draft environmental impact statement

wild and scenic river study

june 1984

SQUIRREL RIVER

ALASKA

DRAFT ENVIRONMENTAL IMPACT STATEMENT
for the
WILD AND SCENIC RIVER STUDY

SQUIRREL RIVER
Alaska

Lead Agency: U.S. Department of the Interior, National Park Service

Type of Action: ( ) Administrative (X) Legislative

Abstract: The Squirrel River, a tributary of the Kobuk River in northwest Alaska, has been studied with respect to possible inclusion in the national wild and scenic rivers system. This report describes and evaluates five alternatives, including the proposed action. The proposed action calls for designation of the federally administered portion of the Squirrel River, plus the lower 6 miles of the North Fork and 15 miles of the Omar River.

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SUMMARY

PURPOSE AND NEED

A study of the Squirrel River for possible inclusion by Congress in the national wild and scenic rivers system was authorized by the Alaska National Interest Lands Conservation Act of December 2, 1980 (ANILCA, PL 96-487). The purpose of the proposed action is to preserve the free-flowing condition of the river and to protect the outstandingly remarkable scenic, recreation, and fishery values associated with a portion of the river, its tributaries, and immediately adjacent public lands. The need is based upon possible future land use decisions by the Bureau of Land Management that may affect the use and condition of resources on federal lands in the Squirrel River valley.

ELIGIBILITY FOR WILD AND SCENIC RIVER DESIGNATION

The Squirrel River is a clear water, free-flowing stream that originates in the Baird Mountains of northwest Alaska. It flows about 95 miles through a broad mountain-flanked valley forested with spruce and hardwoods before entering the Kobuk River just upstream of Kiana. There are several major clear water tributaries from the north.

After evaluation of the river in accordance with the criteria defined in the Wild and Scenic Rivers Act, it has been found that the entire Squirrel River from its headwaters to its confluence with the Kobuk River and its four major tributaries--the Omar River, the North Fork, the West Fork (an informal name for identification purposes only), and an unnamed tributary upstream and parallel to the North Fork--are eligible for inclusion in the national wild and scenic rivers system as a wild river. The outstandingly remarkable values of the river include the recreation, fishery, and scenic values.

The upper portion of the river crosses federal lands administered by the Bureau of Land Management. The lower third of the river crosses lands selected by the NANA Regional Corporation.

SCOPING ISSUES

The issue most often mentioned during the scoping sessions for this study was the possible effect that designation of the river would have on future mineral development and related transportation development. Conversely, the issue of protecting the river and adjacent lands so that the present uses and values would be maintained was also mentioned. Other major issues include the availability of federal land for meeting private needs, effects on fish and wildlife habitats and populations, access across federal lands to private property, continuation of subsistence uses and activities in the river corridor, effects on the pristine or undeveloped quality of the river area, and effects of designation on private landownership. These and other issues are discussed, and the effects of the alternatives are compared in this document.

ALTERNATIVES CONSIDERED

Alternative A: No Action

Under this alternative no portion of the Squirrel River or its tributaries would be proposed for addition to the national wild and scenic rivers system.

Alternative B: Designation of the Federally Administered Portion of Squirrel River

The main stem of the river, from its headwaters to the point where it crosses into the block of lands selected by NANA Regional Corporation and including the West Fork (approximately 76 miles), would be designated as a wild river. Under this alternative, as well as under the other alternatives, management of the federal lands would remain with the Bureau of Land Management. Existing uses would continue under a management plan to maintain the designated river corridor much as it is today. New activities or developments on federal land, particularly those that threatened the free-flowing character of the river or any of its outstandingly remarkable values, would be discouraged or in some cases prohibited.

Alternative C: Designation of the Middle Portion of the Squirrel River

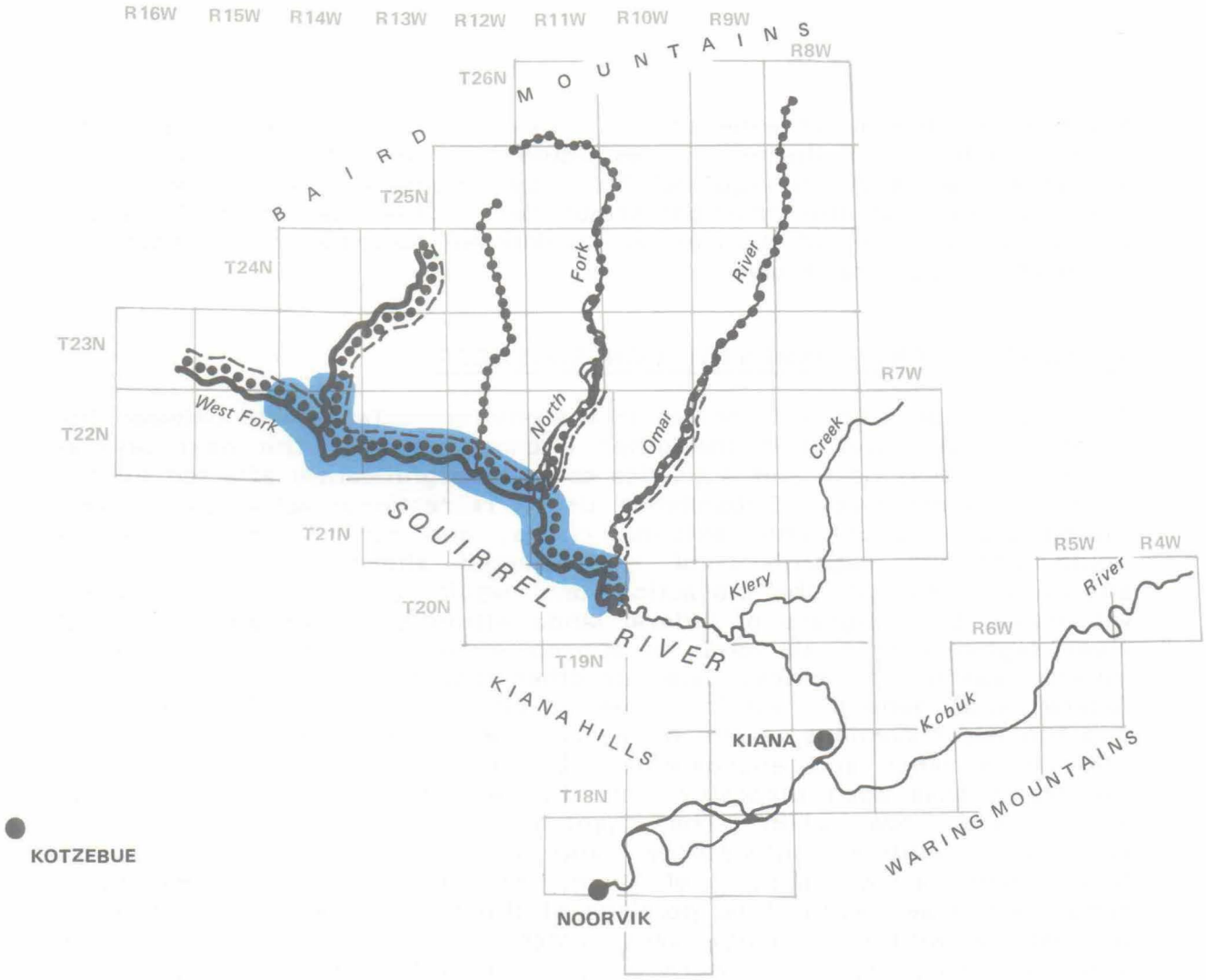
A 51-mile section of the main stem and part of the West Fork, including the boatable portion and the principal fishery habitat, would be designated as a wild river. This alternative would differ from B in that about 15 miles of the upper river would not be included, nor would the suspected mineralized areas near the headwaters.

Alternative D: Designation of the Federally Administered Portion of Squirrel River and the Lower Few Miles of the North Fork and Omar River (Proposed Action)

Alternative D would be the same as alternative B except it would include the lower 6 miles of the North Fork and the lower 15 miles of the Omar River for a total of 97 miles. Under this alternative, the designated river area would include the known important fishery habitat of the main stem and tributaries, the boatable portion of the main stem and tributaries, and a representative cross section of the scenery. Thus, it would protect the critical values that led to a finding of eligibility for the Squirrel River. This alternative would conflict with possible future mineral development in the headwaters of the Squirrel River but not in the headwaters of its tributaries.

Alternative E: Designation of the Federally Administered Portion of Squirrel River and Three Principal Tributaries

This alternative would be similar to alternative D except it would include an additional 17 miles of the Omar River, an additional 26 miles of the

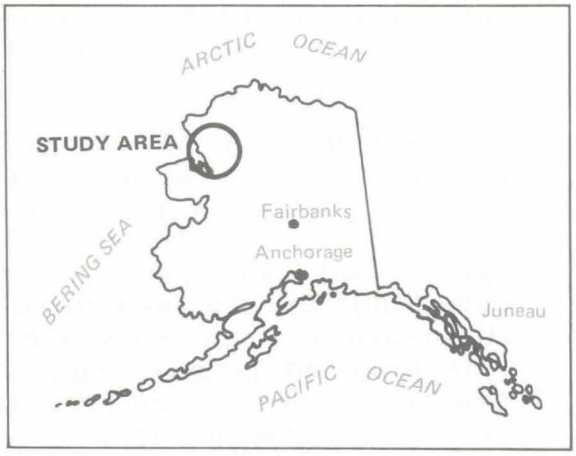


ALTERNATIVE B

ALTERNATIVE C

ALTERNATIVE D

ALTERNATIVE E



NORTH

0 6 12 MILES

0 15 30 KILOMETERS

ALTERNATIVES

SQUIRREL RIVER

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North Fork, and all 24 miles of the unnamed tributary, for a total of 164 miles. Inclusion of the tributaries would help protect the water quality and other values of the Squirrel River by limiting future development in the headwaters of the principal tributaries. This alternative, however, would preclude much of the mineral development potential in the mountains north of the Squirrel River.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

There could be major differences in the environmental effects between the no-action alternative and the other alternatives over the next several years. Existing uses and activities could be significantly affected by the no-action alternative. Subsistence uses, recreational activities, travel, mining activities on valid existing claims, and other current activities would continue regardless of the selected alternative. All of the alternatives except the no-action one would provide for permanent withdrawal by Congress of federal lands within ½ mile of the designated river segments from all forms of appropriation, including mining claims, mineral leasing and entry, sale, or other disposition. However, all the federal lands generally within 2 miles of either side of the Squirrel River and the lower portions of the North Fork and Omar River (totaling about 116 stream miles and approximately 297,000 acres) have already been withdrawn from such disposition by the secretary of the interior under Public Land Order 5179. The intent of the withdrawal is to protect recreation, wildlife, subsistence, and anadromous fishery values on federal lands along the Squirrel River. Furthermore, these lands are to remain withdrawn even if no portions of the Squirrel River are added to the national wild and scenic rivers system. However, if a valid need is someday demonstrated, the secretary could allow future sales or leases for occupancy, mining claims, mineral leasing or other new uses on lands adjacent to the river that were not included in the national system. Therefore, the principal difference between nondesignation and designation is potentially temporary withdrawal of land by authority of the secretary of the interior as opposed to permanent withdrawal by Congress.

In the analysis of environmental consequences of the alternatives, it is assumed that the existing secretarial withdrawal would eventually be partially revoked to permit new activities on federal lands adjacent to the river, particularly for the location of metalliferous minerals under the 1872 Mining Law. Except for alternative A, alternative C then would potentially have the least negative impact on future mineral activities, and alternative E would have the greatest potential impact. Alternative D (the proposed action) would fall somewhere in-between with respect to amount of federal lands involved and the overall impact on future mineral development and related activities.

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MAPS

TABLES

PURPOSE OF THE STUDY

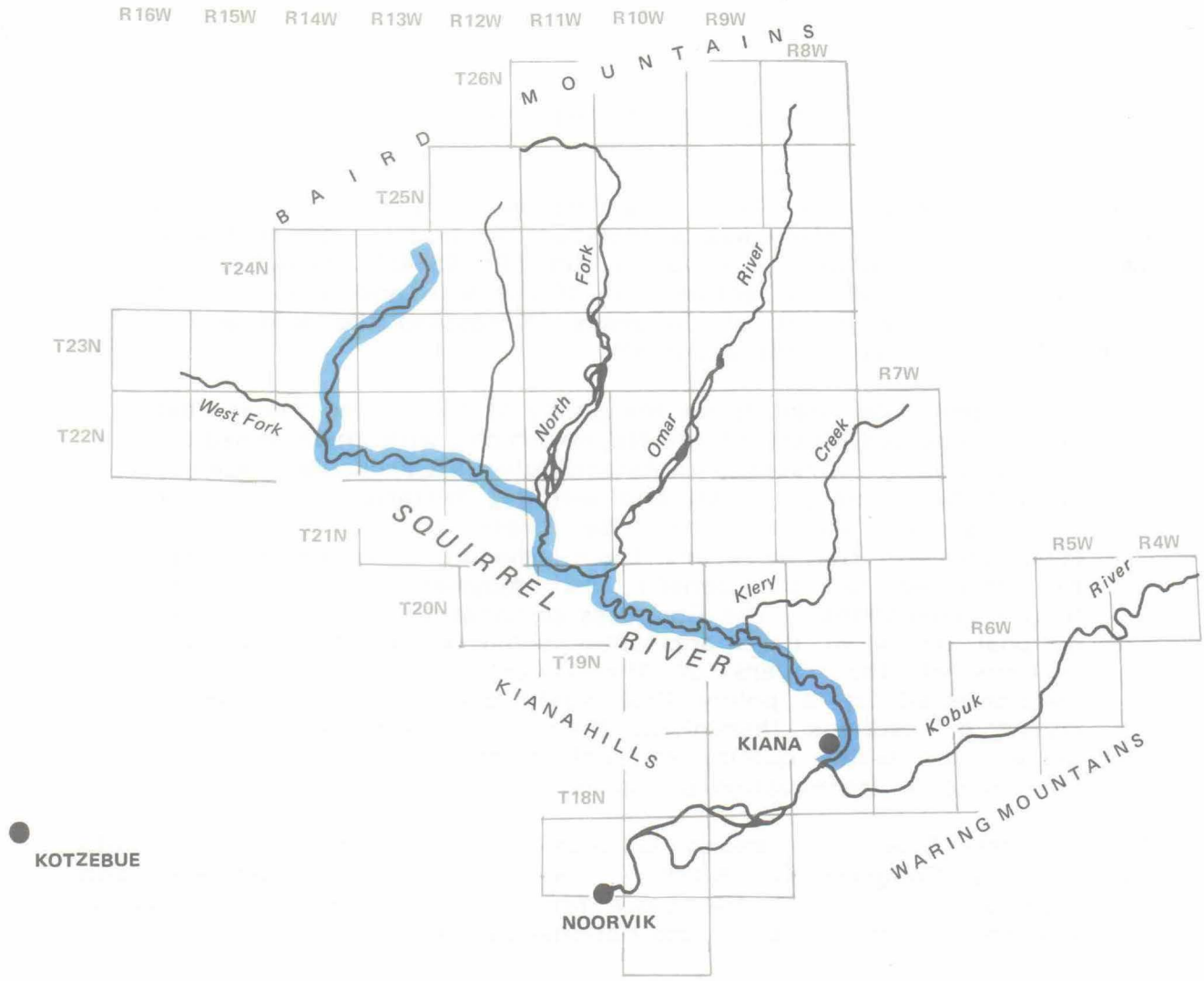
The study of the Squirrel River as a possible addition to the national wild and scenic rivers system was authorized by section 601 of the Alaska National Interest Lands Conservation Act (PL 96-487, hereafter cited as ANILCA), which amended section 5(a) of the Wild and Scenic Rivers Act (PL 90-542). The intent of Congress in passing the Wild and Scenic Rivers Act is defined in the act itself:

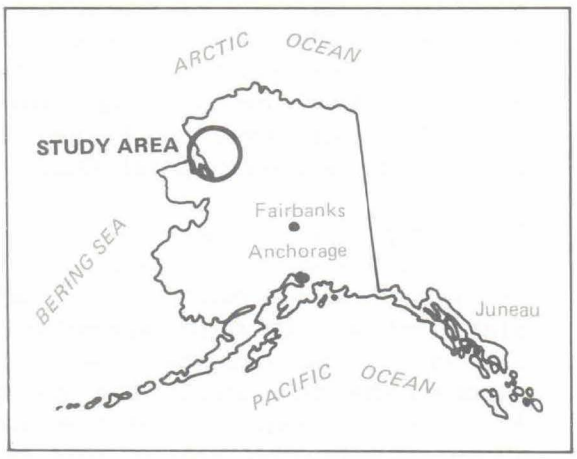
> It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing 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 dams 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.

The Squirrel River was among 12 Alaskan rivers and river segments identified by Congress for study. The study is to be completed and submitted to Congress as the basis for a congressional decision about including the Squirrel River in the national system.

The purpose of this study is (1) to determine if the river is eligible for inclusion in the national wild and scenic rivers system; (2) if eligible, to determine the appropriate classification for the river, based upon its current condition, as either wild, scenic, or recreational; (3) if found eligible, to determine if the river is suitable for inclusion; and (4) to identify a proposal and the reasonable alternatives for designation and management. The proposal and alternatives are presented in compliance with the requirements of the National Environmental Policy Act and the Council on Environmental Quality for an environmental impact statement.

Following the review of this study, the comments received will be analyzed, and the study and environmental impact statement will be revised, as appropriate. The final study and environmental impact statement will then be submitted to the president by the secretary of the interior. The president will transmit the report to Congress with his recommendations about the designation of any portions of the Squirrel River as a component of the national wild and scenic rivers system. If Congress includes any of this river in the national system, the Bureau of Land Management (the presumed managing agency) will prepare a management plan for the affected river area.





CONGRESSIONALLY AUTHORIZED STUDY AREA

NORTH

0 6 12 MILES

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STUDY AREA

SQUIRREL RIVER

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CHARACTERISTICS THAT MAKE THE AREA A WORTHY ADDITION TO THE NATIONAL WILD AND SCENIC RIVERS SYSTEM

ELIGIBILITY

To be eligible for inclusion in the national wild and scenic rivers system, a river segment must meet two criteria, as 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 value--scenic, recreation, geologic, fish and wildlife, historic, cultural, or other similar value. The act further provides three potential classifications for eligible river segments--wild, scenic, or recreational--depending upon the condition of the river and adjacent land area at the time of designation. For the purposes of classification, a river may be divided into segments.

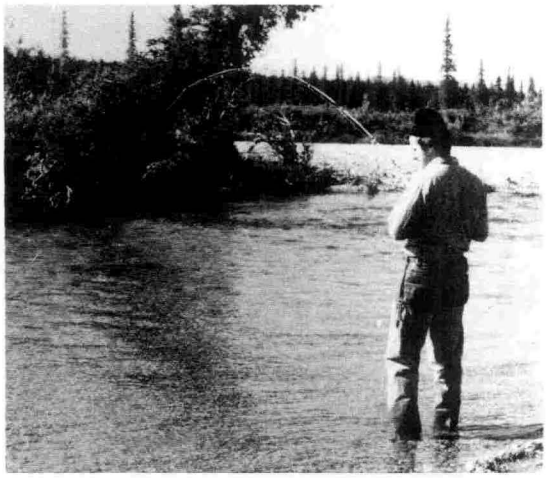
With regard to the first criterion, the study team found that the entire main stem of the Squirrel River and its four major tributaries--the Omar River, the North Fork, the West Fork, and the unnamed tributary upstream and parallel to the North Fork--are free-flowing, clear water streams that pass through a natural environment with very little evidence of past or present uses by man. (The tributaries were added to the study area because they have significant fishery, recreation, and scenic values.) With regard to the second criterion, the study team identified the recreation, fishery, and scenic qualities as being outstandingly remarkable values in the Squirrel River basin.

Recreation values--Compared to most remote Alaska rivers, the Squirrel River and its tributaries are relatively quickly and easily accessible by light aircraft from Kotzebue, which is served by regularly scheduled commercial airlines. Once in the area, visitors can enjoy a wide range of recreational activities, some of particularly high quality. All but the upper few miles of the river provide for relatively safe, easy float-boating, without any potentially dangerous rapids, sweepers, or other hazards. Sportfishing, particularly for grayling, is excellent by standards for northern Alaska rivers. Other opportunities are typical of those at many other river areas in northwestern Alaska. There is good terrain for hiking in the headwaters. Sport-hunting opportunities exist along the river and in the headwaters. Good overnight campsites are plentiful along all of the river except for the lower 6 or 7 miles.

Fishery values--The Squirrel River and its tributaries provide important spawning habitat for anadromous fish, particularly chum salmon. It is a significant contributor to the regionally important Kobuk River chum salmon run. The river also provides habitat for other fish species important particularly for subsistence or recreational use. These include whitefish, pink salmon, arctic char, northern pike, and grayling.

Scenic values--The Squirrel River and its tributaries offer an excellent example of northwestern Alaska geography and associated scenery, which includes high mountain terrain, forested valleys, and

The Squirrel River is a significant contributor of chum salmon caught in the Kobuk River by Kiana residents.



Sportfishing for grayling is excellent.

Good campsites are plentiful along most of the river.

The river provides for relatively safe, easy float-boating.

The Squirrel River offers excellent examples of northwestern Alaska geology and associated scenery, including high mountain terrain, forested valleys, and expansive arctic tundra.

expansive arctic tundra. The high scenic value of the river area stems from the surprising variety of scenery considering the river's relatively short length.

The other values (wildlife, geologic, historic, and cultural) that must be evaluated to determine a river area's eligibility were determined not to be outstandingly remarkable. The area provides typical riverine habitat for moose, bear, and other wildlife. The river has long served as a travel corridor, so archeological sites are probably present. However, such sites are typically found on many other rivers in the area. Because the main channel of the Squirrel River has moved over time, such sites are more likely to be located on terraces and hills several miles from the present river. Nothing unusual or special was noted about the geology of the river area.

CLASSIFICATION

The following criteria from section 2(b) of the Wild and Scenic Rivers Act were considered in determining an appropriate classification for the Squirrel River:

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

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

Recreational river areas--Those rivers or sections of rivers that are readily accessible by road or railroad, that may have undergone some development along their shorelines, and that may have undergone some impoundment or diversions in the past.

The appropriate classification for the Squirrel River, on the basis of its present natural condition, is as a wild river.

SUITABILITY

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

Approximately the lower 35 miles of the river cross lands selected by the NANA Regional Corporation under the Alaska Native Claims Settlement Act (ANCSA). The native corporation has indicated that it does not want its

lands included within a possible wild river area. Because sections 103(c) and 606(a) of ANILCA and subsequent regulations exclude private land from conservation system units unless the owner requests such action, this lower segment of the river is not suitable for inclusion in the national system.

Approximately the upper 76 miles of the Squirrel River and West Fork cross lands administered by the Bureau of Land Management. Except for a few small parcels, these lands will remain in federal ownership. Designation of this river segment would protect the outstandingly remarkable recreation, fish, and scenic values of the Squirrel River. Designation, however, could conflict with possible future mineral development in the Baird Mountains within the headwaters of the Squirrel River, but it would not seriously interfere with possible future claims and development in the vast majority of the suspected mineral-rich areas.

Inclusion of the Squirrel River in the national system would not duplicate the designation of any other river in Alaska that is already in or is being studied for possible inclusion in the national wild and scenic rivers system. It is a small, extremely clear water system offering users the opportunity to experience a somewhat unusual and intimate river experience. The river is safe even for beginning boaters. The river's proximity to Kotzebue and Kiana, its relative ease of access, and its overall shortness allow visitors to make the river trip in a few days at a relatively low cost compared to trips on many remote rivers in Alaska.

The upper 76 miles of the Squirrel River study area (including the West Fork), the lower 6 miles of the North Fork, and the lower 15 miles of the Omar River are considered suitable for inclusion in the national wild and scenic rivers system.

PROPOSAL AND ALTERNATIVES CONSIDERED

ALTERNATIVE A: NO ACTION

No portion of the Squirrel River would be included in the national wild and scenic rivers system, and no other special provisions would be taken at this time to protect the river corridor. The federal lands would continue to be administered by the Bureau of Land Management according to the goals and objectives of that agency's Management Framework Plan, Northwest Planning Area, and the "Seward 1008 Study, Decision Record" (BLM 1983 a and b). As specified in the latter report, the following decisions have been made affecting BLM lands in the Squirrel River area:

> Except for the Squirrel River study area,* all lands will be made available for mineral leasing under the Mineral Leasing Act, as amended.
>
> Except for the Squirrel River study area, all lands will be made available to full operation of the 1872 Mining Law, as amended.
>
> No lands will be made available for occupancy sales or leases under the provisions of the Federal Land Policy and Management Act (43 CFR 2710, 2920).

Under this alternative, the condition and use of federally administered lands along the river corridor would probably not change over the next several years. As recommended in the "Seward 1008 Study, Decision Record", the Bureau of Land Management would maintain the federal lands along the main stem of the Squirrel River and along the lower portions of the Omar River and North Fork in a withdrawal status, under the provisions of PLO 5179. These lands would not be available for mineral leasing, for operation of the 1872 Mining Law, or for occupancy sales or leases under provisions of the Federal Land Policy and Management Act. Other federal lands in the valley, including lands along the upper segments of the Omar River and the North Fork and along other tributaries, are available for mineral leasing, and they are subject to full operation of the 1872 Mining Law under PLO 6477, which partially revoked the withdrawal under PLO 5179. Although oil and gas leasing within the valley is possible, it is not a high potential area (Selkregg 1976a). Therefore, no oil and gas development is expected. Depending upon the eventual location and magnitude of future mineral discoveries in the area, a road could be constructed through the valley.

If in the future a significant need to modify the existing withdrawal order is demonstrated, all or portions of the federal lands along the river could be opened to mineral leasing and operation under the 1872 Mining Law.

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*The Squirrel River study area includes a 2-mile-wide corridor on both sides of the main fork of the Squirrel River, plus the lands along the lower segments of the Omar and North Fork tributaries.

(Under provisions of the Wild and Scenic Rivers Act, the withdrawals within 2 miles of each side of the main stem and selected tributaries must remain in effect for up to three years following submission of the wild river study report to Congress).

NANA Regional Corporation will probably keep most of its lands along the lower river in primarily a natural condition so as to maintain subsistence opportunities. Exceptions may include development of expanded and improved access to mineralized areas and expansion of one or more barge-landing areas, also in support of mineral development.

ALTERNATIVE B: DESIGNATION OF THE FEDERALLY ADMINISTERED PORTION OF THE SQUIRREL RIVER

Under alternative B, the river and adjacent federal lands from the headwaters, including the West Fork, to the beginning of native village/regional corporation land selections (west boundary at T20N, R10W) would be included in the national system. The designated area would include approximately 76 miles of river and up to 48,640 acres of federal land (76 miles x 640 acres/mile). The river area would be classified as wild, and the Bureau of Land Management would have responsibility for its administration.

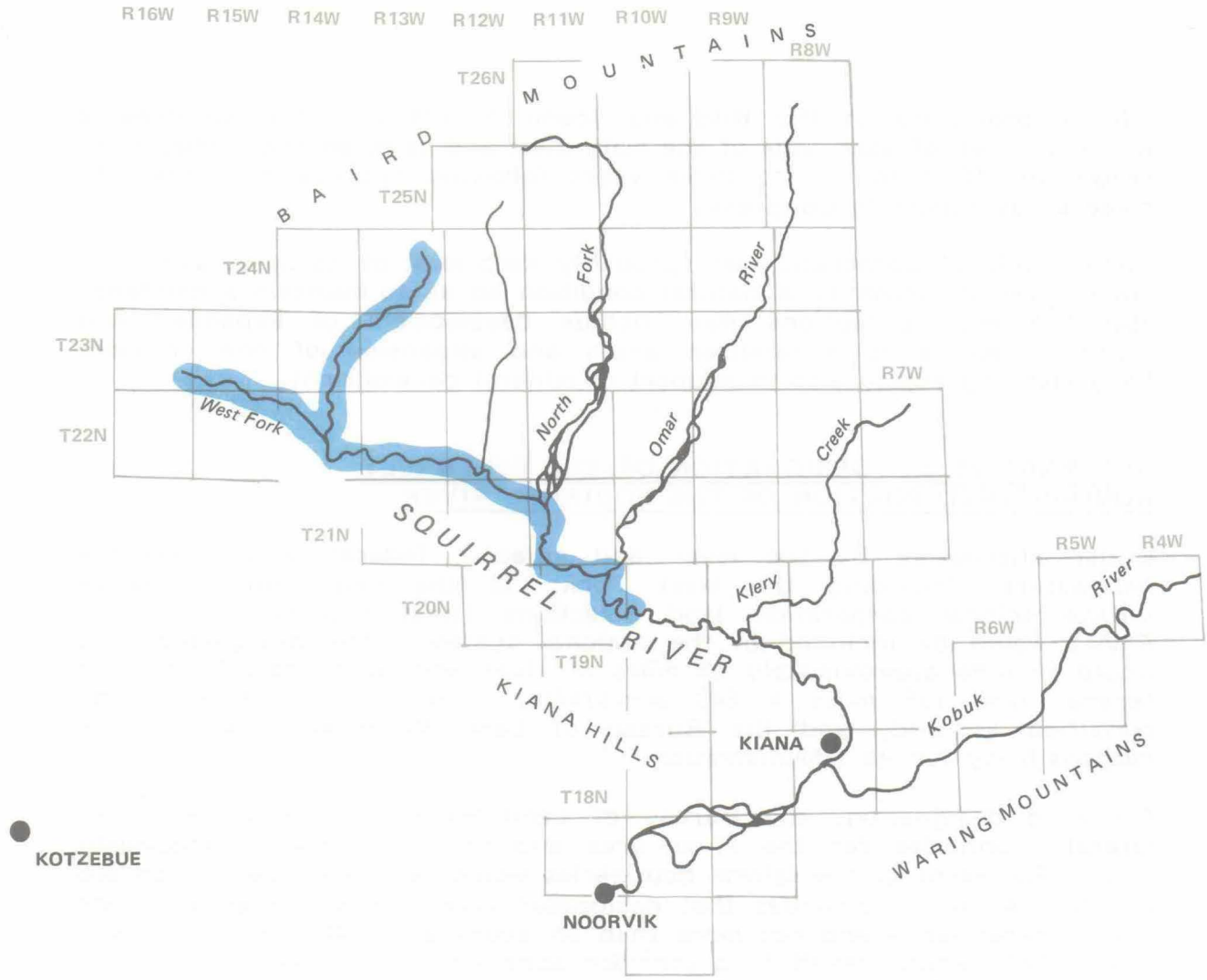
Following designation, the Bureau of Land Management would establish lateral boundaries for the river area and prepare a river management plan. Placement of the lateral boundaries would be guided by section 606 of ANILCA, which provides that designated river areas in Alaska include only federal lands and not more than an average of 640 acres per river mile. This would result in a corridor approximately 1 mile wide (½ mile on each side of the river). Furthermore, the lateral boundaries would be placed to include as many as possible federal land areas that contain outstandingly remarkable resource values or that help protect such values. For example, within the limits prescribed by section 606 of ANILCA, the boundaries might be drawn to include adjacent land features visible from the river, archeologic sites, approximately the lower ½ mile of tributary streams, and wildlife habitat.

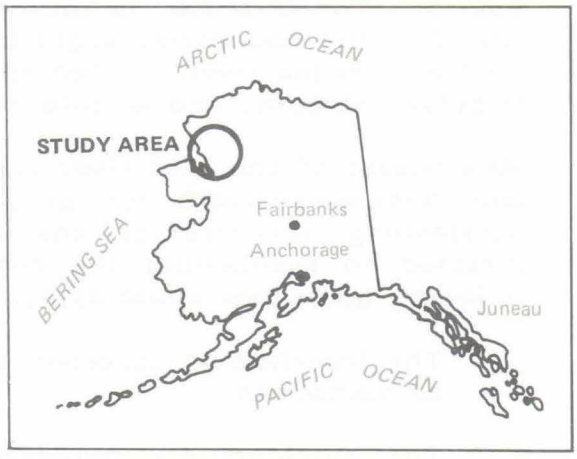
Management of the wild river area would focus on preserving, enhancing, and making available for present and future use and enjoyment the outstanding qualities of the river corridor. Management would be directed to maintaining the river area much as it is today, and the following guidelines would apply:

The free-flowing condition and high water quality of the river would be maintained.

The outstandingly remarkable values of the natural and cultural environment would be protected.

Existing uses in the river corridor, including but not limited to subsistence, trapping, river travel, fish and wildlife habitat protection and enhancement, and recreation would be continued.





ALTERNATIVE B

SQUIRREL RIVER

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NORTH

0 6 12 MILES

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Use of the area would be controlled and managed as necessary to protect resource values.

The current BLM Management Framework Plan for northwest Alaska lands excludes the Squirrel River study corridor from oil and gas exploration and leasing proposed for many of the other BLM lands. Under this alternative, a portion of these lands (those within ½ mile of the river) would remain closed by Congress to mineral leasing. The lands included in the wild river area would also remain closed to future land sales, disposals, or settlements.

Under this alternative, little mineral development is anticipated near the headwaters of the main stem of the Squirrel River. Significant mineral development might eventually occur to the north of the Squirrel River near the headwaters of its tributaries. Depending upon the location and nature of such development, a road could be built into the mineralized area. If built, the road could probably be kept out of the designated river area, but it might be located along the nondesignated lower segment of the river.

In the river management plan, site-specific resources requiring special management efforts would be identified, and management practices would be devised for their protection. The plan would address issues such as access to and from the river area, permits for cabins and other special uses, maintenance or enhancement of habitat, facility development, fisheries management, fire management, and visitor impacts. A program for the survey and protection of historic and cultural resources would be developed in consultation with the Advisory Council on Historic Preservation.

The state's jurisdiction and responsibilities with respect to fish and wildlife, water quality, and similar concerns would be unaffected.

It is anticipated that the NANA Regional Corporation would keep most of its lands along the lower river in primarily a natural condition in order to maintain subsistence opportunities. Exceptions could include the development of expanded and improved access to mineralized areas and the expansion of one or more barge-landing areas.

The Bureau of Land Management would work closely with the state in the regulation of mineral development to prevent, eliminate, or diminish potential problems with water quality and quantity. The objective would be to keep water quality levels consistent with the federal Clean Water Act and state water quality standards.

The Bureau of Land Management would be encouraged to seek cooperative agreements as necessary with the NANA Regional Corporation and the state to provide for public use along the entire river, to protect river values and landowner interests, and to address other mutual concerns.

No land acquisition would be required under this alternative.

This alternative would be relatively inexpensive to implement. No facility development would be required. However, improvement of access for

small aircraft in the upper reaches of the Squirrel River could be considered as part of future planning. Additional federal costs would accrue only from planning and management of the river area. These costs would be estimated during preparation of the river management plan. Based upon plans for other BLM-administered wild rivers in the state, administration would likely involve less than two work months and $5,000 each year during the first several years.

ALTERNATIVE C: DESIGNATION OF THE MIDDLE PORTION OF THE SQUIRREL RIVER

Alternative C would be the same as B except the headwaters and upper several miles of the river would be excluded. The river area that would be designated as wild would include all federal lands from the north and west boundary of T22N, R14W, downstream to the west boundary of T20N, R10W. About 51 miles of the river and not more than 32,640 acres of federal land would be contained in the designated area. The upper 15 river miles that would be excluded under this alternative contain some of the more spectacular scenic views, but this portion is not easily navigated in small boats. Under this alternative, expanded mineral development could eventually occur in the headwaters area of the Squirrel River, which may have high mineral potential. Road or other corridor development into the headwaters would probably not be allowed within the designated portion of the river. However, similar to alternative B, road or other corridor development would probably not need to occur within the designated river area.

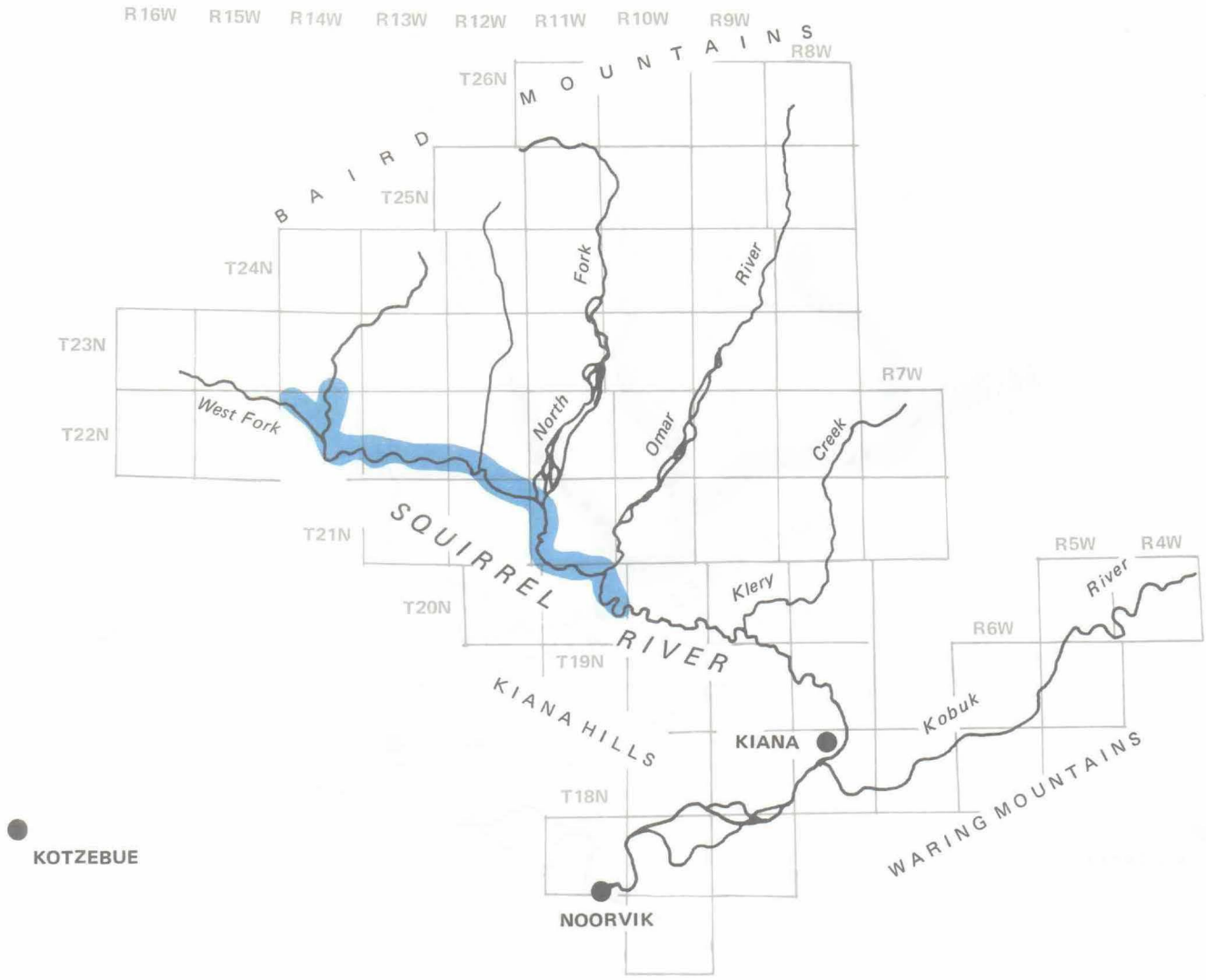
All of the general provisions for management described for alternative B would apply to this alternative.

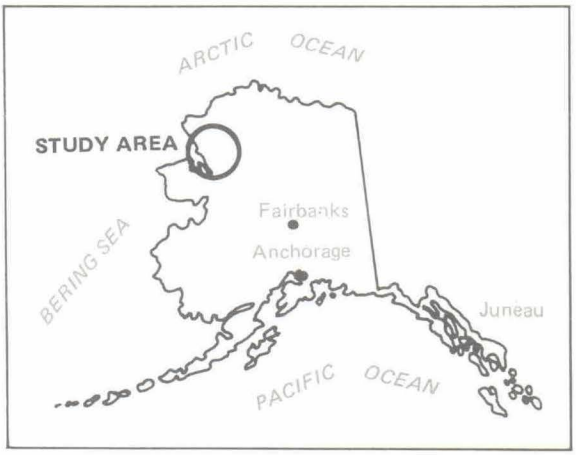
ALTERNATIVE D: DESIGNATION OF THE FEDERALLY ADMINISTERED PORTION OF THE SQUIRREL RIVER AND THE LOWER FEW MILES OF THE NORTH FORK AND OMAR RIVER (PROPOSED ACTION)

The designated area would include the same area described for alternative B plus the lower 6 miles of the North Fork and the lower 15 miles of the Omar River (i.e., the portions below the north boundary of T22N), for a total of about 97 river miles. The designated area would include not more than 62,080 acres total of federal land. This alternative would include within the designated river area important fishery habitat (including spawning areas) and many of the recreation values of these major tributaries. Like alternative B, the river segment would be classified as wild, and the Bureau of Land Management would have responsibility for its administration.

All of the provisions for management, as well as the expectations for future use and development of the corridor, would be the same as those described for alternative B.

There would be no new claims or development of minerals on federal lands along the river in the mineral rich area around the headwaters of the Squirrel River. However, federal lands surrounding the headwaters of the tributaries north of the Squirrel River could be open to future claims and new development.





NORTH

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ALTERNATIVE C

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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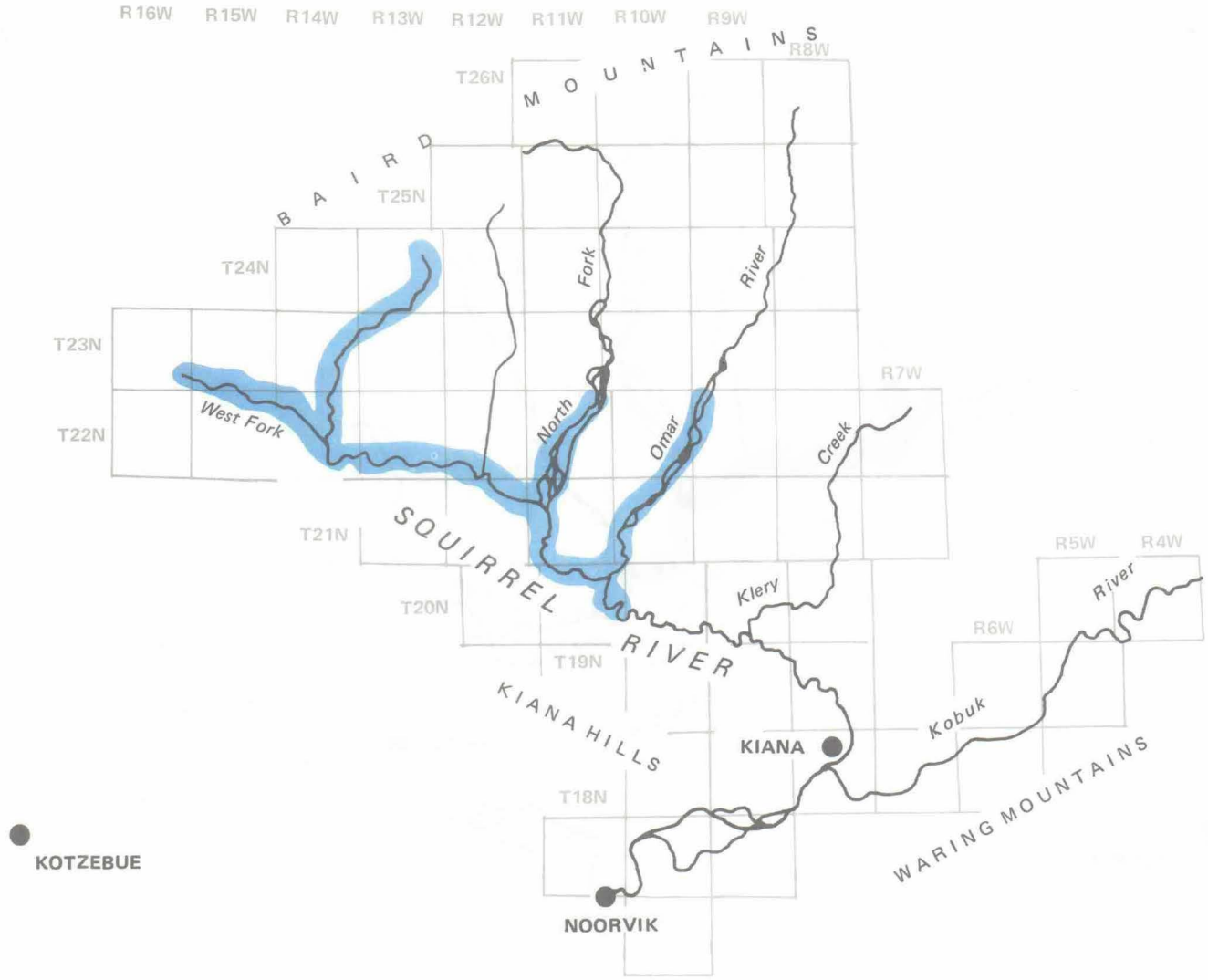
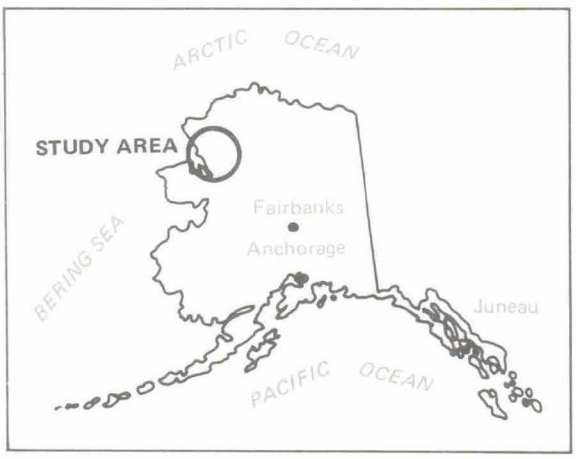




ALTERNATIVE D

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20005A
DSC	MAY 84

NORTH

0 6 12 MILES

0 15 30 KILOMETERS

ALTERNATIVE E: DESIGNATION OF THE FEDERALLY ADMINISTERED PORTION OF THE SQUIRREL RIVER AND THE THREE PRINCIPAL TRIBUTARIES

Under this alternative, the same area as alternative B (76 miles of the main stem and the West Fork), plus all of the Omar River (32 miles), the North Fork (32 miles), and the major unnamed tributary immediately upstream from and parallel to the North Fork (24 miles), for a total of 164 river miles, would be designated as wild. A total of not more than 104,960 acres of federal land would be included in the designated area. The Bureau of Land Management would have responsibility for administration.

All of the provisions for management described in alternative B would apply to this alternative.

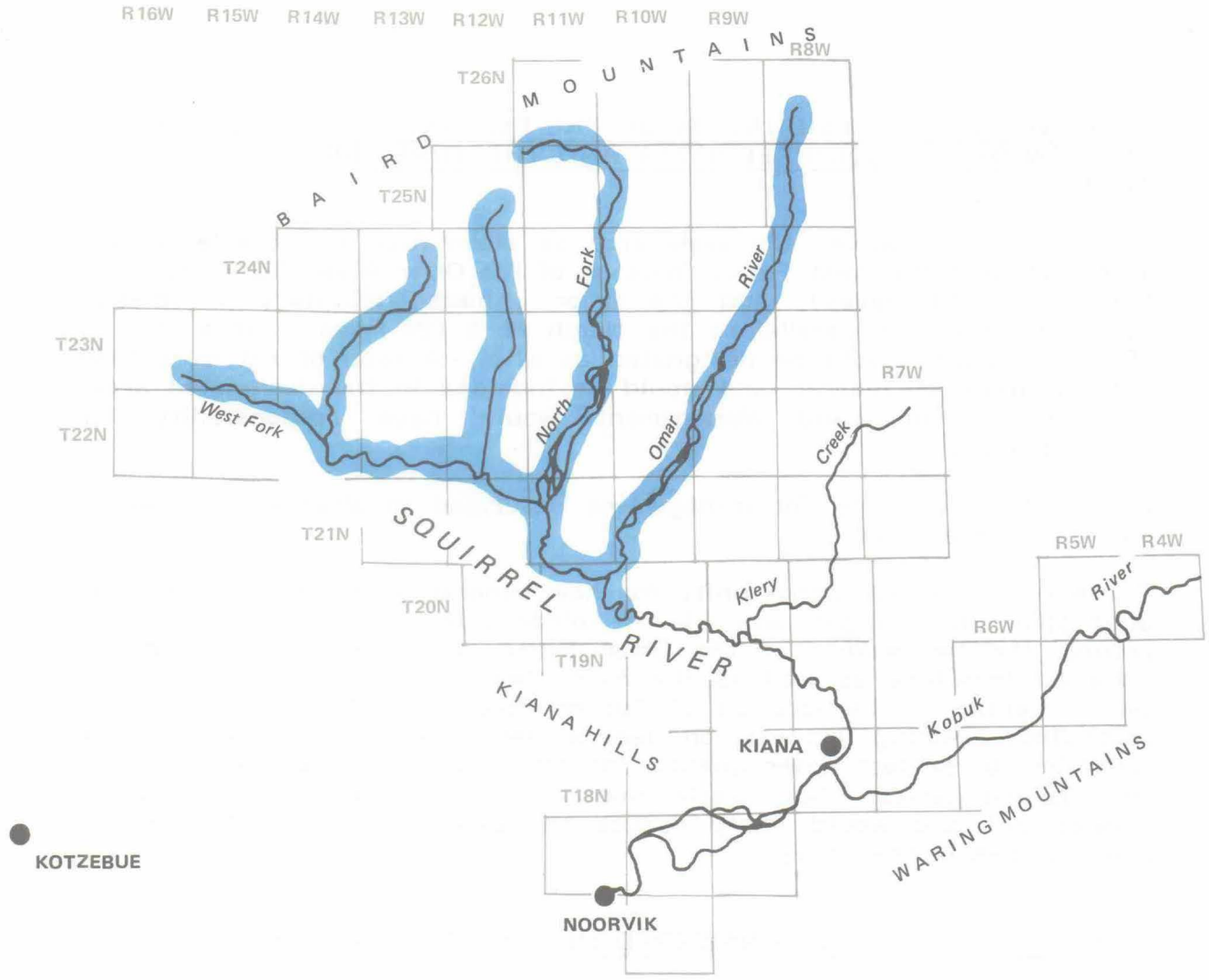
There would be less opportunity for new mineral development under this alternative than under any of the other alternatives. Federal lands around the headwaters of the Omar River, the North Fork, and the unnamed tributary as well as the main stem would remain withdrawn to mineral entry. The location of future roads into the area would be restricted. Mining activity on federal lands would possibly be more controlled to protect water quality and other values of the Squirrel River and its tributaries. Such restrictions would increase costs for mineral development and would likely reduce the extent of future development opportunities in the valley.

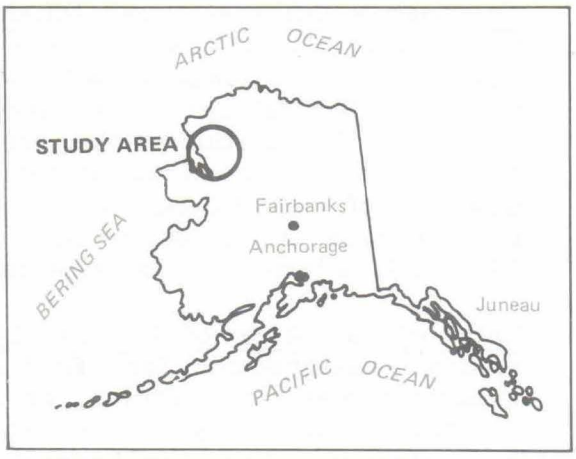
OTHER ALTERNATIVES CONSIDERED IN THE STUDY AND REJECTED

Other alternatives that were considered during the study process and the reasons the study team rejected them are described below.

Establish a Squirrel River National Watershed Preserve: Congress would have to create a new land classification category for preserving entire watersheds, presumably without transferring management responsibility from one federal agency to another. Such a watershed preserve would involve a 1,615-square-mile area, much larger than the current study area. Such an action would require new national legislation. Because the question of classification of a Squirrel River watershed was deliberated on by Congress and rejected during debate preceding passage of ANILCA in 1980, this alternative was rejected.

Establish an Area of Critical Environmental Concern: This would be a special designation for BLM-administered lands that would protect important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes. Authority for such a designation is contained within the Federal Land Policy and Management Act of 1976 (PL 94-579). The designation could be applied to areas subject to development or where no development was planned. The study team rejected this alternative because it involved a land area much larger than the current study area. Also, the potential for such action was more appropriately addressed in the recently completed Management Framework Plan, Northwest Planning Area (BLM 1983a).





ALTERNATIVE E

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NORTH

0 6 12 MILES

0 15 30 KILOMETERS

WSR-SQU	20006A
DSC	MAY 84

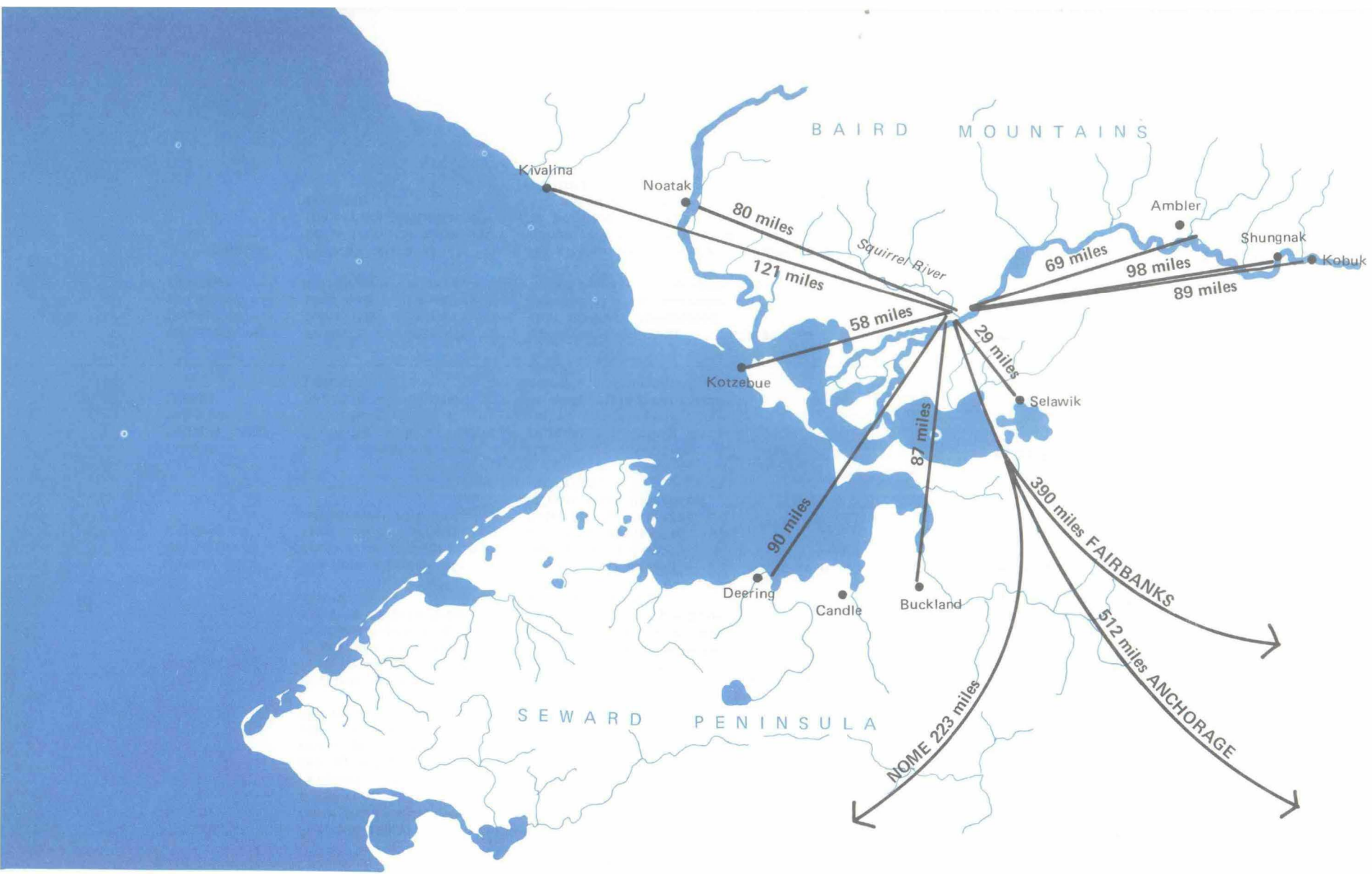
Designate a Wild and Scenic River under National Park Service Administration: No significant public support has been provided for a change in administering agencies. The Bureau of Land Management has full authority to administer wild rivers.

Designate the Entire Squirrel River: In ANILCA, Congress specifically avoided designating sections of rivers crossing nonfederal lands. Thus, the study team thought that a firm precedent had been established. To be viable, this alternative would require the full support of the NANA Regional Corporation because it owns about one-third of the land along the lower river. The corporation has formally indicated that it does not want its land included in any proposal that would make the Squirrel River part of the national wild and scenic rivers system.

Table 1: Comparison of Alternatives

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	No designation	Designation of the federal portion of the Squirrel River--76 mi (48,640 acres)	Designation of the middle Squirrel River--51 mi (32,640 acres)	Designation of federal portion of the Squirrel River--76 mi, plus the Omar River--15 mi, and North Fork--6 mi (62,080 acres)	Designation of federal portion of the Squirrel River--76 mi, plus the Omar River--32 mi, North Fork--32 mi, and the unnamed tributary--24 mi (104,960 acres)
Access to Private Property	Possible improvements to accommodate expanded mineral development.	No change to existing activities. Possible restrictions on new forms of access involving surface disturbance.	Same as B	Same as B	Same as B
Future Development of Transportation or Utility Corridors	Potential for locating possible future corridors on federal lands adjacent to the river.	Potential adverse effects (e.g., increased costs, restrictions on location and design) to corridor proposals involving lands within the designated corridor.	Same as B	Same as B	Inclusion of all three tributaries would increase the likelihood of potential adverse effects to transportation corridor development described in alternative B.
Mineral Development	Up to 194,600 acres of additional federal land could be opened to mineral location by revoking of PLO 5179.	Potential adverse effects. Of the 194,600 acres of land land currently withdrawn, approximately 48,640 acres would remain permanently withdrawn.	Potential adverse effects. Of the 194,600 acres of land land currently withdrawn, approximately 32,640 acres would remain permanently withdrawn.	Potential adverse effects. Of the 194,600 acres of land currently withdrawn, approximately 62,080 acres would remain permanently withdrawn.	Potential adverse effects more severe than alternative B, C, or D. Approximately 104,960 acres would remain permanently withdrawn, including approximately 42,880 acres not now closed by the secretary of the interior. The additional acreage would include a potential mineral rich area in the Baird Mountains.
Oil and Gas Leasing	Same as for mineral development.	Same as for mineral development.	Same as for mineral development.	Same as for mineral development.	Same as for mineral development.
Subsistence Use	Change could occur if current withdrawal status of approximately 194,600 acres of land was revoked.	Potential adverse effects from small increase in visitation. Beneficial effects from greater assurance that natural condition of designated river area would be maintained.	Same as B	Same as B	Same as B

	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Wildlife Habitat	Possible adverse effects from development if current withdrawal revoked.	No change except for greater assurance that river habitat within designated area would not be adversely changed by development	Same as B	Same as B	Same as B
Fisheries Habitat	Possible adverse effects from development if current withdrawal revoked. Increased mining activity in the drainage could have adverse effects on the quality of habitat.	No change except for greater assurance that river habitat within designated area would not be adversely changed by development.	Same as B	By inclusion of the lower segment of the North Fork and Omar River, this alternative would enhance the potential beneficial impacts of A and B.	Same as D
Fish Populations	Possible adverse effects from development if current withdrawal revoked, including adverse effects from mining.	Potential benefits from designation. Some possible adverse effects from probable increases in sportfishing, particularly to grayling.	Same as B	Same as B	Same as B
Quality of Recreational Experience	Possible adverse effects from changes in land use if current withdrawal revoked.	Stronger likelihood that present quality would be maintained. Potential for adverse effects from increased visitation.	Same as B	Same as B	Same as B
Future Federal Land Sales or Leases	Lands along the river could be made available for future needs if existing withdrawal revoked.	No change except for reduced possibility for leases and no possibility of sales of federal land along the designated river.	Same as B	Same as B	Same as B
Undeveloped Quality of the River Corridor	Possible adverse effects from changes in land use if the current withdrawal revoked.	Stronger likelihood that at least designated portion of river corridor would remain unchanged.	Same as B	Same as B	Same as B
Archeological Sites	Possible adverse effects from development if current withdrawal revoked.	No change except very minor risk of disturbance to possible sites from increased number of visitors.	Same as B	Same as B	Same as B



Source: Selkregg 1976

NORTH NO SCALE

LOCATION

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20009
DSC	JUL 83

THE AFFECTED ENVIRONMENT

REGION

Physical Setting

The Squirrel River is located in northwest Alaska. It is completely within the boundaries of the NANA Regional Corporation lands. The region is roughly bordered by the crest of the Brooks Range to the north; the drainage of the Selawik River and a portion of the Seward Peninsula to the south; the headwaters of the Noatak, Kobuk, and Selawik rivers to the east; and the waters of Kotzebue Sound and the Chukchi Sea to the west. The region is composed of two major physiographic provinces that can be broken into a number of subareas (see Physiographic Provinces map).

The characteristics of the region vary from broad flat lowlands to low rounded hills and ridges to the rugged 4,000- to 8,000-foot mountains of the eastern and central Brooks Range. The Squirrel River is almost entirely contained within the Kobuk-Selawik Lowlands, which is characterized by broad river floodplains and delta/lowlands with numerous thaw lakes. The headwaters of the river are contained in the rugged Baird Mountains, which rise 2,500-4,500 feet above sea level.

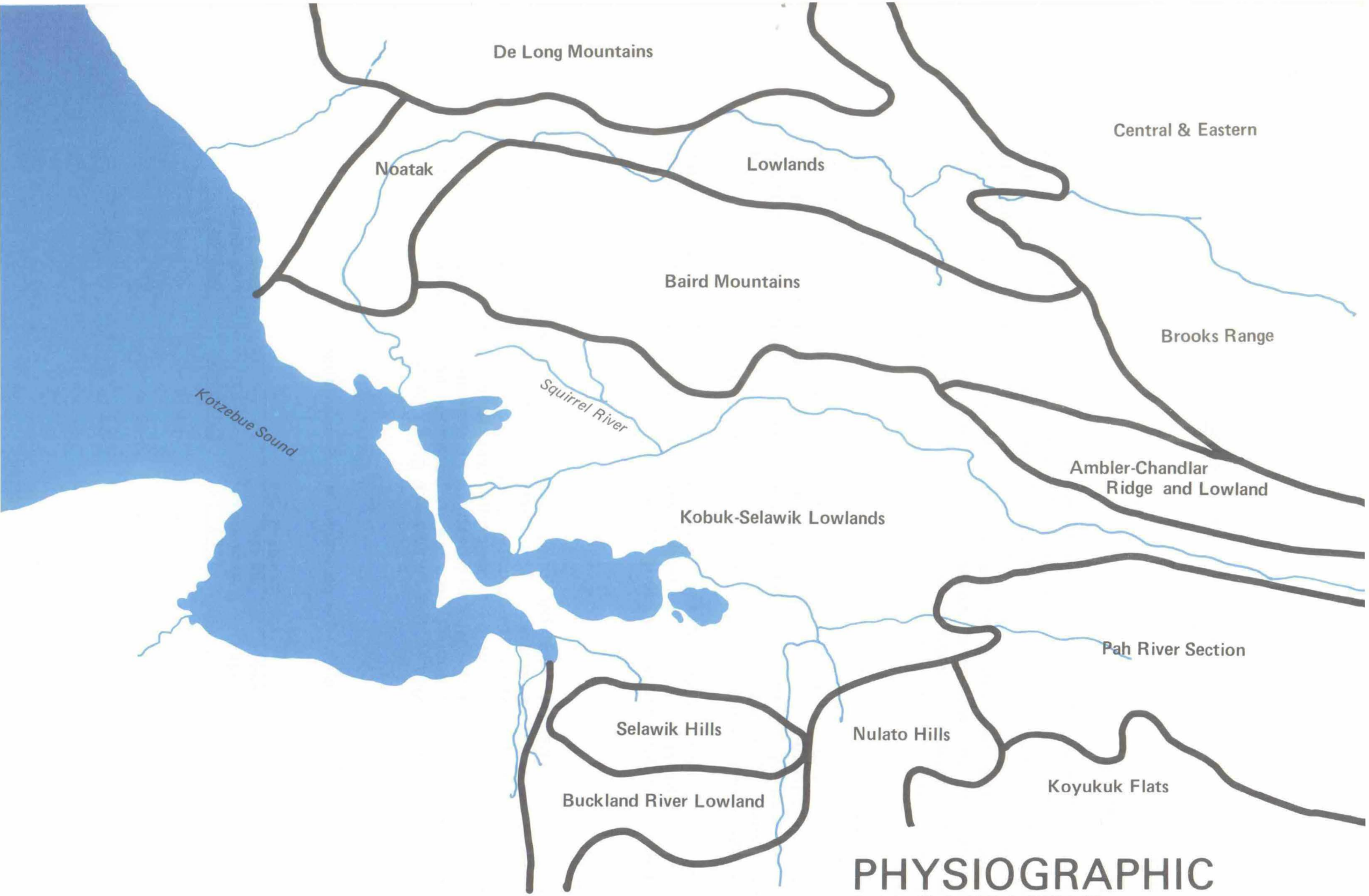
Kiana, the village located at the mouth of the Squirrel River, is 58 miles by air from Kotzebue, 223 miles from Nome, 390 miles from Fairbanks, and 512 miles from Anchorage (Selkregg 1976b).

Climate

The region is characterized by long, cold winters and short, cool, windy and generally wet summers. The farther inland areas have a more continental climate, while the coastal areas are mainly maritime. Annual precipitation over the region is generally less than 20 inches, with 50-80 inches of snow during the winter months. Precipitation is heaviest in late summer, and the most snowfall occurs in December and January. Climatic data for selected villages in the region are given in table 2.

Table 2: Temperatures and Precipitation

	Temperatures			
	Summer Average (°F)	Winter Average (°F)	Extremes	Precipitation Totals/Snow (inches)
Kotzebue	37 to 59	-13 to 4	-52 to 85	8.9/47
Kobuk	42 to 69	-24 to 1	-68 to 90	17.3/56
Noorvik	42 to 68	-16 to 1	-54 to 87	16.2/60



PHYSIOGRAPHIC PROVINCES

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20008
DSC	JUL 83

NORTH NO SCALE

Source: Darbyshire and Associates, Inc. 1982

Winds are usually moderate to strong year around and are strongest during winter months. Winds are usually easterly in winter and southwesterly during summer. August and September are the windiest months, with wind speeds averaging 20-30 knots during storms.

Break-up usually occurs in mid to late May, and freeze-up of lakes and rivers in early to mid October (Selkregg 1976a and Darbyshire and Associates 1982).

Socioeconomic Characteristics

Population. Like the rest of rural Alaska, this region is not densely populated. The Kobuk census area, a large geographical area encompassing the villages of Kotzebue, Kivalina, Noatak, Kobuk, Kiana, Ambler, Shungnak, Selawik, Noorvik, Buckland, and Deering, had a 1980 population total of 4,831, of which 2,054 lived in Kotzebue. Population data for Kotzebue and two villages near the Squirrel River are given in table 3.

Table 3: Population Changes

	1980	1970	Percentage Change
Kiana	345	278	+24
Noorvik	492	462	+ 6
Kotzebue	2054	1696	+21

Source: Bureau of the Census, 1981.

The ethnic composition of the region is roughly 85 percent native (nearly all Inupiat), 14 percent white, and the remainder "other," including black, Asian, and Pacific Islander. Household size averages slightly over five persons; households commonly consist of more than two adults (Darbyshire and Associates 1982).

Economy. The economy of the region may be at somewhat of a crossroads. The economy has been and is today very reliant on government. Close to 90 percent of all the income earned is directly or indirectly derived from governmental expenditures, including but not limited to funding for public health, welfare, housing, sanitation, aviation, and defense. However, the region may be on the verge of entering into an economy largely centered on development and extraction of hard rock minerals. There are proven mineral districts in the southern Brooks Range. Also because the government is cutting back funding of many programs, alternative revenue sources will have to be developed.

An inventory was made of 13 industry groupings contributing to the regional economy. Table 4 shows the full amount each industry produces and includes total salaries and wages, profits for entrepreneurs, rents and interests on capital, and indirect business taxes levied locally for city services.

In their 1982 economic analysis of the region, Darbyshire and Associates identified the following points about the economic base of outlying villages within the region (all of the villages other than Kotzebue and including Kiana and Noorvik):

> Transfer payments directly to households and income brought home by individuals working outside the region together contribute the most to the economic base of the outlying villages.
>
> The regionwide construction industry provides the most jobs for residents of the outlying villages.
>
> Labor leaving the villages to work in mining (gold dredging and oil rig operations) is the third largest contributor to income of the outyling villages and, other than construction, is greater than the sum total contribution of all remaining forms of employment.

A December 1978 survey of residents by the University of Alaska provides some insight into the regional employment picture. The vast majority of the native population either work part-time (45 percent) or are unemployed (47 percent); only 8 percent are employed full-time. This is partly a reflection of available jobs and preference for seasonal employment only. Depending upon the village surveyed, two to three times more people want work during the winter months than during the important subsistence months of June, July, and August. One-fourth of the survey respondents indicated a preference for not working during the summer months.

In addition to jobs, almost 42 percent of the Kotzebue respondents indicated that subsistence hunting and fishing were important, while slightly over 80 percent of the village respondents said subsistence activities helped meet their needs. Some sort of government assistance was received by 18.6 percent of the Kotzebue respondents and 24.8 percent of the village respondents. A large percentage of the population engaged in wage earning occupations prefer to and actually do work within the NANA region (University of Alaska 1979).

Subsistence. In addition to its cultural, religious, and lifestyle roles, subsistence also has an economic role in the region. Economically, subsistence provides those food, fiber, and shelter requirements not met through the exchange of cash. As the region has evolved from small isolated trading villages into a regional cash-exchange economy, the intermingling of the cash and subsistence systems has become more pronounced. Today there is definitely a mixed cash/subsistence economic system.

The leadership of the NANA Regional Corporation has indicated that maintenance of subsistence activities is of the highest priority. A recent

Table 4: 1980 Total Value Added by Economic Activity

Industry	Outside Kotzebue	NANA Villages	Region Total
Renewable resource harvesting	$ 1,703,500	$ 573,400	$ 2,276,900
Mining and exploration	655,200	528,000	1,183,400
Construction	6,738,000	2,918,000	9,656,100
Household manufacturing	500,000	47,500	547,500
Transportation	2,441,600	123,600	2,565,200
Warehousing and distribution	1,152,400	45,000	1,197,400
Communications and private utilities	905,000	12,000	917,300
Trade and private utilities	4,222,800	934,000	5,156,800
Finance and real estate	1,200,700	322,000	1,522,700
Quasi-public and nonprofit	2,966,800	192,500	3,159,300
Local and regional government	10,125,600	5,786,500	15,912,100
State agencies and services	1,678,800	114,800	1,793,600
Federal agencies and services	2,925,500	390,000	3,315,500
Intraregional migration income*	1,260,000	3,420,000	4,680,000
Transfer payments/household income**	3,951,800	5,517,000	9,468,800
Total Income	$42,428,000	$20,924,600	$63,352,600

Source: Darbyshire and Associates 1982.

* Represents income earned by individuals who work outside their subregion but still within the NANA region.

**Income received directly by individuals and households in the region but earned by people who work outside the region and bring their earnings into the economy or who receive payments for public assistance, GI bill benefits, pensions, etc.

survey of residents shows that a large portion of the regional population still depends on subsistence as a major source of food. People who have wage-paying jobs continue to participate in subsistence activities. Tables 5 and 6, based on survey data collected by the Alaska Public Forum and NANA, reveal some characteristics of the subsistence economy compared to the cash economy.

Land Use

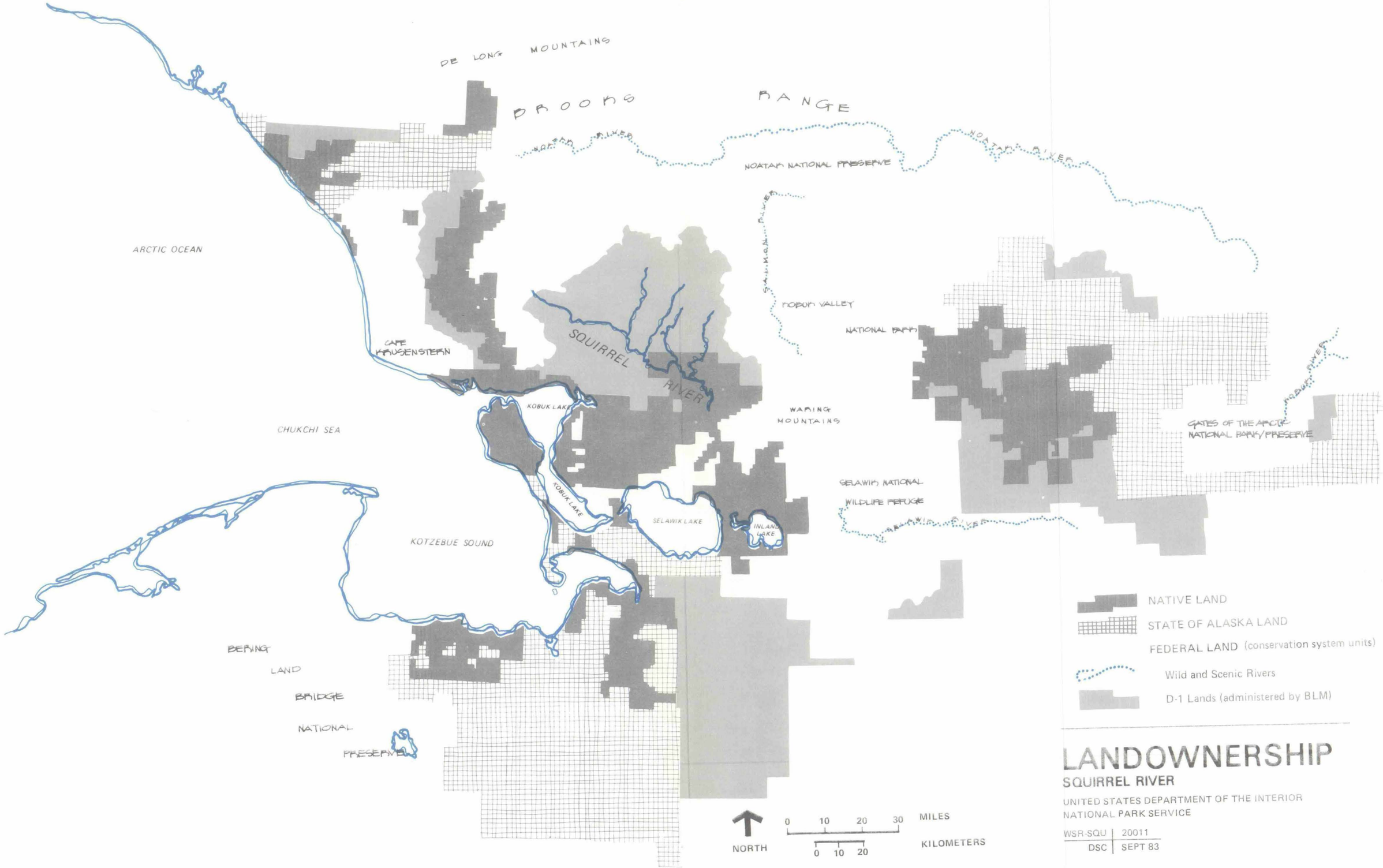
Land uses may be generally described as occasional and intermittent. They include subsistence, recreation, sport hunting and fishing, seasonal residences, and resource exploration. The exception is the scattered villages where lands are devoted to residential and industrial uses. Grazing is the most widespread use of the southern portion of the region, including the Seward Peninsula (Selkregg 1976a). There are isolated areas of ongoing or proposed intensive mineral development, such as the Red Dog mining area and the Ambler mining district. Placer gold mining is prevalent on a few streams.

Much of the land area is dedicated to conservation purposes. These include land areas administered by the National Park Service (Gates of the Arctic National Park and Preserve, Kobuk Valley National Park, Noatak National Preserve, Cape Krusenstern National Monument, and Bering Land Bridge National Preserve), and areas administered by the Fish and Wildlife Service (Selawik National Wildlife Refuge and Charmisso Island National Wildlife Refuge).

Landownership

The study area map generally depicts landownership patterns within the region. The principal landowners are the federal government, the state of Alaska, and the NANA Regional Corporation. Federal ownership includes state-selected and native-selected lands awaiting conveyance, lands under administration by the Bureau of Land Management, and conservation system units under administration of the National Park Service or the U.S. Fish and Wildlife Service. Although awaiting actual conveyance of much of its lands, the NANA Regional Corporation will be a major landowner in the area. In addition there are several privately held parcels, such as individual native allotments. The state of Alaska, by virtue of the Submerged Lands Act and the Alaska Statehood Act, owns tidelands, coastal submerged lands (such as Kotzebue Sound), and lands beneath navigable inland waters. The state also is entitled to make selections of federal land under provisions of the Alaska Statehood Act. Compared to the federal and native corporation blocks of land, there is not a large amount of state-selected land within the region.

Landownership along the Squirrel River is discussed in the following section.



LANDOWNERSHIP

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20011
DSC	SEPT 83

Table 5: Comparison of Work Patterns and Type of Food Eaten

Percentage of Meals Where Meat is Purchased at the Store

	No Meals Purchased	¼ Meals Purchased	½ Meals Purchased	More than ½ Meals Purchased
Unemployed	19	58	19	4
Part-time employed	11	63	24	2
Full-time employed	0	61	39	0

Percentage of Meals Where Meat is Hunted or Gathered

	No Meals Gathered	¼ Meals Gathered	½ Meals Gathered	More than ½ Meals Gathered
Unemployed	4	29	35	32
Part-time employed	5	37	36	22
Full-time employed	5	35	30	30

Source: University of Alaska 1979.

Table 6: Comparison of Work Patterns and Number of Subsistence Activities (by percentage)

	No Activities	1-4 Activities	5-9 Activities	10 or more Activities
Unemployed	3	32	45	20
Part-time employed	2	31	52	15
Full-time employed	5	24	57	14

Source: University of Alaska 1979.

Note: Activities include hunting (caribou, moose, seals, birds, whales, and bears), fishing (five species), trapping, crafts, and gathering (berries, eggs, and plants).

SQUIRREL RIVER STUDY AREA

The study area refers to all public lands that constitute the bed or banks of the Squirrel River or are within 2 miles of either side of the river.

Natural Resources

River Setting. The entire Squirrel River is located within northwestern Alaska above the Arctic Circle. The Squirrel River flows out of the Baird Mountains (within the western portion of the Brooks Range) in a southeasterly direction for approximately 95 miles before it flows into the Kobuk River at the village of Kiana.

The river begins in a mountain valley among 2,000- to 3,000-foot peaks. Like many other higher elevation northern streams, the river is braided with an extensive gravel floodplain. After leaving the mountains, the river meanders for most of its length across a broad valley, with the 2,000-foot Kiana Hills parallel to the river on the south and the southern extension of the Baird Mountains on the north. The Kiana Hills, within a few miles of the river, form a scenic landscape for people on the river. Along this section the river flows primarily in a single channel through a spruce forest and occasionally next to low bluffs, which provide scenic viewpoints. Most of the lower portion of the river passes through more of an open tundra setting. The stark Kallarichuk Hills are visible northeast of the river.

The entire study area is in a very natural condition. There are a couple of cabins visible from the river and an occasional fish camp on the lower few miles of the river. The village of Kiana sits at the mouth of the river.

Vegetation and Timber. The Squirrel River flows through a valley and bottomland that supports a variety of vegetative ecosystems, ranging from alpine tundra to upland spruce/hardwood forest to bottomland spruce/poplar forest. All of these vegetative ecosystems are interspersed to a minor degree with a fourth vegetative system, moist tundra.

The headwaters of the river are in an alpine tundra vegetative system. Characteristic shrubs include white mountain-avens, resin birch, arctic birch, cassiope, crowberry, mountain heath, rhododendron, arctic willow, and blueberry. Characteristic herbs are moss campion, blackish oxytrope, and arctic sandwort. Lichens, sedges, mosses, and grasses also make up part of this vegetative system.

Approximately 10 miles below the headwaters, the river enters an area of upland spruce/hardwood forest. Trees found in the area include the white spruce, birch, aspen, and balsam poplar. Shrubs consist of willow, alder, dwarf birch, rose, highbush cranberry, raspberry, and currant. Fireweed, mosses, lichens, ferns, and horsetails are also present.

The bottomland spruce/poplar forest starts near the mouth of the North Fork and continues to the river's mouth. The main tree types are white

spruce and balsam poplar, which are interspersed with willows in the wetter areas and possibly small stands of black spruce. Shrub species include American green alder, thinleaf alder, rose, dogwood, and Labrador tea. Other plant species present are fireweed, bluepoint grass, ferns, lichens, mosses, and horsetails.

The moist tundra vegetative system is typified by sedges, grasses, and low-growing shrubs. Grass species present are cottongrass, arctagrostis, bluejoint, and tufted hairgrass. Shrubs include mountain-avens, willow, dwarf birch, Labrador tea, green alder, Lapland rosebay, blueberry, and mountain cranberry (Selkregg 1976a).

White spruce and paper birch are two commercially important tree species found in the Squirrel River valley. White spruce is the favorite lumber and house-log tree in interior Alaska. Birch has many uses and is locally used for fuel, mine props, and many subsistence-related uses. However, there is probably little if any commercial forestland within the Squirrel River valley. (Commercial forestland is defined by the Forest Service as land capable of annually producing over 20 cubic feet of usable wood per acre.) Generally within the NANA region, white spruce/birch timber stands are of the highest quality in the middle portion of the Kobuk River valley. Most of the good timber stands occur immediately above Kobuk village (Forest Service 1980).

Mineral Resources. The Squirrel River begins within the Baird Mountains physiographic province. The Baird Mountains are moderately rugged mountains, with sharp to rounded summits, 2,500 to 3,000 feet above sea level. The bedrock of the Squirrel River valley is composed mostly of schist, quartzite, dolomite, limestone, sandstone, shale, chert, and phyllite of Paleozoic age. Structural trends are eastward. Except for the extreme headwaters, the bedrock within the valley is overlaid by well-sorted floodplain terrace and alluvial fan deposits (Selkregg 1976a).

The general area north of the Squirrel River, including the upper portion of tributaries flowing into the Squirrel River from the north, is considered geologically favorable for the occurrence of lode deposits, including copper, lead, zinc, and gold (Selkregg 1976a). A more specifically defined east-west running belt or metal province along the mountains north of the Squirrel River, including the headwaters of Timber and Klery creeks, is thought to contain lode deposits of copper, lead, and zinc of potential economic significance (Geological Survey 1974).

Numerous placer gold occurrences are noted outside the study corridor in the area drained by Klery Creek, Cross Creek, Timber Creek, and the northern and eastern tributaries of the Omar River. Neither the lode nor placer occurrences are particularly well developed. Current levels of mineral exploration and development do not accurately reflect the area's true mineral potential because the area has been withdrawn from mineral entry and location since December 17, 1971. Several placer occurrences have no active claims on them, although these occurrences are located in proximity to active placer locations. As indicated by U.S. Geological Survey reports, the lode sources of these placer occurrences have not been located.

The U.S. Geological Survey initiated during the summer of 1983 a five-year geochemical sampling and mapping effort under the Alaska minerals resource assessment program. Their area of interest includes the headwaters of the Squirrel River and the Kallarichuk Hills. However, the results of this work will not be available for some time.

Streamflow. The Squirrel River is a clear water stream that drains an estimated 1,600-square-mile area. Headwaters of the river are 750 feet above sea level, and its mouth on the Kobuk River is less than 100 feet above sea level. The river falls 650 plus feet in less than 95 miles. Most of the gradient (approximately 550 feet) occurs along about the first 15 miles of river, resulting in a drop of about 40 feet per mile, with a very low gradient for the remaining river, about 2 feet per mile. There are no notable rapids on the river.

The estimated average annual flow is 2,850 cubic feet per second. Beyond this estimate, available data is limited. The following estimates are based on river float trips in August 1975 and 1982. From about 10 miles below its source to the mouth of the North Fork, the river varies in width from 15 to 60 feet and in depth from 1 inch to 8 feet as it alternately flows across shallow gravel bars and through deep pools. The current velocity is between 2 and 3 miles per hour. From the North Fork down to Klery Creek, the river meanders considerably in tight bends. The river is wider (100 to 150 feet) and deeper (from several inches to approximately 10 feet in pools). The current velocity is about 2 miles per hour. From Klery Creek to its confluence with the Kobuk River, the Squirrel River is about 200 feet in width and 4 feet in depth and greater in some pools. Current speed is still about 2 miles per hour.

The river's two major tributaries are the North Fork and the Omar River. Near the mouth of the North Fork, the river bottom of the Squirrel River is composed of gravel 1/2 to 2 inches in diameter. About 20 to 25 miles above the Squirrel mouth, the bottom substrate shifts to a mixture of smaller gravel (1/4 to 1 inch in diameter) and sand. The percentage of sand increases downstream until the substrate, including the shoreline, is all sand and silt.

Water Quality. The water is extremely clear. Except for the lower few miles where the silt bottom is stirred up by current, one can easily see the bottom of the river in its deepest pools. Some people comment that the water is emerald green in color.

Water samples were taken by the Alaska Department of Fish and Game on two occasions in late winter and early spring of 1979 near the mouth of the Squirrel River. The chemical analysis of the sample taken in early spring revealed that the water is of drinking quality but probably not ideally suited for fish culture. For example, some of the observed concentrations in parts per million (with the recommended maximum levels for fish culture in parentheses) were aluminum 0.06 (0.01), chloride 7.1 (4.0), iron 0.27 (0.01), manganese 0.026 (0.01), sulfur 8.6 (1.0), and zinc 0.032 (0.005). (Data provided by Alaska Department of Fish and Game, Fairbanks.)

Table 7: Water Analyses of Selected Ice-Free Spring/Groundwater Source Areas, Squirrel River, April 23, 1975

Sample Site	Dissolved Oxygen (ppm)	Free Acid (mg/l $CaCO_3$)	Total Acid (mg/l $CaCO_3$)	Phenolphthalein Alkalinity (mg/l $CaCO_3$)	Total Alkalinity (mg/l $CaCO_3$)	Hardness (mg/l $CaCO_3$)	pH
1	7.3	0.0	8.0	0.0	140	125	9.5
2	7.8	0.0	8.0	0.0	140	125	9.0
3	7.2	0.0	8.0	0.0	125	125	9.0
4	7.5	0.0	8.0	0.0	140	125	9.0
5	*	0.0	8.0	0.0	160	125	9.0

*D.O. meter mechanism froze.

Table 8: Physical Characteristics of Selected Ice-Free Spring/Ground-Water Source Areas, Squirrel River, April 23, 1975

Sample Site	Air Temp. (°C)	Water Temp. (°C)	Water Flow (cu m/sec)	Snow Depth (cm)	Ice Thickness (cm)	Water Depth (cm)	Open Water Surface Area (sq m)
1	-5.0	-0.5	0	60	-	28	1,950
2	-5.5	-1.1	0.30	20	30	18	630
3	-5.5	-1.1	-	25	15	-	140
4	-5.5	-1.1	0.32	20	56	35	840
5	-5.5	-1.1	-	30	8	-	700

Note: In some instances water flow and depth were not measurable.

Several areas on the river between the mouths of Omar River and Klery Creek are ice-free in winter. Some of these were investigated by the Alaska Department of Fish and Game in 1975 (see tables 7 and 8). Based upon interpretation of satellite photographs, the department believes that there are also springs along the North Fork. The slightly warmer springs provide a more stable environment that is preferred by spawning chums and that enhances their chances of success in the extreme arctic environment.

Wildlife. The Squirrel River valley, like other river systems of northwest Alaska, provides important wildlife habitat. The animals traveling through, originating from, or residing in the area are important for their intrinsic value, subsistence uses, commercial uses, and recreation values. However, the overall wildlife values of the study area are not deemed to be any more significant than other areas of the region. Also, there are no unique or unusually remarkable species, habitat types, or threatened or endangered species within the study area. The following information was compiled by the Alaska Department of Fish and Game from agency files and observations by local field biologists.

The moose (Alces alces) population was last surveyed in 1980. At that time 166 moose (29 percent calves) were observed in the study area. Although moose population status and trends are not available for the Squirrel River specifically, the population in the Kobuk drainage is approaching an optimal level. Floodplain habitat is generally important to this population.

The 1980 photo-census of the western arctic caribou (Rangifer tarandus) herd was approximately 140,000. The number of caribou inhabiting or migrating through the Squirrel River drainage is unknown. Bulls summer in the northern headwaters. During the major fall migration, caribou generally cross the area between the North Fork and Klery Creek, and they cross the Kobuk just west of Kiana. These animals are important to both sport and subsistence hunters. In 1979-80, the caribou harvest reported by residents of communities in northwestern Alaska placed Kiana second only to Kotzebue.

Both grizzly (Ursus arctos) and to a lesser degree black bears (Ursus americanus) are present in the study area. These bears are important for both subsistence and sport hunting. During the past 20 years or so, grizzly bear harvest has been higher in the Kobuk River drainage than in other areas of northwest Alaska. Although the annual harvest from the Kobuk River area has not always been the highest, the drainage has been a consistent major producer during the 20-year period.

Table 9: Kobuk River Drainage Bear Harvest Data

	1979	1980	1981	1982
Black Bear	2	0	1	0
Grizzly Bear	58	23	21	30

Source: Alaska Department of Fish and Game (file material).

The snowshoe hare (Lepus americanus) occurs in the study area, but little information is available on abundance and use.

The primary furbearer species in the study area are lynx (Felis canadensis), wolverine (Gulo gulo), gray wolf (Canis lepus), river otter (Lutra canadensis), beaver (Castor canadensis), red fox (Vulpes fulva), and arctic fox (Alopex lagopus). The abundance of several species such as the lynx, red fox, and arctic fox fluctuate according to prey availability. Harvest of furbearers for sale and export is relatively low as compared to other areas of Alaska. Total harvest from the study area is unknown because of unreported subsistence trapping, but based on fur-selling records for game management unit (GMU) 23, the Alaska Department of Fish and Game estimates the following annual harvest. (GMU 23 roughly encompasses the drainages of rivers flowing into Kotzebue Sound.)

Lynx--Numbers have been high in GMU 23 since 1976. Lynx are taken in GMU 23 primarily for export, with no appreciable local use. The estimated 1981-82 harvest from the study area was 20-30 animals.

Wolverine--Wolverines are most abundant in areas inaccessible to snow-machines or in remote untrapped areas. The present population status is unknown because of insufficient data. The wolverine is the most sought-after furbearer in GMU 23. The number taken for subsistence use is unknown, but it is believed to be a large part of the harvest. An estimated two to three wolverine were harvested from the study area during 1981-82.

Gray wolf--The wolf population in the Kobuk drainage has remained relatively stable over the last few years. Estimated densities for the survey area nearest the Squirrel River study area were one wolf per 100 square miles in 1978 and one wolf per 104 square miles in 1981. Similar to many of the other furbearers, wolf harvest is probably relatively low in the study area. The estimated 1981-82 harvest was 1-3 wolves.

River otter--Otters are numerous in GMU 23, including the Squirrel River valley. Otter fur is an item preferred locally for clothing. Because a significant portion of the harvest probably goes unreported, reliable harvest estimates are not available.

Beaver--Beaver populations are well established in most drainages along Kotzebue Sound except those north and west of the Kobuk River. Few beaver are taken from GMU 23 for commercial use. Most of the harvest occurs after spring break-up, when animals are shot. The taking of beaver is occasionally reported from the study area, but harvest is probably low and primarily for personal use.

Red fox--Red foxes are distributed throughout the Kotzebue Sound area. Greatest densities occur along the lower portions of major drainages when prey is abundant. The red fox population in GMU 23 was probably higher in 1981-82 than during the previous five years. Most foxes are taken for commercial export. Only a small

percentage of the harvest is for personal use. An estimated 10 foxes were taken from the study area during 1981-82.

Arctic fox--These foxes occur primarily along the coast of Kotzebue Sound, although they occasionally occur inland during big populations. Although there is considerable local demand for arctic fox pelts for personal use in the Kotzebue Sound area, it is not likely that many are taken from the study area.

Birds. Game birds in the study area include ptarmigan and spruce grouse. A partial list of other birdlife observed in the river area follows:

Water Birds	Raptors
lesser Canada goose	rough-legged hawk
whistling swan	golden eagle
common merganser	short-eared owl
red-breasted merganser	great horned owl
arctic loon	boreal owl
pomarine jaeger	hawk owl
parasitic jaeger	
long-tailed jaeger	
glaucous gull	
mew gull	

Shorebirds/Waders	Other
sandhill crane	arctic tern
semipalmated plover	belted kingfisher
golden plover	northern three-toed woodpecker
greater yellowleg	olive-sided flycatcher
lesser yellowleg	bank swallow
Hudsonian godwit	gray jay
solitary sandpiper	common raven
spotted sandpiper	gray-headed chickadee
pectoral sandpiper	boreal chickadee
least sandpiper	robin
bar-tailed godwit	vaned thrush
whimbrel	gray-checked thrush
black turnstone	ruby-crowned kinglet
common snipe	bohemian waxwing
	orange-crowned warbler
	northern shrike
	water pipit

Fish. The Squirrel River provides important fish habitat in northwestern Alaska, particularly for commercially and subsistence valued chum salmon. The river is known to contain the following species of fish:

char (Salvelinus alpinus)
chum salmon (Oncorhynchus keta)
pink salmon (Oncorhynchus gorbushcah)
king salmon (Oncorhynchus tshawytshcha)

burbot (Lota lota)
pike (Esox lucius)
grayling (Thymallus arcticus)
humpback whitefish (Coregonus dupeaformis)
round whitefish (Prosopium cylindraceam)
sucker (Catostomus catostomus)

The following species probably occur in the Squirrel:

least cisco (Coregunus sardinella)
sheefish (Stenodus leucichthys)
broad whitefish (Coregonus nasus)

King salmon have only been recorded in the river in three different years, and only once were two fish seen in the same year. These fish are probably strays and do not represent a viable population.

The abundance of char is considered low. Based upon surveys by the ADF&G Division of Sportfish and reports from local residents, the char population appears to be highest in the Omar River.

Chum and pink salmon are the most abundant of the salmonids in the Squirrel. The chum salmon is the most numerous and the most important economically, and it contributes to the subsistence fishing that occurs in the Kobuk and Squirrel rivers and in the Kotzebue Sound commercial fishery.

ADF&G tagging studies have indicated that the bulk of the fish returning to the Kotzebue Sound district are bound for the Kobuk and Noatak rivers. The Kobuk River chum salmon run has been identified as arriving in this district first, peaking in the commercial fishery from July 17 to July 28. These returns are important not only to the commercial fishery near Kotzebue, but to five villages along the Kobuk River system that use chum salmon for subsistence purposes. Tables 10 and 11 present the commercial and subsistence catch data available from the Alaska Department of Fish and Game. It is not possible to isolate the contribution of the Squirrel River with the existing data base.

ADF&G escapement indexes obtained by aerial survey and presented in table 12 indicate that about 40 percent of the Kobuk River chum salmon run spawn in the Squirrel River. The figures given below do not represent total salmon population estimates, nor do they include all the spawning areas in the Kobuk drainage. They are comparable counts used in determining population trends in the Kobuk River drainage.

The ADF&G Commercial Fisheries Division operated a counting tower on the Squirrel for the first time from July 8 through August 19, 1982. The last pink salmon were seen on August 11. Chums were still passing the tower when the counts were halted, but the daily counts had dropped to less than 100 a day. The total tower count was 7,773 chum salmon and 144 pink salmon. The peak aerial survey index for the Squirrel in 1982 was 7,690 chum salmon and one king salmon.

Table 10: Comparative Commercial Chum Salmon Catch Statistics, Kotzebue District, 1962-1981

	1962	1963	1964	1965	1966	1967	1968[1]	1969	1970	1971
Total Catch	129,948	54,445	76,499-	40,025	30,764	29,400	30,199	59,335	159,664	154,956
Total Days[2]	21	20	27	32	35	33	29	40	32	29
Total Boat Days[3]	793	693	560	410	548	410	634	800	1,368	1,393
Average Seasonal Catch per Boat Day	164	79	137	98	56	72	48	74	117	111
No. of Fishermen Making at Least One Delivery[4]	84	61	52	45	44	30	59	52	82	87
Average Seasonal Catch per Fisherman	1,547	893	1,471	889	699	980	512	1,141	1,947	1,781

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Total Catch	169,664	375,432	627,912	563,345	159,656	195,895	111,533	141,545	367,284	677,239
Total Days[2]	35	25	32	39	16	21	23	21	27	27
Total Boat Days[3]	3,666	3,663	5,948	10,480	3,520	4,704	2,738	3,891	2,634	3,336
Average Seasonal Catch per Boat Day	46	103	106	54	45	42	41	36	139	203
No. of Fishermen Making at Least One Delivery[4]	104	148	185	224	220	224	208	181	176	187
Average Seasonal Catch per Fisherman	1,631	2,537	3,394	2,515	726	875	536	782	2,087	3,622

1. Does not include catches made after September 1.
2. Day = 24 hours of open fishing time.
3. Boat days = boats x hours fished ÷ 24 hours.
4. From 1962 through 1966 and 1968 through 1971, figures represent the number of vessels licensed to fish in Kotzebue Sound, not the number of fishermen.

Table 11: Subsistence Chum Salmon Catches, Kotzebue District Villages, 1962-1981

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Kobuk River Villages										
Noorvik	15,934	4,304	2,167	5,596	3,141	2,350	2,424	1,301	6,077	7,144
Kiana	3,139	1,973	783	1,598	433	1,489	2,488	2,458	3,457	5,177
Ambler	1/	755	2,142	1,340	912	679	457	3,525	2,899	2,299
Shungnak	1/	1,240	3,134	2,160	899	1,500	1,600	2,550	3,450	2,653
Kobuk	2,321	200	1,020	877	625	175	1,030	1,655	600	1,931
Subtotal	21,393	8,472	9,246	11,571	6,010	6,193	7,999	11,489	16,483	19,204
Noatak River										
Noatak[2]	48,890	16,762	12,763	5,671	19,700	26,512	5,490	14,458	4,120	9,919
Other Villages										
Kotzebue	-	5,835	7,753	8,058	3,640	4,032	4,324	1,768	6,184	1,737
Deering	-	-	-	5,200	6,238	3,098	2,838	1,897	1,242	763
Buckland	-	-	-	-	-	162	37	-	344	155
Candle	-	-	-	-	-	11	89	200	113	50
Shishmaref	-	-	-	-	-	100	37	-	-	131
Total	70,283	31,069	29,762	30,500	35,588	40,108	20,814	29,812	28,486	31,959

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Kobuk River Villages										
Noorvik	1,774	2,312	6,809	4,620	1,555	891	2,034	2,155	2,229	3,488
Kiana	1,435	4,470	2,726	4,320	1,579	766	1,493	1,225	2,551	1,439
Ambler	1,469	1,529	1,651	3,390	2,000	385	2,224	2,400	660	772
Shungnak	2,665	4,406	6,243	9,060	4,213	1,760	4,766	2,947	2,704	2,800
Kobuk	2,119	1,917	2,251	1,755	562	325	852	651	350	950
Subtotal	9,462	14,634	19,680	23,145	9,909	4,127	11,369	9,378	8,494	9,449
Noatak River										
Noatak	741	216	4,330	1,515	4,448	2,125	1,495	2,227	2,135	5,215
Other Villages										
Kotzebue	1,151	1,172	1/	1/	1/	1/	1/	1/	1/	2,347
Deering	369	1,098	1,880	1,175	1,358	3,500	1/	2,000	1/	195
Buckland	59	1,722	639	1,540		1/	1/	1,000	1/	50
Candle	113	50	15	1/	1/	1/	50	1/	1/	1/
Shishmaref	29	100	200	230		1/	1/	1/	1/	1/
Total	11,085	18,942	26,729	27,605	15,765	9,752	12,864	14,605	10,629[3,4]	17,256[3,5]

1. Not surveyed.
2. 40,693 chums taken during 1961.
3. No household survey; information from return of mail questionnaires.
4. Does not include 310 chum taken in Selawik.
5. Does not include 110 chum salmon taken in Kivalina.

Table 12: Comparative Chum Salmon Aerial Survey Escapement Estimates, Kobuk River System, 1962-1981

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Main Kobuk River										
Mouth to Kobuk	-	-	7,985	-	-	-	-	-	-	-
Kobuk to Pah River	-	-	-	1,000	266	-	530	-	1,753	4,953
Pah River to just below Selby River	-	400	-	-	-	-	50	-	20	2,039
Selby River mouth and slough	-	2,575	-	1,750	630	1,625	70	-	4,820	3,100
Selby River mouth to just below Beaver River	-	-	-	-	-	75	170	-	2,385	4,720
Beaver River mouth	-	1,095	-	-	460	795	1,550	-	4,930	2,000
Above Beaver River	-	465	-	-	118	-	-	-	-	-
Subtotal	23,150[2]	4,535	7,985	2,750	1,474	2,495	2,370	7,500[3]	13,908	17,202
Kobuk River Tributaries										
Squirrel River	16,050	2,200	8,009	7,230[1]	1,350	3,332	6,746	6,714	4,418[1]	6,628
Salmon River	12,936	1,535	9,353	1,500[1]	3,957	2,117	3,367[1]	2,561	3,000[1]	5,453
Tutuksuk River	10,841	670	2,685	-	1,383	169	823[1]	159	2,000[1]	1,384
Subtotal	39,827	4,405	20,047	8,730	6,690	5,618	10,936	9,434	9,418	13,465
Total	62,977[3]	8,940	28,032	11,480	8,164	8,113[3]	13,306	16,934	23,326	30,667

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Main Kobuk River										
Mouth to Kobuk	-	1/	-	-	-	-	-	-	-	-
Kobuk to Pah River	-	1/	-	1,843	372	-	269	75	1,694	18
Pah River to just below Selby River	1,865	1/	4,710	3,940	1,432	-	1,448	183	2,063	309
Selby River mouth and slough	7,400	1/	7,380	2,284	-	-	211	1,110	-	-
Selby River mouth to just below Beaver River	3,170	920	13,775	2,291	-	-	53	640	6,925[2]	8,321[2]
Beaver River mouth	3,000	850	1,444	-	-	-	-	-	784	-
Above Beaver River	2,720	700[1]	-	-	-	-	-	-	-	-
Subtotal	18,155	2,470[1]	27,309	10,358	1,804[1]	-	1,981	2,008	11,466	8,648
Kobuk River Tributaries										
Squirrel River	32,126[1]	12,345	32,523	32,256	6,922	1,785[1]	1,863	1,500[1]	13,536	9,854
Salmon River	2,073[1]	6,891	29,190	8,221[1]	1,161	-	814	738[1]	8,456	4,709
Tutuksuk River	-	-	5,265	1,344[1]	758	-	368	382[1]	1,165	1,114
Subtotal	34,199	19,236	66,958	41,821	8,841	1,758	3,045	2,620	23,157	15,677
Total	52,354	21,706	94,287	52,179	10,645	1,758	5,026	4,628	34,623	24,325

1. Poor survey conditions or incomplete survey.
2. Probably represents overestimate and includes some sheefish.
3. Counts have been revised and are now correct.

Known chum salmon spawning areas are located along the entire length of the main river. The major spawning areas are located above Omar River, between Timber Creek and Klery Creek, and on the lower portion of the North Fork. Pink salmon have been observed spawning in the main river below the mouth of the Omar River. A char spawning area has been noted by ADF&G biologists in a 10-mile stretch of the main river immediately upstream from the mouth of the North Fork.

The possible key to the relative importance of the Squirrel River and its tributaries as chum salmon spawning habitat is the springs. Known or suspected spring areas include the North Fork and along the main stem above Klery Creek. The slightly warmer water from the springs creates an environment that contributes to successful chum salmon spawning.

During the field inspection of the river in early August 1982, chum salmon and pink salmon were observed migrating upstream. In addition grayling were distributed throughout the entire length of the river, but they appeared to be most numerous upriver from Timber Creek. Large schools (100-200 each) of round whitefish were observed in the calm deepwater pools. Northern pike were first observed during the trip around Klery Creek, but they have been observed on other occasions as far upriver as the mouth of the Omar River.

Sportfishing opportunities are excellent by northern Alaska standards, probably because of the very light fishing pressure on the river to date.

CULTURAL RESOURCES

Archeology

No significant inventory for historic or prehistoric materials has yet been carried out in the Squirrel River basin. Only one site is recorded in the entire drainage. This is the ca. A.D. 1400 village site of Esseavik, consisting of about 20 house pits and located less than 8 miles up the Squirrel River from its mouth with the Kobuk River. The site, listed on the Alaska Heritage Resource Survey, was excavated in 1940, 1941, and 1947 by J. Louis Giddings.

A limited survey was conducted during summer 1981 on the eastern side of the Squirrel River basin. Although no results of this work have been published, preliminary information indicates that a few sites were located in the vicinity of Bear and Central creeks on the western slope of the Kallarichuk Hills, several miles outside the river study corridor.

Despite the lack of knowledge about the Squirrel River basin, much general information has been gathered from adjacent areas in northwest Alaska. A cultural chronology spanning nearly 10,000 years is reasonably well established. Excavations at Cape Krusenstern (a sequence of beach ridges a few miles northwest of Kotzebue) and Onion Portage (a stratified site about 125 miles above the mouth of the Kobuk River) provide a reasonably well-defined outline of the general area's cultural chronology. The proximities of these two important sites and the fact that materials representing all of the recognized stages in the northwest Alaska cultural

chronology have also been discovered from inland locations (such as in the Noatak River drainage and the DeLong Mountains) suggest the probability that sites from the recognized periods are located within the Squirrel River basin.

The Squirrel River appears to have wandered back and forth across its broad valley over an extended time. Consequently, the most likely locations for at least the older archeological sites are away from the current stream channel and well outside the study area.

History

The potential for significant historic sites on public lands in the study area is moderate. Early mining activity on tributaries of the Squirrel River may have resulted in historic sites of some significance. However, most of the area is isolated and well removed from the main areas of historic activity.

CURRENT AND POTENTIAL USES

Access/Transportation

Primary access to the river is by aircraft, boat, and snowmachine. There is daily commercial jet service to and from Kotzebue, and commercial air service is available several times a week between Kotzebue and Kiana. Charter air service is available in both Kotzebue and Kiana. A typical charter flight from Kotzebue to the Squirrel River at the mouth of the North Fork is less than 30 minutes one way. Air travel to sites upriver takes even less time from Kotzebue. During normal to low water levels, several gravel bars in the upper and middle river area may be suitable for landing light, wheel-equipped aircraft. Such aircraft have landed on gravel bars upriver from the mouth of the North Fork as well as on gravel bars next to the North Fork and Omar River. The condition of these bars and their suitability as landing sites change almost yearly.

Powerboats and barges travel up and down the Kobuk River between villages above and below Kiana. With sufficient water, powerboats have gone upriver as far as the North Fork, but more commonly only as far as the Omar River. All but about the upper 10 miles of the main river can be easily floated in a small craft such as an inflatible raft, canoe, or kayak.

During the winter when the rivers, lakes, and marsh areas are frozen, access to the river area is possible by light ski-equipped planes, snowmachines, dog sleds, and individuals on skis.

No permanent improved roads are now located within the study area. An unimproved road suitable for use by all-terrain vehicles parallels the lower portion of Klery Creek from the Squirrel River up to Jack Creek. A winter trail runs from Kiana up the Squirrel River to Klery Creek and up Klery Creek to just past Jack Creek.

If mineral resources in northwestern Alaska were developed, transportation systems would be needed to export mineral concentrates and to import supplies (Louis Berger & Associates 1981). The Ambler district, containing world-class deposits, is north and east of the village of Kobuk. Ten possible transportation systems using four different modes of transportation (rail, haul road, slurry pipeline, and barge) are being studied as a means of transporting the concentrates from the Ambler district mines to four alternative port sites. Three different modes (rail, road, and slurry pipeline) leading to the potential port site at Cape Krusenstern would cross the Squirrel River (see Potential Influences map). Studies have not progressed to the point of recommending any particular mode or route.

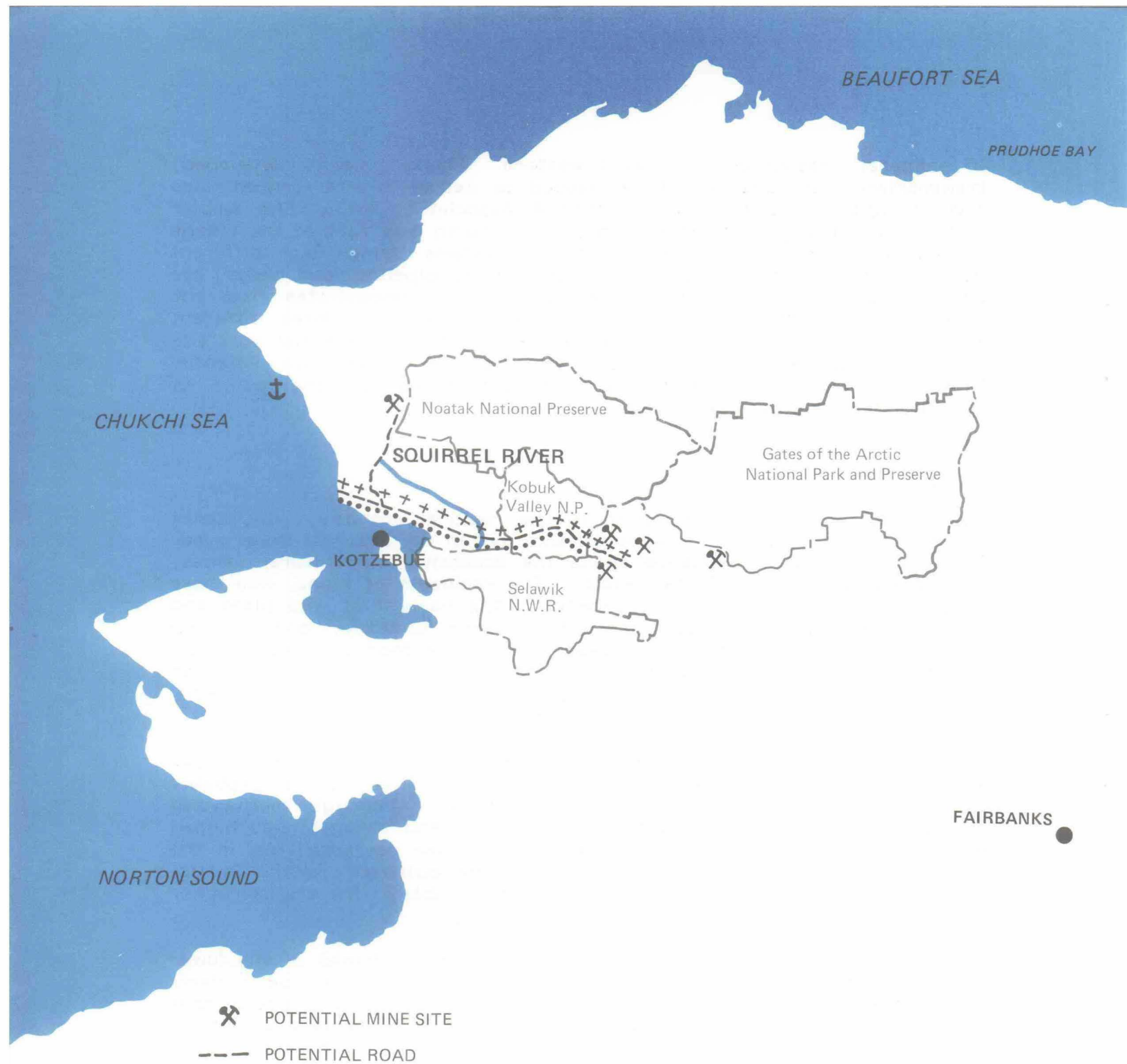
Subsistence

As pointed out in the discussion of the regional economy, subsistence activities are important to the people who live in the Squirrel River area. The importance of subsistence spans the economy, the cultural values, and lifestyles of many of the people. The residents of Kiana, like those of other Kobuk River villages, depend on the harvest of wild plant and animal resources as a basic element in their economy, culture, and lifestyle. Subsistence is more, however, than the food obtained through hunting, fishing, and gathering. It is the focal point of the interaction among community members and provides the resource base for traditional sharing activities that are central to village life.

Because of a changing economy, resource availability, and technology, subsistence activity specifically along the Squirrel River today is probably less than it has been in the recent past. Although mechanized transportation (outboard motors, snowmachines, and aircraft) has helped expand areas of use, it has also resulted in some decreased use in the Squirrel River area. For example, the large outboard motors in use today for Kobuk River transportation are not usable in the shallow upper reaches of the Squirrel River.

A few families establish summer fish camps along the banks of the lower Squirrel River to take advantage of the fish resources, particularly whitefish and chum salmon. Individuals contacted in Kiana indicated that the primary effort on the lower Squirrel River is to harvest whitefish, and salmon and other species are taken incidentally. The subsistence harvest of salmon from the Squirrel River occurs primarily in the Kobuk River. The Squirrel River area is also used by local residents to collect berries, edible roots, and greens. Blueberries, bearberries, cranberries, and other edible vegetation such as wild rhubarb and sourdock are taken from along the riverbanks. Spruce poles are cut for use as fish racks and tent poles. Birch bark and willow are collected for manufacture of basketry. House logs and firewood have also been collected from the riverbanks. Waterfowl harvest is an important element in the subsistence patterns of local residents.

Caribou, moose, and bear compose a major portion of the wildlife harvest. On occasion large numbers of the western arctic caribou herd can be found in the headwaters of the Squirrel River and its tributaries.



POTENTIAL MINE SITE

POTENTIAL ROAD

POTENTIAL RAILROAD

POTENTIAL SLURRY PIPELINE

POTENTIAL PORT SITE

NORTH

0 50 100 MILES

adapted from Louis Bergen & Associates 1981

POTENTIAL INFLUENCES

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20010A
DSC	SEPT 83

Furbearers, including wolf, wolverine, lynx, and fox, are trapped throughout the river system during appropriate seasons.

Although subsistence activities on the Squirrel River may not be very intensive, particularly above the mouth of the Omar River, the Squirrel River is still a very important subsistence resource. According to observations and data from the Alaska Department of Fish and Game, a large amount of the salmon and other fisheries harvested from the lower Kobuk River is contributed by the Squirrel River.

Recreation

The Squirrel River is an outstanding recreation resource, and several factors contribute to its recreational potential.

The river is readily accessible. Depending upon the condition of various gravel bars and type of light, fixed-wing aircraft used, parties can land next to the river. As part of this study, a crew landed on a bar near the mouth of the North Fork. This required a 30-minute, one-way flight from Kotzebue in a Cessna-185 aircraft. Similar aircraft have reportedly landed on a gravel bar in T22N, R14W, which takes about 20 minutes one-way from Kotzebue. There are other suitable landing sites farther downriver. The presence of the village of Kiana on the mouth of the river greatly facilitates return flights to Kotzebue, as there are regularly scheduled commercial flights to and from the village as well as charter flights. Thus, recreation users can float the Squirrel River with only minimal outlay for charter aircraft, making the expense and logistical problems associated with such a trip much less than for many remote rivers in Alaska.

The river offers good float-boating opportunities. Except for the lower few miles, the river current is sufficient to carry float-boaters along at a sufficient speed to enjoy the surroundings without having to paddle strenuously. There are no rapids, sweepers, or other obstacles that might present hazards to even inexperienced recreational users. Motorboating is possible on at least the lower 20 miles of the river during the summer.

Good overnight campsites are common along the entire length of the river, except for the last 6 or 7 miles immediately above Kiana.

The river provides excellent sportfishing, particularly for grayling. Other sportfishing species known or suspected to be available include chum salmon, pink salmon, northern pike, arctic char, and sheefish. The quality of the grayling fishery (number and size of fish) is probably attributable to the fairly low fishing pressure that exists today.

The scenery of the Squirrel River valley is very pleasing. Because of the setting, a trip down the river provides visitors an opportunity to experience a wide range of scenery. The river starts in a narrow mountain valley among the rugged peaks of the Baird Mountains. Opportunities are good for hiking along the gravel floodplain or high alpine tundra and for enjoying scenery typical of the mountainous

portions of northwestern Alaska. After the river leaves the mountains, it crosses through a very wide valley among spruce and hardwood trees. Gradually the view of the mountains to the north is lost. However, the Kiana Hills, which parallel the river on the south, provide pleasant scenery. Also bluffs along the river provide scenic viewpoints. Finally, the views on the lower river are more open, with the stark Kallarichuk Hills to the northeast dominating the view.

The Squirrel River can provide an easy, pleasant one-week recreation trip for individuals, small groups, and families with limited float-boating skills. The Bureau of Land Management estimates that 10 to 15 individuals each year may be using the river and adjacent lands for strictly recreational purposes.

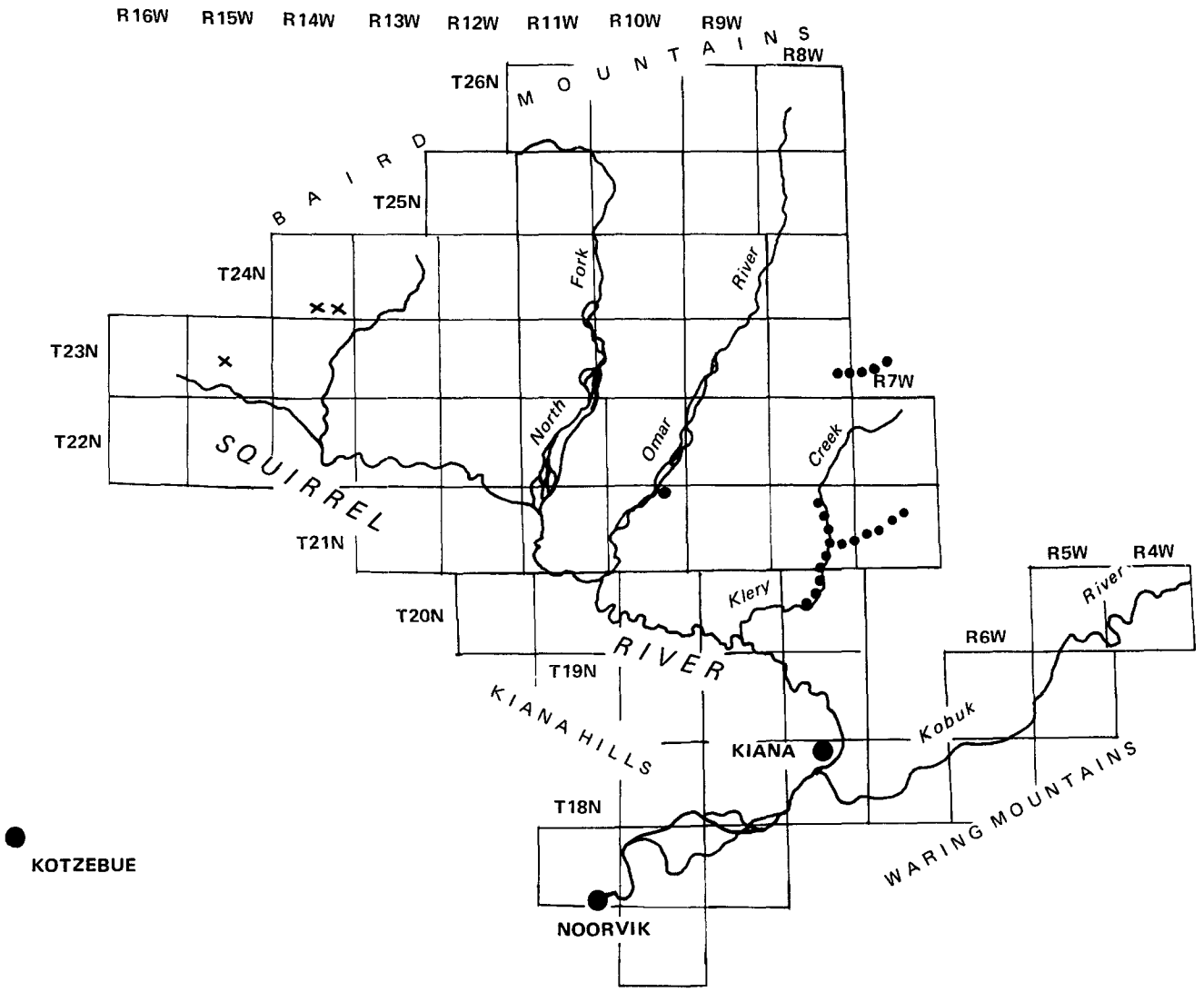
Water Resource Development

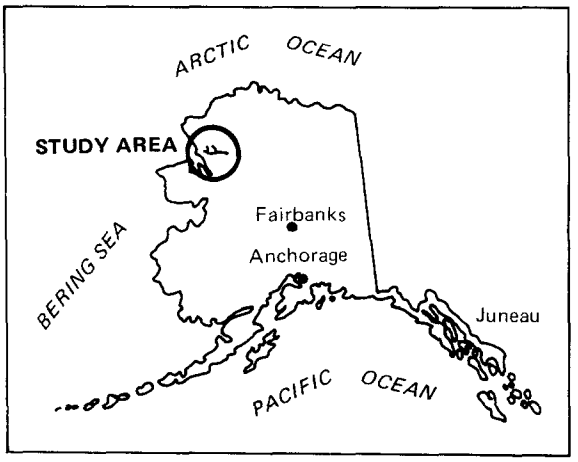
There are no existing or proposed water resource projects (e.g., flood control or hydroelectric projects) along the Squirrel River. The village of Kiana draws its water from wells on the banks of the Kobuk River. From their location, however, it is most likely that they are drawing Squirrel River water.

Mining/Mineral Leasing

Historically, the Squirrel River area was an active placer gold district. However, because of more easily accessible and potentially richer strikes elsewhere, interest in this remote location was not sufficient to outlast the initial placer phase and to support prospecting for and development of potential lode sources. In recent times the deregulation of the price of gold and its subsequent dramatic climb have had no effect on this region because the lands were already withdrawn from mineral entry and development.

Development of placer deposits within the Squirrel River valley began in earnest about 1908 but tapered off by 1911. The development of placer deposits contributed to the establishment of a permanent village at Kiana around 1907 to serve as a supply center. The activity was principally on Klery Creek and its tributaries and to a lesser extent on Timber Creek and other smaller tributaries (GS 1930). Earliest claims date back to 1909. As of 1982, there are 60 recorded active claims, six in the headwaters of the Squirrel River, one on the Omar River, six along the headwaters of Timber Creek, and the remainder on Klery Creek or its tributaries. All the claims except the six in the headwaters of the Squirrel River are gold placer claims and are outside the study area; the six claims in the headwaters are copper lode claims (Bureau of Land Management, mining recordation file data). The lode claims are not now being developed, and the prospect for development of the low-grade copper deposits is very low. Recent BLM investigations of the lode claims revealed that one claim was incorrectly located on records and is not within the Squirrel River drainage. The bureau has taken adverse actions on the other five claims, which will probably be declared null and void in part because they were filed during a time when the area was closed to mineral entry.





●●●●●● PLACER CLAIMS (GOLD)

×××××× LODE CLAIMS (COPPER)

NORTH

0 6 12 MILES

0 15 30 KILOMETERS

MINERAL CLAIMS

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20001
DSC	JUN 83

Federal lands have been withdrawn since 1971 under PLO 5179 from mineral entry and location. The Bureau of Land Management has been reviewing the lands it administers in the Squirrel River valley as part of a project to determine the potential for oil and gas exploration and development (see section 1008 of ANILCA). The decision has been made to open all BLM-administered lands in the Squirrel River basin, except for lands within the study area, to mineral leasing and to mineral entry and location. PLO 6477 implements this decision. For purposes of the review, the Squirrel River study area was defined as the BLM-administered lands within 4-mile-wide corridors along the main stem, the lower 15 miles of the Omar River, and the lower 6 miles of the North Fork (i.e., 2 miles on each side of the rivers).

The navigable portions of the Squirrel River and its tributaries, regardless of any federal actions, are legally opened for filing of state mineral claims (see discussion below on landownership). To date state claims have only been filed on Klery Creek, where navigability, and therefore jurisdiction, have not yet been formally established.

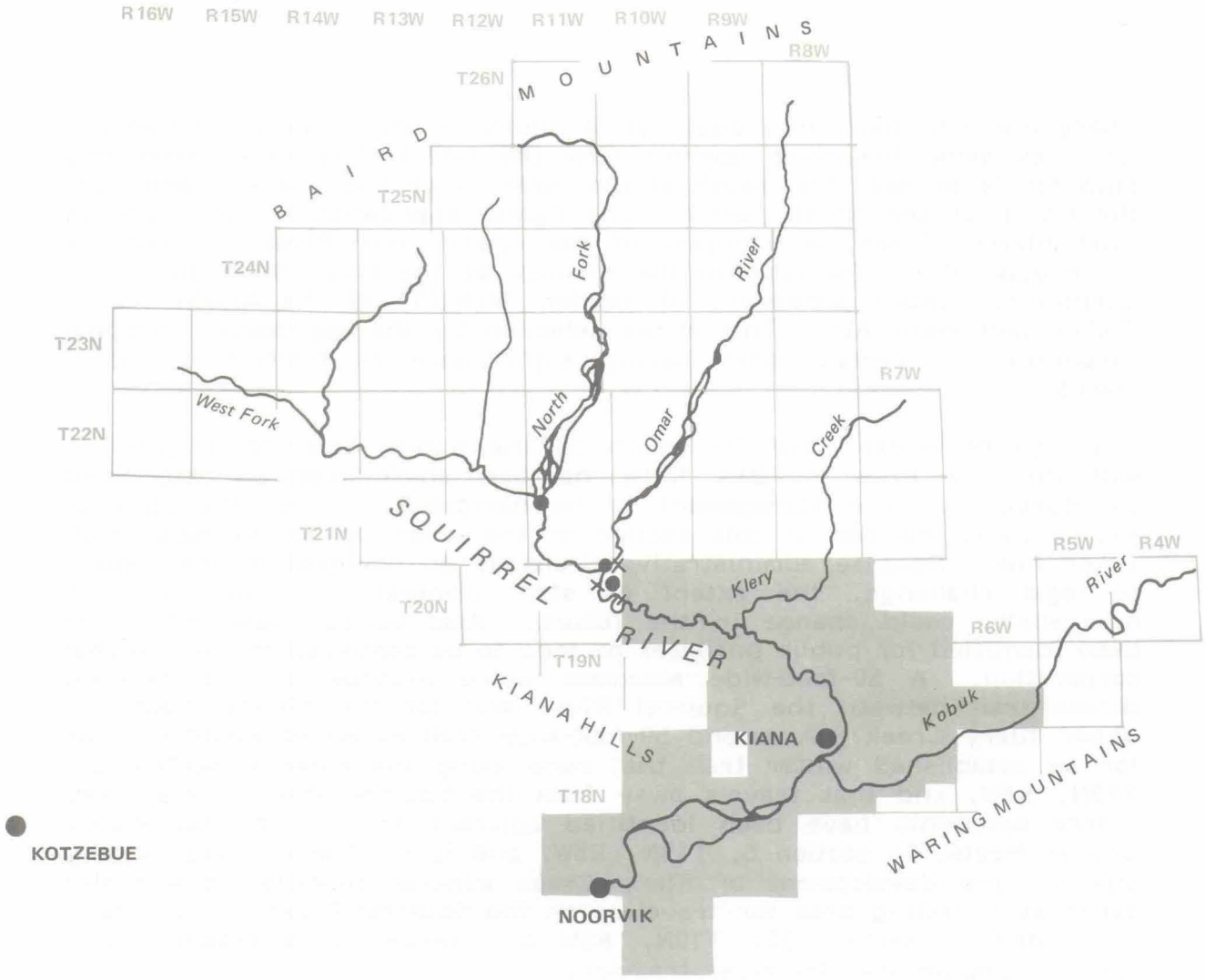
Dwellings and Other Nontemporary Structures

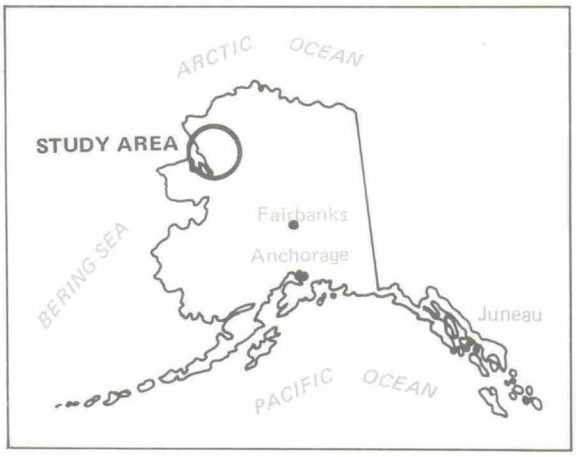
There are only two nontemporary structures (cabins) visible from the river. One is located downstream from the North Fork, the other downstream from the Omar River. Both cabins are privately owned and are used seasonally. One is on a native allotment application site, the other is in trespass on federal land. Families at seasonal fish camps along the lower section of the river use canvas wall tents and other temporary structures.

Owners of native allotments along the river may construct permanent residences and other structures if they desire. Also, the native corporation may build structures on any of its lands along the lower section of the river. Currently the federal lands along the river are not available for settlement or leasing because of the protective classification in effect until Congress determines whether or not to add any portion of the Squirrel River to the national wild and scenic rivers system (see section 5(a) of the National Wild and Scenic Rivers Act). Also the decision of the Bureau of Land Management, based on the "Seward 1008 Study, Decision Record" is that no lands will be made available for occupancy (sales or leases).

Landownership

Approximately two-thirds of the land within the study area is federally owned and administered by the Bureau of Land Management. Most of the remaining land has been selected by the NANA Regional Corporation under provisions of the Alaska Native Claims Settlement Act. For illustration purposes it is assumed the study area contains roughly 243,200 acres (95 river miles x 2,560 acres/mile for a 4-mile-wide study corridor). The area within the study corridor selected by NANA represents about 89,600 acres or 37 percent. All of this land is downstream from the mouth of the Omar River.





NATIVE CORPORATION SELECTIONS

NATIVE ALLOTMENT APPLICATIONS (OUTSIDE OF NATIVE CORPORATION SELECTIONS)

HISTORIC PLACE APPLICATIONS (NANA REGIONAL CORPORATION)

NORTH

0 6 12 MILES

0 15 30 KILOMETERS

LAND STATUS

SQUIRREL RIVER

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

WSR-SQU	20002B
DSC	MAY 84

There are also four individual native allotment applications. Three are for sites along the river upriver from the NANA Corporation selections (two for lands near the mouth of the Omar River and one for land near the mouth of the North Fork). The fourth application is for a site on Tukpahlearik Creek, a tributary of the upper Omar River. There are three applications for land in the vicinity of the Omar River by NANA Corporation under provisions of section 14(h)(1) of the Alaska Native Claims Settlement Act. This allows selection by the appropriate regional corporation of certain sites having significance as historic or burial places.

The Squirrel River, from its mouth on the Kobuk River to its junction with the Omar River in T20N, R11W, has been administratively determined by Bureau of Land Management to be navigable. Thus, the state of Alaska owns the bed of this section of the river up to the mean high water line. Because administrative decisions on navigability are subject to legal challenge, the extent of state ownership on the basis of navigability could change in the future. Also various easements have been identified for public purposes on land to be conveyed to the regional corporation. A 50-foot-wide easement would provide for the existing access trail between the Squirrel River and for the mineral claims on upper Klery Creek. A second 50-foot-wide trail easement would provide for an established winter trail that runs along the river in section 35, T19N, R8W, and that travels away from the Squirrel River. Also, two 1-acre easements have been identified adjacent to the Squirrel River. One is located in section 6, T19N, R8W, and is for the existing landing site for the development of Klery Creek mineral deposits; it will also serve as a resting area for travelers on the Squirrel River. The second is located in section 35, T19N, R8W and serves as a trailhead and resting/camping area for river travelers.

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

Several resources and issues discussed in the "Affected Environment" section were analyzed and determined to be negligibly affected by the proposed action and the other alternatives (see "Selection of Issues for Analysis" in the "Consultation and Coordination" section). These resources and issues were discussed in the "Affected Environment" section as background information so that unfamiliar readers will better understand the Squirrel River environment and the context of the impacts. This background information is not repeated in this section.

Effective November 9, 1983, various public land orders (including PLO 5179) were partially revoked by the secretary of the interior, and most federal lands administered by the Bureau of Land Management in the Squirrel River basin were opened to mining and mineral leasing (43 CFR, PLO 6477). None of the federal lands in the basin were opened to sale or lease pursuant to the Federal Land Policy and Management Act of 1976. The federal lands that remain closed to mining and mineral leasing are those within corridors that are 4 miles wide along the main stem of the Squirrel River, the lower 6 miles of the North Fork, and the lower 15 miles of the Omar River (2 miles on each side of the rivers); this area amounts to approximately 194,600 acres. These continued closures along the river are partially in response to the provisions of the Wild and Scenic Rivers Act, which requires protection of the corridor until the wild and scenic river study has been completed and Congress has had the opportunity to decide upon designation. The closures are also in recognition of the recreational, subsistence, water quality, and other public values of these lands, and they are intended to protect those values until the need to open these special lands to other uses is demonstrated.

There is no evidence that the continuing withdrawal under PLO 5179 will be revoked in response to any demonstrated need for additional land along the river for mining, mineral leasing, or sale or lease for occupancy. However, the potential does reasonably exist. Therefore, for the purposes of comparing alternatives and analyzing environmental impacts in this document, it will be assumed that the current withdrawal status of federal lands along the Squirrel River and its principal tributaries will be revoked in the future, and those lands could be available for mining, mineral leasing, and sale or lease for occupancy.

ALTERNATIVE A: NO ACTION

Impact on Access to Private Property

Analysis: Users of native allotments on the river at or above the Omar River currently have access to their property by motorboat in the summer and snowmachine in the winter. The mining claims north of the river are accessible by aircraft, motorized land vehicles, and boats on the Squirrel River as far as Timber Creek. These activities are expected to remain

the same, with the possible exception of expanded road and aircraft access if additional mineral claims were developed in the future. The river would continue to serve as an important means, and for some people the only means, of access to private property along the river. As new mineral developments occurred on sites away from the river, the winter vehicle trails would be extended up the valley. One or more roads could be developed, depending on future mineral development as well as development on private land.

Conclusion: Existing rights and means of access to private property would remain the same except for possible improved access because of expanded mineral development.

Impact on Future Development of Transportation or Utility Corridors

Analysis: Except for the unimproved road to the mining claims along Klery Creek, there are no roads or utility lines within the study area. There are also no definite proposals for such corridor development. However, as part of the transportation planning for potential mineral development in the region, possible routes for a road, railroad, or slurry pipeline have been identified from the Ambler mineral district across the lower Squirrel River to the Chukchi Sea. If major mineral deposits were discovered in the mountains around the Squirrel River, a transportation corridor along the Squirrel River valley could be developed.

Conclusion: Under this alternative, there would be no mandated impediment to the location of a new transportation or utility corridor within or across the Squirrel River valley, except as provided for by law or constraints associated with existing conservation system units.

Impact on Mineral Development

Analysis: Federal lands outside the 4-mile-wide corridors along the main stem of the Squirrel River and the lower segments of the Omar River and North Fork are available for mineral leasing and mineral entry and location under the 1872 Mining Law (43 CFR, PLO 6477). Federal lands within the 4-mile-wide corridors (approximately 194,600 acres) have been withdrawn from mining and mineral development by the secretary of the interior. If mineral-related development proceeded on surrounding lands, the withdrawal would presumably be partially revoked, and some or all of the 194,600 acres of withdrawn land could presumably be made available for mineral location and development. Although adequate survey work has not yet been done, significant deposits of copper, lead, and zinc are likely in the mountains along the north side of the Squirrel River valley, including the headwaters of the Squirrel River.

Conclusion: No change is anticipated in the current status of mineral claims or potential for development of new lands. Additional federal lands could be opened to mineral claim filing and development.

Impact on Oil and Gas Leasing

Analysis: The discovery of oil and gas on the lands within the Squirrel River valley is not considered likely. Nevertheless, most of the federal lands under BLM administration have been opened to leasing except for the 194,600 acres of federal land in the study area withdrawn under PLO 5179.

Conclusion: No impact is anticipated on oil and gas leasing on federal lands except that the secretary of the interior could open up to mineral entry the 194,600 acres now withdrawn.

Impact on Subsistence Use of the River Corridor

Analysis: Subsistence use of the corridor includes fishing, hunting, trapping, wood cutting, and related activities. Relatively large, mostly natural land and water areas are necessary to support most subsistence activities. On the Squirrel River, subsistence activities at least during the summer months are more intensive below, rather than above, the mouth of Klery Creek. Currently subsistence uses are protected on federal lands along the river, particularly by the secretary's withdrawal of lands adjacent to the river to mineral entry, mineral leasing, and occupancy sales or leases. However, under this alternative, the secretary of the interior would have the option to open federal lands along the river to certain future uses that could affect subsistence uses.

Conclusion: No impact on subsistence use of the river and adjacent lands is anticipated unless the secretary of the interior opens any of the 194,600 withdrawn acres to mineral entry or leasing. The secretary could also open federal lands to occupancy sales or leases. Such actions would likely lead to a negative impact on subsistence uses.

Impact on Wildlife Habitat

Analysis: The river corridor provides typical riverine habitat for grizzly bear, black bear, moose, and other species, including furbearers. Floodplain habitat such as that along the Squirrel River is important for moose, particularly during the winter. Portions of the corridor are sometimes used by caribou during annual migrations and in the winter months. Development in the corridor would disrupt wildlife populations. Moose, which are very dependent on riparian habitat in the winter, are the most susceptible to adverse impacts.

Conclusion: If mineral-related development increased or a transportation corridor was developed, there would likely be an adverse impact on wildlife habitat. The extent of the impacts are impossible to project until a specific development or corridor is identified.

Impact on Fisheries Habitat

Analysis: The Squirrel River and its tributaries provide important fish habitat, particularly for spawning chum salmon. It is assumed that any

future developments along the Squirrel River or its tributaries would be subject to state regulations for the protection of water quality, the stream channel, and other factors related to fish habitat. For example, any significant expansion of mining activity in the valley could lead to siltation and turbidity in the clear waters of the Squirrel River and its tributaries. The effect of turbid water upon fisheries is generally adverse. However, under Alaska statute 16.05.870, strong protective measures would probably be taken to protect an important anadromous fish stream such as the Squirrel River.

Conclusion: No significant long-term impacts to fishery habitat are expected under this alternative.

Impact on Fish Population

Analysis: The Squirrel River receives approximately 40 percent of the Kobuk River chum salmon run. There is also a relatively large number of pink salmon, whitefish, and grayling. Other species are present but not in particularly high numbers. As concluded in the analysis of impacts to habitat, the fish are not expected to be significantly affected over the long term by development. As long as recreation and subsistence harvest are similar to past yearly averages on the Kobuk River and other regional rivers, the population of fish on the Squirrel River should remain within normal fluctuations. Any siltation or other disturbances to the riverbed or water quality could adversely affect fish populations. However, because of state statutes to protect anadromous streams, the impacts should be kept to a minimum.

Conclusion: Minimal adverse impacts to the fish population could result if mining or other development occurred near the Squirrel River or its tributaries.

Impact on the Quality of the Recreational Experience

Analysis: The Squirrel River provides a high quality experience for visitors who enjoy solitude, float-boating, sightseeing, and sportfishing. This experience could be adversely affected by the introduction of almost any form of development of the river area. It could also be adversely affected by major changes in land use, decrease of fish populations, or more visitors.

Conclusion: The quality of the recreational experience would remain unchanged unless development or significant changes in land status occurred.

Impact on Future Federal Land Sales or Leases

Analysis: Future federal land sales under the general lands disposal laws are expected. Such actions have been administratively precluded by PLO 6477, under which the secretary of the interior has affirmed the withdrawal of approximately 194,600 acres in the study area from sales or

leases. However, should a significant need for land arise in the future, the current withdrawal could be revoked by the secretary. This would permit sale or lease of federal lands along the river, creating impacts on the existing natural resource values identified along the river corridor.

Conclusion: Important scenic, recreation, wildlife, and fishing resources would probably not be maintained if the current withdrawal was revoked.

Impact on the Undeveloped Quality of the River Corridor

Analysis: The river, the banks, and the adjacent lands within at least ½ mile are almost totally without development. A couple of cabins and a minor road leading up to the river but not readily visible are the only minor exceptions. Under this alternative some changes would likely occur within several years along the river. These changes would most probably stem from mineral extraction (primarily on land several miles from the main stem) and related development (such as a road). Additional cabins could be built along the river if the current withdrawal was revoked by the secretary. Cabins could also be built on privately owned land along the river.

Conclusion: If the secretary of the interior revoked the existing withdrawal of federal lands from mining, mineral leasing, or sale or lease for occupancy, development of federal lands along the river could result. Also, road construction within the valley, including near the river, would be possible. Important scenic, recreation, and fishery resources would not be preserved.

Impact on Archeological Sites

Analysis: Revocation of the withdrawal and any subsequent development could result in the destruction of archeological resources through vandalism, construction activities, pothunting, etc.

Conclusion: Archeological resources would be subject to disturbance and possible destruction.

ALTERNATIVE B: DESIGNATION OF THE FEDERALLY ADMINISTERED PORTION OF THE SQUIRREL RIVER

Impact on Access to Private Property

Analysis: Both the Wild and Scenic Rivers Act and ANILCA have specific provisions guaranteeing access to private property. Within the river corridor designated as wild under this alternative, there would be only three native allotments. These sites are currently reached by motorboat, snowmachine, or light aircraft. Such access would not be affected by wild river designation. There could, however, be some restriction on the development of new surface access routes (roads or all-terrain vehicle trails) across federal lands within the designated segment.

Conclusion: Existing forms of access would not be affected. There could be adverse impacts (e.g., increased costs, restrictions on location, or design limitations) on future accessways that required surface disturbance.

Impact on Future Development of Transportation or Utility Corridors

Analysis: Transportation or utility corridors are permissible across a wild river, but only when there is no economically feasible and prudent alternative. Such development is subject to regulations to ensure that streamflow and river travel are not interfered with or impeded and that the development is done in an environmentally sound manner. Although a corridor across a wild river segment is permissible, a corridor parallel to such a river and within ½ mile of the river for an appreciable distance would probably not be permitted.

Conclusion: Future utility or transportation corridor proposals involving the Squirrel River below the Omar River would not be affected. As a result of designation, restrictions on locations or design of transportation utility system proposals involving the designated portion of the Squirrel River (above the Omar River), assuming no economically feasible and prudent alternatives to them, could result in adverse impacts on such proposals (for example, increased costs). However, all such proposals would be required to be developed so as to ensure maximum protection of important recreation and scenic resources within the designated segment.

Impact on Mineral Development

Analysis: No new mining claims could be located on federal lands within ½ mile of river segments designated as wild. Existing unperfected claims on federal lands could continue to be developed subject to regulations to minimize adverse effects on scenic, water quality, recreational, fish and wildlife, and other values of the river. Of the approximately 194,600 acres already withdrawn from new mineral entry, about 48,640 acres would be permanently closed to mineral development and could not be opened except with congressional approval (section 9(a)(iii) of the Wild and Scenic Rvers Act). Some of this affected acreage is in the headwaters of the Squirrel River, part of a potentially rich mineralized belt. Also, the need to protect river values could affect the location of any future roads or other transportation corridors into potential mineral development areas as discussed above.

Conclusion: This alternative could permanently preclude future mineral development around the headwaters of the Squirrel River because approximately 48,640 acres of federal land would remain closed to any new mineral entry. Existing claims or the development of those claims located on tributaries of the lower Squirrel River would not be affected. Important recreation and natural resources delineated by the designated segment would be protected from new mineral entry and development.

Impact on Oil and Gas Leasing

Analysis: The impact would be similar to that described for alternative A, except approximately 48,640 acres of federal land would remain permanently closed to leasing under section 9 (a)(iii) of the Wild and Scenic Rivers Act. This acreage is now closed to leasing by authority of the secretary of the interior under PLO 5179.

Conclusion: Any future oil and gas leasing within the designated segment of the Squirrel River would be permanently precluded through congressional action. Important natural and recreation resources would be protected from oil and gas development within the 48,640-acre designated area.

Impact on Subsistence Use of the River Corridor

Analysis: This alternative would preclude future development activities and diminish the magnitude of others along the 76 miles of designated river. There would be no action by the federal government to dispose of any land not already withdrawn and fewer possibilities for leases. Therefore, the 76-mile river segment would probably not undergo any major changes in use or be subject to development. Maintaining the status quo of land uses should be mostly beneficial for subsistence uses. However, designation would probably attract more visitors to the area for recreational purposes (possibly a 10 percent increase per year for up to 10 years). Recreationists could occasionally compete with or disrupt subsistence users. Overall, the impact on subsistence users would likely be minor because recreational use would be relatively low, and because protection is already afforded by state and federal laws, which give priority to subsistence uses.

Conclusion: Some negative impacts on subsistence use could occur because of additional recreationists. However, there would also be long-term beneficial impacts because the natural condition of the upper river corridor would be maintained. The total adverse effect, compared to what could happen under alternative A, would likely be minor.

Impact on Wildlife Habitat

Analysis: As described for alternative A, no developments or land use changes are expected that would have more than short-term or very localized impacts to wildlife. Overall, this alternative could help ensure that wildlife habitat was not adversely affected by future development.

Conclusion: Approximately 48,640 acres of important wildlife habitat would be protected.

Impact on Fisheries Habitat

Analysis: As described for alternative A, existing legal safeguards are probably sufficient to protect fisheries habitat on this important

anadromous fish stream. Nevertheless, precluding any additional mineral claims on federal lands around the headwaters of the Squirrel River, and limiting to some extent other forms of development, would provide greater assurance that habitat would be left undisturbed. Also the Bureau of Land Management would probably place a higher priority on working with the Alaska Department of Fish and Game, the Alaska Department of Environmental Conservation, and other agencies to protect fisheries habitat. Guidelines would probably be developed, and mining and other activities within and outside the corridor that could degrade water quality or affect fisheries habitat in other ways would be monitored.

Conclusion: Approximately 76 miles of important fishery habitat would be protected and maintained to a greater degree than without designation.

Impact on Fish Population

Analysis: Under this alternative, any major land use changes along the river would be unlikely. This should have a long-term beneficial effect on fish populations. However, designation would also attract more sportfishermen. Without special regulation as part of the BLM river management plan, there could be long-term adverse impacts on some fish species populations.

Conclusion: Important fishery values would be preserved and maintained.

Impact on the Quality of the Recreational Experience

Analysis: As described for alternative A, the quality of the recreational experience should remain unchanged unless the natural character of the area was altered significantly, visitation increased substantially, or fish populations decreased markedly. This alternative would help ensure that the natural character of 76 miles of the river was maintained, for example, by increasing efforts to protect water quality from influences on federal land. However, designation would attract more visitors.

Conclusion: The natural character and quality of this portion of the river would be maintained.

Impact on Future Federal Land Sales or Leases

Analysis: This alternative would ensure through congressional action that no sales would be held along the designated segment. Although this alternative would not prohibit all leases on federal land along the river, it would make such leases less likely by requiring the protection of river values as a condition of any future leases.

Conclusion: Land uses along the river would probably not be expanded as a result of sales or leases of federal land. Important natural and recreation resources would be protected from possible land use changes.

Impact on the Undeveloped Quality of the River Corridor

Analysis: Some change, most likely connected with mineral development, would probably occur within the Squirrel River valley. This alternative would enhance protection of the upper 76 miles of the river and adjacent lands.

Conclusion: This alternative would help protect the undeveloped quality of the upper 76 miles of the river.

Impact on Archeological Sites

Analysis: Because more people would probably be using the river, archeological sites could be subject to disturbance. Archeological sites near streams are normally found on the tops or slopes of benches or other raised areas. Along the Squirrel River these elevated areas are covered by an almost unbroken mat of vegetation, which reduces the likelihood of visitors finding and disturbing archeological sites. Also the use of the river's many gravel bars as camping sites would further reduce the chance that undisturbed areas away from the river would be discovered. The Bureau of Land Management, as the administering agency, would inventory any areas within the corridor that could be affected so that sites could be protected.

Conclusion: Archeological resources within the designated segment would be protected. Impacts and conclusions for all the designation alternatives considered would be similar, only the size of protected areas would vary.

ALTERNATIVE C: DESIGNATION OF THE MIDDLE PORTION OF THE SQUIRREL RIVER

The impacts of alternative C would be similar to those described for alternative B except as noted below. Only 51 miles of the Squirrel River would be included in the national system, rather than 76 as under alternative B.

Impact on Mineral Development

Analysis: Under this alternative, unlike alternative B, new mineral claims could be filed on federal lands along the upper 15 miles of the Squirrel River (if the current withdrawal under PLO 5179 was partially revoked by the secretary). Compared to alternative B, this would result in approximately 16,000 additional acres of federal land potentially being opened by the secretary to mineral claims. All of this additional acreage is within an area believed to have good potential for significant deposits of copper, lead, and zinc. The same constraints described under alternative B regarding location of future roads or other transportation corridors would apply to this alternative. Approximately, 32,640 acres would be permanently closed to mineral entry.

Conclusion: There would be no impact on mineral development because the potential mineralized area around the headwaters of the Squirrel River could be opened by the secretary to future mineral claims and developments. Adverse impacts, as described under alternative B, could be expected as a result of the development of possible future transportation corridors required for mineral development.

Impact on Oil and Gas Leasing

Analysis: Under this alternative, approximately 32, 640 acres of federal land would remain closed to oil and gas leasing (16,000 fewer acres than under alternative B).

Conclusion: Any future oil and gas leasing in the Squirrel River valley would be negatively affected within the designated river corridor. Compared to approximately 194,600 acres currently withdrawn from leasing by the secretary of the interior, 32,640 acres of that withdrawal would be permanently closed by Congress.

Impact on the Undeveloped Quality of the River Corridor

Analysis: This alternative would maintain the essential status quo of federal lands along the middle 51 miles of river. The land along the uppermost 15 miles of the river could change if PLO 5179 was revoked.

Conclusion: This alternative would retain the undeveloped quality along the designated portion of the river (51 miles).

ALTERNATIVE D: DESIGNATION OF THE FEDERALLY ADMINISTERED PORTION OF THE SQUIRREL RIVER AND THE LOWER FEW MILES OF THE NORTH FORK AND OMAR RIVER (PROPOSED ACTION)

The impacts of this alternative would be similar to those described for alternative B except as noted below. The amount of river area included in the national system would be 76 miles of the Squirrel River (same as alternative B), plus the lower 6 miles of the North Fork and the lower 15 miles of the Omar River.

Impact on Mineral Development

The impact would be similar to that described for alternative B except approximately 13,440 acres of additional federal land would remain closed to future mineral claims. This additional acreage is not considered to have high mineral potential. Of the approximately 194,600 acres of federal land currently withdrawn, approximately 62,080 acres would be permanently closed under the provisions of the Wild and Scenic Rivers Act.

Impact on Oil and Gas Leasing

The impact would be similar to that described for alternative B except approximately 13,440 acres of additional federal land would remain closed to leasing. This acreage is not considered to have high oil and gas potential. Altogether, approximately 62,080 acres would be permanently closed to leases.

Impact on Fisheries Habitat

Analysis: The North Fork and Omar River are both considered to contain important spawning habitat. Therefore, this alternative would provide greater protection of important fish habitat than under either alternative B or C. The benefits would probably be greatest for chum salmon and char.

Conclusion: Impacts to fish habitat would be beneficial over the long term.

Impact on the Undeveloped Quality of the River Corridor

Compared to alternative B, this alternative would protect an additional 13,440 acres of land around the lower portions of the North Fork and Omar River.

ALTERNATIVE E: DESIGNATION OF THE FEDERALLY ADMINISTERED PORTION OF THE SQUIRREL RIVER AND THREE PRINCIPAL TRIBUTARIES

The impacts of this alternative would again be similar to those described for alternative B except as noted below. Altogether 76 miles of the Squirrel River, all 32 miles of the Omar River, all 32 miles of the North Fork, and all 24 miles of the unnamed tributary would be included in the wild and scenic rivers system.

Impact on Future Development of Transportation or Utility Corridors

Analysis: The impacts described for alternative B would also apply to this alternative. However, not only would future transportation or utility corridors be precluded from running parallel to and within about ½ mile of the upper portion of the Squirrel River, they would also be precluded along the three tributaries. Each tributary flows from potentially rich mineralized areas, and future transportation on utility corridors would be required for any mineral development. This alternative could therefore make future development of transportation corridors in the valley difficult and more costly. Future corridors would not necessarily be precluded from crossing the Squirrel River or any of the tributaries.

Conclusion: There could be significant adverse effects on future transportation or utility development proposals within the Squirrel River valley.

Impact on Mineral Development

Analysis: This alternative would keep approximately 89,000 acres of federal land permanently closed to new mineral claims, including some land within the potentially rich mineralized areas surrounding the headwaters of the Squirrel River and all three of the tributaries proposed for designation. Approximately 42,880 acres of this federal land is not now closed to mineral entry by the secretary of the interior. Existing claims would not be adversely affected, but the expansion of mineral claims would be severely impacted. Also as previously discussed, the transportation infrastructure necessary to support new mineral development in the foothills adjacent to the Squirrel River would be adversely affected.

Conclusion: There could be significant adverse impacts on new mineral development.

Impact on Oil and Gas Leasing

The impact would be similar to that described for alternative B except approximately 104,960 acres of federal land would remain permanently unavailable for leasing. This acreage is not considered to have high oil and gas potential.

Impact on the Undeveloped Quality of the River Corridor

This alternative would have the same beneficial impacts as alternative B except that the undeveloped quality of an additional 56,320 acres of land along the three major tributaries would be protected.

CONSULTATION AND COORDINATION

SCOPING AND ISSUE IDENTIFICATION

The involvement of the public, interested groups, and various agencies in the identification of issues and special concerns related to this study has been an ongoing activity. News releases, written correspondence with agencies and groups, a public information brochure, public meetings, and study team meetings have all been used to define issues and concerns. Various federal, state, and local governmental agencies, plus native corporations, were contacted by letter and requested to identify pertinent issues and concerns and to provide other input. Among the agencies and private corporations contacted during the study were the following:

Federal agencies

Army Corps of Engineers
Bureau of Land Management
Fish and Wildlife Service
Geological Survey
Mineral Management Service
Department of Housing and Urban Development

Alaska agencies and interests

Alaska Federation of Natives
Alaska Land Use Council
Alaska Power Administration
Department of Environmental Conservation
Department of Fish and Game
Department of Natural Resources

Local agencies and interests

City of Kiana
City of Noorvik
IRA Councils of Kiana, Kotzebue, and Noorvik
Kikiktagruk Inupiat Corporation
Maniilog Association
NANA Regional Corporation

Letters were also sent to various groups and individuals on a general public mailing list to solicit the same information. This was followed with news releases in local newspapers and a notice in the Federal Register. In January 1983, a public information brochure was distributed that requested assistance in identifying issues, providing resource and other information, and developing and selecting a proposal.

After the brochure was released, public meetings were held in Fairbanks, Kotzebue, Noorvik, and Kiana. Additional issues were identified and discussed during meetings of the study team and through contacts made with representatives of various agencies.

Issues were also canvassed from study reports pertaining to the study area or the study subject. Chief among these were the NANA Coastal Resource Service Area Coastal Management Program (Darbyshire and Associates 1982), the Management Framework Plan, Northwest Planning Area (BLM 1983a), and the state's "General Issues List for Conservation System Unit Planning" (Alaska 1982). The Advisory Council on Historic Preservation has been contacted, and the state historic preservation officer and the Fish and Wildlife Service have been consulted regarding possible issues involving cultural resources and endangered species, respectively.

Following is a list of the major issues identified through the scoping process.

Access

Access to private land parcels within the river area
Traditional public access to use wildlife and fishery resources
Travel by motorized craft
Future development of transportation or utility corridor across the river (e.g., development of a road from the Ambler mining district to the coast)
Access to existing mineral claims

Traditional Uses

Existing rights to water
Cutting of firewood
Hunting, trapping, and fishing
Continuation of traditional subsistence activities
Fish camps along the river
Conflicts between local users and increasing numbers of recreationists from outside the local area
Continued use of snowmachines, motorboats, and airplanes in the river corridor

Facilities and Development

Mineral exploration and development
Oil and gas exploration and leasing
Land sales and leases under the Federal Land Policy and Management Act (e.g., residential or commercial cabins)
Use and development of private lands
Construction of shelter cabins
Hydroelectric developments on tributaries

Fish and Wildlife

Caribou overwintering and migration
Moose, bear, and other species habitat
Anadromous and freshwater fish habitat

Fish-spawning habitat
Increasing pressure on fish populations from sportfishing

Fish and Wildlife Management

Construction and maintenance of facilities or structures needed to further fish and wildlife management activities
Aerial and ground surveys of fish and wildlife
Management or research programs

Recreation

Quality of the recreational experience
Access to and from the river area
Sport hunting and fishing

Other

The river's free-flowing character and associated values
Wilderness qualities of the area
Cooperation in management of the entire river (Bureau of Land Management, state of Alaska, NANA Regional Corporation)
Publicity about the river area and attraction of more visitors
Coordination with study of oil and gas exploration and leasing potential in the area
NANA Regional Corporation land selections
Archeological sites

SELECTION OF ISSUES FOR ANALYSIS

The preceding list of issues was examined to determine which pertained directly to this study and the alternatives under consideration and thus required analysis. Some issues were combined into a single topic, others were deleted from further analysis. The following issues were determined important in the evaluation of the environmental and other possible impacts of the alternatives considered in this study.

Access

Access to private property (including mineral claims and allotments)

Development

Future development of transportation or utility corridors
Mineral development
Oil and gas leasing

Subsistence

Subsistence use of the river corridor (includes hunting, trapping, fishing, cutting of firewood, fish camps, and conflicts with competing user groups)

Fish and Wildlife

Wildlife habitat (includes caribou overwintering and migration areas, moose, bear, and other species habitat)
Fisheries habitat
Fish population

Recreation

Quality of the recreational experience

Other

Future federal land sales or leases
Undeveloped (wilderness) quality of the river corridor
Archeological sites

The remaining issues were dropped from further analysis, as explained below.

Existing rights to water--Existing water rights are not altered by any of the alternatives addressed in this study. Section 13 of the Wild and Scenic Rivers Act (16 USC 1271 et seq.) mandates that jurisdiction of the states over waters of any stream included in the national system shall be unaffected.

Use and development of private lands--Existing federal laws (sec. 15 of the Wild and Scenic Rivers Act and sec. 606 of ANILCA) provide that nonfederal lands in Alaska be excluded from the boundaries of designated wild, scenic, or recreational river areas. Therefore, use and development of private lands are not directly affected by any of the alternatives.

Construction of shelter cabins, construction and maintenance of facilities for fish and wildlife management, aerial and ground surveys of fish and wildlife, management or research programs--Inclusion of a river segment in the national system would not preclude these activities. Many such ongoing activities could be permitted on federal lands subject to the discretionary authority of the Bureau of Land Management. A permit might be needed.

Continuation of present means of access into the river area, including travel by motorized craft--Present means of access (e.g., landing of airplanes on gravel bars or use of snowmachines and motorboats) are generally authorized within wild, scenic, or

recreational river areas by existing law (sec. 1110 (a) and (b) of ANILCA) and would not be altered by any of the alternatives examined in this study.

Sport hunting and fishing--None of the alternatives would affect the state's authority to regulate sport hunting and fishing (sec. 13(a) of the Wild and Scenic Rivers Act).

Cooperation among land managers in the management of the entire river--This is not an issue for this study. Cooperative management should be an objective, no matter what course of action is decided upon for the Squirrel River.

Coordination of the wild and scenic river study with studies of oil and gas exploration and leasing potential in the area (ANILCA sec. 1008 study)--Such coordination has taken place since the beginning of the Squirrel River study. At least one individual is on both study teams.

River's free-flowing character--The free-flowing character of the Squirrel River does not appear to be threatened by any proposals in the foreseeable future.

Hydroelectric development--Although frequently a very important issue in many wild and scenic river studies, hydroelectric development is not a factor in this study. There are no proposals for such development, nor has the river been identified as having potential. A small tributary has been identified, but the site is on NANA land and outside the study area.

Access to private property (including mineral claims and native allotments)--Adequate and feasible access across or along designated river areas to and from private lands is guaranteed by law (e.g., sec. 1110(b) of ANILCA).

NANA Regional Corporation land selections--If a river is added to the national system, no previous land withdrawals (including those under the Alaska Native Claims Settlement Act) are affected. Furthermore, Congress in making previous designations of Alaska rivers specifically excluded river segments located on any but federal lands. Therefore, any alternatives involving designation of river segments located on NANA lands were eliminated.

DEVELOPMENT OF THE ALTERNATIVES

The study team, with the National Park Service as lead agency, was responsible for developing alternatives and deciding which were relevant and appropriate for further consideration. The other members of the study team included the Bureau of Land Management, the Alaska Department of Fish and Game, the Alaska Department of Environmental Conservation, and the NANA Regional Corporation.

Following a field reconnaissance of the river in August 1982, the study team met to review and discuss preliminary study findings, including the river area values. Preliminary alternatives were identified at this time, and they were presented to the public in the information brochure. Following public meetings and review, the study team further evaluated the alternatives and reviewed public and agency input. The initial alternatives identified by the study team included

- designation of the federally administered portion of the Squirrel River
- designation of the middle portion of the Squirrel River
- designation of the federally administered portion of the Squirrel River and the lower few miles of the North Fork and Omar River
- designation of the entire Squirrel River
- no action

Additional alternatives proposed by the public or governmental agencies during review of the brochure included

- creation of a Squirrel River national watershed preserve
- designation as an area of critical environmental concern
- designation of the federally administered portion of the Squirrel River and three principal tributaries (Omar, North Fork, and unnamed tributary upstream from North Fork)
- designation with the National Park Service as the administering agency

The alternatives selected for further analysis and those rejected and the reasons for rejection are described in the "Alternatives Considered" section of this report.

LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT WERE SENT

Federal Agencies

Department of Agriculture
- Forest Service
- Soil Conservation Service

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

Department of Defense
- Army Corps of Engineers

Department of Energy
- Alaska Power Administration
- Energy Research and Development Administration
- Federal Energy Regulatory Commission

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

Department of Transportation
- Federal Aviation Administration
- Federal Highway Administration

Environmental Protection Agency
Department of State

Alaska State Agencies (through the conservation system unit coordinator)

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

Department of Revenue
Department of Transportation and Public Facilities
Division of Fish and Wildlife Protection
Division of Policy Development and Planning

Local Agencies

City of Noorvik
City of Kiana

Interested Groups

Alaska Center for the Environment
Alaska Chamber of Commerce
Alaska Coalition
Alaska Conservation Society
Alaska Federation of Natives
Alaska Historical Commission
Alaska Historical Society
Alaska Land Act Coordinating Committee
Alaska Legal Services
Alaska Miners Association
Alaska Native Foundation
Alaska Oil and Gas Association
Alaska Professional Hunters
Alaska Sportsmen's Council
Alaska Wilderness Council
Alaska Wildlife Federation
American Mining Congress
American Petroleum Institute
Arctic Environmental Information and Data Center
Association of Village Council Presidents
Audubon Society
Kikiktagruk Inupiat Association
NANA Regional Corporation
Federation of Western Outdoor Clubs
Friends of the Earth
Institute of Arctic and Alpine Research
National Wildlife Federation
Sierra Club
Soil Conservation Society of America
Maniilog Association
Wilderness Society
Wildlife Management Institute
Wildlife Society

Individuals

Mailings will be made to individuals included on the mailing list located at the National Park Service, Alaska Regional Office, Anchorage.

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APPENDIX A: WILD AND SCENIC RIVERS ACT

Public Law 90-542
(16 U.S.C. 1271 et seq.)
WILD AND SCENIC RIVERS ACT
as amended
through P.L. 96-580, December 23, 1980

AN ACT

To provide for a National Wild and Scenic Rivers System, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) this Act may be cited as the "Wild and Scenic Rivers Act".

(b) 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.

(c) The purpose of this Act is to implement this policy by instituting a national wild and scenic rivers system, by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

SEC. 2. (a) The national wild and scenic rivers system shall comprise rivers (i) that are authorized for inclusion therein by Act of Congress, or (ii) that are designated as wild, scenic or recreational rivers by or pursuant to an act of the legislature of the State or States through which they flow, that are to be permanently administered as wild, scenic or recreational rivers by an agency or political subdivision of the State or States concerned, that are found by the Secretary of the Interior, upon application of the Governor of the State or the Governors of the States concerned, or a person or persons thereunto duly appointed by him or them, to meet the criteria established in this Act and such criteria supplementary thereto as he may prescribe, and that are approved by him for inclusion in the system, including, upon application of the Governor of the State concerned, the Allagash Wilderness Waterway, Maine; that segment of the Wolf River, Wisconsin, which flows through Langlade County; and that segment of the New River in North Carolina extending from its confluence with Dog Creek downstream approximately 26.5 miles to the Virginia State line. Upon receipt of an application under clause (ii) of this subsection, the Secretary shall notify the Federal Energy Regulatory Commission and publish such application in the Federal Register. Each river designated

under clause (ii) shall be administered by the State or political subdivision thereof without expense to the United States other than for administration and management of federally owned lands. For purposes of the preceding sentence, amounts made available to any State or political subdivision under the Land and Water Conservation Act of 1965 or any other provision of law shall not be treated as an expense to the United States. Nothing in this subsection shall be construed to provide for the transfer to, or administration by, a State or local authority of any federally owned lands which are within the boundaries of any river included within the system under clause (ii).

(b) A wild, scenic or recreational 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. Every wild, scenic or recreational river in its free-flowing condition, or upon restoration to this condition, shall be considered eligible for inclusion in the national wild and scenic rivers system and, if included, shall be classified, designated, and administered 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.

(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.

(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.

SEC. 3. (a) The following rivers and the land adjacent thereto are hereby designated as components of the national wild and scenic rivers system:

* * * *

SEC. 4.(a) The Secretary of the Interior or, where national forest lands are involved, the Secretary of Agriculture or, in appropriate cases, the two Secretaries jointly shall study and submit to the President reports on the suitability or nonsuitability for addition to the national wild and scenic rivers system of rivers which are designated herein or hereafter by the Congress as potential additions to such system. The President shall report to the Congress his recommendations and proposals with respect to the designation of each such river or section thereof under this Act. Such studies shall be completed and such reports shall be made to the Congress with respect to all rivers named in subparagraphs 5(a)(1) through (27) of this Act no later

than October 2, 1978. In conducting these studies the Secretary of the Interior and the Secretary of Agriculture shall give priority to those rivers (i) with respect to which there is the greatest likelihood of developments which, if undertaken, would render the rivers unsuitable for inclusion in the national wild and scenic rivers system, and (ii) which possess the greatest proportion of private lands within their areas. Every such study and plan shall be coordinated with any water resources planning involving the same river which is being conducted pursuant to the Water Resources Planning Act (79 Stat. 244; 42 U.S.C. 1962 et seq.).

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. Each such report shall be printed as a Senate or House document.

(b) Before submitting any such report to the President and the Congress, copies of the proposed report shall, unless it was prepared jointly by the Secretary of the Interior and the Secretary of Agriculture, be submitted by the Secretary of the Interior to the Secretary of Agriculture or by the Secretary of Agriculture to the Secretary of the Interior, as the case may be, and to the Secretary of the Army, the Chairman of the Federal Power Commission, the head of any other affected Federal department or agency and, unless the lands proposed to be included in the area are already owned by the United States or have already been authorized for acquisition by Act of Congress, the Governor of the State or States in which they are located or an officer designated by the Governor to receive the same. Any recommendations or comments on the proposal which the said officials furnish the Secretary or Secretaries who prepared the report within ninety days of the date on which the report is submitted to them, together with the Secretary's or Secretaries' comments thereon, shall be included with the transmittal to the President and the Congress.

(c) Before approving or disapproving for inclusion in the national wild and scenic rivers system any river designated as a wild, scenic or recreational river by or pursuant to an act of a State legislature, the Secretary of the Interior shall submit the proposal to the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Federal Power Commission, and the head of any other affected Federal department or agency and shall evaluate and give due weight to any recommendations or comments which the said officials furnish him within ninety days of the date on which it is submitted to them. If he approves the proposed inclusion, he shall publish notice thereof in the Federal Register.

SEC. 5.(a) The following rivers are hereby designated for potential addition to the national wild and scenic rivers system:

* * * *

(77) Colville, Alaska.

(78) Etivluk-Nigu, Alaska.

(79) Utukok, Alaska.

(80) Kanektok, Alaska.

(81) Kisaralik, Alaska.

(82) Melozitna, Alaska.

(83) Sheenjek (lower segment), Alaska.

(84) Situk, Alaska.

(85) Porcupine, Alaska.

(86) Yukon (Ramparts section), Alaska.

(87) Squirrel, Alaska.

(88) Koyuk, Alaska.

(b)(1) The studies of rivers named in subparagraphs (28) through (55) of subsection (a) of this section shall be completed and reports thereon submitted by not later than October 2, 1979: Provided, That with respect to the rivers named in subparagraphs (33), (50), and (51), the Secretaries shall not commence any studies until (i) the State legislature has acted with respect to such rivers or (ii) one year from the date of enactment of this Act, whichever is earlier.

(2) The study of the river named in subparagraph (56) of subsection (a) of this section shall be completed and the report thereon submitted by not later than January 3, 1976.

(3) The studies of the rivers named in paragraphs (59) through (76) of subsection (a) shall be completed and reports submitted thereon not later than five full fiscal years after the date of the enactment of this paragraph. The study of rivers named in paragraphs (62) and (64) of subsection (a) shall be completed and the report thereon submitted by not later than April 1981.

(4) There are authorized to be appropriated for the purpose of conducting the studies of the rivers named in subparagraphs (28) through (56) such sums as may be necessary, but not more than $4,060,000. There are authorized to be appropriated for the purpose of conducting the studies of the rivers named in subparagraphs (59) through (76) such sums as may be necessary.

(4) The studies of the rivers in paragraph (77) through (88) shall be completed and reports transmitted thereon not later than three full fiscal years from date of enactment of this paragraph. For the rivers listed in paragraphs (77), (78), and (79) the studies prepared and transmitted to the Congress pursuant to section 105(c) of the Naval Petroleum Reserves Production

Act of 1976 (Public Law 94-258) shall satisfy the requirements of this section.

(5) Studies of rivers listed in paragraphs (80) and (81) shall be completed, and reports submitted within and not later than the time when the Bristol Bay Cooperative Region Plan is submitted to Congress in accordance with section 1204 of the Alaska National Interest Lands Conservation Act.

(c) The study of any of said rivers shall be pursued in as close cooperation with appropriate agencies of the affected State and its political subdivisions as possible, shall be carried on jointly with such agencies if request for such joint study is made by the State, and 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.

(d) In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

SEC. 6. (a) The Secretary of the Interior and the Secretary of Agriculture are each authorized to acquire lands and interests in land within the authorized boundaries of any component of the national wild and scenic rivers system designated in section 3 of this Act, or hereafter designated for inclusion in the system by Act of Congress, which is administered by him, but he shall not acquire fee title to an average of more than 100 acres per mile on both sides of the river. Lands owned by a State may be acquired only by donation, and lands owned by an Indian tribe or a political subdivision of a State may not be acquired without the consent of the appropriate governing body thereof as long as the Indian tribe or political subdivision is following a plan for management and protection of the lands which the Secretary finds protects the land and assures its use for purposes consistent with this Act. Money appropriated for Federal purposes from the land and water conservation fund shall, without prejudice to the use of appropriations from other sources, be available to Federal departments and agencies for the acquisition of property for the purposes of this Act.

(b) If 50 per centum or more of the entire acreage within a federally administered wild, scenic or recreational river area is owned by the United States, by the State or States within which it lies, or by political subdivisions of those States, neither Secretary shall acquire fee title to any lands by condemnation under authority of this Act. Nothing contained in this section, however, shall preclude the use of condemnation when necessary to clear title or to acquire scenic easements or such other easements as are reasonably necessary to give the public access to the river and to permit its members to traverse the length of the area or of selected segments thereof.

(c) Neither the Secretary of the Interior nor the Secretary of Agriculture may acquire lands by condemnation, for the purpose of including such lands in any national wild, scenic or recreational river area, if such lands are located within any incorporated city, village, or borough which has in force and applicable to such lands a duly adopted, valid zoning ordinance that conforms with the purposes of this Act. In order to carry out the provisions of this subsection the appropriate Secretary shall issue guidelines, specifying standards for local zoning ordinances, which are consistent with the purposes of this Act. The standards specified in such guidelines shall have the object of (A) prohibiting new commercial or industrial uses other than commercial or industrial uses which are consistent with the purposes of this Act, and (B) the protection of the bank lands by means of acreage, frontage, and setback requirements on development.

(d) The appropriate Secretary is authorized to accept title to non-Federal property within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress and, in exchange therefor, convey to the grantor any federally owned property which is under his jurisdiction within the State in which the component lies and which he classifies as suitable for exchange or other disposal. The values of the properties so exchanged either shall be approximately equal or, if they are not approximately equal, shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require.

(e) The head of any Federal department or agency having administrative jurisdiction over any lands or interests in land within the authorized boundaries of any federally administered component of the national wild and scenic rivers system designated in section 3 of this Act or hereafter designated for inclusion in the system by Act of Congress is authorized to transfer to the appropriate Secretary jurisdiction over such lands for administration in accordance with the provisions of this Act. Lands acquired by or transferred to the Secretary of Agriculture for the purposes of this Act within or adjacent to a national forest shall upon such acquisition or transfer become national forest lands.

(f) The appropriate Secretary is authorized to accept donations of lands and interests in land, funds, and other property for use in connection with his administration of the national wild and scenic rivers system.

(g)(1) Any owner or owners (hereinafter in this subsection referred to as "owner") of improved property on the date of its acquisition, may retain for themselves and their successors or assigns a right of use and occupancy of the improved property for noncommercial residential purposes for a definite term not to exceed twenty-five years or, in lieu thereof, for a term ending at the death of the owner, or the death of his spouse, or the death of either or both of them. The owner shall elect the term to be reserved. The appropriate Secretary shall pay to the owner the fair market value of the property on the date of such acquisition less the fair market value on such date of the right retained by the owner.

(2) A right of use and occupancy retained pursuant to this subsection shall be subject to termination whenever the appropriate Secretary is given

reasonable cause to find that such use and occupancy is being exercised in a manner which conflicts with the purposes of this Act. In the event of such a finding, the Secretary shall tender to the holder of that right an amount equal to the fair market value of that portion of the right which remains unexpired on the date of termination. Such right of use or occupancy shall terminate by operation of law upon tender of the fair market price.

(3) The term "improved property", as used in this Act, means a detached, one-family dwelling (hereinafter referred to as "dwelling"), the construction of which was begun before January 1, 1967, (except where a different date is specifically provided by law with respect to any particular river) together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the appropriate Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

SEC. 7. (a) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act (41 Stat. 1063), as amended (16 U.S.C. 791a et seq.), on or directly affecting any river which is designated in section 3 of this Act as a component of the national wild and scenic rivers system or which is hereafter designated for inclusion in that system, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration. Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the area on the date of approval of this Act. No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration, or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior or the Secretary of Agriculture, as the case may be, in writing of its intention so to do at least sixty days in advance, and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

Any license heretofore or hereafter issued by the Federal Power Commission affecting the New River of North Carolina shall continue to be effective only for that portion of the river which is not included in the National Wild and Scenic Rivers System pursuant to section 2 of this Act and no project or undertaking so licensed shall be permitted to invade, inundate or otherwise adversely affect such river segment.

(b) The Federal Power Commission shall not license the construction of any dam, water conduit, reservoir, powerhouse, transmission line, or other project works under the Federal Power Act, as amended, on or directly affecting any river which is listed in section 5, subsection (a), of this Act, and no department or agency of the United States shall assist by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river might be designated, as determined by the Secretary responsible for its study or approval--

(i) during the ten-year period following enactment of this Act or for a three complete fiscal year period following any Act of Congress designating any river for potential addition to the national wild and scenic rivers system, whichever is later, unless, prior to the expiration of the relevant period, the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, on the basis of study, determine that such river should not be included in the national wild and scenic rivers system and notify the Committees on Interior and Insular Affairs of the United States Congress, in writing, including a copy of the study upon which the determination was made, at least one hundred and eighty days while Congress is in session prior to publishing notice to that effect in the Federal Register: Provided, That if any Act designating any river or rivers for potential addition to the national wild and scenic rivers system provides for a period for the study or studies which exceeds such three complete fiscal year period the period provided for in such Act shall be substituted for the three complete fiscal year period in the provisions of this clause (i); and (ii) during such additional period thereafter as, in the case of any river the report for which is submitted to the President and the Congress, is necessary for congressional consideration thereof or, in the case of any river recommended to the Secretary of the Interior for inclusion in the national wild and scenic rivers system under section (2)(a)(ii) of this Act, is necessary for the Secretary's consideration thereof, which additional period, however, shall not exceed three years in the first case and one year in the second.

Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above a potential wild, scenic or recreational river area or on any stream tributary thereto which will not invade the area or diminish the scenic, recreational, and fish and wildlife values present in the potential wild, scenic or recreational river area on the date of approval of this Act. No department or agency of the United States shall, during the periods hereinbefore specified, recommend authorization of any water resources project on any such river or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture in writing of its intention so to do at least sixty days in advance of doing so and without specifically reporting to the Congress in writing at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of this Act and would affect the component and the values to be protected by it under this Act.

(c) The Federal Power Commission and all other Federal agencies shall, promptly upon enactment of this Act, inform the Secretary of the Interior and, where national forest lands are involved, the Secretary of Agriculture, of any proceedings, studies, or other activities within their jurisdiction which are now in progress and which affect or may affect any of the rivers specified in section 5, subsection (a), of this Act. They shall likewise inform him of any such proceedings, studies, or other activities which are hereafter commenced or resumed before they are commenced or resumed.

(d) Nothing in this section with respect to the making of a loan or grant shall apply to grants made under the Land and Water Conservation Fund Act of 1965 (78 Stat. 897; 16 U.S.C. 4601-5 et seq.).

SEC. 8. (a) All public lands within the authorized boundaries of any component of the national wild and scenic rivers system which is designated in section 3 of this Act or which is hereafter designated for inclusion in that system are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States.

(b) All public lands which constitute the bed or bank, or are within one-quarter mile of the bank, of any river which is listed in section 5, subsection (a), of this Act are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States for the periods specified in section 7, subsection (b), of this Act. Notwithstanding the foregoing provisions of this subsection or any other provision of this Act, subject only to valid existing rights, including valid Native selection rights under the Alaska Native Claims Settlement Act, all public lands which constitute the bed or bank, or are within an area extending two miles from the bank of the river channel on both sides of the river segments referred to in paragraphs (77) through (88) of section 5(a) are hereby withdrawn from entry, sale, State selection or other disposition under the public land laws of the United States for the periods specified in section 7(b) of this Act.

SEC. 9. (a) Nothing in this Act shall affect the applicability of the United States mining and mineral leasing laws within components of the national wild and scenic rivers system except that--

(i) all prospecting, mining operations, and other activities on mining claims which, in the case of a component of the system designated in section 3 of this Act, have not heretofore been perfected or which, in the case of a component hereafter designated pursuant to this Act or any other Act of Congress, are not perfected before its inclusion in the system and all mining operations and other activities under a mineral lease, license, or permit issued or renewed after inclusion of a component in the system shall be subject to such regulations as the Secretary of the Interior or, in the case of national forest lands, the Secretary of Agriculture may prescribe to effectuate the purposes of this Act;

(ii) subject to valid existing rights, the perfection of, or issuance of a patent to, any mining claim affecting lands within the system shall confer or convey a right or title only to the mineral deposits and such rights only to the use of the surface and the surface resources

as are reasonably required to carrying on prospecting or mining operations and are consistent with such regulations as may be prescribed by the Secretary of the Interior or, in the case of national forest lands, by the Secretary of Agriculture; and

(iii) subject to valid existing rights, the minerals in Federal lands which are part of the system and constitute the bed or banks or are situated within one-quarter mile of the bank of any river designated a wild river under this Act or any subsequent Act are hereby withdrawn from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto.

Regulations issued pursuant to paragraphs (i) and (ii) of this subsection shall, among other things, provide safeguards against pollution of the river involved and unnecessary impairment of the scenery within the component in question.

(b) The minerals in any Federal lands which constitute the bed or banks or are situated within one-quarter mile of the bank of any river which is listed in section 5, subsection (a) of this Act are hereby withdrawn from all forms of appropriation under the mining laws during the periods specified in section 7, subsection (b) of this Act. Nothing contained in this subsection shall be construed to forbid prospecting or the issuance of leases, licenses, and permits under the mineral leasing laws subject to such conditions as the Secretary of the Interior and, in the case of national forest lands, the Secretary of Agriculture find appropriate to safeguard the area in the event it is subsequently included in the system. Notwithstanding the foregoing provisions of this subsection or any other provision of this Act, all public lands which constitute the bed or bank, or are within an area extending two miles from the bank of the river channel on both sides of the river segments referred to in paragraphs (77) through (88) of section 5(a), are hereby withdrawn, subject to valid existing rights, from all forms of appropriation under the mining laws and from operation of the mineral leasing laws including, in both cases, amendments thereto, during the periods specified in section 7(b) of this Act.

SEC. 10. (a) Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.

(b) Any portion of a component of the national wild and scenic rivers system that is within the national wilderness preservation system, as established by or pursuant to the Act of September 3, 1964 (78 Stat. 890; 16 U.S.C., ch. 23), shall be subject to the provisions of both the Wilderness Act and this Act with respect to preservation of such river and its immediate environment, and in case of conflict between the provisions of these Acts the more restrictive provisions shall apply.

(c) Any component of the national wild and scenic rivers system that is administered by the Secretary of the Interior through the National Park Service shall become a part of the national park system, and any such component that is administered by the Secretary through the Fish and Wildlife Service shall become a part of the national wildlife refuge system. The lands involved shall be subject to the provisions of this Act and the Acts under which the national park system or national wildlife system, as the case may be, is administered, and in case of conflict between the provisions of these Acts, the more restrictive provisions shall apply. The Secretary of the Interior, in his administration of any component of the national wild and scenic rivers system, may utilize such general statutory authorities relating to areas of the national park system and such general statutory authorities otherwise available to him for recreation and preservation purposes and for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this Act.

(d) The Secretary of Agriculture, in his administration of any component of the national wild and scenic rivers system area, may utilize the general statutory authorities relating to the national forests in such manner as he deems appropriate to carry out the purposes of this Act.

(e) The Federal agency charged with the administration of any component of the national wild and scenic rivers system may enter into written cooperative agreements with the Governor of a State, the head of any State agency, or the appropriate official of a political subdivision of a State for State or local governmental participation in the administration of the component. The States and their political subdivisions shall be encouraged to cooperate in the planning and administration of components of the system which include or adjoin State- or county-owned lands.

SEC. 11. (a) The Secretary of the Interior shall encourage and assist the States to consider, in formulating and carrying out their comprehensive statewide outdoor recreation plans and proposals for financing assistance for State and local projects submitted pursuant to the Land and Water Conservation Fund Act of 1965 (78 Stat. 897), needs and opportunities for establishing State and local wild, scenic and recreational river areas. He shall also, in accordance with the authority contained in the Act of May 28, 1963 (77 Stat. 49), provide technical assistance and advice to, and cooperate with, States, political subdivisions, and private interests, including nonprofit organizations, with respect to establishing such wild, scenic and recreational river areas.

(b) The Secretaries of Agriculture and of Health, Education, and Welfare shall likewise, in accordance with the authority vested in them, assist, advise, and cooperate with State and local agencies and private interests with respect to establishing such wild, scenic and recreational river areas.

SEC. 12. (a) The Secretary of the Interior, the Secretary of Agriculture, and the head of any other Federal department or agency having jurisdiction over any lands which include, border upon, or are adjacent to, any river included within the National Wild and Scenic Rivers System or under consideration for such inclusion, in accordance with section 2(a)(ii), 3(a), or 5(a), shall take such action respecting management policies, regulations, contracts, plans,

affecting such lands, following the date of enactment of this sentence, as may be necessary to protect such rivers in accordance with the purposes of this Act. Such Secretary or other department or agency head shall, where appropriate, enter into written cooperative agreements with the appropriate State or local official for the planning, administration, and management of Federal lands which are within the boundaries of any rivers for which approval has been granted under section 2(a)(ii). Particular attention shall be given to scheduled timber harvesting, road construction, and similar activities which might be contrary to the purposes of this Act.

(b) Nothing in this section shall be construed to abrogate any existing rights, privileges, or contracts affecting Federal lands held by any private party without the consent of said party.

(c) The head of any agency administering a component of the national wild and scenic rivers system shall cooperate with the Secretary of the Interior and with the appropriate State water pollution control agencies for the purpose of eliminating or diminishing the pollution of waters of the river.

SEC. 13. (a) Nothing in this Act shall affect the jurisdiction or responsibilities of the States with respect to fish and wildlife. Hunting and fishing shall be permitted on lands and waters administered as parts of the system under applicable State and Federal laws and regulations unless, in the case of hunting, those lands or waters are within a national park or monument. The administering Secretary may, however, designate zones where, and establish periods when, no hunting is permitted for reasons of public safety, administration, or public use and enjoyment and shall issue appropriate regulations after consultation with the wildlife agency of the State or States affected.

(b) The jurisdiction of the States and the United States over waters of any stream included in a national wild, scenic or recreational river area shall be determined by established principles of law. Under the provisions of this Act, any taking by the United States of a water right which is vested under either State or Federal law at the time such river is included in the national wild and scenic rivers system shall entitle the owner thereof to just compensation. Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

(c) Designation of any stream or portion thereof as a national wild, scenic or recreational river area shall not be construed as a reservation of the waters of such streams for purposes other than those specified in this Act, or in quantities greater than necessary to accomplish these purposes.

(d) The jurisdiction of the States over waters of any stream included in a national wild, scenic or recreational river area shall be unaffected by this Act to the extent that such jurisdiction may be exercised without impairing the purposes of this Act or its administration.

(e) Nothing contained in this Act shall be construed to alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made

by any States which contain any portion of the national wild and scenic rivers system.

(f) Nothing in this Act shall affect existing rights of any State, including the right of access, with respect to the beds of navigable streams, tributaries, or rivers (or segments thereof) located in a national wild, scenic or recreational river area.

(g) The Secretary of the Interior or the Secretary of Agriculture, as the case may be, may grant easements and rights-of-way upon, over, under, across, or through any component of the national wild and scenic rivers system in accordance with the laws applicable to the national park system and the national forest system, respectively: Provided, That any conditions precedent to granting such easements and rights-of-way shall be related to the policy and purpose of this Act.

SEC. 14. The claim and allowance of the value of an easement as a charitable contribution under section 170 of title 26, United States Code, or as a gift under section 2522 of said title shall constitute an agreement by the donor on behalf of himself, his heirs, and assigns that, if the terms of the instrument creating the easement are violated, the donee or the United States may acquire the servient estate at its fair market value as of the time the easement was donated minus the value of the easement claimed and allowed as a charitable contribution or gift.

SEC. 14A. (a) Where appropriate in the discretion of the Secretary, he may lease federally owned land (or any interest therein) which is within the boundaries of any component of the National Wild and Scenic Rivers System and which has been acquired by the Secretary under this Act. Such lease shall be subject to such restrictive covenants as may be necessary to carry out the purposes of this Act.

(b) Any land to be leased by the Secretary under this section shall be offered first for such lease to the person who owned such land immediately before its acquisition by the United States.

SEC. 15. Notwithstanding any other provision to the contrary in sections 3 and 9 of this Act, with respect to components of the National Wild and Scenic Rivers System in Alaska designated by paragraphs (38) through (50) of section 3(a) of this Act--

(1) the boundary of each such river shall include an average of not more than six hundred and forty acres per mile on both sides of the river. Such boundary shall not include any lands owned by the State or a political subdivision of the State nor shall such boundary extend around any private lands adjoining the river in such manner as to surround or effectively surround such private lands; and

(2) the withdrawal made by paragraph (iii) of section 9(a) shall apply to the minerals in Federal lands which constitute the bed or bank or are situated within one-half mile of the bank of any river designated a wild river by the Alaska National Interest Lands Conservation Act.

SEC. 16. As used in this Act, the term--

(a) "River" means a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes.

(b) "Free-flowing", as applied to any river or section of a river, means existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such inclusion: Provided, That this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the national wild and scenic rivers system.

(c) "Scenic easement" means the right to control the use of land (including the air space above such land) within the authorized boundaries of a component of the wild and scenic rivers system, for the purpose of protecting the natural qualities of a designated wild, scenic or recreational river area, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement.

SEC. 17. There are hereby authorized to be appropriated, including such sums as have heretofore been appropriated, the following amounts for land acquisition for each of the rivers described in section 3(a) of this Act:

Clearwater, Middle Fork, Idaho, $2,909,800;
Eleven Point, Missouri, $10,407,000;
Feather, Middle Fork, California, $3,935,700;
Rio Grande, New Mexico, $253,000;
Rogue, Oregon, $15,147,000;
St. Croix, Minnesota and Wisconsin, $21,769,000;
Salmon, Middle Fork, Idaho, $1,837,100; and
Wolf, Wisconsin, $142,150.

NOTE: The following amendments have been made to P.L. 90-542 through December 23, 1980:

P.L. 92-560
P.L. 93-279
P.L. 93-621
P.L. 94-199
P.L. 94-407
P.L. 94-486
P.L. 95-625
P.L. 96-87
P.L. 96-199
P.L. 96-487
P.L. 96-580

DEPARTMENT OF THE INTERIOR

Office of the Secretary

National Park Service

DEPARTMENT OF AGRICULTURE

Office of the Secretary

Forest Service

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

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

ACTION: Publication of final revised guidelines.

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

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

Comments and Responses

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

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

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

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

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

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

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

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

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

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

Dated: July 12, 1982.

G. Ray Arnett,

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

Dated: August 26, 1982.

Douglas W. MacCleery,

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

Department of Agriculture

Department of the Interior

National Wild and Scenic Rivers System

Guidelines for Eligibility, Classification and Management of River Areas.

Contents

Preface

The National Wild and Scenic Rivers System

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

The preamble of the Act states:

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

Addition of Rivers to the System

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

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

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

The Guidelines

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

It was therefore agreed that a uniform evaluation and management approach should be formulated for use by the two departments, and through a cooperative effort, *Guidelines for Evaluating Wild, Scenic and Recreational River Areas Proposed for Inclusion in the National Wild and Scenic Rivers System Under Section 2, Public Law 90-542* was prepared and promulgated in February 1970.

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

Revision of the Guidelines

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

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

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

Section I—Definitions

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

Act: The Wild and Scenic Rivers Act.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Section II—The River Study

The Study Process

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

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

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

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

The Study Report

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

Section 4(a):

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

In addition, section 5(c) requires that

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

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

Description of the River Area

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

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

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

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

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

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

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

Determination of Eligibility

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

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

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

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

Classification

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

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

These criteria are interpreted as follows:

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

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

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

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

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

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

These criteria are interpreted as follows:

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

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

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

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

(3) Recreational river areas—Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

These criteria are interpreted as follows:

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

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

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

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

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

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

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

Analysis of the Alternatives

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

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

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

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

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

Section III—Management

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

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

General Management Principles

Section 10(a) states,

Each component of the national wild and scenic rivers system shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development on the special attributes of the area.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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TABLE 1.

ACCELERATED STUDY SCHEDULE

MONTHS

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

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

TABLE 2.

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

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

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

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APPENDIX C: ANILCA SECTION 810 SUBSISTENCE EVALUATION SQUIRREL RIVER

INTRODUCTION

Section 810(a) of the Alaska National Interest Lands Conservation Act (ANILCA) states:

> In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the Federal agency having primary jurisdiction over such lands or his designee shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be effected until the head of such Federal agency--
>
> (1) gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;
>
> (2) gives notice of, and holds, a hearing in the vicinity of the area involved; and
>
> (3) determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and (C) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.

THE EVALUATION PROCESS

Components of the national wild and scenic rivers system are to be administered pursuant to the Wild and Scenic Rivers Act, which states, in part:

> Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary

emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.

Also, subsistence users are to be permitted on federal lands in components of the national wild and scenic rivers system, in accordance with title VIII of ANILCA.

The potential for significant restriction must be evaluated for the proposed action's effect upon "subsistence uses and needs, the availability of other lands for the purposes sought to be achieved and other alternatives which would reduce or eliminate the use." Restriction on subsistence use would be significant if there were large reductions in the abundance of harvestable resources, major redistributions of those resources, substantial interference with harvester access to active subsistence sites, or a major increase in hunting by other than rural residents.

By asking the following series of questions and analyzing the responses, relative to the area and the proposed action, an evaluation of significance becomes possible.

Would the alternative cause a reduction in the population of wildlife, fish, and other resources upon which subsistence harvesting depends; and/or would the alternative cause a redistribution in those harvestable resources by either causing a decline in the population of wildlife or fish harvested for subsistence or by altering the distribution of those harvestable resources?

Would the alternative cause a restriction on access to the harvestable resources where harvesting historically has taken place?

Would the alternative lead to increased competition for the big game present there?

PROPOSED ACTION ON FEDERAL LANDS

The Department of the Interior has identified 97 river miles of the Squirrel River as suitable for inclusion in the national wild and scenic rivers system. This action would add statutory protection to the outstanding values (recreation, fishery, and scenery) in the river corridor. These lands are currently being managed as part of the Northwest Alaska Resource Area by the Bureau of Land Management. The other alternatives considered were no action (no designation) and designation of differing segments of the Squirrel River, totaling 51, 76, and 164 river miles respectively.

AFFECTED ENVIRONMENT

As described in the subsistence section of the Draft Environmental Impact Statement (pg. 24 and 43) subsistence use occurs in varying degrees,

especially along the lower river downstream of the Omar River. Fishing and gathering are the predominant uses along the lower river, while hunting and trapping occur in the entire drainage. The majority of subsistence users are believed to come from Kiana.

ENVIRONMENTAL CONSEQUENCES

In the determination of potential impact to existing subsistence activities, the three evaluation criteria were analyzed relative to existing subsistence resources that could be affected. The Draft Environmental Impact Statement describes the total range of potential impacts which may occur (see the "Environmental Consequences" chapter). The evaluation criteria include

the potential to reduce important subsistence wildlife populations

the effect the action might have on hunter access

the potential for the action to increase hunter competition

The Potential to Reduce Populations

Analysis: Under all of the alternatives, management of the river corridor would emphasize maintenance of existing conditions, including wildlife populations and wilderness character. Visitor use is expected to increase at the same rate under all alternatives, but it would probably remain at relatively low levels. This use would be confined to the immediate environment of the river and would not affect any wildlife populations or their habitat.

Conclusion: None of the alternatives, including the proposed action, would cause a reduction in the population or habitat of any harvestable resource or result in a redistribution of harvestable resources.

Restriction of Access

Analysis: Under all of the alternatives, all existing means and routes of access, including airplanes, motorboats, and snowmachines, would continue as allowed by law along the Squirrel River.

Under the proposed action, attempts would be made to locate any future motorized vehicle trails or utility corridors along the river farther than ½ mile from the river or otherwise to restrict such activity to minimize impacts on the scenic, recreation, and fishery values of the designated corridor. Such restrictions would comply with ANILCA provisions relating to subsistence and access.

Conclusion: None of the alternatives, including the proposed action, would restrict existing access to harvestable resources. If designated, restrictions could be placed on new routes of access that could cross the river.

Increase in Competition

Analysis: Under the alternatives, visitor use of the river corridor is expected to increase, although it would probably remain at relatively low levels. Because most of the recreational use of the river would occur during the summer months prior to big game hunting seasons, designations of the Squirrel River would not result in increased competition for big game.

The slight increase in use is also not expected to have any significant impacts on subsistence fishing or gathering activities.

Conclusion: None of the alternatives, including the proposed action, would appreciably increase competition for big game or other harvestable resources.

AVAILABILITY OF OTHER LANDS FOR THE PROPOSED ACTION

No other lands are available for this particular action because the river and its associated resources cannot be relocated.

ALTERNATIVES CONSIDERED

The Draft Environmental Impact Statement analyzes five alternatives: no-action, designation of a 76-mile segment, designation of a 51-mile segment, designation of a 97-mile segment (proposed action), and designation of a 164-mile segment.

CONSULTATION AND COORDINATION

The following agencies and organizations were consulted throughout the study process and were provided preliminary copies of this evaluation:

Bureau of Land Management
Alaska Department of Fish and Game
NANA Regional Corporation
Alaska Federation of Natives
City of Kiana

Public involvement during the study is discussed in the "Consultation and Coordination" section of the Draft Environmental Impact Statement.

FINDINGS

Based upon the above process and considering all the available information, this evaluation could not forecast any reasonable foreseeable events that would entail a significant restriction of subsistence use.

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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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