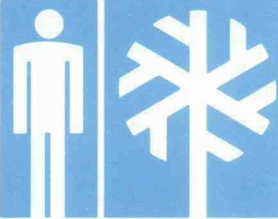


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draft wild and scenic river study

december 1983

KANEKTOK RIVER



ALASKA

Publication of this document 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, secretary of the interior, other federal and state agencies, and the public.

Prepared and published by the Denver Service Center

DRAFT WILD AND SCENIC RIVER STUDY FOR THE
KANEKTOK RIVER, ALASKA

Prepared by the U.S. Department of the Interior, National Park Service, in cooperation with the U.S. Fish and Wildlife Service Alaska Department of Fish and Game, Qanirtuuq, Inc., City of Quinhagak, and Calista Corporation.

Abstract: This draft wild and scenic river study describes and evaluates two alternatives with respect to possible inclusion of the Kanektok River in Alaska into the National Wild and Scenic Rivers System. Alternative One, No Action, is the preferred alternative. It characterizes the future condition of the river and its immediate environment without federal or state action to designate the Kanektok as a wild river. Alternative 2 would designate as wild the main river upstream from the Qanirtuuq, Inc. land to Kagati Lake.

Comments on the draft study should be sent to the following official no later than _____.

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Anchorage, Alaska 99501
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SUMMARY

WILD RIVER ELIGIBILITY

The Kanektok River is a 93 mile-long, free-flowing river that runs from Kagati Lake in the Ahklun Mountains of southwestern Alaska to Kuskokwim Bay. It was authorized to be studied as a potential wild and scenic river by the Alaska National Interest Lands Conservation Act (ANILCA), Public Law 96-487 (December 1980). After evaluation of the river, in accordance with the criteria defined in the Wild and Scenic Rivers Act, the entire river was found eligible for inclusion in the National Wild and Scenic Rivers System as a wild river. The outstandingly remarkable values of the river include cultural, fishery, recreational, and scenic resources. The cultural, fishery, and recreational values are associated with the entire river area, while the scenic qualities are associated with the upper river area. However, existing wilderness designation and regulations protect the corridor's natural resource values so that wild river designation would not provide additional resource protection.

The upper 73 river miles, including Kagati Lake, are within the Togiak National Wildlife Refuge Wilderness and include 33 native allotments, 6 cemetery/historical sites, and 13 mining claims pursuant to the Alaska Native Claims Settlement Act. The surface estate along the lower 20 river miles belongs to Qanirtuuq, Inc. (Quinhagak Village Corporation). The subsurface estate in this area belongs to Calista Corporation, a regional native corporation.

ALTERNATIVES

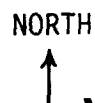
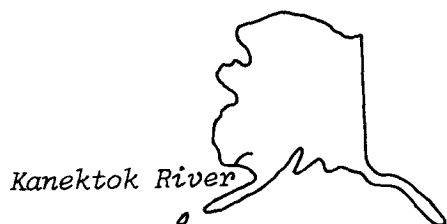
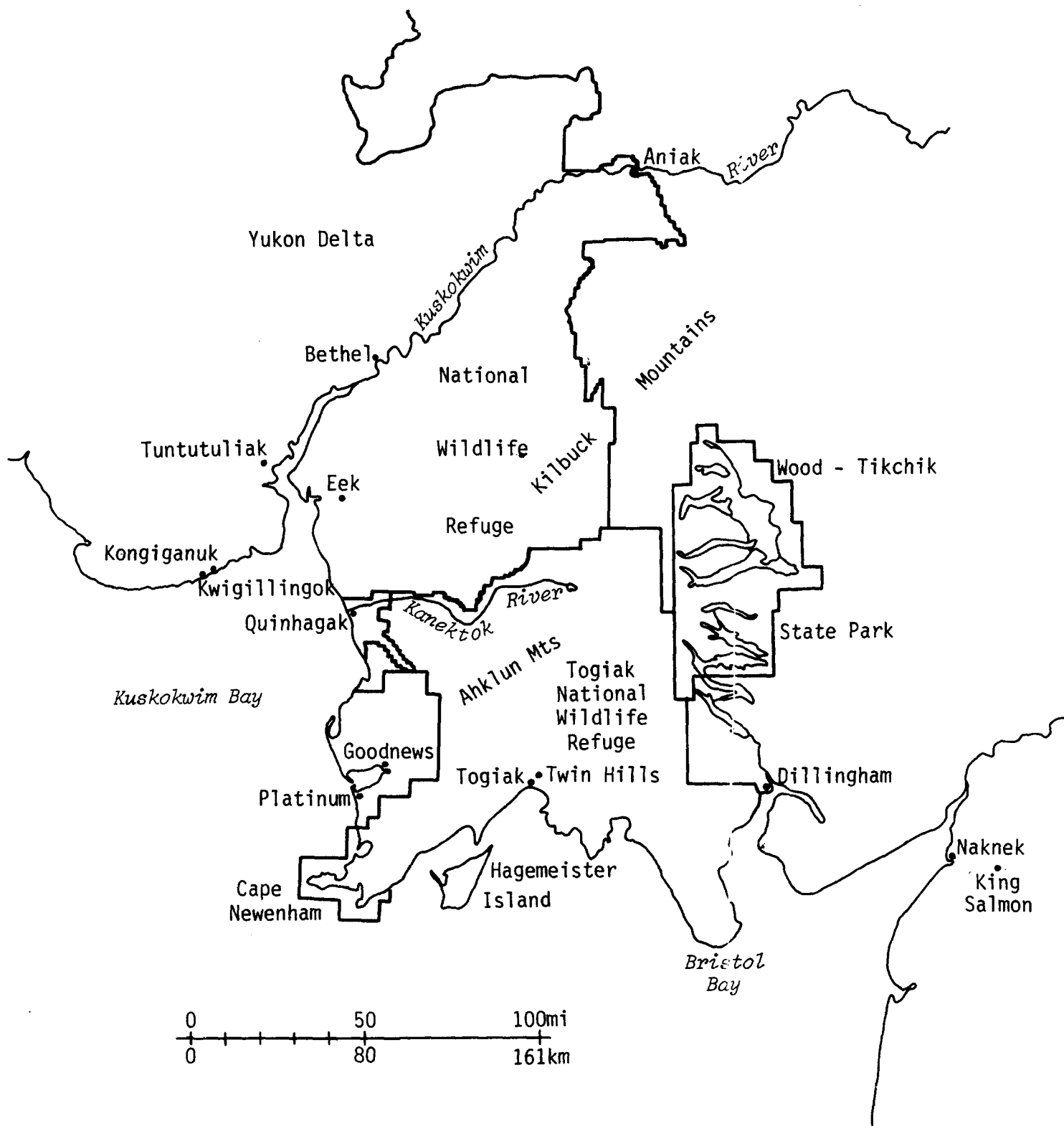
Once the eligibility of the river was determined, alternatives for possible designation of the river were considered. Two feasible alternatives are presented in this document.

Alternative 1 - (Proposal) No Action

Under this alternative, none of the river would be designated as a component of the National Wild and Scenic Rivers System. Existing and future conditions expected to occur without federal or state action are described.

Alternative 2 - Designation of the Main River Upstream from Qanirtuuq, Inc. Ownership to Kagati Lake

This alternative is presented in accordance with the Wild and Scenic Rivers Act and implementing guidelines.



VICINITY KANEKTOK RIVER

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Impacts of Alternatives

Environmental impacts of the two alternatives would not significantly differ in the immediate future. Federal and private land in the river drainage would be expected to remain under the present respective management entities, and private land selections or claims would be expected to remain unchanged. Subsistence, recreation, and mining use in the river corridor would continue. Activities that could, over time, alter the corridor's outstanding values could be controlled and possibly regulated, especially along the portion within the refuge wilderness.

OTHER CONSIDERATIONS

Local residents near the Kanektok are concerned about additional regulations and restrictions that might result from designation and the possible increase of recreational use that would compete for subsistence resources. Consequently these residents prefer the not-action alternative.

The organizations and agencies involved in the evaluation agree that the present wilderness designation on the upper 73 miles of river provides significant protection for the identified outstanding resource values. The enabling language in ANILCA, which established the Togiak National Wildlife Refuge, mandates the preservation of the natural diversity of fish and wildlife habitat and water quality. Consideration of these and other identified values will be included in the Togiak Refuge comprehensive planning effort in progress.

The majority of written comments from the area near the river recommended no action (221-3), while responses from other parts of Alaska and the Lower 48 favored designation (9-4). Public meetings were held in Bethel, Quinhagak (twice), Dillingham, and Anchorage.

PURPOSE OF THE STUDY

The Wild and Scenic Rivers Act (Public Law 90-542) 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 additional rivers may be included. Criteria have been developed by the secretaries of agriculture and the interior in "Guidelines for Eligibility, Classification and Management of River Areas" (see appendix).

In 1980, the Alaska National Interest Lands Conservation Act (ANILCA), Public Law 96-487, directed that 12 rivers in Alaska, including the Kanektok, be studied as possible additions to the National Wild and Scenic Rivers System. The Kanektok River study is being done by an interdisciplinary team under the direction of the NPS Alaska regional director and in cooperation with the state of Alaska, the U.S. Fish and Wildlife Service, the village of Quinhagak, and Calista Corporation. Additional information was gathered in cooperation and consultation with other federal, state, and local government agencies and with private groups and individuals. The study is to be submitted to Congress no later than the submission of the Bristol Bay Cooperative Plan to Congress.

The purpose of the study is to determine if the Kanektok River is eligible for inclusion in the National Wild and Scenic Rivers System; if eligible, to determine if it is suitable for inclusion; if eligible, to determine the appropriate classification (wild, scenic, or recreational) based upon the current level of development on and adjacent to the river; and to develop a proposal and reasonable alternatives for designation and management. The proposal and alternatives are presented in compliance with NPS policies and the Wild and Scenic Rivers Act.

Following review of the draft study, the comments received will be analyzed, and a final report reflecting those comments will be prepared. The final report on the suitability or unsuitability for addition to the National Wild and Scenic Rivers System will be submitted to the president by the secretary of the interior. The president will make recommendations to Congress with respect to designation of the Kanektok River as a component of the National Wild and Scenic Rivers System.

EVALUATION

ELIGIBILITY

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) 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.

With regard to the first criterion, the study team found that the entire length of the Kanektok is free-flowing and runs through a natural environment with very little evidence of past or present uses by man. With regard to the second criterion, the study team identified features that set the Kanektok River apart from others in the Kuskokwin Bay region. The study team determined that the river area has the following outstandingly remarkable cultural, fishery, recreational, and scenic values:

Cultural Values

These values include several former Eskimo village sites and the river corridor as an historic travel route. More important values are the past and present cultural ties that local residents have with the river. The Kanektok is, has, and will continue to be utilized, especially by Quinhagak residents, for subsistence purposes (fishing, hunting, and gathering). It is not only a natural, free-flowing river, but it is socially and economically important to local residents.

Fishery Values

These values include the salmon spawning areas important to local and regional commercial and subsistence fishing and sport fishing. Five species of Pacific salmon, rainbow and lake trout, grayling, Arctic char, burbot, and round white fish are included.

Recreation Values

The entire river is floatable by raft, kayak, river boat, or canoe; however, the sometimes fast currents, braided channels, and sweepers can upset the unwary or unskilled. Sport fishing for five species of Pacific salmon, rainbow trout, and Arctic char and grayling, and hiking and backpacking on numerous ridges around Kagati Lake and along the river provide outstanding opportunities for recreational experiences.

Scenic Values

These values include the tundra-covered slopes leading up to the rocky pinnacles, bluffs, and outcrops of the nearby snow-covered Ahklun Mountains to several small canyons along the middle and upper river. The Ahklun Mountains provide a striking backdrop reflected in Kagati Lake.

CLASSIFICATION

Following a determination that the Kanektok 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

These rivers or sections of rivers are free of impoundments and are generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. They represent vestiges of primitive America.

Scenic River Areas

These rivers or sections of rivers are free of impoundments and accessible in places by roads, with shorelines or watersheds still largely primitive and shorelines largely undeveloped.

Recreational River Areas

These rivers or sections of rivers are readily accessible by road or railroad, may have some development along their shorelines, and may have undergone some impoundment or diversions in the past.

In reviewing the existing conditions on the Kanektok River and adjacent land area, it was 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 and developments 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 to the national system. Generally, suitability is based on such factors as extent of public lands in the river area; costs required for acquisition, development, management, and operation; local or state interest in acting to protect and manage the river; the feasibility and timeliness of such action; and agency and public input.

The majority of the Kanektok River is within the Togiak National Wildlife Refuge Wilderness. If designated, no acquisition or development costs would be involved, and the portion of the river within the refuge wilderness would continue to be managed by the Fish and Wildlife Service in accordance with the wilderness designation. Inclusion in the national system would not offer more protection than exists with the present wilderness designation. The U.S. Fish and Wildlife Service is preparing a comprehensive management plan for the refuge (to be completed in 1984) and expects to continue current management practices to maintain the area as it now is. In addition local residents do not support adding the river or their lands to the national system. Therefore, the Kanektok is considered unsuitable for inclusion in the National Wild and Scenic Rivers System.

PROPOSAL AND ALTERNATIVES CONSIDERED

Two alternatives for the future management of the Kanektok River are considered in this document. Alternative 1 (preferred) is the no action alternative. Alternative 2 calls for inclusion of the middle and upper portion of the river in the National Wild and Scenic Rivers System.

ALTERNATIVE 1 - NO ACTION

Under this alternative the Kanektok River would not be included in the National Wild and Scenic Rivers System. The river area would continue to be managed under existing federal and private ownership authorities. The draft Bristol Bay cooperative management plan, currently in preparation by the state of Alaska and the U.S. Fish and Wildlife Service, addresses the refuge land, indicating that the area is to be managed for fisheries production and harvest, waterfowl habitat protection, wildlife enhancement, subsistence harvest, river recreation, and mining (existing claims only).

The U.S. Fish and Wildlife Service is required by ANILCA to prepare a comprehensive conservation plan for the Togiak National Wildlife Refuge. This plan, currently in progress, 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 this 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 would be at the discretion of the owners. They may enter into a cooperative land management agreement with the adjoining federal land manager (U.S. Fish and Wildlife Service) under provisions of section 907 of ANILCA (The Alaska Land Bank Program) or develop their own land management strategies as they desire.

ALTERNATIVE 2 - DESIGNATION OF THE MIDDLE AND UPPER KANEKTOK RIVER AS A WILD RIVER

This alternative would designate the main stem of the Kanektok River as a wild river from the western boundary of T4S, R7IW upstream to Kagati Lake. Administrative responsibility for the river would be by the U.S. Fish and Wildlife Service, which would also be responsible for 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, in accordance with section 606 of ANILCA, which prohibits the inclusion of privately owned lands within a congressionally designated Alaskan wild and scenic river. The purpose of the plan would be to protect and maintain the environment and resource uses (subsistence, recreation, mining, etc.) essentially in the condition existing at the time of designation and to be 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 remarkable scenic, recreational,

fishery, and cultural values; to protect private property and interests; and to deal with potential conflicts among river users. 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. A management plan 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. Such a plan would be undertaken as part of the river management planning process.

Most of the above activities would also be accomplished during or after the Togiak Refuge comprehensive planning efforts, except that the emphasis would cover the entire refuge and would not be specific to a particular drainage. This alternative is in compliance with the Wild and Scenic Rivers Act, "Guidelines for Eligibility, Classification and Management of River Areas," and NPS policies.

AFFECTED ENVIRONMENT

THE REGION

The headwaters of the Kanektok River are in southwest Alaska about 75 air miles southeast of Bethel and about 390 air miles west of Anchorage. The Kanektok River is about 93 miles long. It flows west-southwest from Kagati Lake in the Ahklun Mountains before reaching the village of Quinhagak on Kuskokwim Bay. Because of numerous channels and braids along the river, the river's length may vary from 90 to 95 river miles.

A clear water stream, the Kanektok River rolls along a rocky/sandy streambed for most of its length. From Kagati Lake, the river flows through a narrow mountain valley before reaching the Kuskokwim Bay lowlands. Elevations range from above 4,000-foot peaks around Kagati Lake to the 2,694-foot Highland Butte before the Kanektok River breaks out onto the coastal plain. Kagati Lake is at an elevation of 1,039 feet.

Other than the airstrip and community roads at Quinhagak, there are no roads, railroads, or airstrips (other than unimproved gravel bar strips) in the river area. There are no known summer trails in the river area, although the river is used by Quinhagak residents during the summer by riverboat and others by floatplane on the lower river and at Kagati Lake. Winter access is by snowmachines, dog sleds, or planes equipped with skis.

Climate

The Kanektok River is in an area having about 22 inches of annual precipitation, including 57 inches of snowfall. There are no weather stations on or close by the river. However, the Platinum and Nyak stations are about 50 and 80 miles from the mouth and headwaters of the Kanektok respectively and at similar elevations in the same climatic zone. At Platinum summer temperatures range from 38°F to 57°F, and winter temperatures range from 7°F. to 29°F. Average annual precipitation is 22 inches, with 43 inches of snow. At Nyak summer temperatures range from 37°F to 60°F, and winter temperatures range from -40°F to 12°F. Average annual precipitation is 23 inches, with 71 inches of snow (University of Alaska, AEIDC 1976). Breakup of lake and river ice occurs in early June, with freezeup occurring in September.

Socioeconomic Setting

Population Centers. There are no settlements outside Quinhagak for year-round residents in the Kanektok drainage, although several cabins and/or camps are used on a seasonal basis for subsistence hunting, fishing, trapping, or gathering activities; sport fishing; and bear hunting. There are, however, several population centers within 50 miles of the river. The 1980 census shows the following population for these communities: to the north and west are Tuntutuliak (216), Eek (228), Kongiganak (239), and Kwigillingak (354); to the south are Platinum (55),

Goodnews (168), Togiak (420), and Twin Hills (70). Table 1 reflects a general population increase in the communities near the Kanektok River.

Table 1: Regional Population Changes

	<u>1970</u>	<u>1980</u>	<u>% Changes</u>
Bethel	2,416	3,576	+ 48
Dillingham	914	1,563	+ 71
Eek	186	228	+ 23
Goodnews Bay	218	168	- 77
Kongiganak	190	239	+ 26
Kwigillingak	148	354	+139
Quinhagak	340	412	+ 21
Platinum	--	55	--
Togiak	383	470	+ 23
Tuntutuliak	158	216	+ 37
Twin Hills	67	70	+ 4
Bethel Census Area	8,917	10,999	+ 23
Dillingham Census Area	3,872	7,616	+ 97
STATE TOTAL	302,583	401,851	+ 33

Source: U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, volume I, Alaska, PC 80-1-A3, pages 3-10/14.

Economy. The economy of this region is based primarily on subsistence, with government and health services making up a major portion of wages and expenditures, especially in the population centers of Bethel and Dillingham. Goods are brought into the region by barge and plane and are thus very expensive because of transportation costs. Subsistence is supplemented by few jobs with schools, stores, village corporations, and the state and federal governments. Commercial fishing also makes up part of the cash economy. "Non-market goods" are traded, and this barter system should be considered part of the local economy.

Bethel serves as a regional center for the Kuskokwim Bay area. It provides a trans-shipment point for various goods such as groceries, fuel, building, and supplies, as well as medical, legal, and other services not available in the villages. Bethel is also the transportation center with daily commercial air service to communities in the Yukon-Kuskokwim region and other parts of Alaska. In the Bristol Bay area, Dillingham is the regional center providing services similar to Bethel.

Table 2: 1978 Taxpayer Data

	<u>1978 Average Wage (\$)</u>	<u>Number of 1978 Tax Returns</u>
Bethel	14,935	1,466
Dillingham	13,813	587
Eek	5,759	70
Goodnews Bay	2,421	60
Kongiganak	6,712	77
Kwigillingok	5,979	77
Quinhagak	6,000	100
Platinum	5,948	15
Togiak	4,864	163
Tuntutniak	4,747	69
Twin Hills (included with Dillingham)		

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

Employment statistics for 1981 show a civilian labor force of 3,551 people in the Bethel census area. 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 1982). These figures may be somewhat misleading for rural areas because employment figures exclude anyone not actively seeking work. Some individuals may be self-employed in subsistence and/or wage employment, depending on the season.

Employment in the Bethel area has increased over the last several years, and the economy is not as volatile as it is in other parts of the state. About half the employment is government related. The Bristol Bay area has not experienced such an increase in employment. Because commercial fishing and food processing are major industries, employment is seasonal. Government is considered to be the only other industry in the area.

As shown on table 3 government employment (local, state and federal) provides the most jobs in Bethel, followed by the service, transportation, commerce, utilities, and retail trade industries, with important seasonal influxes from construction and commercial fishing.

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

<u>Industry</u>	<u>Employment</u>	<u>Percent of Total</u>
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
Total Government	796	47.1
Federal	303	17.9
State	200.5	11.9
Local	292.5	17.3
TOTAL EMPLOYMENT	1,691.0	100.0

Source: City of Bethel Coastal Management Program, Preliminary Report, February 1982, p. 69.

The above employment data may also be misleading because they do not accurately reflect the nature of the employment seasonality in most of Alaskan 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. The same situation probably exists throughout the other employment categories.

Seasonal employment in the region is generally limited to construction and especially commercial fishing. Some residents may likely travel to other large population centers for the construction season and/or to Bristol Bay for cannery and fishery employment. Year-round jobs are quite limited, except in larger communities such as Bethel, where local, state, and federal governments are usually the largest employers who contribute most of the cash economy. The Federal Aviation Administration, Public Health Service, and the Rural Education Attendance Area are cases in point. In the smaller communities, however, state operated schools, local government, and village stores afford only limited employment opportunities.

Modern day Yupik culture requires the use of cash to maintain life. A high percentage is spent in utilities. Electricity averaged 43 cents per kilowatt hour in 1979, with the average household spending about \$800; approximately 31 percent of the households spend money for water and sewage, and a significant cash drain occurs for the purchase of fuels with a majority of households spending approximately \$1,630 annually for heating and cooking fuels (Nunam Kitlutsisti 1982). Gasoline is used to operate boats and snowmachines, which are essential for subsistence activity. About 55 percent of their food is obtained through subsistence harvest. The remainder is purchased at village stores or barged or

airfreighted into villages. The purchase of subsistence gear is a major expenditure. The majority of costs go for items such as outboard motors, snowmachines, and boats. While better efficiency in subsistence harvesting can be attributed to better industrial technology, each year the cost of participating in subsistence is becoming more expensive and is requiring more capital.

The people and culture of the village of Quinhagak are in transition from their traditional subsistence economy to an economy heavily influenced by the need for dollars. Salmon fishing is the region's main contribution to the cash economy. People in the village participate in the subsistence activities they have known for years--fishing, hunting, and trapping--each of which play an important role in their daily lives. They rely on salmon, seal, and waterfowl as sources of food. To a lesser extent, they harvest moose and caribou (generally from drainages other than the Kanektok), small mammals, eggs, and plants. Surveys indicate that between 50 and 75 percent derive more than 75 percent of their meat directly from hunting and fishing. Although a gradual shift from a subsistence to a cash economy is taking place, natural resources will continue to play an important role.

The Kanektok River drainage provides an economic base to Quinhagak families and other area communities. Salmon and furs are Quinhagak's only renewable, marketable resources. The subsistence use of salmon, char, trout, grayling, whitefish, bear, small game, berries, plants, and wood within the Kanektok River drainage supplies a substantial part of the area's food supply. These riverine resources complement the resources of the sea and coast--seal, wlarus, belukha, herring, flounder, shorebirds, eggs, and migratory waterfowl. Because of their continued access to the lands, waters, and resources of the Kanektok River, the people of Quinhagak are able to exist as a community today.

Existing Public Uses

The region around the Kanektok is used for subsistence hunting, fishing, and gathering (plants, berries, firewood, etc.); mining; commercial fishing; recreation; sport hunting; sport fishing; and seasonal residence. There are several population centers within 50 miles of the Kanektok drainage.

No commercial agriculture or forestry activities are in the region. Driftwood and timber is important on a local scale for firewood, although there are no spruce in the Kanektok drainage.

Mining occurs to the north near Nyac and south near Goodnews and Platinum, 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 United States (University of Alaska, AEIDC 1976). Petroleum exploration has not resulted in significant finds in the region to date.

Recreational use in the region includes river travel, sport hunting, fishing, and camping. Several rivers in the area can be ascended by

river boat, providing numerous sport fishing and general recreational opportunities. The Kuskokwim and Ahklun mountains provide better opportunities for backpacking than do the lower elevations. Moose, grizzly bear, and caribou are sought by sport hunters, but few are in the area, as indicated by Alaska Department of Fish and Game records and discussions with area residents (see "Wildlife" section).

Landownership

The major existing and potential landowners in the region include the federal government, state of Alaska, Calista Corporation and Bristol Bay Native Corporation (regional native corporations), and numerous village corporations. Most of the federal land is managed by the U.S. Fish and Wildlife Service as part of the Togiak or Yukon Delta National Wildlife Refuge. The Bureau of Land Management also has land management responsibility in the Nyac area to the north and the Goodnews area to the south. The state of Alaska owns a large block of land east and north of the Togiak Refuge, which is part of the Wood-Tikchik State Park. Because the Kuskokwim River has been determined navigable, the submerged land beneath the Kuskokwim River is also owned by the state. Pending settlement of the question of navigability on other rivers in the area, additional "fingers" of land in the region may be transferred to state ownership.

THE STUDY AREA

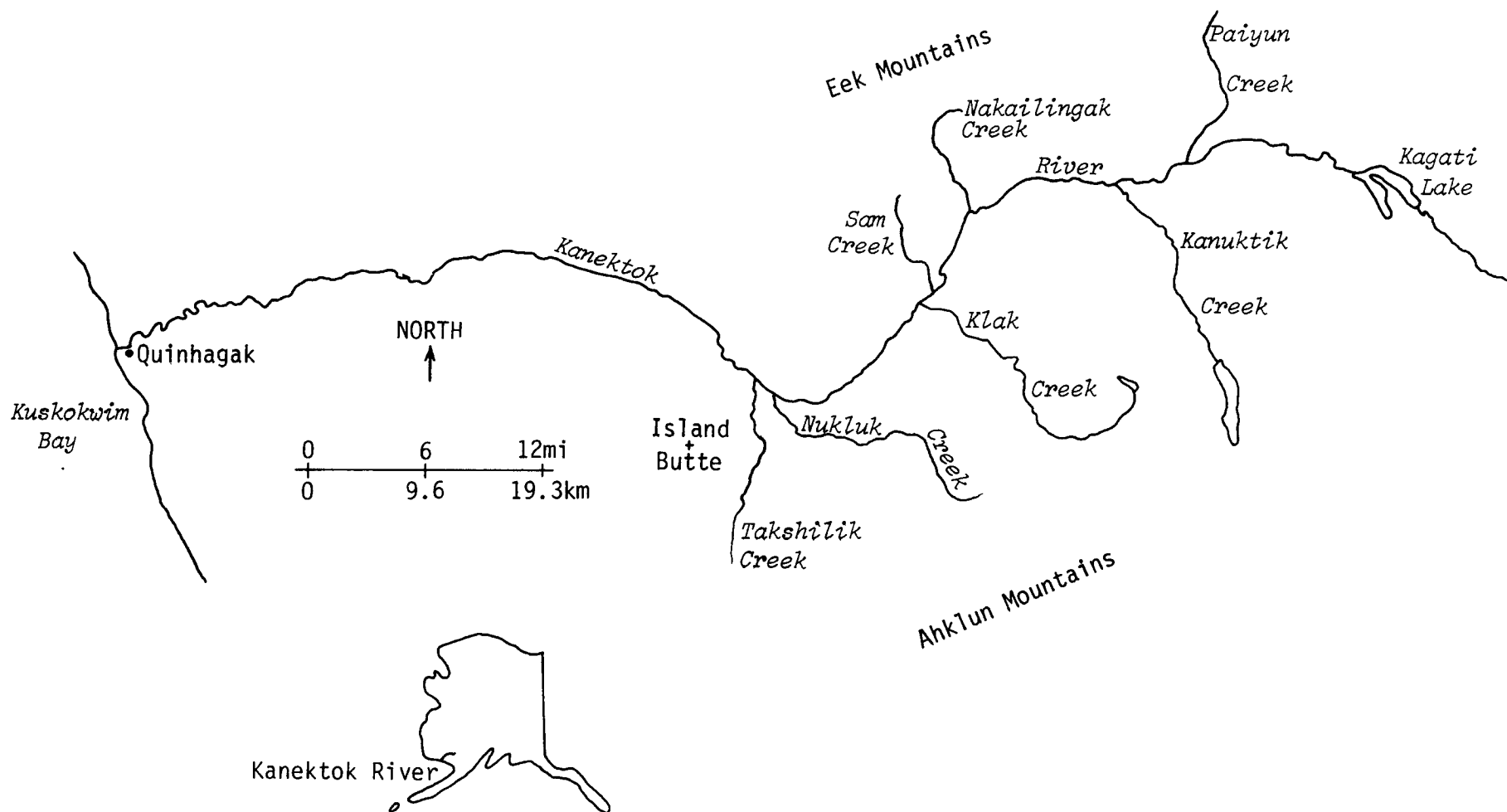
Natural Resources

Scenery. Kanektok River and Kagati Lake are in a natural environment that bears little evidence of man's presence and that offers diverse and highly pleasing scenery. The middle and upper river area is characterized by snowcapped mountains; narrow, deep valleys; small canyons; and rocky ledges and bluffs.

Kagati Lake is a deep, translucent, green-colored lake bordered by towering snowcapped mountains and ridges. From the lake many glacial basins and moraines are apparent, especially along the northern shoreline.

Below the lake to about Nukluk Creek, the river passes through a broad glacial valley. At times it is entrenched 50 to 75 feet into the valley floor, while in other locations it meanders across the valley floor. Numerous rocky outcrops, ridges, and bluffs (some partially covered by tundra) are readily visible from the river. Willow and cottonwood are along the shoreline and are backed by the everpresent tussock tundra.

Below Nukluk Creek the visual variety is considerably less as the river moves out across the coastal plain. Except for an occasional gravelly bluff just downstream of Quickumguila Creek, the visual corridor is usually restricted to the immediate riverine area that is lined by willow. Views toward the mountains to the east occasionally occur, but they are the exception rather than the rule. The riverine corridor of willow is backed by wet tundra.



STUDY AREA

KANEKTOK RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
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Geology. The bedrocks of the Kanektok area are mainly highly deformed Devonian to Cretaceous age sediments and Precambrian age metamorphics. The following descriptions are summarized from recent U.S. Geological Survey reports (Eberlein and others 1977; Hoare and Conrad 1978).

The most extensive bedrock forms a band 25 to 40 miles wide that trends northeast across the central third of the area, covered in many places by glacial till. The bedrock ranges in age from Devonian to upper Cretaceous and consists of volcanics, tuffaceous sandstones, chert, argillite, siltstone, graywacke, and conglomerate. The lower Kanektok crosses a northeast trending area of Precambrian age metamorphic rocks.

This area, like all of southwestern Alaska, has been subject to intense deformative stresses in the course of its geologic history. Rocks of Early Cretaceous age and older are allochthonous (originally deposited elsewhere) and strongly deformed. Rocks of late Early Cretaceous (Albian) age to Late Cretaceous (maastrichtian) age are autochthonous (unmoved) so were derived from nearby source areas. The upper Cretaceous rocks are mostly or entirely nonmarine, whereas the others are mostly shallow water marine deposits.

Glaciers once covered the Kanektok River drainage above the Bering Sea coastal plain. However, unlike glaciers in the other major drainages east of the Kanektok which went down to saltwater, the farthest glacial advance in the Kanektok valley is about 15 miles downstream of Island Butte.

Soils. The Kanektok River basin is characterized by shallow, nonarable soils usually accompanied by permafrost at various depths.

Soils in the upper basin range from well to poorly drained gravel or loam, often accompanied by an acidic peaty surface layer. The erosion potential is usually medium except on the steeper slopes. There are also numerous ridges north and south of the river valley that are exposed bedrock.

The middle portion of the Kanektok drainage, from about Klak Creek to the coastal plain, consists of soils that are similar to those of upstream but tend to be more poorly drained with a shallow permafrost table and a higher erosion potential.

Soils in the lower river area are poorly drained with a peaty surface layer. Depth to permafrost is generally 12 to 30 inches. Erosion potential is high as evidenced by the numerous changes in the river channels each year.

Streamflow and Water Quality. The Kanektok River drainage covers about 910 square miles. The river is nonglacial, flowing out of Kagati Lake. Water clarity is generally excellent, except following heavy periods of rain. Tributaries to the Kanektok, from Kagati Lake downstream, include Paiyun, Kanuktik, Nakailingak, Sam, Klak, Nukluk, and Takshilik.

The only stream flow measurement taken recorded a flow of 1,882 cfs, just above Nukluk Creek in July 1975. It is believed water levels at that time were higher than normal.

The elevation of Kagati Lake is 1,079 feet, with the river's mouth at sea level. This gives the river an overall gradient of about 11.6 feet per mile. However, most of the elevation drop occurs from the lake to about Klak Creek, where the gradient ranges from 14 to 16 feet per mile. There are no rapids or falls along the river but the sometimes fast current (4 to 5 mph), rocks in the upper portion, and sweepers in the middle and lower river can present hazards to the unprepared.

Downstream from Kagati Lake to about Kanuktik Creek, the streambed is composed of medium to large gravel. Below the Kanuktik, the streambed is at first mostly a single channel passing through several small canyons. The gravel, in varying sizes, continues but gradually becomes smaller as the riverbed moves out onto the coastal plain. The lower river is still gravelly but more sand and silt are present. Visual clarity is not as good as upstream, most likely because of the adjoining tundra area tannic acid drainage.

Water chemistry measurements taken on the Kanektok and tributaries by the Bureau of Indian Affairs and Alaska Department of Fish and Game are shown in tables 4 and 5. The water is of excellent quality except for occasional Giardia cysts, which are becoming more common in lakes and streams throughout Alaska.

Vegetation. By far the most conspicuous vegetation type along the river is moist tundra. This occurs on the intermediate slopes between the steeper alpine slopes and the immediate riparian zone and on the coastal plain. Species include sedges, reindeer lichen, cranberry, cottongrass, bistort, monkshood, buttercup, violet, and lousewort. Dwarf shrubs include birch, willow, blueberry, and cranberry. In the vicinity of Paiyun Creek, a thin strip of riparian vegetation (willow, alder and dwarf birch) begins to parallel the river to its mouth except where the river is entrenched in several small canyons. Occasional stands of balsam poplar occur along the middle reaches of the river between Paiyun Creek and the coastal plain. The reader is referred to the following for a more detailed description of vegetation: Togiak National Wildlife Refuge Final Environmental Impact Statement FES 75-12 (pg. 32-35) and the Alaska Regional Profile Southwest Region (University of Alaska, AEIDC 1976).

Table 4: Kanektok River Water Quality Taken At Or Near Quinhagak
(all measurements in mg/l except as noted)

	10-4-68	7-7-76	4-25-78	8-24-78	3-13-79	8-15-79 (Tap Water)	8-15-79
Calcium	10.0	5.5	8.0	3.0	77.0	7.7	7.6
Iron-Total	0.32	0.1	--	0.1	--	0.58	0.33
Magnesium	2.5	1.4	1.8	0.4	--	3.2	1.8
Manganese	2.5	0.1	--	--	TR	0.05	0.05
Potassium	0.0	0.4	1.0	1.0	0.3	2.7	1.9
Sodium	3.4	1.7	1.0	1.0	2.7	14.0	3.5
Conductivity	83.0	52.0	52.0	63.0	258 Umhos/cm	--	--
pH (Units)	7.4	7.6	7.0	6.7	7.3	--	--
Chloride	2.9	4.0	2.0	2.0	3.7	--	--
Sulfate	15.0	4.0	2.0	3.0	TR	--	--
Total Dissolved Solids	58.0	35.0	29.0	25.0	--	--	--
Hardness CaCO3	36.0	19.0	27.0	9.0	--	33.0	27.0
Alkalinity as CaCO3		30.0	23.0	24.0	28.0	--	--

Source: U.S. Public Health Service files, Bethel

Table 5: Kanektok River Drainage Water Quality

	7-24-75 (Below Nukluk Creek)	7-31-75 (Kanuktik Lake)	7-25-75 (Below Kanuktik Creek)	7-31-75 (Klak Lake)	7-22-75 (Kagati Lake)
pH	7.5	7.5		7.5	7.5
Alkalinity (ppm)	34.0	34.0		34.0	34.0
Hardness (ppm)	51.0	51.0		51.0	51.0
Temperatures (oF)	43.0	46.0	43.0	50.0	45.0
Flow (cfs)			1,883.0		
Secchi Disk reading (ft.)		35.0		20.0	27.0

Source: Alaska Department of Fish and Game, 1977.

Table 6: Kuskokwim Area Commercial Catches
By Drainage, 1960-1981

<u>Kanektok River</u>	<u>King</u>	<u>Red</u>	<u>Coho</u>	<u>Pink</u>	<u>Chum</u>	<u>Total</u>
1960	0	5,649	3,000	0	0	8,649
1961	4,328	2,308	46	90	18,854	28,636
1962	5,526	10,313	0	4,340	45,707	65,886
1963	6,555	0	0	0	0	6,555
1964	4,801	13,422	379	939	707	19,528
1965	2,976	1,886	0	0	4,242	9,104
1966	278	1,030	0	268	2,610	4,186
1967	0	652	1,926	0	8,087	10,665
1968	8,879	5,884	21,511	75,818	19,497	131,589
1969	16,802	3,784	15,077	953	38,206	74,822
1970	18,629	5,393	16,850	15,195	46,556	102,623
1971	4,185	3,118	2,982	13	30,208	40,506
1972	15,880	3,286	376	1,878	17,247	38,667
1973	14,993	2,783	16,515	277	19,680	54,248
1974	8,704	19,510	10,979	43,642	15,298	98,133
1975	3,928	8,584	10,742	486	35,233	58,973
1976	14,110	6,090	13,777	31,412	43,659	109,048
1977	19,090	5,519	9,028	202	43,707	77,546
1978	12,335	7,589	20,114	47,033	24,798	111,860
1979	11,144	18,828	47,525	295	25,995	103,787
1980	10,387	13,221	62,610	21,671	65,984	173,873
1981	24,525	17,292	47,587	160	53,316	143,080
Previous 5-Year Average	13,413	10,250	30,611	20,123	40,829	115,225

Source: Alaska Department of Fish and Game, 1981, p. 45.

Table 7: Kuskokwim Area Commercial King Salmon Catches,
by District, 1960-81

Year	Lower Kuskokwim 335-10	Middle Kuskokwim 335-20	Upper Kuskokwim 335-30	Kanektok Bay 335-40	Goodnews Bay 335-50	Total
1960	2,927	1,231	1,811	0		5,969
1961	15,820	1,551	1,547	4,328		23,246
1962	13,306	2,035	0	5,525		20,867
1963	9,095	2,921	0	6,555		18,571
1964	15,754	1,395	0	4,081		21,230
1965	21,452	537	0	2,976		24,965
1966	25,212	333	0	278		25,823
1967	29,367	615		0		29,986
1968	33,451	826		8,879	0	43,157
1969	43,141	853		16,802	3,978	64,774
1970	37,715	1,463		18,629	7,163	65,082
1971	35,421	2,439		4,185	477	44,936
1972	37,699	1,755		15,880	264	55,482
1973	28,194	2,244		14,993	3,543	51,374
1974	16,031	951		8,704	3,302	30,570
1975	18,235	1,319		3,928	2,151	27,799
1976	28,010	3,316		14,110	4,417	49,252
1977	28,685	3,975		19,090	3,336	55,086
1978	36,139	2,087		12,335	5,218	55,779
1979	24,633	2,913		11,144	3,204	41,894
1980	26,812	1,697		10,387	1,974	40,655
1981	29,882	4,771		24,524	7,190	66,367
Previous 5-year average	27,256	2,798		13,413	3,630	48,535

Source: Alaska Department of Fish and Game, 1981, p. 47.

Fisheries. The Kanektok River is the second most important salmon producing river in the Kuskokwim Bay fisheries area. Only the Kuskokwim River has larger salmon runs. Five Pacific salmon species and several important sport fishing species are found in the Kanektok River.

Commercial Fishing. Commercial fishing for the Kanektok River salmon takes place outside the mouth of the Kanektok River. Commercial fishing is not allowed in the river because it would result in unacceptably high harvest rates. Most of the fishermen are residents of Quinhagak.

The Kanektok River commercial fishery started in 1960. Although it was formerly a sporadic fishery because of unreliable processing facilities, it has stabilized during the past few years.

Because the king salmon run is later in the Kanektok River than in the Kuskokwim River, the opening of the Kanektok River fishery is delayed until mid June to prevent an overharvest of Kuskokwim River kings.

The king salmon fishery is the most valuable of the Kanektok River fisheries (see table 8). In the past five years king salmon commercial catches averaged 13,400 (10,400 to 24,500 range). Escapements have ranged from 600 to 15,900 fish.

Table 8: 1981 Kanektok River
Commercial Salmon Catches and Their Value

<u>Species</u>	<u>Catch (in thousands)</u>	<u>Value (in thousands)</u>
King	24.5	\$378
Coho	47.6	193
Chum	53.3	90
Red	17.3	75
Pink	<u>0.0</u>	<u>0</u>
TOTAL	142.7	\$736

Subsistence Fishing. The people of Quinhagak have traditionally fished for salmon for subsistence in the lower part of the Kanektok River. The level of subsistence fishing has remained fairly stable for the past six years. After the commercial fishing season is over, gill netting activity in the river increases. The catch, during this later period, consists mostly of coho salmon.

In 1981, 53 Quinhagak families reported catching 2,562 king, 5,679 coho and, 2,737 chum and red salmon. (Chum and red salmon are combined because they are difficult to distinguish at the time they enter the river). The people of Quinhagak use the subsistence catch for both themselves and their dogs.

Table 9: Quinhagak Subsistence Fishery Historical Summary, 1967-81*

Year	Fishing Families Surveyed	Average Numbers Per Fishing Family				
		People	Dogs	King Salmon	Chum Salmon	Coho Salmon
1967	19	6.43	4.00	71	231	1
1968	46	5.59	4.07	88	234	380
1969	59	5.38	3.41	27	29	179
1970	46	6.02	2.76	47	110	1
1971	41	5.83	2.37	55	87	36
1972	54	6.41	2.30	56	116	9
1973	44	5.80	2.07	61	98	83
1974	47	5.53	2.31	46	78	87
1975	46	5.86	1.85	71	88	1
1976	50	5.62	2.20	44	119	1
1977	60	6.63	1.59	34	70	1
1978	65	5.59	1.86	36	96	3
1979	48	5.23	1.72	29	24	37
1980	76	5.21	1.38	26	26	69
1981	59	5.45	2.08	43	46	96

*Expanded data.

¹Data unavailable.

Source: Alaska Department of Fish and Game, 1981, p. 64.

Salmon Spawning Areas. The Kanektok River king salmon run starts in mid June and peaks in early July. King salmon spawn in all parts of the river, but most spawning occurs in the middle and upper parts. Spawning has also been observed in Takshilik and Kanuktik creeks. Some king salmon may spawn in Kagati Lake because carcasses have been seen at the outlet.

The chum salmon run also starts in mid June and peaks in early July. Chum and pink salmon are reported to spawn throughout the Kanektok River and in its creeks, side channels, and sloughs. Almost all the pink salmon in the Kanektok River return in even numbered years.

Most of the red salmon caught in the Kuskokwim Bay fisheries spawn in the Kanektok and Arolik rivers. Most red salmon entering the Kanektok River spawn in the Kanektok Lake system. Some red salmon spawning also occurs in the main river and in Kanuktik Creek.

The coho salmon run starts in late July or early August. Coho salmon have been seen in all parts of the Kanektok River, in Takshilik Creek, and in Kagati Lake and its inlet streams. Exact spawning locations have not been documented.

Juvenile king, coho, and sockeye salmon spend at least one year in the Kanektok River before entering the ocean. Chum and pink salmon migrate to the ocean soon after they emerge from the gravel. Juvenile salmon probably remain near the mouth of the Kanektok River for a period while they adapt to the ocean environment.

Sport Fishing. The Kanektok River is becoming more popular as a sport fishing area. The river has excellent sport fishing for king, chum, pink, and red salmon from June to mid July, and excellent coho salmon fishing in August. Lake trout fishing is good in the lakes in the upper Kanektok River drainage. Grayling and Arctic char are also plentiful throughout the river and lakes, while rainbow trout fishing is better on the lower river. No record of steelhead trout in the Kanektok River could be found.

The four major lakes in the Kanektok River drainage (Kagati, Kanuktik, Klak, and Ohnlik Lakes) have potential for sport fishing. Arctic char, lake trout, red salmon, round whitefish, burbot, and grayling have been found in these lakes by the Division of Sport Fisheries. Eleven smaller lakes have questionable access, which could be expected to have char, round whitefish, and possibly lake trout.

Wildlife. Large mammals in the river area include grizzly bear, caribou, moose, fox, and wolverine. However, Alaska Department of Fish and Game (ADF&G) records indicate that only six grizzly bear have been harvested and sealed between 1971 and 1981. More bears are probably taken but not reported to the state. An occasional moose (only one harvest recorded since 1978) or caribou is seen in the drainage and few are harvested as indicated by ADF&G records and discussions with area residents. Small furbearing mammals include red and arctic fox, weasel, arctic ground squirrel, beaver, muskrat, mink, land otter, lynx, and arctic hare. The 1982 beaver colony counts averaged about 1.5 active lodges per mile for almost 80 miles of surveyed stream, which represents a good average. Two lodges per mile is a good level for a healthy population.

Waterfowl species, although not present in large numbers, include pintail, harlequin, mallard, common merganser, green wing teal, common goldeneye, arctic loon, and tundra swan. Sandhill cranes were also observed along the middle portion of the river. Both bald and golden eagles were observed along the middle and upper reaches of the river. Other birds in the area include ptarmigan, sandpipers, swallows, terns, loons, and gulls. No endangered or threatened species are known or believed to be present in the drainage.

Cultural Resources

Archeology. Archeological evidence indicates that the Cape Newenham-Togiak region of southwestern Alaska has been continuously occupied by Eskimos for some 2,000 years, and one site at Security Cove on Cape Newenham shows evidence of being occupied as long as 4,000 to 5,000 years ago.

Originally these people were considered to be of two different groups of Eskimos, the Kuskowagmiut Eskimos occupying the area from Chagvan Bay north to the Kuskokwim River and the Togiagamiut Eskimos occupying the area south of Chagvan Bay east to Togiak Bay. The people of Nanvak and Osviak bays were known as Chingigmiut or Cape People and were considered a branch of the Togiagamiut. However, archeologically these distinctions are not evident.

The Kuskowagmiut relied on the resources of the sea for their subsistence; however, there is little information on the activities of the Eskimos of the Quinhagak area. It is recorded that there was a village at the mouth of the Kanektok River at the time of the 1880 census. The village, Kwinak Quinehahamute, had a population of 23 natives in 1880. The village today is named Quinhagak, sometimes spelled Kwinhagak, and has a population of 412 according to the 1980 census. Only limited archeological work has been done along the Kanektok River itself. Work conducted by Robert Ackerman in 1978 at Kagati Lake and the upper most reaches of the Kanektok showed a large number of sites around the lake but few, if any, along the river. The sites around Kagati Lake are mostly tool manufacturing sites, where the inhabitants exploited nearby sources of raw materials (a fine-grained argillite) suitable for stone tool-making (Ackerman 1979).

History. In 1898 the first exploration of J.E. Spurr began. Spurr crossed from Cook Inlet to the headwaters of the Kuskokwim River and descended the Kuskokwim River to its mouth. From the Kuskokwim he traveled to the Kanektok and ascended this river to Kagati Lake and from there portaged to Togiak Lake, descended the Togiak River to its mouth, and traveled overland to Nushagak and eventually back to Cook Inlet via Iliamna Lake.

During the gold rush of 1900-01 when miners from Nome and elsewhere descended on the Goodnews Bay area, the Kanektok was bypassed as little gold was found in the drainage.

In 1904-05 the first reindeer were brought to the Bristol Bay area. This eventually led to the establishment of a reindeer herd at the village of Quinhagak.

Culture. The Kanektok River is an important area for subsistence fishing, hunting, and trapping for the community of Quinhagak at the river's mouth and for families from other communities in the region, such as Goodnews Bay, Platinum, and Kwethluk. The resources of the Kanektok River have supported human settlements in the area for several thousand years. The ancestors of the people of Quinhagak have fished and hunted along the Kanektok River since before historic times. Today,

as in the past, Quinhagak continues to depend upon the river and its surrounding area for its survival. Currently, the river provides a livelihood for the community--subsistence fishing, hunting, and gathering; commercial salmon fishing; fur trapping; drinking water; and wood. Seasonal fishing and hunting camps are used along the river during fall, winter, spring, and summer. The Kanektok River is an area full of tradition for the local people, a place of significant historical events and historic sites which link today's population directly to its past. Because the contemporary society, culture, economy, and history of Quinhagak and other regional residents are inextricably tied to the Kanektok River drainage, the Kanektok River has outstanding cultural and socioeconomic values to the area.

Subsistence fishing and hunting activities along the Kanektok River by Quinhagak residents follow a regular yearly cycle. During June and July, king, chum, red, and pink salmon migrating up the Kanektok River are harvested with gill nets near the river's mouth. Others are taken in the Kuskokwim Bay commercial fishery and sold on commercial markets, providing the major source of monetary income to the community. This money provides the necessities of living, such as fuel, oil, clothing, and equipment for subsistence hunting, fishing, and trapping for the rest of the year. The subsistence catch in the river is cut, air dried, and smoked for use by Quinhagak families.

Later in the summer during August and September, many families move to camps along the lower portion of the river. At least 11 temporary camps exist within 20 miles of Quinhagak. At camp, coho salmon and other fish are caught and processed for subsistence use. Salmonberries, blackberries, and other plants are gathered in the vicinity and stored for the winter. Prior to freezeup, during late August through early October, several varieties of char, round whitefish, grayling, and rainbow trout are harvested using gill nets from the Kanektok River. Brown bear and moose are hunted within the river drainage concurrent with these seasonal activities.

Following freezeup during October and after the river's ice has firmed, the Kanektok River becomes a major travel route. Snowmachines pulling worksleds travel from Quinhagak along the network of trails within the river drainage and into the mountains for fishing; hunting big game such as brown bear, caribou, and moose (usually in other river drainages); trapping; and cutting wood. A major activity from late fall through spring is harvesting char, rainbow trout, round whitefish, and grayling, using hook and line from holes chopped in the Kanektok River ice. Jigging areas along the river extend from the mountains to the coast.

During the winter, trappers and hunting parties harvest furbearers and small game within the Kanektok drainage--beaver, red fox, mink, land otter, snowshoe hare, arctic hare, ptarmigan, and an occasional wolverine, lynx, and porcupine. Furs are stretched and dried, sold for income, and used for clothing and other crafted items. The meat of beaver, hare, ptarmigan, and porcupine is eaten. Some hunters trap from winter camps established along the Kanektok River, while others trap from the community. Travel up and down the river occurs almost daily during this season.

As spring approaches, a few families move farther up the Kanektok River to spring squirrel camps within mountain valleys in certain years. Ground squirrel and other game animals are taken for local use and sale. Closer to the mouth, families regularly harvest smelt and cisco from holes in the river ice from late January through April, in addition to char migrating to the sea. The smelt and char are hung and dried. After the breakup of the fast ice in Kuskokwim Bay about May, the yearly subsistence cycle begins again.

As mentioned previously, in addition to its subsistence and commercial values, the Kanektok River has other cultural values for the area's residents. The river is part of the region's history and part of the personal histories of the local people. The Kanektok River area is known intimately by the residents of Quinhagak through learned traditions and personal experience. There is a complex system of names and traditional knowledge about the river's features from the mouth to Kagati Lake--the bends of the river, tide channels, tributaries, sandbanks, hills, and mountains. Many names are descriptive of the river's resources and uses. Other names depict former users, historic village sites, camping locations, and gravesites. At least five year-round historic settlements and 23 named seasonal settlement sites are along the river. Other named places derive from oral traditions of historic and legendary events, enshrining in the naming system the places where special events occurred in the history of the people. The system of traditional knowledge of the Kanektok drainage shows that the river is not a "wilderness" to the area's people. The river is part of a familiar landscape, a "home territory," with a deep heritage and important social, cultural, and historic values to the local people.

Current and Potential Public Uses

This section discusses the resource uses along the river corridor in terms of a general overview, access and transportation, mineral resource development, subsistence uses, and recreational uses.

There are no active farming, timber harvesting, grazing, or identified water resource (hydropower) sites in the drainage. The lowland forested portions of the river area are of value to area residents for firewood.

Access and Transportation. There are no existing roads, railroads, or airstrips (other than unimproved gravelbar strips) in the river area outside of Quinhagak. Goods and materials are brought in by barge during the open water months and by plane the year around. Air service includes passengers, mail, and cargo.

During summer, access is generally by skiffs, jetboats, or floatplane. Riverboats can usually ascend the river and jetboats sometimes reach Kagati Lake, depending on water levels. Floatplanes can land on Kagati Lake, on some small lakes near the main stem, and on the lower river itself. Occasional landings on gravel bars at lower water levels are possible but hazardous. Travel down the river from Kagati Lake is usually by raft, with occasional shallow stretches depending on water conditions.

During winter the river is used by area residents using snowmachines and small ATVs. A network of trails, usually the result of traditional hunting, fishing, trapping, and food gathering, connects villages and parallels the waterways and coastline itself. Landings with ski-equipped aircraft are also possible throughout the drainage.

A few wheeled vehicles are in the village. The only gravel roads are in the village and one from the village to the airstrip. The Multimodel Transportation and Utility Systems (USDI, BLM, Alaska State Office 1974) identified a potential corridor that crosses the upper Kanektok River drainage. This corridor would provide access for energy-related purposes such as an oil and natural gas pipeline and accompanying highway. The northern terminus of this corridor would be Koyuk while the eastern terminus would be Kamishak Bay. This corridor would also interconnect with several other identified corridors throughout its length. There are, however, no current or proposed plans to study any of these corridors.

Mineral Resource Development. Metallic mineral resources of Central Alaska are described by Eberlein and Menzie (1978). Geological, geochemical, and geophysical data available through December 1977 were summarized by the U.S. Geological Survey under its Alaska Mineral Resource Assessment Program (AMRAP), (Johnson 1978). These studies show the following potential resources for the Kanektok River area:

The Kanektok drainage is crossed by three northeast-trending mineral terrain belts from around the headwaters area downstream to just west of Island Butte. The most significant potential in these belts is for placer deposits containing gold and platinum group metals, and for minor deposits or byproduct occurrences of chromite and mercury.

Mining of placer gold has continued from the late 1800s to recent years on the claims along Sam Creek. Lode claims for mercury are also northeast of Kagati Lake on Arsenic Creek, some of which have had assessment work filed in the early 1980s but are not currently being mined. There have been no other mineral claims in the Kanektok drainage since establishment of the Togiak National Wildlife Refuge in 1980, which closed the area to new mineral entry.

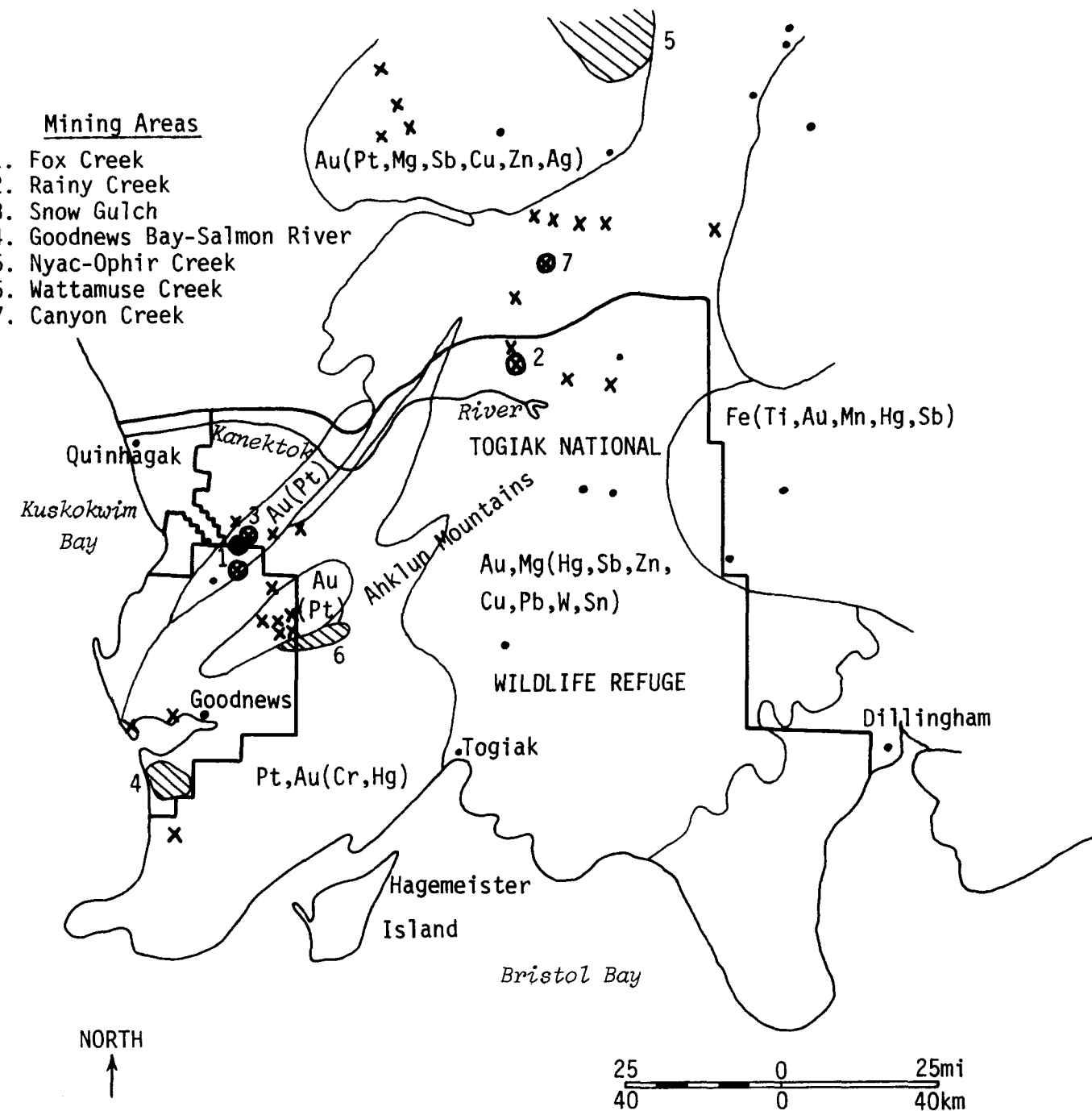
The potential for petroleum development is not known. There are no known coal deposits nor has any geothermal potential been identified in the Kanektok River drainage.

Subsistence Uses. Subsistence activities are described under cultural resources.

Recreational Uses. The Kanektok River area is currently used for fishing, hunting, trapping, gathering (berries, greens, and firewood), camping, picnicking, photography, boating, and guiding. Present recreational use (1982) is estimated at about 750 people per year. These uses consisted primarily of sport fishing (80 percent). The remaining use was hunting, floating (rafts, canoes, kayaks), hiking, and photography. This estimate can be broken down as follows: 290 use guiding resources and usually float the entire river; another 320 fly to

Mining Areas

1. Fox Creek
2. Rainy Creek
3. Snow Gulch
4. Goodnews Bay-Salmon River
5. Nyac-Ophir Creek
6. Wattamuse Creek
7. Canyon Creek



Area of many closely spaced mining claims

- Mineral deposit and/or occurrence
- x Mining claim or group of claims
- ⊗ Mining claim or group of claims with resource production

Kanektok River area showing mining claims, mineral occurrences and areas geologically favorable for the occurrence of mineral deposits.

MINERALS

KANEKTOK RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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Quinhagak from such areas as Bethel, Dillingham, and Anchorage, to fish for a day or two, about 100 more visit Kagati Lake to fish and camp at the lake for a day or two and another 40, mostly guided hunters, use the Kanektok drainage. Estimated use for 1981 was about the same as 1982.

The entire river can be floated by raft, canoe, or kayak. However, the numerous braided sections, sweepers, root wads, sometimes fast-current, and narrow, passable channels (sometimes less than 10 feet wide) can combine to upset the unskilled or unwary.

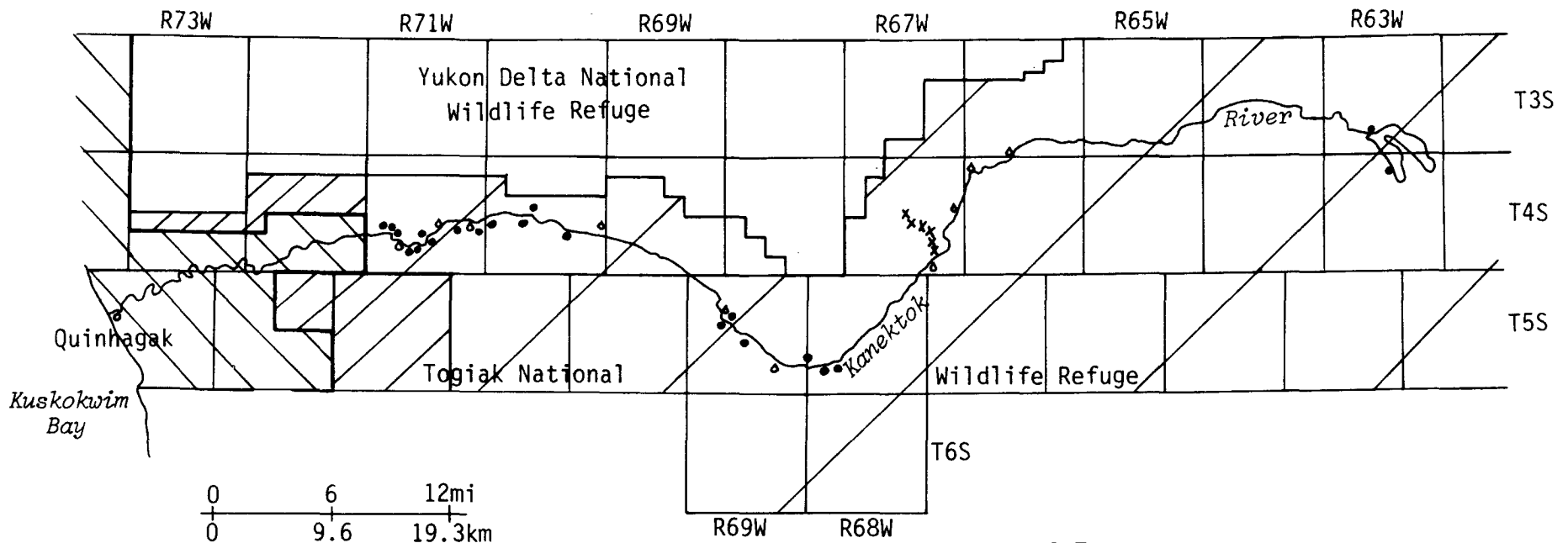
Day hiking and backpacking opportunities are good around Kagati Lake and in the upper half of the river area. Side valleys, tributary drainages, nearby ridges, and the Ahklun Mountains often provide tundra and rock surfaces that are easily tread. Steeper areas, often requiring some scrambling, offer opportunities for the more vigorous, experienced hikers. It is also possible to travel from the Kanektok drainage into one of several adjoining drainages, such as the Eek, Togiak, or Kwethluk. Excellent views of surrounding ridges, mountains, lakes, and streams are part of the hiker's reward.

Recreation use is estimated to increase slightly in the future, based on an increasing state and national population interested in and engaging in recreation, increasing amount of time available to recreate, an increase in use by all types of guides, and increasing publicity by the guides and others about the refuge.

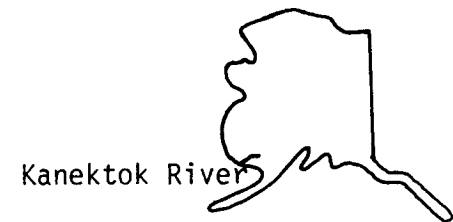
Landownership Along the River

The upper 73 miles of the river are within the Togiak National Wildlife Refuge Wilderness managed by the U.S. Fish and Wildlife Service. Within this area there are 39 native allotments, 6 cemetery/historical sites, and 13 mining claims. The surface land estate around the lowermost 20 miles of river belongs to Qanirtuuq, Inc. (Quinhagak Village Corporation). In this same area, the subsurface land and minerals belong to Calista Corporation (a regional native corporation) pursuant to the Alaska Native Claims Settlement Act (see the Landownership map).

Interim conveyance documents that transfer the surface and subsurface estates indicate that the bed of the Kanektok River is excluded from the transaction. The Bureau of Land Management has administratively determined this portion of the Kanektok River as navigable and, therefore, will be owned by the state of Alaska. Should upstream portions of the Kanektok be determined navigable, additional land area could be transferred to state ownership.



-  Qanirtuuq, Incorporated (surface)
Calista Corporation (subsurface)
-  Togiak National Wildlife Refuge
-  Togiak National Wildlife Refuge Wilderness
-  Yukon Delta National Wildlife Refuge
-  Cemetery/Historical Site
-  Mining Claim (one or more claims)
-  Native Allotment (one or more selections)



LANDOWNERSHIP

KANEKTOK RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-KAN | 20003
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**APPENDIX: GUIDELINES FOR ELIGIBILITY, CLASSIFICATION AND
MANAGEMENT OF RIVER AREAS**

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 management 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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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 it 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 unsuitability 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 unsuitability 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 and water which would 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 required 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 from 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 possesses 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 area 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 inaccessible 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 of 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 Body. Locations (b) River eligibility and classification eval. (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 Preliminary 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 *

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 inaccessible 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 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.	

* 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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