the river.

Adjacent river areas beyond one quarter mile form each river bank may be studied if their inclusion could facilitate management of the resources of the river area. For example, there may be important historic, archeological or ecological resource areas which may extend beyond the boundaries of the mandated study area, but could be better managed by inclusion in the river area. Also, management of the river area may be facilitated by extension to include established or available access points not included in the study.

For the purposes of study and determining eligibility and classification, the river area may be divided into segments.

The description of the river area will identify the outstandingly remarkable values and the extent of man's activity in the river environment to provide a clear basis for findings of eligibility and classification. While only one

outstandingly remarkable value is necessary for eligibility, the study report should carefully document all values of the river area.

In addition to the information required by Sections 4(a) and 5(c) of the Act, this section of the report will describe any existing zoning ordinances or other provisions of law governing land use in the study area.

If the study report and the environmental impact statement are combined, the same chapter may describe both the river area and the affected environment. For EIS purposes and for general information, a brief description of the regional setting will also be included.

Determination of Eligibility

Each report will contain a determination as to the eligibility of all portions of the authorized study area.

Section 2(b) of the Act states that "a * * * river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that posseses one or more of the values referred to in section 1, subsection (b) of this Act." The terms "river" and "free-flowing" are defined in section 16 of the act.

In reading and applying the criteria for eligibility, the following points are relevant:

- The fact that a river segment may flow between large impoundments will not necessarily preclude its designation. Such segments may qualify if conditions within the segment meet the criteria.
- Rivers or river segments in or near urban areas that possess outstandingly remarkable values may qualify. Only one outstandingly remarkable value is needed for eligibility.
- In addition to the specific values listed in Section 1(b) of the Act, other similar values, such as ecological, if outstandingly remarkable, can justify inclusion of a river in the national system.
- The determination of whether a river ara contains "outstandingly remarkable" values is a professional judgment on the part of the study team. The basis for the judgment will be documented in the study report.
- There are no specific requirements concerning the length or the flow of an eligible river segment. A river segment is of sufficient length if, when managed as a wild, scenic or recreational river area, the outstandingly remarkable values are protected. Flows are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated.

Classification

Study reports will indicate the potential classification which best fits each eligible river segment as viewed in its existing condition. Section 2(b) of the Act states that rivers which are found eligible and included in the National Wild and Scenic Rivers Systems shall be classified as one of the following:

(1) Wild river areas—Those rivers or sections of rivers that are free of impoundments and generally inaccesible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

These criteria are interpreted as follows:

a. "Free of impoundments." Wild river areas shall be free of impoundments.

b. "Generally inaccessible except by trail." Wild river areas will not contain roads, railroads, or other provisions for vehicular travel within the river area. The existence of a few inconspicuous roads leading to the boundary of the river area at the time of study will not necessarily bar wild river classification.

c. "Watersheds or shorelines essentially primitive." Wild river areas will show little or no evidence of human activity. Shorelines and watersheds within the river area should be essentially free of structures including such things as buildings, pipelines, powerlines, dams, pumps, generators, diversion works, rip-rap and other modifications of the waterway or adjacent land within the river corridor. The existence of a few inconspicuous structures, particularly those of historic or cultural value, at the time of study need not bar wild classification.

A limited amount of domestic livestock grazing or hay production may be considered "essentially primitive." There should be no row crops or ongoing timber harvest and the river area should show little or no evidence of past logging activities.

d. "Waters unpolluted." The water quality of a wild river will meet or exceed Federal criteria or federally approved State standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the stream, and for primary contact recreation except where exceeded by natural conditions.

(2) Scenic river areas—Those rivers or sections or rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

These criteria are interpreted as follows:

a. "Free of impoundments." Scenic river areas will be free of impoundments.

b. "Shorelines or watersheds still largely primitive." To qualify for scenic classification, the rivers segment's shorelines and immediate environment should not show substantial evidence of human activity. The portion of the watershed within the boundary of the scenic river may have some discernible existing development. "Largely primitive" means that the shorelines and the immediate river environment still present an overall natural character, but that in places land may be developed for agricultural purposes. Row crops would be considered as meeting the test of "largely primitive," as would timber harvest and other resource use, providing such activity is accomplished without a substantial adverse effect on the natural appearance of the river or its immediate environment.

c. "Shorelines largely undeveloped" means that any structures or concentration of structures must be limited to relatively short reaches of the total area under consideration for designation as a scenic river area.

d. "Accessible in places by road" means that roads may reach the river area and occasionally bridge the river. The presence of short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or railroads will not necessarily preclude scenic river designation. In addition to the physical and scenic relationship of the free-flowing river area to roads or railroads, consideration should be given to the type of use for which such roads or railroads were constructed and the type of use which would occur within the proposed scenic river area.

(3) Recreational river areas—Those rivers or sections of rivers 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.

These criteria are interpreted as follows:

a. "Readily accessible by road or railroad." River areas classified as recreational may contain existing parallel roads or railroads in close proximity to one or both banks of the river as well as bridge crossings and roads fording or ending at the river.

b. "Some development along their shorelines." Lands may have been developed for the full range of agricultural and forestry uses, may show evidence of past and ongoing timber

harvest, and may include some residential, commercial or similar development.

c. "Some impoundment or diversion in the past." There may be some existing impoundments, diversions and other modifications of the waterway having an impact on the river area. Existing low dams, diversion works, rip-rap and other minor structures will not bar recreational classification, provided the waterway remains generally natural and riverine in appearance.

The classification criteria are summarized in Table 2, appended to these guidelines.

There are several points which all participants and observers of the study process should bear in mind when reading and applying the classification criteria:

- It is important to understand each criterion, but it is more important to understand their collective intent. Each river segment and its immediate environment should be considered as a unit. The basis for classification is the degree of naturalness, or stated negatively, the degree of evidence of man's activity in the river area. The most natural rivers will be classified wild; those somewhat less natural, scenic, and those least natural, recreational.
- Generally, only conditions within the river area determine classification; however, occasionally conditions outside the river area, such as developments which could impact air and water quality, noise levels or scenic views within the river area, may influence classification.
- For the purpose of classification, a river area may be divided into segments. Each segment, considered as a whole, will conform to one of the classifications. In segmenting the river the study team should take into account the management strategies necessary to administer the entire river area and should avoid excessive segmentation.
- The Wild and Scenic Rivers Act provides no specific guidance on water quality for scenic and recreational rivers. However, the Clean Water Act has made it a national goal that all waters of the United States be made fishable and swimmable, and provides the legal means for upgrading water quality in any river which would otherwise be suitable for inclusion in the system. Therefore, rivers will not necessarily be excluded from the system because of poor water quality at the time study, provided a water quality improvement plan exists or is being developed in compliance with applicable State and Federal laws.
- Although each classification permits certain existing development, the criteria do not imply that additional inconsistent development is permitted in the future.
- The classification criteria provide uniform guidance for professional judgment, but they are not absolutes. It is not possible to formulate criteria so as to mechanically or automatically classify river areas. Therefore, there may occasionally be exceptions to some of the criteria. For example, if the study team finds that strict application of the statutory classification criteria would not provide the most appropriate classification for a specific river segment, the study report may recommend for congressional consideration an exception to the classification criteria.

Analysis of the Alternatives

To provide for decisionmaking and to satisfy the requirements of the National Environmental Policy Act, study reports will include an analysis of alternatives. The study team will develop an array of alternative plans encompassing all reasonable proposals for use of the river area including uses which may be incompatible with designation of the river area as a component of the national system. Where appropriate, alternative plans for the river area may be based on, but not limited to:

- Alternative managing agencies for the river area;
- Alternative protective measures other than national designation;
- Alternative uses of the area incompatible with designation as a component of the national system; and
- Alternative classifications for the river area. Occasionally there may be authorized but not yet constructed projects, which if constructed would alter the classification of the river area. In such cases, alternatives may be presented to permit consideration of the river area as it would be classified both with and without the authorized project. Authorized projects may include approved land management plans prepared by a Federal land management agency under its statutory authorities.

The study report will present at least one alternative plan calling for national designation through either Congressional or Secretarial designation of all eligible segments of the congressionally authorized study area.

If the study team finds a segment ineligible for designation as a component of the National Wild and Scenic Rivers System, but still worthy of protection, alternatives for State, local or private preservation may be presented, as well as protection under other Federal programs.

If areas adjacent to the study area have been studied and found eligible, the report may present alternatives which incorporate such areas into the river area proposed for designation. Such expansion of the original study area either in length or in width may be desirable to preserve and facilitate management of river ecosystems, historic or archeological areas or other special areas.

Section III—Management

Wild and scenic rivers shall be managed with plans prepared in accordance with the requirements of the Act, other applicable laws, and the following general management principles. Management plans will state: General principles for any land acquisition which may be necessary; the kinds and amounts of public use which the river area can sustain without impact to the values for which it was designated; and specific management measures which will be used to implement the management objectives for each of the various river segments and protect esthetic, scenic, historic, archeologic and scientific features.

If the classification or classifications determined in the management plan differ from those stated in the study report, the management plan will describe the changes in the existing condition of the river area or other considerations which required the change in classification.

General Management Principles

Section 10(a) states,

> 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 on the special attributes of the area.

This section is interpreted as stating a nondegradation and enhancement policy for all designated river areas, regardless of classification. Each component will be managed to protect and enhance the values for which the river was designated, while providing for public

recreation and resource uses which do not adversely impact or degrade those values. Specific management strategies will vary according to classification but will always be designed to protect and enhance the values of the river area. Land uses and developments on private lands within the river area which were in existence when the river was designated may be permitted to continue. New land uses must be evaluated for their compatibility with the purposes of the Act.

The management principles which follow stem from section 10(a). Managing agencies will implement these principles to the fullest extent possible under their general statutory authorities and existing Federal, State and local laws. Because of these limitations, however, implementation of the principles may differ among and within components of the system depending on whether the land areas involved are federally, State, locally or privately owned.

Carrying Capacity. Studies will be made during preparation of the management plan and periodically thereafter to determine the quantity and mixture of recreation and other public use which can be permitted without adverse impact on the resource values of the river area. Management of the river area can then be planned accordingly.

Public Use and Access. Public use will be regulated and distributed where necessary to protect and enhance (by allowing natural recovery where resources have been damaged) the resource values of the river area. Public use may be controlled by limiting access to the river, by issuing permits, or by other means available to the managing agency through its general statutory authorities.

Basic Facilities. The managing agency may provide basic facilities to absorb user impacts on the resource. Wild river areas will contain only the basic minimum facilities in keeping with the "essentially primitive" nature of the area. If facilities such as toilets and refuse containers are necessary, they will generally be located at access points or at a sufficient distance from the river bank to minimize their intrusive impact. In scenic and recreational river areas, simple comfort and convenience facilities such as toilets, shelters, fireplaces, picnic tables and refuse containers are appropriate. These, when placed within the river area, will be judiciously located to protect the values of popular areas from the impacts of public use.

Major Facilities. Major public use facilities such as developed campgrounds, major visitor centers and administrative headquarters will, where feasible, be located outside the river area. If such facilities are necessary to provide for public use and/or to protect the river resource, and location outside the river area is infeasible, such facilities may be located within the river area provided they do not have an adverse effect on the values for which the river area was designated.

Motorized Travel. Motorized travel on land or water is generally permitted in wild, scenic and recreational river areas, but will be restricted or prohibited where necessary to protect the values for which the river area was designated.

Agricultural and Forestry Practices. Agricultural and forestry practices should be similar in nature and intensity to those present in the area at the time of designation. Generally, uses more intensive than grazing and hay production are incompatible with wild river classification. Rowcrop production and timber harvest may be practice in recreational and scenic river areas. Recreational river areas may contain an even larger range of agricultural and forestry uses. Timber harvest in any river area will be conducted so as to avoid adverse impacts on the river area values.

Other Resource Management Practices. Resource management practices will be limited to those which are necessary for protection, conservation, rehabilitation or enhancement of the river area resources. Such features as trail bridges, fences, water bars and drainage ditches, flow measurement devices and other minor structures or management practices are permitted when compatible with the classification of the river area and provided that the area remains natural in appearance and the practices or structures harmonize with the surrounding environment.

Water Quality. Consistent with the Clean Water Act, water quality in wild, scenic and recreational river areas will be maintained or, where necessary, improved to levels which meet Federal criteria or federally approved State standards for aesthetics and fish and wildlife propagation. River managers will work with local authorities to abate activities within the river area which are degrading or would degrade existing water quality.

Additional management principles stem from other sections of the Act as follows:

Land Acquisition: Section 6
Water Resource Development: Section 7
Mining: Section 9
Management of Adjacent Federal Lands: Section 12(a)
Hunting and Fishing: Section 13(a)
Water Rights: Section 13(b)–(f)
Rights-of-Way: Section 13(g)

The following policies are consistent with and supplement the management principles stated in the Act:

Land Use Controls. Existing patterns of land use and ownership should be maintained, provided they remain consistent with the purposes of the Act. Where land use controls are necessary to protect river area values, the managing agency will utilize a full range of land-use control measures including zoning, easements and fee acquisition.

Rights-of-Way. In the absence of reasonable alternative routes, new public utility rights-of-way on Federal lands affecting a Wild and Scenic River area or study area will be permitted. Where new rights-of-way are unavoidable, locations and construction techniques will be selected to minimize adverse effects on scenic, recreational, fish and wildlife and other values of the river area.

Other legislation applicable to the various managing agencies may also apply to wild and scenic river areas. Where conflicts exist between the provisions of the Wild and Scenic Rivers Act and other acts applicable to lands within the system, the more restrictive provisions providing for protection of the river values shall apply.

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TABLE 1.

ACCELERATED STUDY SCHEDULE

MONTHS

River Study Tasks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1. Organize study team Prepare study plan Public information meetings Scope critical issues																														
2. Resource Inventories (a) Study Endry. Locations (b) River eligibility and classification evalu. (c) Literature search (d) Other agency contacts (e) Resource maps																														
3. Develop alternative (a) Prepare alternatives display (b) Public meetings on findings and alternat. (c) Analyze Public Input (d) Evaluate alternatives																														
4. Complete Preliminay Report/ DEIS																														
5. Review of Draft (a) Internal Review (b) Revise preliminary as needed (c) Prepare camera ready copy (d) Print Draft Report/EIS (e) Distribute for 90-day review (a) Public meetings or formal hearings during review																														
6. Analyze Review Input Revise draft as needed. Internal Review																														
7. Print Final Report																														
8. Secretary's decision and transmittal of report w/ recommendations to OMB																														
9. Executive review and transmittal to the Congress																														

This schedule does not take into account the possibility of delays due to Congressional concern, interagency or intradepartmental concerns or other possible outside influences that cannot be planned for.

TABLE 2.

CLASSIFICATION CRITERIA FOR WILD, SCENIC AND RECREATIONAL RIVER AREAS [9]

ATTRIBUTE	WILD	SCENIC	RECREATIONAL
Water Resources Development	Free of impoundment.	Free of impoundment.	Some existing impoundment or diversion. The existence of low dams, diversions or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility	Generally inaccessibile except by trail. No roads, railroads or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks as well as bridge crossings and other river access points is acceptable.
Water Quality	Meets or exceeds Federal criteria or federally approved State standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation (swimming) except where exceeded by natural conditions.	No criteria prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the United States be made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable Federal and State laws.	

[9] Table to be used only in conjunction with text.

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As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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