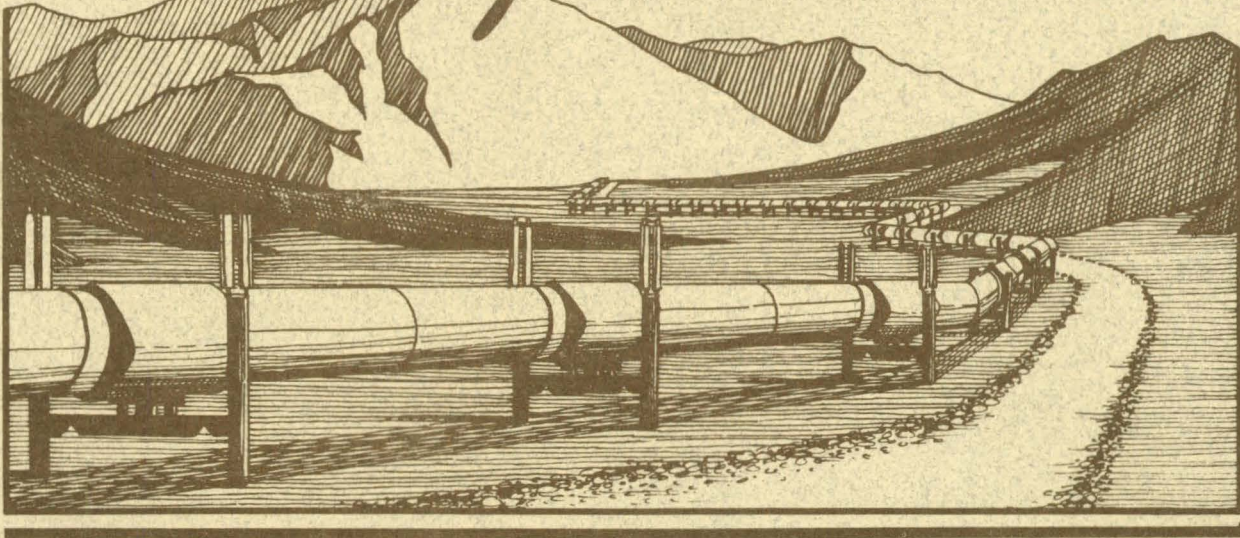


# Utility Corridor



## Proposed Resource Management Plan and Final Environmental Impact Statement



U.S. Department of the Interior  
Bureau of Land Management  
Arctic District Office, ALASKA

Dear Reader:

Enclosed for your review and future reference is the Final Environmental Impact Statement (FEIS) for the Utility Corridor Resource Management Plan (RMP). This document presents the proposed management plan, which is a refinement of the preferred alternative presented in the draft RMP/EIS published in August of 1987 and supplemented in April of 1988. The environmental consequences for the proposed management plan are also discussed in this document.

Any person or group who participated in the planning process and has an interest which is or may be adversely affected by the approval of this Utility Corridor FEIS/PRMP may protest any part of this proposed plan with the exception of the wilderness recommendation. Protests shall be in writing and filed with the Alaska State Director, Bureau of Land Management within 30 days of the date the Environmental Protection Agency publishes a notice of receipt of this document in the Federal Register. Protests should be sent to the Director (760), Bureau of Land Management, 1800 C Street NW, Washington, D.C. 20240, prior to the end of the thirty-day protest period and should include the following information:

1. The name, mailing address, telephone number and interest of the person filing the protest.
2. A statement of the issue or issues being protested.
3. A statement of the part or parts of the plan being protested.
4. A copy of all documents addressing the issue or issues that were submitted during the planning process by the protesting party, or an indication of the date the issue or issues were discussed for the record.
5. A concise statement explaining why the proposed decision is believed to be wrong.

At the end of the thirty-day protest period, the proposed plan, excluding any portion under protest, will become final. Approval will be withheld on any portion of the plan under protest until final action has been completed.

Any significant change to the proposed plan made as a result of a protest will be made available for public review and comment prior to final approval and implementation.

I want to personally thank those of you who have contributed to and participated in the development of this plan. I hope your involvement will continue as we move forward into the implementation and monitoring phases of the Utility Corridor Resource Management Plan and also as we develop RMPs for other BLM lands in Alaska.

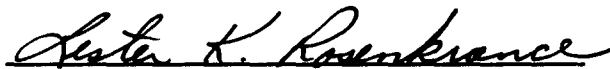
Sincerely,

A handwritten signature in black ink, reading "Peter K. Rosenkrance". The signature is written in a cursive, flowing style.



PROPOSED RESOURCE MANAGEMENT PLAN  
and  
FINAL ENVIRONMENTAL IMPACT STATEMENT  
for the  
UTILITY CORRIDOR PLANNING AREA  
ARCTIC DISTRICT, ALASKA

Prepared by  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
ARCTIC DISTRICT



BLM Alaska State Director

9/27/89

Date

# ENVIRONMENTAL IMPACT STATEMENT

Draft ( )

Final (XX)

## UTILITY CORRIDOR PLANNING AREA ARCTIC DISTRICT OFFICE FAIRBANKS, ALASKA

Lead Agency: U.S. Department of the Interior, Bureau of Land Management

Type of Action: Administrative (XX)

Legislative ( )

### ABSTRACT

This Final Environmental Impact Statement addresses a Proposed Resource Management Plan (PRMP) for managing 6.1 million acres of public lands as required by Section 202 of the Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579; 90 Stat. 2743). Alternatives to the proposed plan, incorporating management options ranging from emphasis on resource development to emphasis on environmental protection, are summarized. Environmental consequences of the PRMP are also presented here as well as a summary of consequences resulting from the various alternatives. A complete discussion of the alternatives and consequences is found in the Draft Resource Management Plan and EIS for the Utility Corridor published in August of 1987. The Proposed Resource Management Plan (PRMP) presented here is a refinement of the preferred alternative found in the draft RMP/EIS as supplemented in April of 1988.

This proposed RMP/Final EIS incorporates by reference most of the material presented in the *Utility Corridor Draft Resource Management Plan and Environmental Impact Statement*. Five alternatives incorporating management options ranging from resource development to environmental protection were considered in detail. This document also incorporates by reference the material presented in the supplement and addendum to the Draft RMP/EIS which proposed a modification of the preferred alternative to allow partial revocation of PLO 5150 (the public land order which withdrew lands within the Corridor boundary from all forms of appropriation under public land laws) and open 1.1 million acres of land within the Corridor to state selection.

The Proposed Plan was designed to provide for multiple use of planning area resources while also providing resource protection. An overriding priority of this plan is to preserve the Utility Corridor for the transportation of energy minerals. No action would be allowed if it hampers this primary purpose.

For further information about this environmental impact statement, you may contact:

Tom Dean, Arctic District Manager  
Bureau of Land Management Arctic District Office  
1150 University Avenue  
Fairbanks, Alaska 99709-3844  
Telephone: (907) 474-2302 or 474-2301



## Summary of Planning Alternatives

The following summary of the Proposed Resource Management Plan (PRMP) and the land use alternatives is organized around the major issues which have directed the planning process. An overriding assumption throughout the design of the PRMP and the alternatives is the primacy of the energy transportation function of the Utility Corridor. No proposed action or set of actions should be interpreted as restricting or limiting the construction of new energy transportation systems within the Utility Corridor. For a more detailed description of each alternative land use refer to the Utility Corridor Draft Resource Management Plan and Environmental Impact Statement published in August of 1987.

No action would be permitted within the area established as a Wilderness Study Area (WSA) that would impair the area's suitability for wilderness until Congress releases those lands from further wilderness consideration. Congress could designate all or none of the lands, but BLM is required to manage them to protect the wilderness characteristics until such time as they are released by Congress.

The Proposed Plan presented here incorporates the changes made to the Preferred Alternative from that presented in the Draft RMP/EIS. Differences between the Proposed Plan and the draft Preferred Alternative are primarily related to state selection opportunities within the Utility Corridor.

### Alternative Land Use Goals

**Proposed Plan:** The PRMP emphasizes a balance of resource uses with an emphasis on development of the recreational opportunities of the area. The management actions for the proposed plan outline a program of intensive management toward the development of these recreational opportunities while providing for energy transportation which is the Corridor's primary purpose.

**Alternative A:** This alternative is a continuation of current management practices. It is the "no action" alternative for this EIS since it proposes a continuation of the current management situation throughout the planning area.

**Alternative B:** This alternative represents a program of environmental protection and enhancement. It reflects these goals by seeking to limit actions which could have negative environmental effects on BLM managed lands and on adjacent Conservation System Units (CSUs). The proposed actions also emphasize wilderness recommendations.

**Alternative C:** Providing economic development opportunities for the planning area is the major goal of this alternative. It opens as much public land as possible to the operation of the mining and mineral leasing laws. It also provides at least as many opportunities for development of recreational facilities as are found in the proposed plan.

**Alternative D:** All public land orders withdrawing Utility Corridor lands from state selection would be lifted under this alternative. BLM would not take any other major actions and would wait for an appropriate period of time for selections or exchanges in the area to take place. Once a stable pattern of federal land ownership has emerged the BLM would begin a new land use plan to address existing public needs. Interim management would follow the proposed actions described under Alternative A, the "no action" alternative.

### Major Planning Issues and Proposed Management Actions

#### Mineral Development

**Proposed Plan:** All lands would be opened to mineral location except the area designated as the "inner Corridor," the Jim River and Prospect Creek (upstream to the limit of salmon spawning habitat), the recommended Nigu wilderness area, eight identified mineral licks, and the Kanuti River west of the inner Corridor. All areas would be opened to mineral leasing except designated wilderness areas;

however, restrictive stipulations (e.g., nonsurface occupancy and seasonal restrictions) would be applied along some rivers or in other crucial habitat areas. Throughout most of the area mineral materials (gravel) extraction would be allowed. However, it would be prohibited in the eight identified mineral lick areas, the Kanuti Hot Springs, Nigu-Iteriak, and Sukakpak Mountain ACECs, and in designated wilderness areas. Also, gravel extraction would only be allowed in the Jim River and Prospect Creek streambeds and floodplains, and the Ivishak River ACEC if no other economically feasible locations for material minerals can be found.

**Alternative A:** The area designated as the outer Corridor would remain open to the mining laws. The Venetie Block, the inner Corridor, and all lands within CAMA would also remain closed to the operation of these laws. All lands in the planning area would remain closed to the development of leasable minerals. Mineral material sales would be allowed at the discretion of the agency throughout the planning area.

**Alternative B:** Mineral entry and location would be allowed in the planning area except in the inner Corridor, crucial habitat areas, lands adjacent to the Gates of the Arctic National Park and Preserve, recommended wilderness areas and in areas which drain into adjacent conservation system units. The sale of mineral materials would be confined to existing source sites and no sales would take place in the streambed of the Jim River or Prospect Creek. Mineral leasing would be allowed within the planning area except in the inner corridor, crucial habitat areas, lands adjacent to Gates of the Arctic Park and Preserve and recommended wilderness areas.

**Alternative C:** All lands, including the inner Corridor would be opened to the operation of the mining laws and to the operation of the mineral leasing laws. All areas would be made available for mineral material sale.

**Alternative D:** This alternative would treat development and other activities within the area in the same manner as alternative A. A new plan would be developed after maximum land selection opportunities defined a new pattern of federal ownership in the area.

## Nodes

**Proposed Plan:** Development nodes would be defined for the Yukon Crossing, Coldfoot, Chandalar and Happy Valley.

**Alternative A:** BLM would maintain the current five development nodes in the Corridor which are: Yukon Crossing, Prospect, Coldfoot, Chandalar and Pump Station 3.

**Alternative B:** The development nodes would be limited to the Yukon Crossing, Coldfoot, Chandalar and Happy Valley; no other areas would be considered.

**Alternative C:** Development along the Dalton Highway would be directed toward the existing development nodes (Yukon Crossing, Prospect, Coldfoot, Chandalar and Happy Valley). However, development activities would be considered in other locations if appropriate.

**Alternative D:** The same as alternative A.

## Land Disposals, Acquisitions and Other Realty Actions

**Proposed Plan:** Lands identified to be made available for disposal (selection or exchange) in the preferred alternative of the draft plan and under the proposed plan include Corridor lands south of the Yukon River, the remainder of an east-west gas pipeline corridor adjacent to the Arctic National Wildlife Refuge (ANWR), and the Coldfoot node. In addition, lands referred to as: the Prospect unit (approximately 55,000 acres); the Coldfoot unit, which includes the Coldfoot node identified in the draft and an access corridor to the east (approximately 26,000 acres); and the Sagavanirktok unit (approximately 600,000 acres) would be opened to state selection under the proposed plan. All other lands within the Utility Corridor would remain closed to state selection. This alternative would



encourage federal acquisition of the Killik River area for BLM multiple-use management and would encourage the resolution of split-estate ownerships through exchanges where appropriate.

**Alternative A:** No lands in the planning area would be targeted for disposal through selection or exchange. Public Land Order 5150 (prohibiting State of Alaska selection in the Utility Corridor) would remain in place without alteration. All lands currently opened to state selection would remain open for selection (Venetie Block and CAMA lands outside of the Utility Corridor).

**Alternative B:** Lands to be made available for disposal (through selection or exchange) include lands south of the Yukon River and the remainder of the east-west gas pipeline corridor near ANWR. Under this alternative the BLM would pursue acquisition of the Killik River area and lands surrounding the Oolamnavik River to enhance this proposed wilderness area.

**Alternative C:** The Coldfoot node, lands south of the Yukon River and the remainder of the east-west gas pipeline corridor near ANWR would be made available for disposal (through selection or exchange). Those lands top-filed by the State of Alaska under authority of Sec. 906(e) of ANILCA within the Utility Corridor would be made available for selection. The transportation corridor described by Sec 1431(j) of ANILCA would also be made available for disposal (with the concurrence of the Arctic Slope Regional Corporation).

**Alternative D:** The entire Utility Corridor would be made available for disposal. A new land use plan would be developed after maximum land selection opportunities defined a new pattern of federal ownership in the area.

## **Recreation**

**Proposed Plan:** The Utility Corridor would be managed with an emphasis on recreation. Recreational facilities in the Dalton Highway Recreation Management Area (i.e., roughly the lands visible from the Dalton Highway) would be expanded. New waysides, campsites, trailheads and cabin sites would be identified and developed after completion of a Recreation Area Management Plan. This alternative would seek a mix of private investment in recreational facilities through FLPMA leases and federal government supported facilities.

**Alternative A:** No major recreational facilities would be developed under this alternative. Recreation development plans would be completed and would focus only on a series of rest stops and sanitary facilities within the Dalton Highway Recreation Management Area.

**Alternative B:** No new recreation development is proposed. Overnight, destination and trailhead facilities would be considered in a recreation management plan with an emphasis on resource protection. Areas needed for access to and from rivers, streams and off-road vehicle trails would be managed as day use areas with long term vehicle parking but no overnight camping.

**Alternative C:** This alternative would manage the area with an emphasis on recreational development similar to that described for the Proposed plan. Greater emphasis would be placed on private sector involvement (through leases) in the development of new facilities.

**Alternative D:** Recreational development would mirror alternative A. No new recreational opportunities are likely to occur until a stable land pattern in the Utility Corridor is established after allowing state land selection throughout the area.

## **Access**

**Proposed Plan:** Lands within the Corridor at Prospect and at Coldfoot that the state is interested in obtaining for access to adjacent state lands would be made available for state selection. The lands at Prospect correspond to lands identified in the draft plan to provide future access toward the Ambler mining district. An ORV use evaluation would be initiated after the approval of this land use plan.

Cooperative agreements will be sought with other federal agencies to evaluate access from the Dalton Highway to Conservation Units adjacent to the Utility Corridor.

**Alternative A:** No new access routes or corridors are identified under this alternative. BLM will work closely with the State of Alaska on appropriate access to state lands adjacent to the corridor.

**Alternative B:** An ORV use study would identify areas sensitive to vehicular use and recommend access options which seek to lessen impacts to subsistence users. A transportation corridor toward the Ambler mining district would be identified.

**Alternative C:** All lands top-filed by the state under Section 906(e) of ANILCA would be made available to the state for selection. This includes lands within the Corridor at Prospect and at Coldfoot that the state is interested in obtaining for access to adjacent state lands. The lands at Prospect correspond to lands identified in the draft plan to provide future access toward the Ambler mining district. An ORV use evaluation would be initiated after the approval of this land use plan for those lands likely to remain under federal management.

**Alternative D:** ORV use would be managed in the same manner as in Alternative A.

## **Subsistence**

**All Alternatives:** ANILCA 810 evaluations would be completed for all discretionary actions as required by law.

## **Wilderness**

**All Alternatives:** No action would be permitted within the area established as a Wilderness Study Area (WSA) that would impair the area's suitability for wilderness until Congress releases those lands from further wilderness consideration. Congress could designate all or none of the lands, but BLM is required to manage them to protect the wilderness characteristics until such time as they are released by Congress.

**Proposed Plan:** The "upper Nigu block" has been recommended for wilderness designation through the required ANILCA Section 1001 report due to Congress by December 1988. No other lands within CAMA were recommended. All CAMA lands will remain in interim wilderness management until Congress acts on this recommendation.

**Alternative A:** Because the required ANILCA Section 1001 Report, due to Congress by December 1988, has been completed and submitted to Congress, the Alternative A (current management) wilderness recommendation is the same as for the proposed plan.

**Alternative B:** All lands in CAMA would be recommended for wilderness designation except those lands within the nonwilderness assessment area (i.e., roughly those lands visible from the Dalton Highway) which were determined unsuitable for wilderness designation in 1980.

**Alternative C:** No lands in the CAMA would be recommended for wilderness.

**Alternative D:** This alternative calls for maximum state selection within the Utility Corridor and no new planning proposals until the federal land ownership pattern has been defined. Because the required ANILCA Section 1001 Report, due to Congress by December 1988, has been completed and submitted to Congress, the Alternative D wilderness recommendation is the same as for the proposed plan.



## **Wildlife**

**Proposed Plan:** Under the proposed plan nine areas would be identified as ACECs for special management attention to protect identified plant and/or wildlife values. An inventory of fisheries and other wildlife resources in the Utility Corridor would be initiated as a result of this PRMP. It is also proposed that after appropriate consultation and coordination with the State of Alaska and other interested parties, sufficient numbers of musk-oxen to support a viable population would be transplanted to BLM lands near Pingaluligit Mountain in the Oolamnagavik block. Implementation of the *Peregrine Falcon Recovery Plan - Alaska Population* (U.S. Fish and Wildlife Service, 1982a) would continue.

**Alternative A:** No new actions would be proposed for the protection or enhancement of wildlife resources except for the standard implementation of the *Peregrine Falcon Recovery Plan - Alaska Population* (USDOI, Fish and Wildlife Service, 1982a) and designation of several ACECs recommended under the previous land use plan.

**Alternative B:** This alternative would mirror the actions under the proposed plan. In addition, selected mineral licks and peregrine falcon nesting and feeding areas would be closed to mineral entry and location.

**Alternative C:** No new actions would be taken under this alternative. Alternative A describes the appropriate management proposals.

**Alternative D:** This alternative would be the same as Alternative A until amendments to the current plan are completed to cover lands remaining in federal ownership.

## List of Abbreviations

ACEC	Area of Critical Environmental Concern
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
ADGGS	Alaska Department of Geological and Geophysical Survey
ADNR	Alaska Department of Natural Resources
ADOT/PF	Alaska Department of Transportation/ Public Facilities
ANCSA	Alaska Native Claims Settlement Act
ANGTS	Alaska Natural Gas Transportation System
ANILCA	Alaska National Interest Lands Conservation Act
ANWR	Arctic National Wildlife Refuge
ASRC	Arctic Slope Regional Corporation
BLM	Bureau of Land Management
CAMA	Central Arctic Management Area
CFR	Code of Federal Regulations
CPF	Central Production Facility
CSU	Conservation System Unit
CZM	Coastal Zone Management
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
HMP	Habitat Management Plan
IBLA	Interior Board of Land Appeals
MFP	Management Framework Plan
NEPA	National Environmental Policy Act
NPR-A	National Petroleum Reserve-Alaska
NPS	National Park Service
NSB	North Slope Borough
NWPS	National Wilderness Preservation System
ORV	Off-Road Vehicle
PFEIS	Preliminary Final Environmental Impact Statement
PLO	Public Land Order
RAMP	Recreation Area Management Plan
RMP	Resource Management Plan
RNA	Research Natural Area
ROS	Recreation Opportunity Spectrum
R&PP	Recreation and Public Purpose
SMSA	Standard Metropolitan Statistical Area
TAGS	Trans Alaska Gas Pipeline System
TAPS	Trans Alaska Pipeline System
T&E	Threatened and Endangered Species
USDI or DOI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
VUD	Visitor Use Day
WSA	Wilderness Study Area



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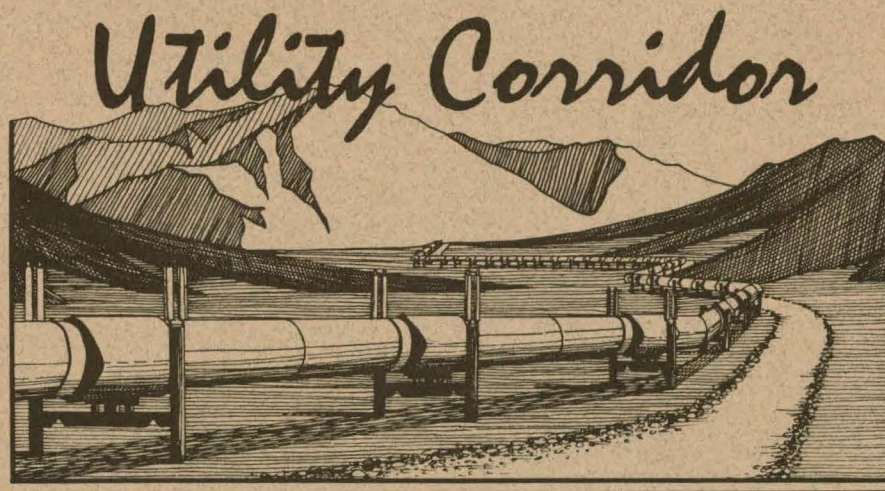
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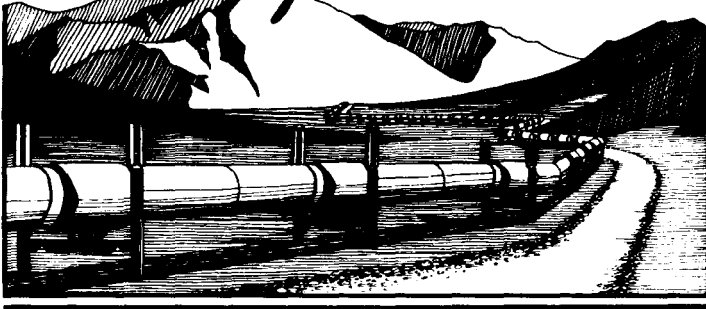


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# Utility Corridor



## Chapter 1:

## INTRODUCTION

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### Introduction

This Final Environmental Impact Statement (FEIS) is referred to as the Utility Corridor Proposed Resource Management Plan (RMP). The proposed RMP is a land use plan as prescribed by the Federal Lands Policy and Management Act (FLPMA, P.L. 94-579, 43 U.S.C. 1712). This plan addresses lands within: 1) a utility corridor withdrawn by Public Land Order 5150 for the Trans-Alaska Pipeline, 2) an area referred to as the Central Arctic Management Area (CAMA), and 3) an area referred to as the Venetie Block. While the draft RMP/EIS provided full consideration of environmental consequences resulting from a range of land and resource management alternatives, the proposed plan is confined to those actions selected by the Bureau for implementation. Although the proposed plan is based on the preferred alternative published in the draft EIS, it differs in some respects from the preferred alternative, notably as to state selection. The environmental consequences of these changes are treated in Chapter 4.

The text of this document includes five chapters and is similar in organization to the draft RMP/EIS. Chapter 1 describes the planning area and provides background information. Chapter 2 describes management actions to be implemented following the approval of the plan, discusses anticipated activities, and provides a summary of the alternatives presented in the draft RMP/EIS. Chapter 3 provides the resource information presented in the draft RMP/EIS as supplemented and amended with new information or as a result of public comment. Chapter 4 provides impact analyses for the proposed plan and summarizes the consequences of the alternatives as presented in the draft RMP/EIS. Chapter 5 outlines public consultation and coordination and provides responses to public comments.

While discussions of management decisions in this document are organized around the various issues, such as state selection and wilderness recommendations, Appendix N is organized by Bureau program. It is by these programs that the Bureau organizes its work and plans its budget. In order to ensure that the management decisions described in Chapter 2 are fully and effectively implemented, monitored, and evaluated, the various management decisions must be translated into program specific actions. These sets of actions or management plans organized by program (e.g., the lands and realty program) provide the basis for future work load analysis and budgetary planning. Appendix N of this document contains a great deal more detail regarding implementation actions than appears in Chapters 1-4 and need not be read to understand the planning decisions. However, Appendix N will become the basis of program specific management plans for implementation of the various decisions presented in Chapters 1-5.

### Background

The Utility Corridor was withdrawn by Public Land Order (PLO) 5150 on December 30, 1971, to protect the route of the Trans-Alaska Pipeline. The PLO withdrew the Corridor from mineral leasing and location, settlement and state and Native selections. A Management Framework Plan (MFP) for the Utility Corridor was completed in 1979 to provide specific guidance for the assumed continued federal management of the area.

Many changes have occurred since the completion of the MFP which affect the management of the Corridor. In 1983, in response to a State of Alaska request, the MFP was amended to allow for disposal of public land within the Corridor under the guidance of FLPMA. Through this amendment Utility Corridor lands between Washington Creek and the Yukon River were opened to state selection.

Lands adjacent to this area were essentially state owned, and land use conflicts were considered minimal or noncontroversial. However, Dinyee Corporation (Stevens Village), protested both the amendment and subsequent state selections on the basis of subsistence related impacts. Dinyee appealed BLM's decision to dismiss their protest concerning state selection. The appeal was decided in favor of BLM, and the opening of the lands to state selection was affirmed (*Dinyee [Dinyea] Corporation, 90 IBLA 163, 1986*). The state has since requested that all Utility Corridor lands be made available for state selection. Other circumstances have arisen since the MFP was prepared. 1) The boundaries of the adjacent national conservation system units (CSUs) have solidified. 2) The Dalton Highway was opened for public use by the State of Alaska as far north as Disaster Creek (just north of Coldfoot). 3) New plans have developed for the construction of gas pipelines. 4) There has been increased public interest in recreational opportunities in the Corridor and adjacent lands. Due to these changes and increased public interest in the area it is considered timely to prepare a new plan which addresses all land use issues within the Corridor.

At the same time, a logical extension of the Utility Corridor planning effort includes the adjacent Venetie Block and addresses the Central Arctic Management Area (CAMA) mandates of Section 1001 of the Alaska National Interest Lands Conservation Act (ANILCA). Other than the National Petroleum Reserve in Alaska (NPR-A), the Venetie Block and CAMA are the only large tracts of BLM land within the Arctic District not covered by a land use plan. CAMA includes all Bureau lands, including state and Native selected lands, east of NPR-A and north of 68° N latitude, both within and outside the Utility Corridor. The ANILCA mandates for CAMA include a study of the area's oil and gas resources, wildlife resources, and wilderness values. A report of the findings and recommendations (due to Congress by December of 1988) was submitted to the President and Congress on December 14, 1988 (USDOI, BLM; 1988). The report findings and recommendations were derived through this RMP study process and are consistent with decisions and information presented in this document.

In summary, the Resource Management Plan addresses the following BLM managed lands:

- 1) the Utility Corridor in federal management north of Fairbanks;
- 2) the Venetie Block;
- 3) remaining CAMA lands;
- 4) other small tracts of land south of 68° N latitude, adjacent to the Utility Corridor.

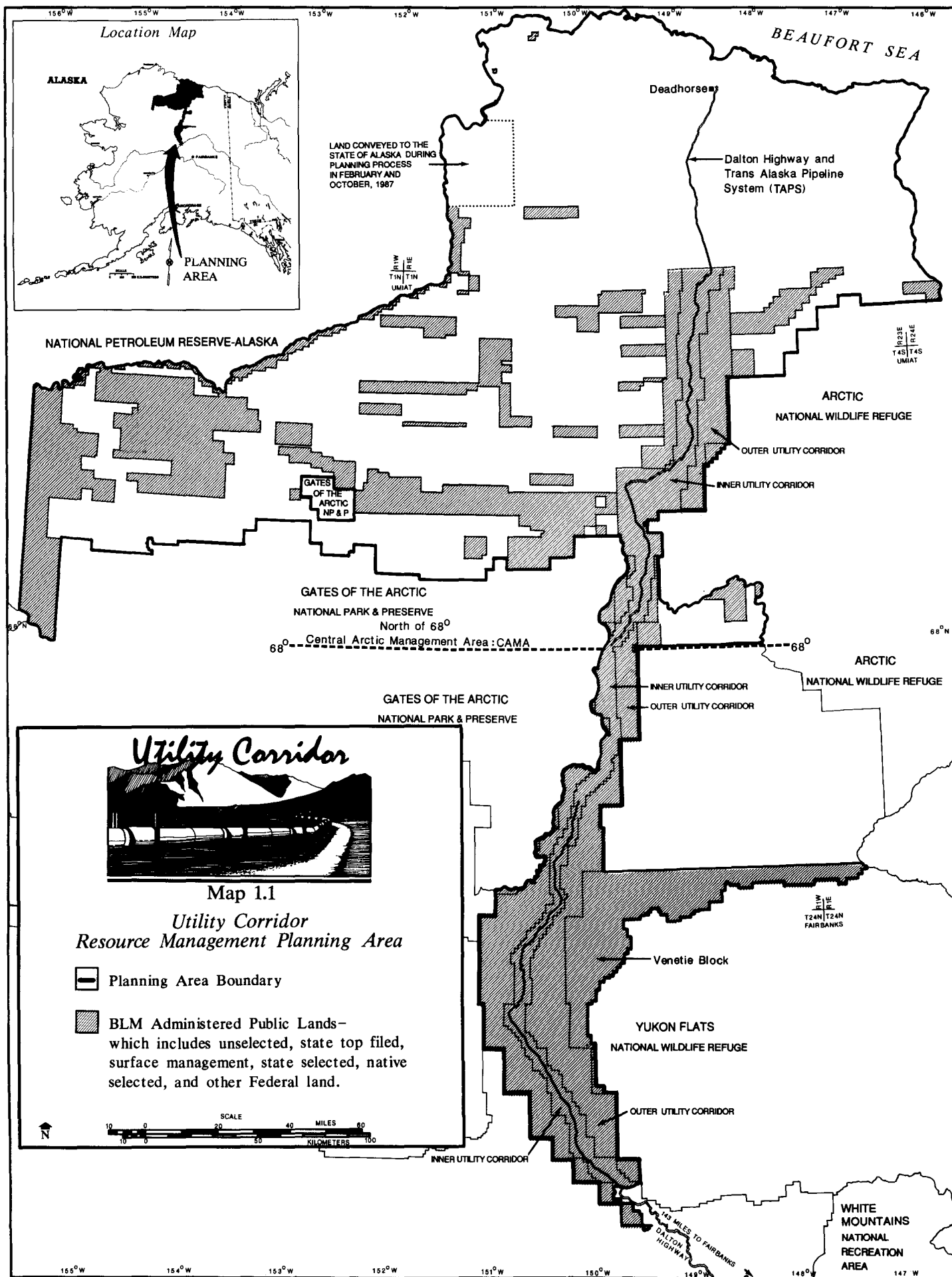
## Supplement to the Draft RMP/EIS

At the outset of this planning process the State of Alaska had expressed interest primarily in selecting Corridor lands within and south of the Brooks Range. This changed to some extent following the publication of the draft RMP/EIS which recommended only small portions of the Corridor be opened for selection. A supplement to the draft RMP/EIS was published in April of 1988 (Appendix J) reflecting the State of Alaska's interest in selecting lands in the Utility Corridor both north and south of the Brooks Range. These new selection interests included the northernmost (from Toolik Lake north) and southernmost (from the Yukon River north to the Arctic Circle) portions of the Utility Corridor. An additional public comment period was established to consider this proposed change to the draft plan.

## Environmental Impact Statement

In order to assess the impacts fully, the proposed resource management plan will have on identified resource values, BLM has combined the land use plan with an environmental impact analysis (EIS). A range of alternative land uses was constructed and an impact analysis was completed for each alternative in the draft RMP/EIS published in August of 1987. This Final EIS is designed to meet the requirements of NEPA and the Bureau planning system through a detailed description of the proposed management actions and through an assessment of the environmental impacts resulting from these actions if they differ from the assessment of the preferred alternative in the previously published draft plan.





## Consistency Review and Protests

Following a consistency review and a formal public protest period, a separate document, the Record of Decision (ROD) will be published. The ROD is the final step, and is not published until the consistency review process is complete and all protests are satisfactory answered. It will implement the management decisions and plans described in this document.

## Projected Life of the Plan

BLM land use plans in Alaska are normally written to provide management guidance for a twenty year period. Given the projections for increases in public and private use of the Utility Corridor, the effective life of this plan is expected to be approximately ten years. This shorter time frame also recognizes that potentially major impacts from future large construction projects may require a reevaluation of the management actions described in this document.

## Planning Issues

Proposed actions presented in this final RMP/EIS are derived from a basic set of planning issues, which are concerns or controversies about existing and potential land and resource allocations, levels of resource use, production, and protection, and related management practices. These issues and concerns were determined from what BLM managers, the public, industry, other federal agencies, state and local governments, and Native groups saw as concerns, problems, or needs. The public and other interested parties were involved in determining these issues through public meetings, workshops, mailings, and official notices. The final RMP/EIS is designed to address and focus on the specific issues identified through this process. The following major issues will be addressed in this plan. Each issue heading is following by a brief description of the issue and statements outlining specific concerns.

### DEVELOPMENT

Development activities are defined here primarily in terms of mineral development and activities related to the support of the transportation of energy minerals.

#### *Specific Concerns:*

- Mineral entry and location. This applies to actions related to the application of the Mining Laws of 1872, as amended. Currently, only the outer Corridor is open to the operation of these laws.
- Mineral leasing. This applies to actions related to federal laws allowing the development of leasable mineral resources. Although the applicable mineral leasing laws address a variety of mineral resources, the major issue in the planning area relates to the leasing of areas for oil and gas development. At present, all lands in the planning area are closed to mineral leasing.
- Mineral materials. The primary concern in the planning area is the extraction of sand and gravel for use in road and airport construction and maintenance, pipeline maintenance and support facility construction, future construction of pipelines and related facilities, and construction activities related to economic development in the development nodes. Currently, extraction of mineral material through sale or permit can take place throughout the length of the Utility Corridor.
- Development Nodes. These are areas along the Dalton Highway which were designated through an earlier planning effort as centers for development activity to avoid "strip development" along the highway. No definite boundaries were established for these nodes. This plan will consider the suitability of existing nodes, modify or reestablish node locations as appropriate, and define boundaries for all recommended nodes.

### LAND DISPOSALS, ACQUISITIONS AND OTHER REALTY ACTIONS

At present, the Utility Corridor lands are withdrawn by Public Land Order (PLO) 5150 from selection by the State of Alaska. The State of Alaska has requested that this PLO be amended or revised to allow

for state land selections. The plan will address this issue and determine which lands, if any, should be made available for state selection. Also studied will be the potential for changes in land ownership through the land exchange process.

### *Specific Concerns:*

- Revoke or amend public land orders which now close certain public lands to state selection.
- Seek federal acquisition of lands to meet management purposes through the relinquishment of land selections or other exchange agreements.
- Make land available for private ownership through land sales.

## RECREATION OPPORTUNITIES

Recent years have seen changes in recreational activity within the Utility Corridor and in areas adjacent to the Corridor. These changes are in part a result of the State of Alaska decision to open the Dalton Highway to the public from the Yukon River to Disaster Creek, approximately 154 miles north of the Yukon River. Also, the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), by creating the various National Park Service lands and Fish and Wildlife Service refuges adjacent to the Utility Corridor, focused increased public interest on the recreational opportunities of the area.

### *Specific Concerns:*

- The Dalton Highway was closed to public use north of the Yukon River when the last plan was completed. Although potential recreational use had been considered during early drafts of that plan, the section was deleted in the final plan at the request of the state. As a result, recreation is not fully considered in the current approved plan.
- The Dalton Highway is now open to public use as far north as Disaster Creek.
- There are few developed BLM recreation facilities north of the Yukon River although the state has some facilities.

## ACCESS

Public access has been identified as a major issue. With development and recreational opportunities identified as important issues, it is important that associated access opportunities be highlighted by the planning process. Questions concerning the appropriate type of access and the extent and purpose of access within the Utility Corridor will be addressed in this plan.

### *Specific concerns:*

- Provide access to lands adjacent to the Utility Corridor including conservation system units, state land, and Native owned lands.
- Provide access to mining claims within the planning area and to claims on adjacent lands.
- Provide access for recreation and subsistence activities.
- Plan the use of off-road vehicles (ORVs) in the planning area.

## SUBSISTENCE

BLM is required by Title VIII of ANILCA (Section 810) to conduct an evaluation of impacts to subsistence uses and needs in all discretionary action authorized by the agency. Public meetings in rural villages and in Fairbanks revealed the subsistence issue to be a major public concern. Consequently, it will be dealt with as a separate issue within this plan. The plan will also provide a Section 810 evaluation resulting from the proposal.

### *Specific Concerns:*

- Manage impacts on subsistence resources through increased access into the planning area from the Dalton Highway.
- Manage impacts on subsistence resources from an increase in recreational use of the Utility Corridor.
- Manage impacts on subsistence resources resulting from increased economic development in the Utility Corridor.

## WILDERNESS

Section 1320 of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA; 94 Stat 2371) gives the Secretary of the Interior discretionary authority to identify and make recommendations to Congress regarding areas in Alaska which he determines are suitable as wilderness and for inclusion in the National Wilderness Preservation System. The Secretary exercised that discretionary authority, and in a memorandum dated March 12, 1981, directed that no further wilderness review, study, or consideration by BLM would be undertaken in Alaska, except in those areas where study was mandated by legislation. No legislative mandate exists for wilderness review or study of planning area lands south of 68° N latitude. However, Section 1001 of ANILCA mandated a wilderness study be completed in planning area lands north of 68° N latitude (i.e., the Central Arctic Management Area or CAMA). Therefore, within the planning area, wilderness resources were studied only within CAMA.

The draft RMP/EIS addressed the wilderness issue in two separate but related ways. First, the draft RMP/EIS contained land use alternatives which included wilderness recommendations. Second, a draft wilderness EIS was published as an appendix to the draft RMP/EIS. This draft wilderness EIS considered CAMA as a wilderness study area (WSA) and dealt with the wilderness decision independently of other resource decisions. In this way, a greater number of wilderness alternatives could be considered and impacts specific to each wilderness alternative could be assessed in greater detail. The final wilderness EIS was published in September of 1988 (*Central Arctic Management Area Wilderness Recommendations and Final EIS*, USDOI, BLM; 1988). BLM's final wilderness recommendation, based on the wilderness EIS, was presented to the President and Congress in December of 1988 (USDOI, BLM; 1988). Therefore, the wilderness recommendation contained in this the final or proposed plan is and must be consistent with that contained in the report to Congress. Interim wilderness management of CAMA to preserve its wilderness values must continue until Congress acts on the wilderness recommendations. Accordingly, until such time as Congress acts, land and resource use decisions contained in this proposed plan which could impact wilderness values will be held in abeyance.

## WILDLIFE AND FISHERIES

In many ways, the concerns focusing on wildlife and fisheries are closely related to all other issues addressed by this plan. An increase in development and casual use activities could potentially impact wildlife and fisheries values in the planning area. Access decisions could also affect wildlife and fisheries resources. Accordingly, the plan will address appropriate protection of important wildlife and fisheries habitat.

Significant changes in the wildlife and fisheries program brought about by the development of a national strategy for managing fish and wildlife on public lands, increased public interest and awareness of managing fish and wildlife resources to help perpetuate diversity, and other issues that developed during the formulation of this plan require an increased level of analysis and management needs identification unavailable at time of publication. It will therefore be necessary to gather more specific information and perform more detailed analysis before management options and opportunities can be developed for inclusion in the RMP. Upon completion of the necessary analyses, appropriate planning will occur that will outline specific management objectives for fish and wildlife resources beyond those necessary for basic resource conservation and protection which are included in this plan.

*Specific Concerns:*

- Manage the potential impact to the anadromous fish habitats of the Jim and South Fork Koyukuk rivers and Prospect Creek from increased mineral material extraction (sand and gravel).
- Manage the potential impact on wildlife from opening the planning area to oil and gas exploration and development.
- Manage the potential effect on terrestrial wildlife habitat and populations resulting from opening additional acreage to mining under U.S. mining laws.

## Planning Criteria

Planning criteria are a set of rules or guidelines to be followed in the formulation of all proposed management actions and the considerations of potential impacts to resources. These criteria become the planning "sideboards" which focus and direct the entire planning process.

The following planning criteria were used in the development of the final RMP/EIS to identify and resolve the planning issues and conflicts in compliance with laws, regulations, and policy. Consideration was given to plans, policies, and programs of other federal agencies, state and local governments, and Native corporations, and public comments. These criteria were sent to the public for comment in the form of a newsletter published by the Arctic District Office in March of 1986.

### GENERAL PLANNING CRITERIA

1. The primary function of the Corridor is the transportation of energy resources; therefore, actions or activities potentially adverse to existing and future energy transportation systems will be avoided.
2. Valid existing rights will be protected throughout the planning area.
3. Subsistence uses and needs will be considered, and adverse impacts will be minimized to the extent practical in accordance with ANILCA Section 810.
4. Land disposals will be considered when in the national interest. Land disposal options will include state selection, and land exchanges, sales, and leases as allowed under FLPMA.
5. Plans and policies of adjacent conservation system units, land owners and local governments will be considered, and RMP decisions will be consistent to the degree reasonably practical.
6. Recreation related needs and uses will be addressed.
7. Development nodes will be assessed regarding their location, size, boundaries, and appropriate uses, their long-range development, state or federal management, and effects on adjacent and nearby lands.
8. Public access needs will be addressed.
9. BLM will provide maximum opportunity for input from other federal agencies, the State of Alaska, adjacent private land owners, local residents and other affected and/or interested parties.
10. ANILCA 1001 requirements for planning area lands north of 68° N latitude (i.e., CAMA) will be addressed. These requirements include:
  - a. an assessment of oil and gas potential;
  - b. recommendations concerning future use of oil and gas resources, including an evaluation of transportation routes necessary for development;
  - c. a review of wilderness characteristics and a recommendation for wilderness designation;

- d. a study of and recommendations for protection of wildlife resources.

**Note:** these requirements have been met, culminating with a report submitted to the President and Congress in December of 1988, *ANILCA Section 1001 Report Findings and Recommendations*, (USDOI, BLM, 1988).

11. At a minimum, wildlife habitat will be managed consistent with the memorandum of understanding between BLM and the Alaska Department of Fish and Game (AK 950-MOU3-11).
12. Identification, designation and protection of special management areas such as research natural areas (RNAs) and areas of critical environmental concern (ACECs) will be considered.
13. Opportunities for mineral exploration and development will be considered which reflect the national need for energy and strategic minerals.
14. The impacts and impact mitigation for development of mineral resources will be described with special emphasis on development of mineral materials, oil and gas resources, and locatable minerals.
15. The BLM will provide necessary access to state owned lands adjacent to the Utility Corridor through standard provisions of FLPMA.

#### CRITERIA FOR FORMULATION OF ALTERNATIVES

The proposed plan presented in detail in this document and the alternatives presented in the draft RMP/EIS and summarized here focus on resolving potential resource use conflicts and reflect the plan criteria listed above. The alternatives respond to the goals, objectives, and priorities for resource use and management as described for each alternative. Taken together, the alternatives provide a range of choices from emphasizing resource protection to emphasizing resource development. The criteria used to formulate this range of alternatives are listed below. The alternatives provide:

1. for future energy transportation systems;
2. a range of measures for environmental protection;
3. a range of opportunities for the exploration and development of locatable minerals;
4. a range of opportunities for the exploration and development of oil and gas resources and other leasable minerals;
5. a range of opportunities for the development of mineral materials;
6. a range of opportunities for land ownership adjustments through exchanges, selections, or FLPMA sales and leases that would further the national interest;
7. a reevaluation of nodes: locations, boundaries, uses, ownership;
8. a range of recreation opportunities;
9. a range of wilderness recommendations for CAMA;
10. for protection of threatened and endangered species habitat;
11. for protection of crucial habitat for priority wildlife species;
12. for access needs to adjacent lands; and
13. for establishment of special management areas (e.g., RNAs, ACECs).



## CRITERIA FOR ESTIMATING EFFECTS OF THE ALTERNATIVES

All alternatives will consider the effects on:

1. energy transportation;
2. water quality;
3. subsistence;
4. threatened and endangered plants and animals;
5. Conservation System Units;
6. visual resources;
7. recreation;
8. cultural resources;
9. existing valid rights;
10. wildlife;
11. social values and economic considerations;
12. access;
13. wilderness (CAMA only);
14. mineral development and the national need for energy and strategic minerals.

## BLM Planning Requirements

Plans prepared by the BLM must be in conformance with the Bureau's supplemental program guidance manual for resource management planning (BLM Manual 1620). Specific determinations required by this manual and not made in a planning document must meet one or more of the following exceptions:

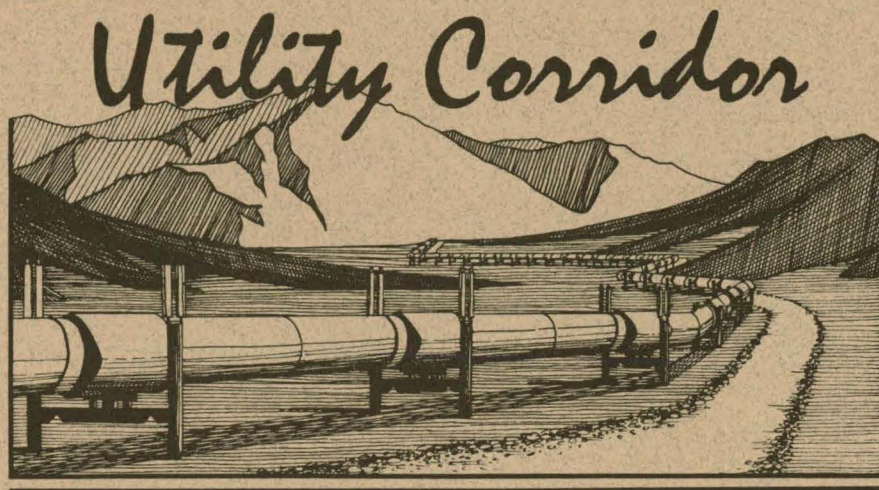
1. A determination is not required if the resource in question is not present nor potentially present in the planning area and if there is no record of interest in the resources.
2. A determination is not required if the determination in question is identified as optional in the BLM 1620 manual series.
3. A determination is not required if the determination in question has already been made through national or state level policy guidance developed in accordance with the requirements set forth in 43 CFR 1610.1(a) and in the BLM manual section 1611.
4. A determination is not required if management has decided that it would be premature to make the determination in question and that it should be handled through a subsequent plan amendment when and if the need arises.

As a practical matter, the program guidance also requires that maps portray the following: 1) areas closed and open to mineral location; 2) areas closed and open to mineral leasing; and 3) areas closed to extraction of mineral materials (BLM Manual 1624.21, 1624.31, 1624.41). The scale of the maps necessary to display the entire planning area (1:1,000,000) makes it difficult to show the exact location of some boundaries. Maps showing boundaries with greater detail are available for review at the Arctic District Office, Fairbanks, Alaska.

A determination was made, pursuant to the program manual (1623.41) which requires that all lands be classified as open, limited, or closed to off-road vehicle (ORV) use. In order to meet manual

requirements, all planning area lands are placed in the "limited" category. However, it is recommended in this proposed plan that additional work be completed to modify this classification where necessary. Sensitive soil conditions and newly established National Parks and Refuges adjacent to the planning area require a more detailed analysis of ORV use than is possible in a general land use plan.

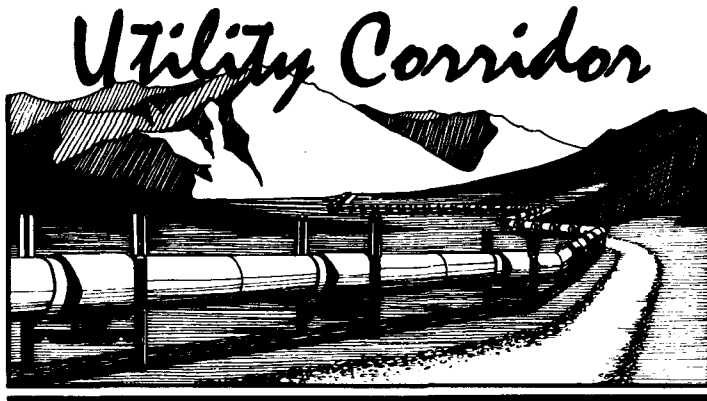




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## Chapter 2:

# PROPOSED MANAGEMENT ACTIONS AND ACTIVITY SCENARIOS

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### Introduction

This chapter is divided into two sections. The first section, "Proposed Management Actions," presents general management proposals or actions for the approximately 6.1 million acres of public land within the Utility Corridor Resource Management Plan (RMP) planning area. These proposed management actions are the result of existing policy and program guidance, as well as three years of study and public input. Section 1 is based on the action statements of the preferred alternative that appeared in the Draft Resource Management Plan and Environmental Impact Statement (RMP/EIS), published in August of 1987. However, the management actions presented here embody the changes made to the Draft RMP/EIS recommendations as a result of public review and comment. Section 2 of this chapter, "Scenarios - Actions and Activities with Potential for Environmental Impact," summarizes important management actions described in Section 1, then describes those activities anticipated to occur and which could result in significant environmental impacts as a result. For example, Section 2 summarizes management proposals relating to oil and gas leasing (e.g., the opening of approximately 5.8 million acres of land to oil and gas leasing) and describes oil and gas activities expected to occur as a result of that management action (e.g., seismic work, exploratory drilling, development). Environmental impacts resulting from these anticipated activities are discussed in Chapter 4, "Environmental Consequences."

Unlike the *Draft Utility Corridor Resource Management Plan and Environmental Impact Statement* (USDOI, BLM, 1987), which presented several alternatives in detail, including a preferred alternative, this document presents only the proposed plan in detail. Other alternatives as presented in the Draft RMP/EIS are summarized in Table 2.7 and are graphically depicted on maps at the end of this chapter. Also, a summary of the various alternatives appears at the beginning of this document. The reader should refer to the Draft RMP/EIS if more detailed information is desired. Moreover, a complete description of the wilderness alternatives considered may be found in the associated *Central Arctic Management Area Wilderness Recommendations and Final EIS* (USDOI, BLM; 1988).

More specific procedures, implementation actions, and monitoring and evaluation requirements necessary to implement the proposed management actions presented in this chapter are described in Appendix N. The "Program Management Plan" is organized by Bureau programs and translates planning decisions into specific actions for program leaders and specialists to facilitate plan implementation, work load analysis, and future budgeting. It is not necessary for the reader to study this section but it may be informative. The "Program Management Plan" will become the basis of an implementation plan to be approved after the Record of Decision is signed.

It must also be noted that:

1. No proposed management action presented in this chapter should be interpreted as limiting current or future energy transportation needs in the Utility Corridor. The need for the transportation of energy minerals supersedes all other uses of the Utility Corridor.
2. All planning proposals are subject to valid existing rights.

3. No land use authorizations would be issued for activities on lands validly selected by the state or Native corporations without prior concurrence of the selecting entity [43 CFR 2650.1 (a) (2) (ii) and Alaska National Interest Lands Conservation Act Sec. 906 (k)].
4. Lands validly selected by the State of Alaska are segregated from all appropriations including mineral location under the mining laws [43 CFR 2627.4 (b)].
5. Until Congress acts on the CAMA Wilderness Study Area recommendations (USDOI, BLM, 1988) implementation of the proposed plan north of 68° N latitude, outside the nonwilderness assessment area, is held in abeyance. Interim wilderness management guidelines (USDOI, BLM, 1979) apply to management actions in the WSA until such time as Congress acts.

## Section 1: Proposed Management Actions

### Cooperative Planning

Through the RMP planning process it became evident that certain important issues could not be satisfactorily resolved and stated objectives could not be completely attained without cooperative state/federal planning.

**Proposed Action 1:** It is proposed that through the Alaska Land Use Council, a cooperative planning agreement should be established with the State of Alaska and other appropriate parties. The proposed planning agreement would be in accordance with provisions contained in Sec. 1201 of ANILCA and would allow for public participation.

The study zone covered by this planning agreement would correspond to the "Dalton Highway Recreation Management Area." This area includes those Corridor lands which, due to existing access, are most likely to be impacted by public use. The proposed study recognizes that the State of Alaska and BLM share management responsibilities in this area and that management objectives and/or priorities may at times be in conflict or inconsistent. The proposed plan would determine how the state and BLM, working together, could best provide for the public's needs while also protecting natural resources and the subsistence lifestyle of nearby communities.

**Considerations:** As with other BLM managed lands within the state, use of this area and its resources is controlled by both the State of Alaska and BLM. BLM's responsibilities include but are not limited to: issuance of rights-of-way, permits, and leases; land sales; development of proposed recreational facilities; mineral leasing; mining claim recording; material sales; surface protection; maintenance and protection of wildlife habitat, threatened and endangered species, and cultural resources; and ANILCA 810 (subsistence) evaluations. State responsibilities include but are not limited to: law enforcement, establishing fish and game regulations, maintaining water quality, and highway safety and maintenance. Additionally, the State Legislature has taken actions which show specific interest in this area. For example, public use of the Dalton Highway is currently restricted north of Disaster Creek by legislative decision, and state law prohibits use of ORVs within 5 miles of the Dalton Highway except in conjunction with mineral development. Both of these actions have a direct impact on BLM management of these lands.

Public interest and use of the lands and resources along the Dalton Highway will continue to grow in the future. Appropriate uses should be provided for and valuable resources protected. Regardless of the final pattern of land ownership in the area, national interest and existing federal commitments (e.g., ROWs, leases, mining claims, etc.) assure some degree of federal involvement in management of these lands. Likewise state management responsibilities and interest in the area will not diminish. Given the state/federal interest and commitment to the area, the overlapping management responsibilities, and the anticipated increase in pressure placed on the area's resources, effective and efficient management of these lands will be best achieved by cooperative state/federal planning. Federal land use proposals must be implemented in consideration of the state's management responsibilities and capabilities, and be

consistent with state legislative decisions. Conversely, state decisions and actions relating to use of the Dalton Highway and adjacent lands should take into consideration federal proposals, responsibilities, and capabilities.

Consistent with other Utility Corridor RMP planning decisions the proposed cooperative plan should include but not necessarily be limited to: consideration of appropriate location and maintenance responsibility for sanitation and waste disposal sites; appropriate type and location for recreational facilities and an appropriate schedule for development of these facilities; law enforcement requirements and responsibilities; highway safety requirements and schedule for upgrades to meet expected increases in public use; wildlife and fisheries resources management goals; appropriate restrictions on permitted uses to include fish and game hunting restrictions and other measures to protect subsistence and other wildlife resources; and consideration of appropriate use of ORVs and other access needs. Other appropriate study issues and planning criteria would be determined through the Alaska Land Use Council in development of the planning agreement.

## Mineral Resource Development

### LOCATABLE MINERALS

All public lands not formally withdrawn or segregated from mineral entry are open for exploration and development of locatable minerals. Exploration and development of locatable minerals on public lands are managed by BLM through the 43 CFR 3809 regulations. These regulations require that the exploration and development of locatable minerals shall occur in such a manner as to prevent unnecessary or undue degradation of the land.

**Proposed Action 2:** Currently, throughout the planning area there are approximately 1.7 million acres of public land open to locatable mineral development. Under this proposed RMP approximately 4.7 million acres would be open to mineral location. Remaining closed to mineral location would be the inner Corridor, 160 acres surrounding the Kanuti Hot Springs under PLO 399 (hot springs withdrawal, August 20, 1947), and the southern portion of the proposed Nigu-Iteriak ACEC (the recommended Nigu wilderness area). In addition, the floodplains of the Jim River and Prospect Creek downstream from the eastern boundary of the inner Corridor (which is the limit of salmon spawning habitat), 8 identified mineral licks (i.e., natural salt licks, 160 acres each), and the floodplain of the Kanuti River downstream from the western boundary of the inner Corridor, or any wilderness area designated by Congress would be closed to mineral location [see Action 33 (wilderness), Action 37 (wildlife), and Action 52 (ACECs)]. All closures are discretionary, except for the recommended Nigu wilderness area, the Kanuti Hot Springs withdrawal, or any area that Congress may designate as wilderness. The locatable mineral potential of lands open and closed to mineral location under the proposed plan is displayed in Table 2.1. Section 2 contains a description of anticipated activities and maps.

**Table 2.1**  
Areas Proposed Open and Closed to Mineral Location\*

	Locatable Mineral Potential			
	High	Moderate	Low	Total
Open	178,000	545,000	3,997,000	4,720,000
Closed	45,000	341,000	700,000	1,086,000

\* The figures do not include the approximately 274,000 acres of low potential split estate lands (mineral estate is owned by ASRC) which could be opened to mineral development by ASRC.



## MINERAL MATERIALS

Applications for the removal of common variety mineral materials, including sand and gravel, will continue to be approved or disapproved on a case by case basis. Stipulations to protect important surface values will be employed in all permit and sale areas based on an interdisciplinary review of each proposal.

**Proposed Action 3:** Consistent with the transportation of energy minerals as the primary purpose of the Utility Corridor, mineral material (gravel) permits and sales would be allowed throughout the planning area with safeguards for specific areas. Extraction of gravel from already disturbed sites would be encouraged under the proposed RMP. Any new site would be approved if judged not in conflict with crucial wildlife habitat, other important resource values, recreation opportunities, or the purposes of the proposed ACECs. Of special concern are portions of the streambeds and floodplains of Prospect Creek, the Jim River, and the Ivishak River in proximity to the highway. Because of additional resource values (e.g., recreational fishing, salmon spawning) along these streams in the entire Utility Corridor, extraction of mineral materials through permit or sale would only be approved in the floodplains if it were demonstrated that no other economically feasible sites were available. Closed to mineral material extraction would be the Nigu-Iteriak ACEC and whatever area is designated wilderness by Congress, Kanuti Hot Springs and Sukapak Mountain ACECs, and the eight identified mineral licks. Seasonal closures or other appropriate restrictions may also be applied to areas crucial to species covered by the Threatened and Endangered Species Act, e.g., the Sagwon Bluffs and Toolik Lake ACECs. See Section 2 for a description of anticipated activities.

## MINERAL LEASING

Lands would be made available for oil and gas leasing after this land use plan is approved and the appropriate Public Land Orders are prepared and published. Lands not opened to lease can be surficially explored through the issuance of a permit. Lands opened to lease are opened to full mineral exploration and development subject to stipulations established by the BLM to protect environmental factors identified through appropriate environmental assessments.

**Proposed Action 4:** Under the proposed RMP all lands, except for split-estate lands (the subsurface estate has been conveyed to ASRC) and the southern portion of proposed the Nigu-Iteriak ACEC (the proposed Nigu wilderness area), would be open to the exploration and development of leasable minerals under federal law. Nonsurface occupancy stipulations would apply to the inner Corridor, the eight identified mineral licks (i.e., natural salt licks), the Ivishak River and Kanuti Hot Springs ACECs, and the streams closed to mineral location, i.e., the floodplains of the Jim River and Prospect Creek downstream from the eastern boundary of the inner Corridor, and the Kanuti River downstream of the western boundary of the inner Corridor. Seasonal closures may also be applied to areas crucial to species covered by the Threatened and Endangered Species Act, e.g., the Sagwon Bluffs ACEC.

Currently, there are no lands (0 acres) open to mineral leasing within the planning area. Under the proposed RMP there will be a total of approximately 5.8 million acres open to lease. The oil and gas potential of lands open and closed to mineral leasing is displayed in Table 2.2.

## COAL LEASING

**Proposed Action 5:** No coal leasing or development interest was identified through the issue identification process or during the alternative formulation process. Therefore, the coal screening process, including the application of unsuitability criteria, has not been conducted for this proposed RMP. This does not imply that coal exploration, leasing, and development are incompatible with this proposed plan. If an application for a coal lease is received sometime in the future, an appropriate land use and environmental analysis, including the coal screening process, will be conducted to determine whether or not the applied for coal areas are acceptable for development and for leasing consideration. The plan would be amended as necessary.

**Table 2.2**  
Areas Proposed Opened and Closed to Mineral Lease\*

	Oil and Gas Potential					Total*
	High/D***	High/C***	Moderate	Low	No	
Open	2,472,000	150,000	281,000	649,000	1,165,000	4,717,000
Open with NSO**	434,000	0	35,000	324,000		1,048,000

\* The figures do not include the approximately 274,000 acres of High/D potential split estate lands (mineral estate is owned by ASRC) which could be opened to mineral development by ASRC.

\*\* NSO: Nonsurface Occupancy. More areas may be subject to this stipulation as more is learned about crucial habitat in the planning area.

\*\*\*See Appendix F for definitions.

## Realty Actions

### LAND DISPOSALS THROUGH STATE SELECTION, SALE, AND EXCHANGE

#### *Disposals*

The Congress has declared that it is the policy of the United States that the public lands be retained in federal ownership, unless, as a result of land use planning, it is determined that disposal of a particular parcel will serve the national interest. Lands not determined to meet disposal criteria in the RMP cannot be subsequently considered for disposal unless the RMP is amended.

The following factors are usually considered in arriving at land disposal determinations: manageability, existing laws and authorities, suitability for management by other agencies, need for disposal, resource conditions, land ownership patterns, impacts of disposal, trespass, and physical attributes. Additionally, some lands-related decisions are usually deferred to activity planning, such as exchange agreements, land sale plans, and subsequent phases of case processing including, but not limited to, land reports and related environmental assessments, specific examinations for resource values, appraisals, and mineral reports. These are usually required before a lands-related RMP decision can be cleared for implementation.

#### State Selections

The Statehood Act of July 7, 1958, and other related Acts, granted or confirmed to the State of Alaska a total land entitlement of more than 105 million acres. The state may select only lands that are vacant, unappropriated, and unreserved at the time of selection (43 CFR 2627). The State has until January 4, 1994, in which to exercise its selection rights. At present, the Utility Corridor lands are withdrawn by Public Land Order (PLO) No. 5150 from selection by the State of Alaska. Under the proposed plan approximately 0.7 million acres of land within the Utility Corridor would be opened to state selection.

#### Sales

The BLM has authority under Sec. 203 of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976, and 43 CFR 2710 to sell public lands at fair market value where, as a result of land use planning (Bureau Motion), it is determined that the sale of such tract meets any or all of the following disposal criteria. Method of sales include noncompetitive, competitive, and modified competitive bidding procedures. Qualified conveyees include U.S. citizens 18 years of age or older, corporations, associations, partnerships, States and political subdivisions authorized to hold property. All sales are at the

discretion of the BLM authorized officer and must meet any or all of the following disposal criteria [ 43 CFR 2710.0-3 (a)]:

1. Such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or
2. Disposal of such tract shall serve important public objectives, including but not limited to expansion of communities and economic development which cannot be achieved prudently or feasibly on lands other than public lands and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values which would be served by maintaining such tract in federal ownership; or
3. Such tract, because of its location or other characteristics, is difficult and uneconomic to manage as part of the public lands and is not suitable for management by another federal department or agency.

The Wiseman land sale area, described as Lots 1 to 17, inclusive, and Lots 19 to 26, inclusive, of U.S. Survey No. 5276, containing 25.86 acres has been identified for disposal. These lots, because of their location or other characteristics, are difficult and uneconomical to manage as part of the public lands and are not suitable for management by another department or agency.

No other lands were identified for disposal by FLPMA sale. A plan amendment would be required for disposal of a tract, pursuant to Sec. 203, that has not been identified in this RMP.

#### **R&PP Sales**

The Recreation and Public Purposes Act of June 14, 1926, as amended, and 43 CFR 2740 provide for the transfer of certain public lands to states, or their political subdivisions, and to non-profit corporations and associations for recreational and public purposes under specified conditions, and upon being "classified" as suitable for such uses. A notice of realty action, published in the Federal Register and local newspapers and mailed to interested parties, will serve as a classification of public lands as suitable or unsuitable for conveyance. Public purpose means for the purpose of providing facilities or services for the benefit of the public in connection with, but not limited to, public health, safety or welfare. All patents under the act, except those issued for sanitary landfills, shall provide that title shall revert upon violation of any patent provision. The R&PP Amendment Act of 1988 authorizes the BLM, upon promulgating regulations, to convey public lands for the express purpose of solid waste disposal or for any other purpose which may result in the disposal, placement, or release of any hazardous substance with special provisions relating to the reversion to the U. S.

It is difficult to predict the lands which may be needed to accommodate public purpose needs, thus, it will be necessary to consider each "petition for classification" application on a case by case basis. Lands may be needed in Wiseman, Coldfoot, and Yukon Crossing/7-Mile area for schools, churches, or local government service facilities. The BLM will strive to accommodate these future public needs in these areas to the fullest extent possible.

#### **Land Exchanges**

BLM-Alaska will strive to process mutually benefitting, public interest land exchanges in a timely and efficient manner through continually maintaining and streamlining its land use planning, appraisal, and exchange processes. The exchange authorities in Alaska are unique from other states, except FLPMA, and include 1) Sec. 22(f) of the Alaska Native Claims Settlement Act, as amended; 43 U.S.C. 1621; 2) Sec. 1302(c), (h), and (i) of the Alaska National Interest Lands Conservation Act, 16 U.S.C. 3192(h); and 3) Sec. 206 of the Federal Land Policy and Management Act, 43 U.S.C. 1716. There are good opportunities to improve service to the public and secure better utilization and protection of the public lands through private and interagency land exchanges. Land management problems encountered in this plan include split estates, a checker board pattern of federal and private ownership, and isolated parcels of federal lands.

Under the proposed RMP approximately 274,000 acres were identified for disposal by exchange or sale. These disposals would eliminate a fragmented land pattern that is difficult and inefficient to manage. Also, consolidation of surface and subsurface estates would eliminate problems in managing split estate land.

### **Airport Grants**

The Airport and Airway Improvement Act of September 3, 1982, and the regulations found in 43 CFR 2640 provide for the issuance of conveyance documents for lands or interests in lands, under the jurisdiction of the Department of Interior, to public agencies for use as airports and airways. Each conveyance shall contain appropriate covenants and reservations requested by the Federal Aviation Administration (FAA), and those deemed necessary by BLM for land and resource protection. As a condition to each conveyance, the property interest conveyed shall revert to the U.S. in the event the lands are not developed for airport or airway purposes or are used in a manner inconsistent with the terms of the conveyance.

### **Acquisitions**

Methods used to acquire legally sufficient rights to meet resource management needs include negotiated purchase, donation, exchange, and condemnation. Procedures used in the acquisition process are found in BLM Manual 2100 and Handbook 2101-1. Acquisition of lands and interests in lands will be done to improve management, and to protect, develop, maintain, and use resources.

BLM would act to acquire easements or lands if and when the need is identified in activity plans or project proposals. These would be considered on a case by case basis and assessed through a site-specific NEPA document and land report prepared when an action is initiated. Lands identified for possible acquisition under the RMP alternatives are shown on the "Proposed Plan" map sheet 1 of 4; a legal description of these lands is provided in Part 2 of Appendix N. Cost effective alternatives will be pursued and only the minimum interest necessary to meet management objectives would be acquired when using the federal portion of the Land and Water Conservation Fund (LWCF). A plan amendment would be required to acquire tracts not identified in the RMP.

**Proposed Action 6:** Following the public comment period for the draft RMP/EIS, the State of Alaska and the BLM discussed options regarding state selection in the Utility Corridor. The draft RMP/EIS proposed opening small tracts of land for selection and recommended that the majority of corridor lands remain in federal ownership. During these discussions between the State Department of Natural Resources and BLM personnel, it was mutually agreed that it would be in the best public interest to seek ways to increase consolidation of land ownership throughout the state. Consolidation of ownership would reduce the scattered nature of land holdings for both the federal and state governments. It was understood by all parties that such consolidation would lead to more effective and efficient land and resource management.

The first step in achieving this goal of greater consolidation was to identify areas in the state where the need for consolidation existed. Two areas were identified for consideration: the Utility Corridor planning area including adjacent lands, and the "Clearwater Block" (a mixed management area south of the Alaska Range between the Richardson and Parks Highways). It was believed that the first steps toward greater consolidation of ownership could properly be taken in these two regions. Since a draft RMP/EIS had already been published for the Corridor, a supplement to the draft document proposing consolidation of ownership involving planning area lands was issued. Consolidation in the Corridor region was to be achieved by opening 1.1 million acres of Corridor land to state selection. The publication of this state and federal proposal was accompanied by a 45 day public comment period. Meetings to discuss the supplement were held in Barrow, Stevens Village, Fairbanks and Anchorage. (The supplement is republished as Appendix J).

The proposal presented in the supplement to the draft RMP/EIS received a great deal of comment. After consideration of these comments and after extensive consultation with the State of Alaska it was decided that approximately 0.7 million acres of land within the Corridor would be opened to state selection. These lands are located in four different areas or units, (folded map 1). These units are: 1) the Corridor lands south of the Yukon River, originally described in the preferred alternative of the draft

RMP (approximately 25,000 acres), 2) the Prospect unit (approximately 55,000 acres) which corresponds closely to the "Ambler Mining District Transportation Corridor" defined in the draft RMP as well as lands occupied by the nearby State of Alaska highway maintenance camp and state maintained public airstrip (Map 2.1), 3) the Coldfoot unit, which includes the node described in the draft RMP as well as a transportation corridor to the east (a total of approximately 26,000 acres; Map 2.2), and 4) the Sagavanirktok unit, described in the supplement to the draft RMP (Appendix J) as Corridor lands located north of Toolik Lake (approximately 600,000 acres). See Section 2 for a description of anticipated activities. Dropped from further consideration for state selection were the approximately 600,000 acres of Corridor lands just north of the Yukon River, referred to by many commenters as the "Stevens Village Block."

**Proposed Action 7:** As stated under Proposed Action 7, modification of PLO 5150 to allow state selection at Coldfoot would occur under the proposed plan. If lands within this node were indeed selected and conveyed to the State of Alaska, four sites totaling approximately 15 acres would be retained by BLM for use by federal agencies including BLM, the National Park Service and the U.S.

Fish and Wildlife Service to facilitate their management responsibilities within the area. If the Prospect Unit is conveyed to the state, BLM would retain a small portion for an administrative site. Furthermore, if the lands within the Happy Valley node are conveyed to the state, a site (or sites) would be retained by BLM if considered necessary or appropriate for BLM to fulfill its management function within the area.

**Proposed Action 8:** In addition, the draft RMP identified lands for possible sale within the Coldfoot and Yukon Crossing nodes. As a result of public comments, under the proposed plan these lands would not be made available for sale. Should the Coldfoot node be transferred to the State of Alaska, this would become a state issue. Sale of lands within five miles of the Dalton Highway is currently prohibited under state law.

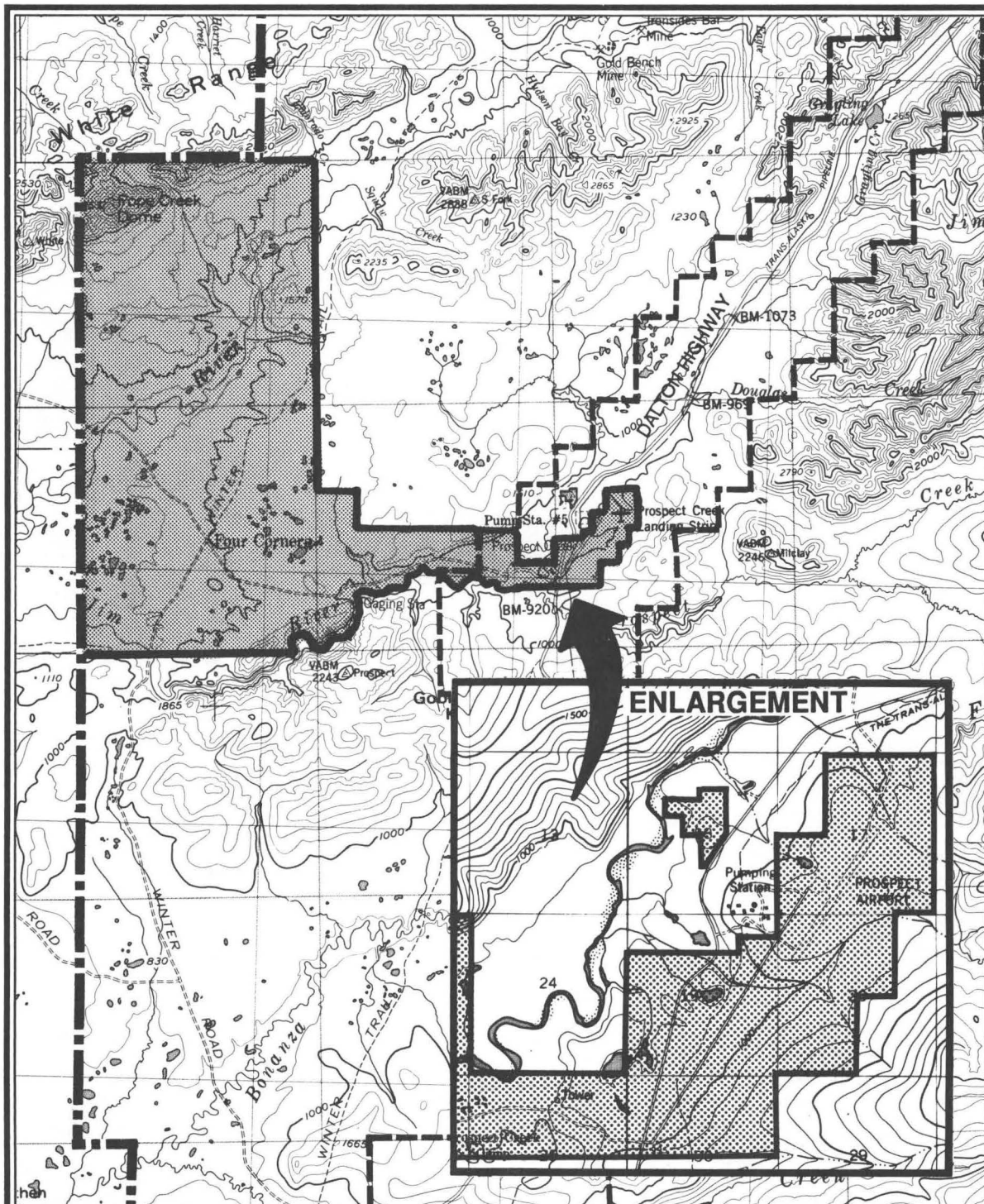
**Proposed Action 9:** Consistent with the draft RMP, Public Land Order 5150, as amended by PLO 5182, would be further amended to allow state selection in the remainder of the Gas Arctic east-west energy transportation corridor adjacent to the Arctic Wildlife Refuge. This area is approximately 30,000 acres in size and involves land in Tps. 1 S., Rs. 24 and 25 E., Umiat Meridian.

**Proposed Action 10:** Disposal of small tracts of public land would be encouraged just west of the upper reaches of the Middle Fork Chandalar River through exchange with or selection by the State of Alaska.

**Proposed Action 11:** To consolidate federal land ownership, the relinquishment of state selections on four isolated tracts of land (totaling approximately 15,000 acres) located south of the Brooks Range between the Utility Corridor and adjacent Conservation System Units would be requested. Also, should the state choose not to select the "Sagavanirktok Unit," relinquishment of an isolated tract of land (approximately 12,000 acres) north of the Brooks Range located between the Utility Corridor and the Arctic National Wildlife Refuge would be requested.

**Proposed Action 12:** The proposed RMP encourages exchanges with appropriate land owners to provide for federal ownership of a corridor surrounding the Killik River. This corridor would be a multiple-use management area focusing on protection of the riverine environment connecting the Gates of the Arctic National Park with the Colville River. Also, the proposed plan encourages the acquisition of lands for multiple-use management on the western and eastern sides of the Oolamnavik block to consolidate federal land ownership.

**Proposed Action 13:** The proposed RMP encourages the acquisition of the approximately 274,000 acres of subsurface estates from the Arctic Slope Regional Corporation (ASRC) or the disposal of the corresponding 274,000 acres of surface estates to ASRC to end the "split-estate" conditions in CAMA and to increase land consolidation.



BOUNDARY MAP  
Map sheet Bettles



Scale in Miles



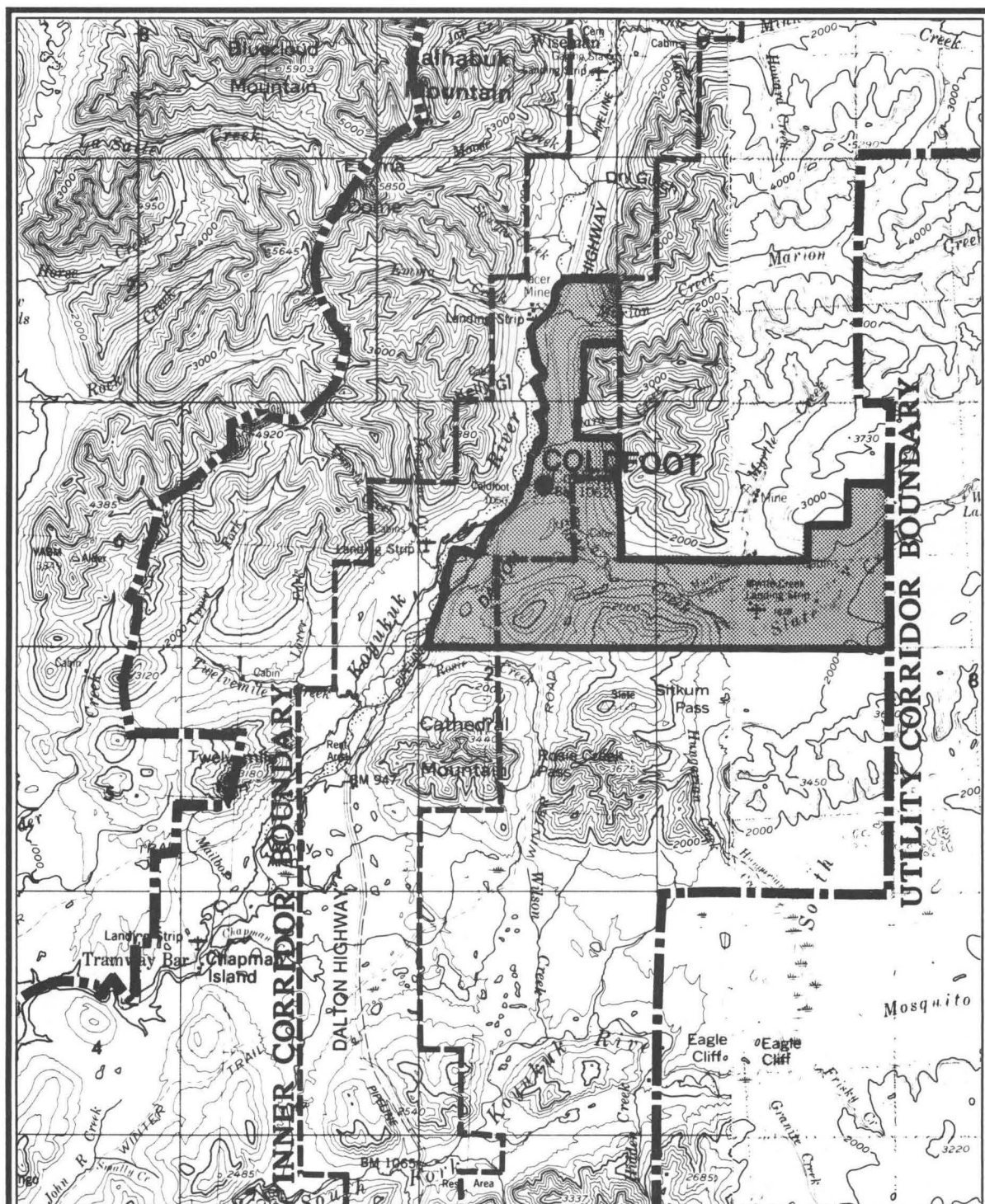
Within Tps. 22, 23 and 24 N  
Rs. 14, 15 and 16 W.  
Fairbanks Meridian

# PROSPECT UNIT STATE SELECTION AREA

Map 2.1







**BOUNDARY MAP**  
Map sheet Bettles  
and Chandalar

Scale in Miles

Within Tps. 28 and 29 N.,  
Rs. 11 and 12 W.  
Fairbanks Meridian



QUADRANGLE LOCATION

# **COLDFOOT UNIT STATE SELECTION AREA**





**Proposed Action 14:** The proposed RMP would resolve unauthorized occupancies in Wiseman by selling lots to the owners of cabins. PLO 6727 was issued to modify PLO 5150 and to classify the lands for sale. These are long standing unauthorized occupancies that must be resolved. The affected lands have been determined suitable for disposal, and BLM is expecting to sell surveyed lots in Wiseman to the cabin owners in accordance with the Federal Land Policy Management Act (FLPMA) and the existing land use plan (i.e., the MFP).

**Proposed Action 15:** The BLM proposes making lands available for disposal to qualified applicants under the R&PP Act to accommodate future public purpose needs in Wiseman, Coldfoot, and Yukon Crossing/7-Mile area. Additional lands may be needed in these areas in the future to accommodate public facilities such as schools, churches or local governmental service facilities.

**Proposed Action 16:** The draft RMP recommended the transfer of approximately 48,000 acres of BLM managed lands located within the boundaries of the Arctic National Wildlife Refuge (ANWR) to the U.S. Fish and Wildlife Service. These lands were withdrawn by Public Land Order 6607 and were remnants of a gas pipeline corridor no longer receiving active consideration. Congress made these lands part of ANWR and placed them under the management of the U.S. Fish and Wildlife Service on August 18, 1988 (P.L. 100-395).

## DEVELOPMENT NODES

**Proposed Action 17:** Nodes under the proposed plan would be defined as those areas where BLM would encourage all use and development related to road traffic to take place. BLM would designate and manage four areas as development nodes under the proposed RMP: Yukon Crossing, Coldfoot, Chandalar, and Happy Valley (Maps 2.3-2.6). Coldfoot and Happy Valley, which are included in areas to be opened to state selection, would be managed as nodes until such time as the lands were conveyed to the state. The areas around Prospect and Pump Station 3, designated as nodes in the previous land use plan, would no longer be designated or managed as nodes while the lands are under federal management. Governmental units and energy transportation facilities would be allowed to locate outside the nodes if the needs or purposes of the facility were better met outside the node boundaries. Commercial activities not directly related to road traffic (e.g., horse corral or grazing areas) would be considered for permit approval in areas outside the nodes. Such activities would be screened from the Dalton Highway, where appropriate, by vegetation and distance.

The proposed RMP would continue the current policy of allowing the location of state road maintenance camps at the Yukon Crossing (7-Mile), Coldfoot, Chandalar Shelf, and Slope Mountain (all now in place). The lands now occupied by the Alaska Department of Transportation and Public Facilities (AK DOT/PF) Jim River maintenance camp would be opened to state selection under the proposed plan. Also see the "Commercial Development" description in Section 2.

The following is a brief description of each node:

### ***Yukon Crossing Node (7,050 acres)***

The boundary of the Yukon Crossing node would encompass all existing facilities and activities in the Yukon Crossing area. The boundary extends from the service facility near the bridge to the road maintenance camp at 7-Mile. The node has been defined to include the 7-Mile area because of the existing State of Alaska highway maintenance camp, the existing airstrip, and the potential reopening of the school at that site.

In the long term, if growth at the Yukon Crossing area warrants, the existing airstrip should be closed and a new airstrip constructed along the northeast/southwest trending ridge in Sec. 1, T. 12 N., R. 11 W., Sec. 6, T. 12 N., R. 10 W.; and Secs. 31 and 32, T. 13 N., R. 10 W. Fairbanks Meridian. The state has applied for an airport lease on this site.

Commercial activities related to road traffic would remain in the current area close to the Yukon River bridge. Due to the size of this node BLM should be able to accommodate any proposed road related activity that can meet the usual permit stipulations. The recommendation presented in the preferred alternative of the draft RMP to offer homesite areas for sale has been dropped from this proposed plan.

***Coldfoot Node (7,000 acres)***

The boundaries of Coldfoot would encompass the current activities centered in T. 28 N., R. 12 W., Secs. 15 and 16, Fairbanks Meridian, and would extend about five miles north to an area beyond Marion Creek in T. 29 N., R. 13 W., Fairbanks Meridian.

The proposed Coldfoot node is large enough to enable BLM (or the state) to accommodate any anticipated road related activity. If demand for facility expansion should occur that can not be accommodated in Secs. 15 and 16 along the Dalton Highway and above the Slate Creek floodplain, consideration would be given to permitting actions north of Slate Creek in Sec. 10. The floodplain boundary of Clara Creek would require mapping before an area in Sec. 10 could be identified. If lands within this node are conveyed to the state, five sites totaling approximately 20 acres would be retained by BLM for use by federal agencies including BLM, the National Park Service and the U.S. Fish and Wildlife Service to facilitate their management responsibilities within the area.

The recommendation presented in the preferred alternative of the draft RMP to offer homesite areas for sale has been dropped from this proposed plan.

***Chandalar Shelf Node (1,700 acres)***

Currently located within the Chandalar Shelf node boundaries are a BLM administration site, an existing state held airport lease, and a State of Alaska highway maintenance camp. No commercial activities are now located within the node, but interest has been expressed in developing a service facility and lodge. The boundary has been drawn to focus development along the Dalton Highway and around the airstrip. No homesite development is proposed. BLM could accommodate anticipated road related uses in this node along with the current government and energy transport activities.

***Happy Valley Node (1,600 acres)***

The boundary of the Happy Valley node encompasses the areas permitted to several guides/outfitters and the governmental units clustered along the airstrip. No homesite development would be offered at this node. If the lands within this node are conveyed to the state, a site (or sites) would be retained by BLM as necessary or appropriate to fulfill its management function within the area.

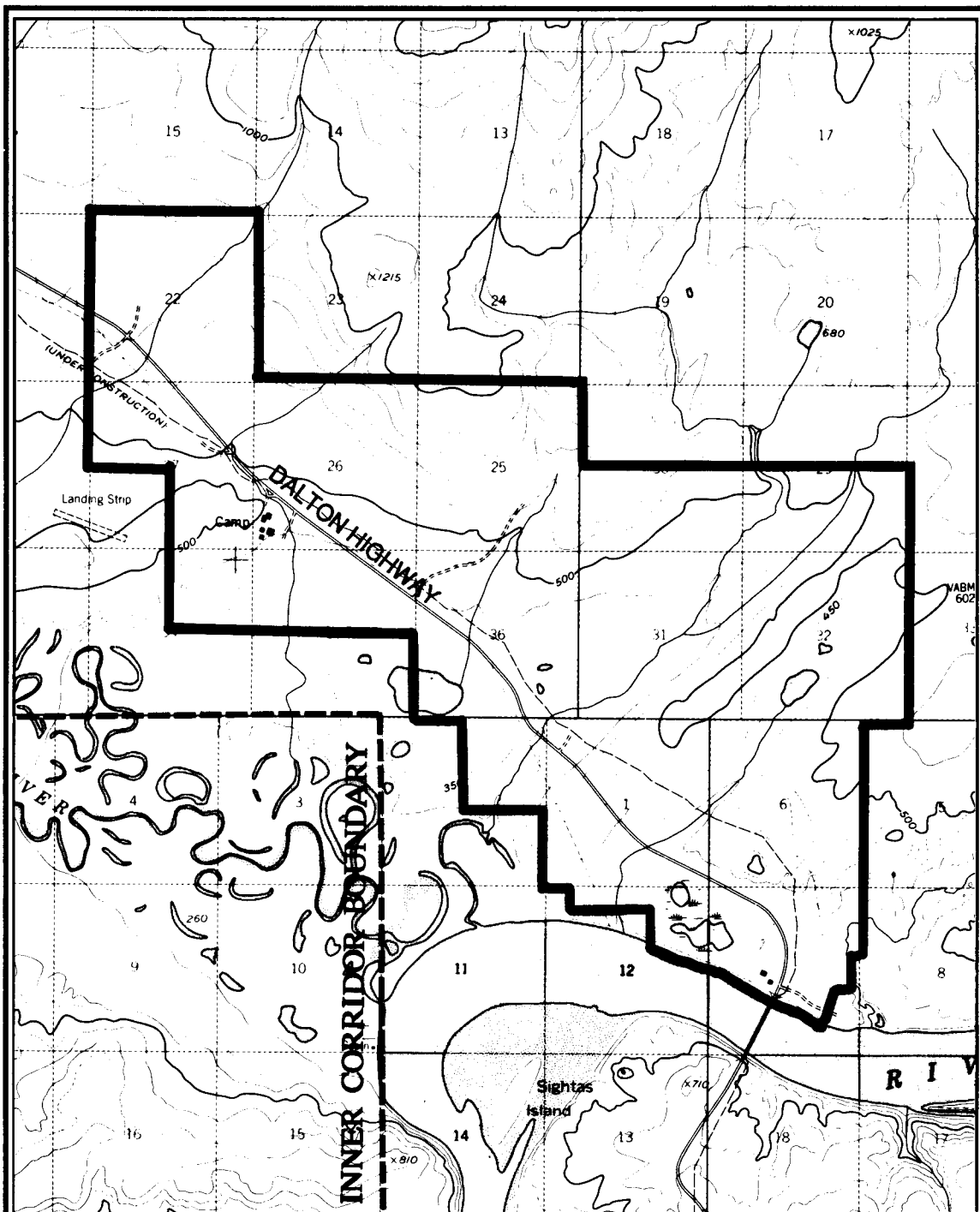
**CHANGES TO UTILITY CORRIDOR BOUNDARIES**

**Proposed Action 18:** The proposed RMP would modify the boundary of the inner Corridor to conform better to current and future needs for energy transportation. The inner Corridor was designated before the final alignments of the current highway and pipelines were determined in order to minimize conflicts with new mining claims. Now that these alignments are in place the boundary of the inner Corridor should be modified. Appendix N provides a precise description of proposed changes in this boundary. PLO 5150 would be modified to conform with these proposed changes.

**LAND-USE AUTHORIZATIONS**

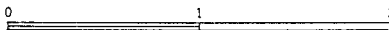
Land use authorizations shall be issued only at fair market value and only for those uses that conform with BLM plans, policy, objectives, and resource management programs. In determining the informational and procedural requirements, the BLM will consider the duration of the anticipated use, its impact on the public lands and resources, and the investment required by the proposed use. The primary authorizations anticipated are leases, permits, and rights-of-way. Each proposal or application is considered on a case-by-case basis and either authorized or rejected based on findings.

No land use authorization is required under the regulations for casual use of the public lands. Casual use can be defined as any short term non-commercial activity which does not cause appreciable damage or disturbance to the public lands, their resources or improvements, and which is not prohibited by closure of lands to such activities.



BOUNDARY MAP  
Map sheet Livengood D-6

Scale in Miles



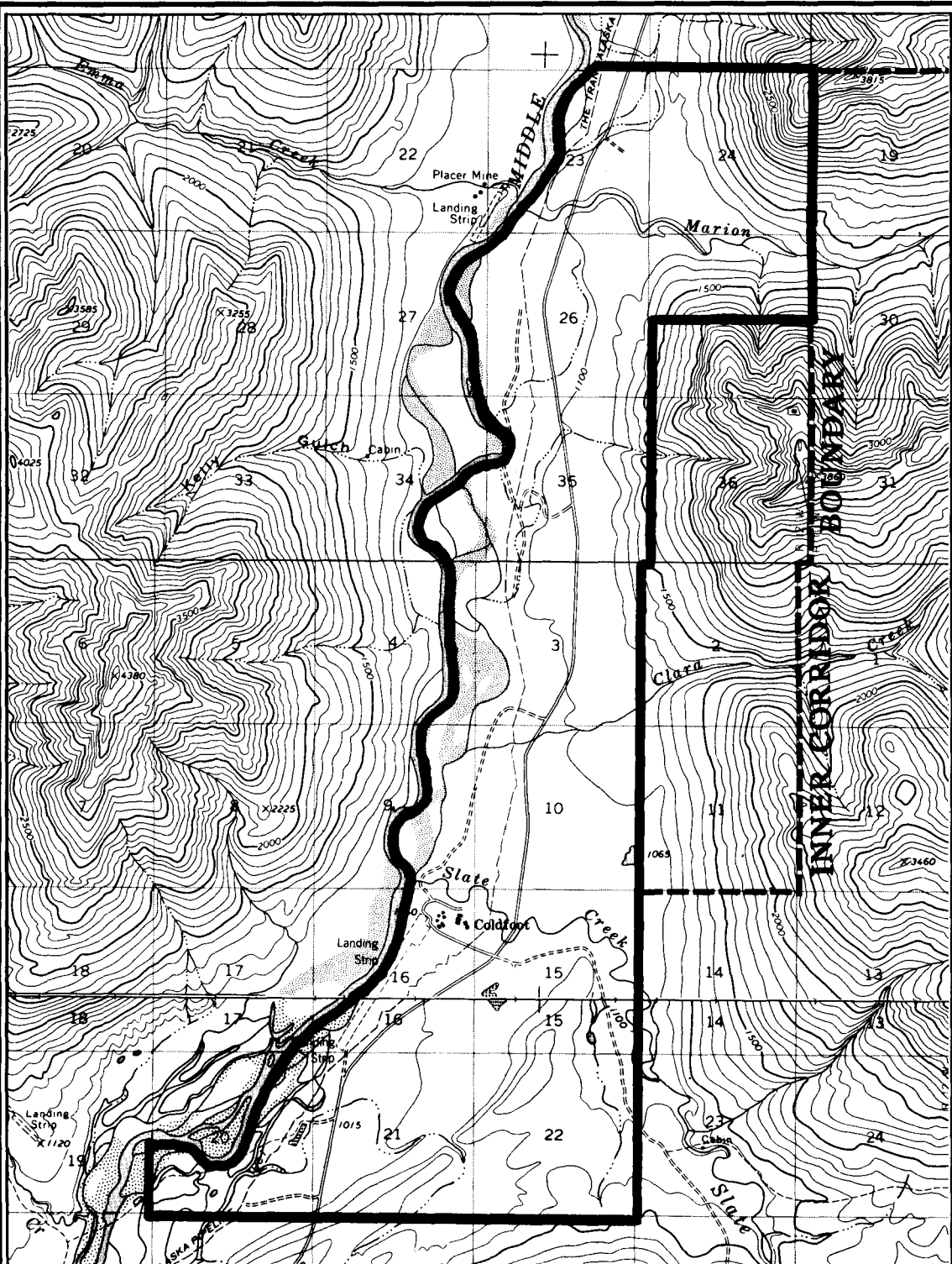
Within Tps. 12 and 13 N.,  
Rs. 10 and 11 W.  
Fairbanks Meridian



# YUKON CROSSING DEVELOPMENT NODE



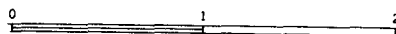
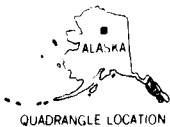
Map 2.3



**BOUNDARY MAP**  
Map sheets Wiseman A1 and B1

Scale in Miles

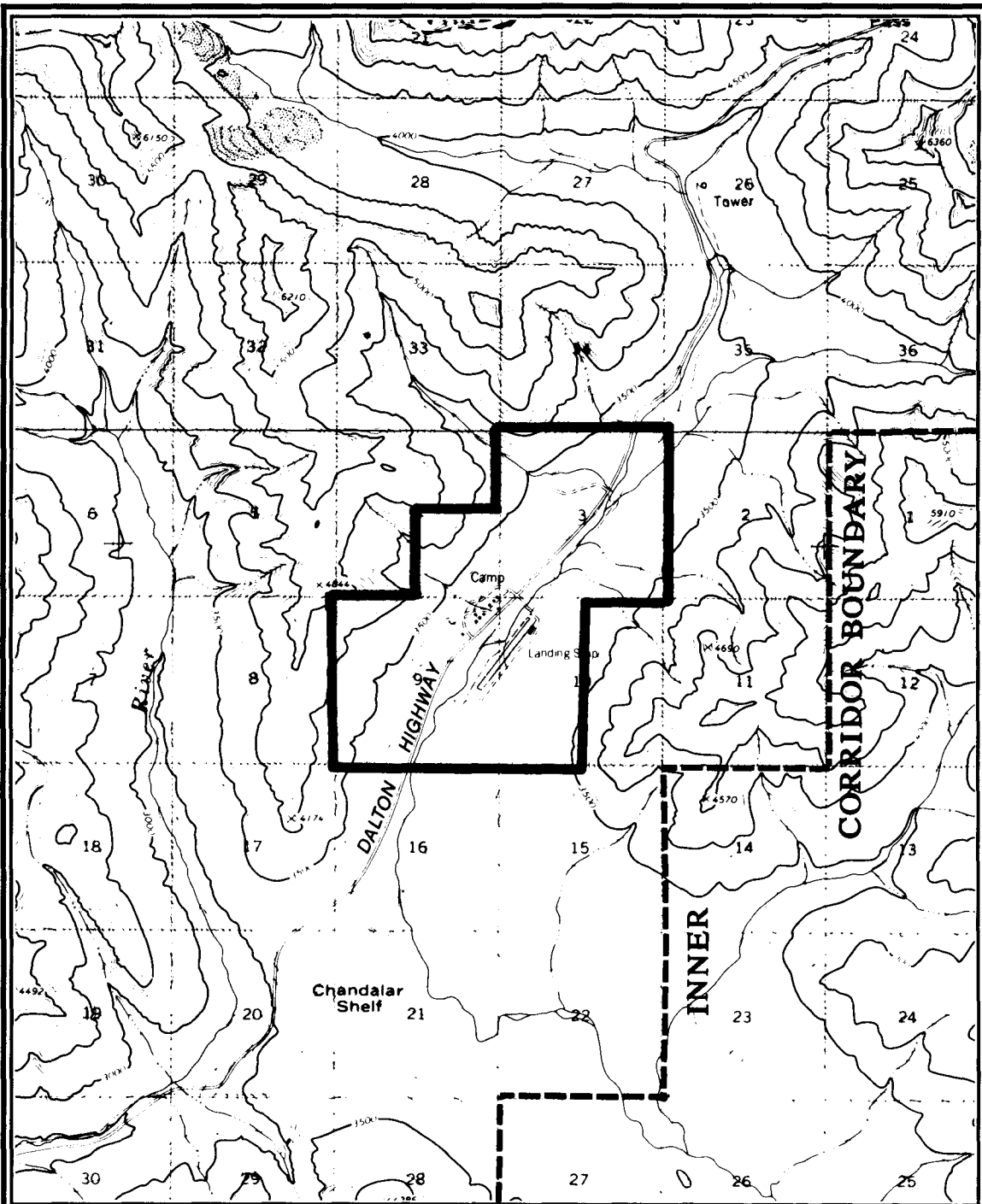
Within Tps. 28 and 29 N., R12 W.  
Fairbanks Meridian



# **COLDFOOT DEVELOPMENT NODE**

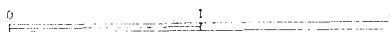
Map 2.4





BOUNDARY MAP  
Map sheet Phillip Smith  
Mtns. A-5

Scale in Miles



Within T. 16 S., R. 11 E.  
Umiat Meridian

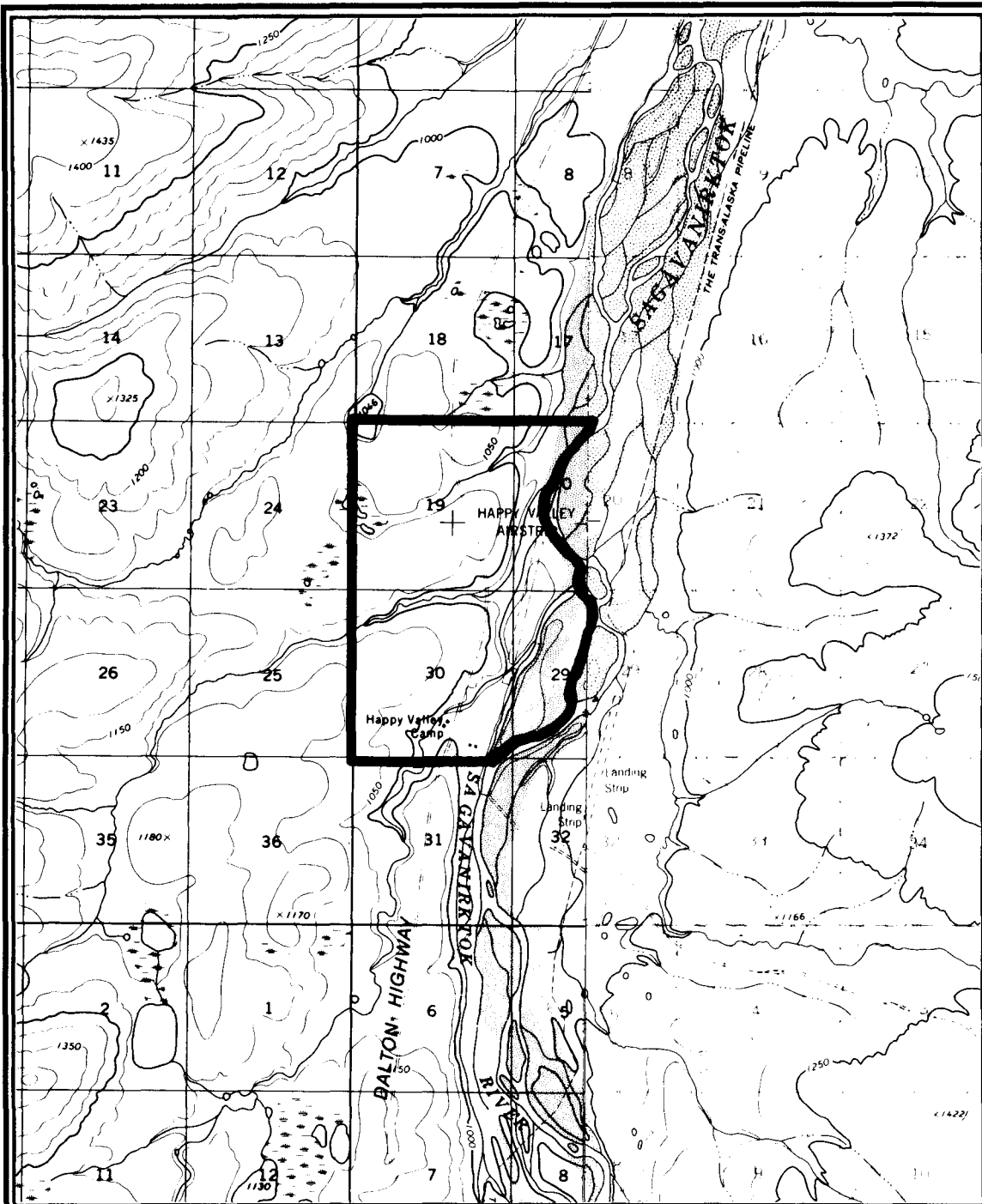


QUADRANGLE LOCATION

# CHANDALAR SHELF DEVELOPMENT NODE



Map 2.5



**BOUNDARY MAP**  
Map sheets Sagavanirktok A-3  
and A-4

Scale in Miles

Within T. 3 S., R. 14 E.  
Umiat Meridian



# HAPPY VALLEY DEVELOPMENT NODE



Map 2.6



### ***Rights-of-Way***

Title V of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976, provides for the issuance of right-of-way grants to authorize rights-of-way upon, under, or through public lands for construction, operation, maintenance and termination of a project. The regulations found in 43 CFR 2800 and 2880 govern the issuance, amendments, and renewals of rights-of-way grants for necessary transportation, other systems, or facilities which require authorization including: roads, trails, pipelines, communications sites, power distribution and transmission lines, and such other necessary transportation, other systems or facilities which are in the public interest.

The authorized officer may designate right-of-way corridors across any public lands in order to minimize adverse environmental impacts and the proliferation of separate rights-of-way. The designation of corridors shall not preclude the granting of separate rights-of-way when it is determined confinement to a corridor is not appropriate. Designation criteria include existing land use plans, environmental impacts, physical effects and constraints, economic efficiency, national security risks, potential health and safety hazards, engineering and technological compatibility, and social and economic impacts on land users and adjacent owners. This RMP addresses rights-of-way corridors to the fullest extent possible and include: 1) the Trans-Alaska Pipeline Utility Corridor, 2) the Ambler Mining District/Dalton Highway access corridor [Sec. 201(4)(b) ANILCA] and, 3) the 1431 (j) corridor [Sec. 1431(j) ANILCA]. It is not possible to identify exclusion and avoidance areas at this time.

Section 28 of the Mineral Leasing Act of 1920, as amended, and the regulations found in 43 CFR 2880 provide for the issuance of rights-of-way for oil and natural gas pipelines and related facilities.

### **FLPMA Leases**

Public land must be retained and managed under the BLM's multiple-use programs, unless the Bureau's inventory and land use planning procedures reveal that the public lands have location or site values making them highly suitable for habitation, cultivation, or development. Land use authorizations are issued under this section only if other authority is not available. Federal departments and agencies cannot be authorized to use public lands under this authority.

The regulations found in 43 CFR 2920 provide that any person, corporation, partnership, association, or official state or local government legally qualified to hold interest in lands may initiate a proposal for a lease which contains the proposed uses and activities, environmental impacts, benefits, development costs, period or term of use, health and safety risks, facilities and improvements, along with site plans and sketches. There are many requirements which any proponent should know, such as cost reimbursement, rental, BLM policies, objectives, and resource management programs.

A lease conveys a possessory interest and is revocable only in accordance with its terms. Leases are used to authorize land uses involving substantial construction, development, and the investment of large amounts of capital which must be amortized over time.

### **FLPMA Permits**

The authority for permits are found in 43 CFR 2920. Permits do not grant a possessory interest in lands and are used to authorize specific land uses that do not normally exceed three years in length and involve little or no land improvements. Occupancy permits may be issued to temporarily resolve cases of occupancy trespass pending ultimate abatement of the trespass.

### **R&PP Leases**

The Recreation and Public Purposes Act of June 14, 1926, as amended, and 43 CFR 2912 provide for the lease of public lands to qualified parties for public or recreation purposes. Reference above R&PP sales (CFR 2740) previously discussed under "Disposals." Lease terms are not to exceed 20 years to non-profit associations or corporations and 25 years for federal, state, and local governmental entities. Reasonable rental is charged except leases to governmental entities for

recreational or historic-monument purposes shall be made at no charge. Leases are not transferrable unless proposed to a qualified party and approved by the BLM District Manager. Lands must be classified for lease prior to approval. It is possible to require development under a lease prior to disposition by a patent.

### **Airport Leases**

The Act of May 24, 1928, as amended (49 U.S.C. Appendix 211-213), and the regulations found in 43 CFR 2911 provide for the issuance of leases not to exceed twenty years for public airports on contiguous, unreserved, and unappropriated public lands, not to exceed 2,560 acres. A filing fee and rental payments are required. Qualified lessees include any individual who is a U.S. citizen, corporations, and state and governmental agencies. Public airport means an airport open to use by all persons without prior permission of the operator. The lessee shall submit to the ratings and requirements of the Federal Aviation Administration.

### **Cooperative Agreements**

Section 307 (b) of FLPMA provides that the BLM may enter into cooperative agreements with other federal agencies involving the management, protection, development, and sale of public lands. The current policy on use of public lands by a federal agency under a cooperative agreement is that the determination of use compatibility-similarity-relationship is being strictly applied. Only those uses which are clearly and directly similar or related may be covered in cooperative agreements, especially if the agency uses would involve facilities or other improvements.

### **Realty Trespass**

Realty trespass is defined as unauthorized use, occupancy, or development of the public lands for any purpose where authorization must be obtained under the regulations found in 43 CFR 2800 and 2920. This definition is derived from section 303(g) of FLPMA. The Bureau's realty trespass regulations, in general, provide that anyone determined to be in trespass shall be notified of such trespass and shall be liable to the U.S. for:

- 1) The administrative costs incurred by the U.S. as a consequence of such trespass;
- 2) The fair market value rental of the lands (i.e. land rent) for the current year and past years of trespass;
- 3) Rehabilitating and stabilizing the land or costs incurred by the U.S. in performing said work;
- 4) If a trespass is willful, repeated or not resolved in a timely manner, the trespasser may also be subject to trespass penalties of:
  - a. An amount equal to twice the rental value if nonwillful; and
  - b. An amount equal to three times the rental value if willful.
- 5) The Bureau may also deny a land use authorization or sale of the lands to a knowing and willful trespasser.

No long term authorizations shall be issued for any trespass occurring in any designated area of critical environmental concern.

**Proposed Action 19:** Under this proposed RMP opportunities for FLPMA leases on federal lands would be considered where environmentally feasible and compatible with management objectives. Previously disturbed sites would be considered prior to allowing uses on undisturbed sites, giving first priority to locations within development nodes. Where the proposed uses or site requirements would not be compatible within a development node, leases would be considered outside of a node.

**Proposed Action 20:** The proposed RMP would allow for leases with restrictions within the Kanuti Hot Springs ACEC. However, no lease would be allowed within the immediate area or “thawbulb” of the springs (an area roughly corresponding to the meadow which surrounds the hot water pools). Undeveloped hot springs on federal land are few in number, and little is known about the resource value of this particular hot spring. Additional inventory work is recommended to define more accurately the area needed under ACEC protection and to aid in the design of lease stipulations intended to protect this resource. If changes in the ACEC boundary or use restrictions result from this inventory work, they would be addressed in a plan amendment (also see proposed action 51).

**Proposed Action 21:** This proposed RMP would make lands available to federal and state agencies and research organizations for needed administrative and support facilities where environmentally feasible and compatible with management objectives. Again, previously disturbed sites would be considered prior to allowing uses on undisturbed sites.

**Proposed Action 22:** Lands would be made available within the Utility Corridor where needed to accommodate public solid waste disposal sites operated by appropriate governmental agencies or private operators. The environmental feasibility of site location and methods of disposal would be a primary consideration. Previously disturbed sites would be considered prior to allowing uses in new areas.

**Proposed Action 23:** Until Congress acts on BLM’s wilderness recommendations, planning area lands north of 68° N latitude (i.e., CAMA) must be managed to protect their wilderness values in accordance with BLM’s “Interim Management Policy and Guidelines for Lands Under Wilderness Review” (USDOI, BLM, 1979). Therefore, only those lands within the Dalton Highway “viewshed,” which were determined nonwilderness in character in 1980 (U.S. Department of Interior, BLM, 1980), would be available for utility and transportation systems. Other impacting activities outside the Dalton Highway viewshed would also be prohibited until Congress acts on the wilderness recommendation. For example, oil and gas development, mining, road construction, etc., would all be prohibited on federal CAMA lands until Congress acts. These restrictions do not apply to planning area lands south of 68° N latitude.

## Access

Other than lands adjacent to the Dalton Highway, most of the lands in the planning area are remote and reached using traditional means of transportation, including travel by foot, dogsled, snowmachine, boat, and aircraft. Many remote airstrips exist in the planning area. Access by all-terrain vehicles may be occurring on and off established roads and trails.

As a matter of policy, access to state or private inheld lands will not be denied. Rights-of-way across the public lands are generally granted under Title V of FLPMA and 43 CFR 2800 and will be issued to promote maximum utilization of existing right-of-way routes, including joint use where possible. The condition of other resources must be considered when processing applications for legal access. These resource conditions may necessitate restrictions or conditions to be met in authorizing lands actions or result in their rejection.

Access to the public lands is protected by the reservation of public use easements across (private) Native corporation lands under the authority of Section 17(b) of ANCSA. Additionally, BLM has the authority to acquire easements if they are needed to support use of the public lands.

The State of Alaska may directly accept a congressionally granted right-of-way under the authority of Revised Statute 2477 (RS 2477) if a road were constructed prior to the lands being reserved on December 14, 1968. This proposed RMP encourages all affected agencies to work cooperatively with the State of Alaska to identify all right-of-way claims made pursuant to RS 2477 on public lands for administrative purposes only. The validity of such claims would be determined in a court of competent jurisdiction.

**Proposed Action 24:** To facilitate issuance of rights-of-way from the Ambler Mining District to the Dalton Highway in accordance with the provisions of Sec. 201(4)(b-e) of ANILCA, the draft RMP recommended designation of a transportation corridor near Prospect/Pump Station 5 (Map 2.1).

Because the State of Alaska expressed a strong interest in obtaining these lands to develop access to state and Native lands to the west of the Utility Corridor, the area identified in the draft RMP as the "Ambler Mining District Transportation Corridor" will be opened to state selection under this proposed RMP (see proposed action 6).

**Proposed Action 25:** Under the proposed RMP, to facilitate state access to state lands to the east of Coldfoot, an "access corridor" from the Coldfoot node to the east would be opened to state selection (see proposed action 6).

**Proposed Action 26:** Elsewhere, the proposed RMP would allow appropriate access to state/private lands from the Utility Corridor although no specific routes are defined. Appropriate locations for rights-of-way from the Dalton Highway should be determined through cooperative planning. Specific definitions of rights-of-way would await the filing of rights-of-way applications by the State of Alaska.

**Proposed Action 27:** The proposed RMP encourages the Bureau to join with the National Park Service, the U.S. Fish and Wildlife Service and the State of Alaska to evaluate current and projected ORV use in the corridor and possible routes of access to state land and to the boundaries of conservation units adjacent to the Corridor. This ORV evaluation proposal is also mentioned under "Recreation Resources" below and is an issue appropriate for consideration through proposed cooperative planning (see proposed action 1).

## Recreation and Visual Resources

### RECREATION MANAGEMENT AREAS (RMAS)

**Proposed Action 28:** In response to recent and projected increases in public use of the Dalton Highway, the proposed RMP would establish Recreation Management Areas (RMAs). These RMAs will allow for more focused planning and managing, according to Bureau priorities. There would be no conflict with the primary purposes of the Utility Corridor. Table 2.3 lists campgrounds, concessions and lodges, undeveloped pull-outs with interpretive facilities, trailheads, and off-road vehicle use areas that would be considered in each of the RMAs. This table also describes the Visual Resource Management (VRM) classes and the Recreation Opportunity Spectrum (ROS) ascribed to each RMA (Appendices G and H). Map 2.7 displays the RMAs' geographic boundaries.

The following RMAs would be designated under the proposed RMP:

#### ***Dalton Highway Recreation Management Area (approximately 1,100,000 acres)***

This area generally corresponds to the inner Utility Corridor and includes those lands within the Corridor adjacent to existing roadways. The primary recreational uses would include road related sight-seeing, overnight lodging and developed camping, interpretative services, and fishing. The primary Recreation Opportunity Spectrum (ROS) classes for this area would be Roaded Modified and Roaded Natural. A Rural classification will apply to areas surrounding nodes (see Appendix G for a description of these classes). Recreation facility development, information signs, interpretive facilities, and the presence of seasonal staff will involve intensive management presence in this area.

In order to protect the on-going and future research work near Toolik Lake, a campground would not be established at the previously considered campground sites on the shores of the lake (see draft RMP). In addition, no recreation use cabins will be constructed on or near Toolik Lake. An interpretive site at Galbraith Lake or at the junction of Dalton Highway and the access road to the Toolik Lake research facilities would describe the purpose and importance of the research activities in the area.

Though recreation facility development is being considered north of 68° N latitude (see Table 2.3), no overnight campground facilities would be constructed unless the state makes the decision to allow general public travel north of this line. Guides and outfitters would be allowed use of the Galbraith

Lake area, but no surface disturbing activities or development (e.g., fuel storage or equipment storage facilities) would be allowed.

***Dalton Corridor Recreation Management Area***  
***(approximately 2,350,000 acres)***

This area corresponds to the remainder of the Utility Corridor, the Venetie block and several tracts of land (approximately 125,000 acres) near or adjacent to the Corridor and the Venetie Block. Primary recreational uses would include hunting, fishing, backpacking and snowmobiling. The area generally falls under Primitive-Traditional (PT) ROS classification. There would be no new recreational facility development in this area.

***Colville-Oolamnagavik Extensive Recreation Management Area***  
***(approximately 600,000 acres)***

In this recreation management area, primitive and semi-primitive recreation experiences would be emphasized. Land acquisitions are proposed in order to provide coherent natural boundaries to this block of land to ease management. The primary uses of this area would be hunting, fishing, backpacking, and river floating. No development of recreational facilities would take place.

***CAMA Extensive Recreation Management Area***  
***(approximately 1,870,000 acres)***

In this recreation management area, primitive and semi-primitive recreation experiences would be emphasized. The primary recreational uses would be hunting, fishing and backpacking. No recreational facility development would take place.

***Nigu Wilderness and Iteriak ACEC Recreation Management Area***  
***(approximately 160,000 acres)***

The proposed plan would create a special management area through the designation of the upper Nigu area as wilderness and the Nigu-Iteriak as an ACEC. The primary recreational uses of these areas would include kayaking, rafting, backpacking and fishing.

**Proposed Action 29:** The proposed RMP recommends that a Recreation Area Management Plan be completed on each of these RMAs to aid in the implementation of recreation facility development. Highest priority would be given to the Dalton Highway Recreation Management Area. See Section 2 for anticipated activities.

## **OFF-ROAD VEHICLES (ORVs)**

At present, state law prohibits ORVs within five miles of the Dalton Highway right-of-way except when being used in conjunction with mineral development (Alaska Statute 19.40.210, as amended). Federal recreation program regulations prohibit operation of an ORV in violation of state laws and regulations which relate to ORV use, standards, registration, operation and inspection [43 CFR 8341.1(d)]. Consequently no noncommercial casual (recreational) or commercial recreational ORV use (e.g., use by guides and outfitters) can be authorized or permitted by BLM within five miles of the Dalton Highway right-of-way. Therefore, recommendations under this proposed RMP relating to allowable recreational uses of ORVs will not apply within five miles either side of the Dalton Highway; nor will ORV access points identified in this plan be developed at this time. The recreational ORV policy stated in this proposed RMP will be held in abeyance until such time as 1) the state and BLM reach an acceptable agreement on suitable ORV use in the restricted area, 2) state law changes, or 3) federal regulations change.

**Proposed Action 30:** BLM regulations require that all lands within a planning area be classified as opened, closed or limited to ORV use (BLM Manual 1623.41). This proposed RMP classifies the entire planning area as "limited." See Table 2.3 and Appendix I for further information regarding restrictions on ORV use within the planning area.

**Table 2.3**  
Recreation Facility Development to be Considered in the Recreation Area Management Plan  
for ORV Use and ROS Classes<sup>1</sup>

Recreation Management Areas <sup>2</sup>	Campground and Cabins	Concessions and Lodges	Information/ Interpretive Sites	Access/ Trailheads	ORV Use Types	ROS Classes <sup>3</sup>	VRM Classes <sup>3</sup>
Dalton Highway	Yukon River Camp, Bonanza Cr./Prospect Cr. Camp, S. Fork Koyukuk, Arctic Circle Camp, Coldfoot Cabin, Marion Creek Camp, Minnie Cr. Cabin, Martha Cr. Cabin, Galbraith Lake Camp	Yukon Crossing Node, Coldfoot Node, Chandalar Shelf Node, Happy Valley Node	Yukon River, Finger Rocks, Arctic Circle, Chandalar/ Atigun, Galbraith Lake	Ray River, Jim River, Grayling Lake, Atigun River, Sagavanirktok, Sukakpak Mt.	Limited Type 2*	RN, RM, R, SPNM	IV
Dalton Corridor	None	With FLPMA lease	None	None	Limited Type 2	PT, SPM	III
Oolamnagavik-Colville	None	None	None	None	Limited Type 2	PT, SPM	III
CAMA	None	None	None	None	Limited Type 2	PT, SPM	IV
Nigu Wilderness and Iteriak ACEC	None	None	None	None	Limited Type 4	PT	I III

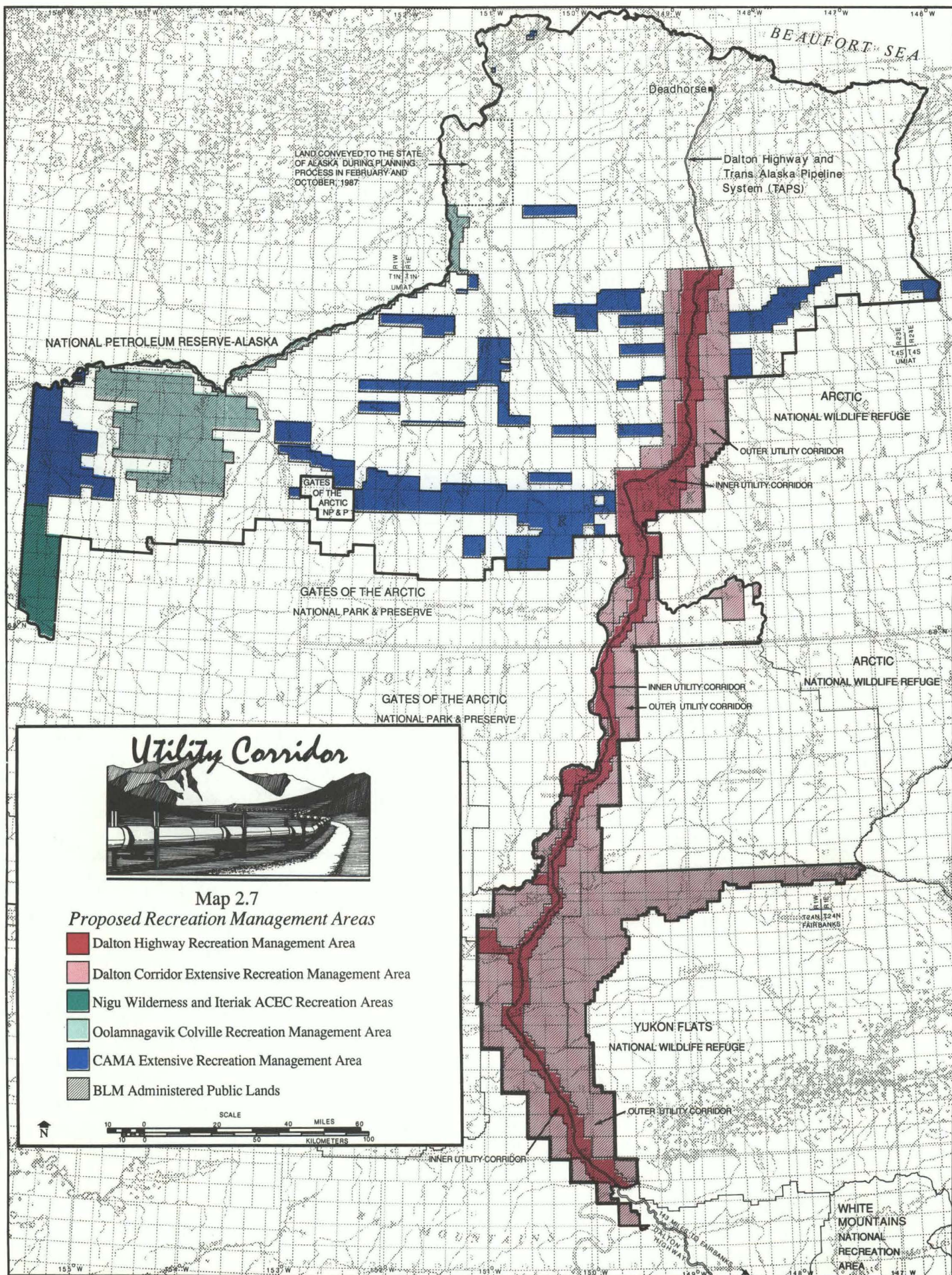
<sup>1</sup> Specific locations of facilities will be determined in the proposed Recreation Activity Management Plan. The areas described here are general areas suggested for consideration.

<sup>2</sup> Refer to map of recreation management areas

<sup>3</sup> Refer to Appendices H and I for a description of the Off-Road Vehicle (ORV) and Visual Resource Management (VRM) classes. See Appendix G for a description of Recreation Opportunity Spectrum (ROS) classes.

\* This is BLM's proposal. State statute further restricts use of ORVs in much of this area; see definition for limited Type 1 in Appendix I and introductory statement under "Off-Road Vehicles."







**Proposed Action 31:** Although the limitations on BLM actions regarding ORVs described in the preface to this section continue at the time of this document's publication, changes in state policy may occur. Given the possibility of a change, the plan proposes an off-road vehicle use evaluation for Corridor lands to be conducted by the Bureau in cooperation with the State of Alaska, the U.S. Fish and Wildlife Service and the National Park Service. This evaluation should be an element of the cooperative planning effort discussed under proposed action 1, and would address current ORV uses in the Corridor and recreational access to lands (both federal and state) adjacent to the Corridor. At a minimum, results of this evaluation should determine the extent of ORV use in the Corridor and specify the need, if any, to reclassify lands to prohibit or allow (with or without restrictions) their use in specific areas. Reclassification of lands for ORV use after the use evaluation, if necessary, will be through a plan amendment.

## VISUAL RESOURCE MANAGEMENT

**Proposed Action 32:** Because the Utility Corridor was withdrawn and dedicated to long-term utility and transportation needs by PLO 5150 in 1971, utility and energy transportation functions supersede all other considerations within this portion of the planning area. Management must allow for activities which could require major modification of the existing landscape. Therefore, inner Corridor lands would be managed per class IV visual resource management (VRM) objectives (Appendix H). However, to the extent feasible, every attempt would be made to minimize the visual impacts of authorized activities, especially in Class A scenery areas. Special attention would be given to the protection of visual resources within the Galbraith Lake and Sukakpak Mountain ACECs. See Table 2.3 for VRM management classifications outside the Dalton Highway Corridor.

## Wilderness Resources

There are currently no areas within the planning area designated as wilderness. Sections 1001 and 1004 of the Alaska National Interest Lands Conservation Act (ANILCA) directed the Bureau to conduct an interdisciplinary study and to make recommendations on the wilderness values of an area north of 68° N latitude, east of the western boundary of NPR-A, excluding lands within ANWR and other conservation system units. This area is within the Utility Corridor planning area and is now referred to as the Central Arctic Management Area (CAMA). In accordance with the Secretary of the Interior memorandum dated March 12, 1981, CAMA is the only region considered in this proposed RMP for wilderness recommendation. Separate study documents consider the wilderness values of CAMA in detail. These documents are: (a) *Utility Corridor Draft Resource Management Plan and Environmental Impact Statement with the Central Arctic Management Area Wilderness Study Supplement* (USDOI, BLM; 1987); (b) *Central Arctic Management Area Wilderness Recommendations and Final EIS* (USDOI, BLM; 1988) and; (c) *ANILCA Section 1001 Report Findings and Recommendations* (USDOI, BLM; 1988).

**Proposed Action 33:** The upper Nigu River area (approximately 41,000 acres) is recommended for wilderness designation (Map 2.8). This recommendation was submitted to the President and Congress through the *ANILCA Section 1001 Report Findings and Recommendations* (USDOI, BLM; 1988) on December 14, 1988. Only Congress can make the final decision on wilderness designation or nondesignation of these lands.

## Wildlife Resources (Terrestrial and Aquatic)

The wildlife habitat management program defined by this proposed RMP emphasizes habitat protection, maintenance and improvement. Monitoring information would be used to formulate measures to avoid or mitigate possible adverse effects on wildlife from land use activities. The wildlife habitat program would be implemented in cooperation with the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service - Endangered Species Office.

Habitat protection in the planning area would emphasize protection of crucial habitats. Crucial habitat is habitat which is absolutely necessary to maintain viable populations of fish, wildlife, or plants during certain seasons of the year or specific reproduction periods (BLM Manual 6780).

Within the constraints of the surface management regulations (43 CFR 3809), mitigating measures to avoid or minimize possible adverse effects resulting from a proposed action would be developed through the environmental assessment (NEPA) process.

**Proposed Action 34:** The proposed RMP would recommend a systematic monitoring program to assess impacts of human uses on fisheries resources. Initial inventories will establish comparable baseline data that can be used to develop an aquatic habitat management plan if significant fisheries habitat improvements or protections are required in the future.

**Proposed Action 35:** With the assistance of the Alaska Department of Fish and Game, and the U.S. Fish and Wildlife Service, the Bureau would transplant sufficient numbers of muskoxen to support a viable population on BLM management lands near Pingaluligit Mountain in the Oolamnagavik Block.

**Proposed Action 36:** A habitat management plan (HMP) for the Colville River area is proposed. The Colville River has been identified as a nationally important area for raptors, including the peregrine falcon. The HMP would focus management of peregrine falcons in accordance with the *Peregrine Falcon Recovery Plan - Alaska Population* (USFWS 1982) and other raptor species concentrated in the area. Other species which will be emphasized will include important big game species and fisheries. Management options and stipulations would be developed before the area is classified for competitive or noncompetitive mineral leasing.

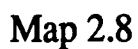
**Proposed Action 37:** Restrictions on mineral entry and location would be placed on areas of high wildlife (terrestrial and aquatic) resource values, including withdrawal of eight mineral licks (160 acres each), portions of the floodplains of the Jim and Kanuti rivers and Prospect Creek, and the southern portion of the proposed Nigu-Iteriak ACEC from mineral location (Proposed Action 2). Except for the Nigu-Iteriak ACEC, which would be closed to mineral leasing, the above areas are open to leasing only with no surface occupancy stipulations (Proposed Action 4). In addition, the Jim River and Ivishak River ACECs would be designated for protection of fisheries habitat, and six ACECs would be designated for the protection of crucial Dall's sheep habitat. Six mineral licks are within ACECs (see Action 52). The other identified mineral licks are shown on Map 2.9. Also, see the "Mineral Resource Development" section of this chapter, the foldout maps of the proposed plan, and Appendix N.

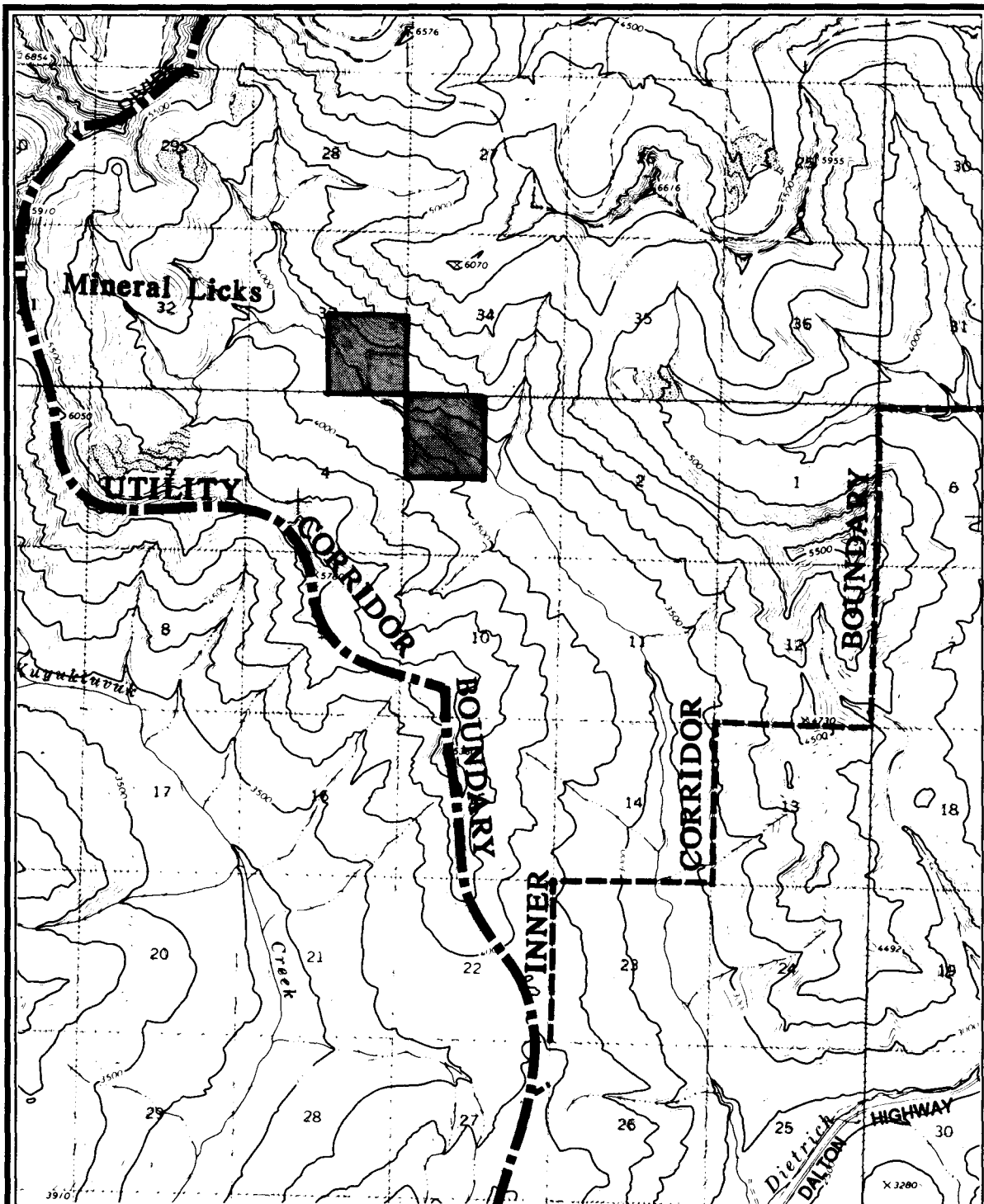
**Proposed Action 38:** Habitat improvement for moose and other species would occur under this proposed RMP through implementation of the Alaska Interagency Fire Management Plans (AIFMP). Additionally, prescribed burns may be used to reestablish or improve habitat.

## Threatened and Endangered Species

**Proposed Action 39:** Management practices for peregrine falcon, a threatened species in CAMA and an endangered species in the southern half of the planning area, would include 1) implementation of monitoring activities to obtain information to enhance population recovery, 2) implementation of the protection measures recommended by the *Peregrine Falcon Recovery Plan - Alaska Population* (U.S. Fish and Wildlife Service 1982), 3) enhancement of populations to a point of recovery that allows peregrine falcons to be removed from threatened and endangered species lists, and 4) proposed designation of Sagwon Bluffs ACEC for the protection of peregrine falcons.

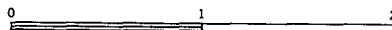
**Proposed Action 40:** No federally listed nor federally proposed threatened or endangered (T&E) plant species are known to occur in the planning area. However, BLM policy requires that plants designated as "sensitive" (Murray 1980) be accorded the full protection of the Endangered Species Act of 1973, as amended. The sensitive plant *Montia bostockii* is present in the Toolik Lake ACEC, and *Erigeron muirii* is present in the Sagwon Bluffs ACEC (Also see Action 52). The Endangered Species Act requires protection of T&E habitat from actions that would modify or destroy them. All actions that might affect these plants or their habitats would be examined through the environmental assessment process. Stipulations to assure their protection would be included in permits and leases.





BOUNDARY MAP  
Map sheet Philip  
Smith Mtns. A-5

Scale in Miles



Within Tps. 15  
and 16 S., R. 10 E  
Umat Meridian



# ENDICOTT MOUNTAIN MINERAL LICK SITES



## **Subsistence Resources**

Procedural requirements mandated by Section 810 of the Alaska National Interest Lands Act (ANILCA) would be followed for all authorized actions. All actions would be evaluated on a case by case basis. The Section 810 evaluation on specific actions may be delayed if it is determined that additional information is needed to make such an evaluation. In the event that a proposed action is judged to restrict subsistence uses and needs significantly, the action may be denied. If such an action is approved, the Bureau would proceed to fulfill the responsibilities outlined in ANILCA. Also, the cooperative planning effort discussed under proposed action 1 would consider impacts on subsistence from land use proposals.

**Proposed Action 41:** The proposed RMP would withdraw lands from mineral entry and location to protect subsistence resource values. The Kanuti and Jim rivers and the Prospect Creek withdrawals from mineral location and mineral materials extraction, if possible, serve to protect salmon spawning areas (Also see the Mineral Resources Section.). Protection of these spawning areas would aid in protecting fishery resources used by downstream rural subsistence based communities. Additional subsistence resource protection is provided through the withdrawal of known mineral lick (i.e., natural salt lick) sites from mineral location and by the establishment of ACECs around sheep lambing areas.

**Proposed Action 42:** The proposed ORV use evaluation and study would fully consider the effects on subsistence resources resulting from any changes in land classification for off-road vehicle use. BLM will work closely with the State of Alaska and other federal agencies during the ORV evaluation period to appropriately design stipulations for the protection of subsistence resources.

**Proposed Action 43:** Local use of forest products for subsistence purposes would be allowed on a free of charge basis if demand does not exceed supply. In those areas where the supply of forest products is limited, a fee may be charged.

## **Forestry Resources**

There are no indications that commercial harvesting of timber would occur in the planning area during the life of this plan.

**Proposed Action 44:** The proposed RMP would allow commercial harvest of timber resources in the Utility Corridor for salvage purposes, such as after clearing operations along rights-of-way, or of fire-killed timber.

**Proposed Action 45:** The proposed RMP would permit use of timber resources, such as firewood and house logs, on a case by case basis. Should future monitoring indicate any intensive use areas (i.e., where demand may be exceeding supply), a forestry management activity plan would be initiated.

## **Grazing**

**Proposed Action 46:** Under current management, grazing permits are not allowed. The proposed RMP would continue this policy. Any horse grazing north of the Yukon River is currently associated with pack trips for recreational purposes. These activities can be accommodated under a temporary use permit.

## **Soil, Water, Air and Vegetation Resources**

**Proposed Action 47:** The Bureau would require mitigation for all activities which may result in accelerated soil erosion or in water or air pollution. Vegetative cover diversity and condition would be



maintained. Off-road vehicles would be restricted to soils with low erosion hazard or to winter use with snow cover adequate to prevent disturbance of the vegetative cover. In all cases, BLM will adhere to water quality standards established by the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation.

**Proposed Action 48:** Floodplains and wetlands would be managed in accordance with Executive Order (E.O.) 11988 and E.O. 11990 to assure continued hydrological functions.

**Proposed Action 49:** Little is known about the resource values of the Kanuti Hot Springs, but there are few undeveloped hot springs on federal land. Recent investigation of the area did indicate the range extension of several plant species. The area would be designated as an ACEC under the proposed plan and no leases would be allowed within the immediate area of the springs or “thawbulb” (an area roughly corresponding to a meadow which surrounds the hot water pools). Additional inventory work is recommended to define the area needed under ACEC protection more accurately, and to aid in the design of lease stipulations intended to protect this resource. If changes in the ACEC boundary or use restrictions result from such an inventory, they would be addressed in a plan amendment (also see proposed action 23).

Species management plans for *Montia bostockii* in the Toolik Lake ACEC and *Erigeron muirii* in the Sagwon Bluffs ACEC would be initiated. Additional plans would be written and implemented if these species are found in other areas, or if other threatened, endangered, or sensitive plants are located (also see proposed action 40).

## Fire Management

**Proposed Action 50:** Fire will be managed according to the standards and procedures outlined in the appropriate Alaska Interagency Fire Management Plan. Five fire plans cover the planning area: Arctic, Kobuk, Upper Yukon-Tanana, Seward-Koyukuk, and Tanana-Minchumina (USDOI, BLM, AFS). Areas of critical, full, modified, and limited suppression are defined in the Fire Management Plans and are shown in Appendix N. A major focus of fire suppression in the Utility Corridor would be the protection of the facilities needed for the transport of energy minerals.

## Cultural Resources

**Proposed Action 51:** Cultural resources would continue to be inventoried and evaluated as part of project or activity planning. Such evaluation would consider the significance of the proposed project and the sensitivity of cultural resources in the affected area. Stipulations would be attached as appropriate to assure compatibility of projects with management objectives for cultural resources. In addition, the southern portion of the Nigu-Iteriak ACEC would be closed to surface-disturbing activities, in large part because of the cultural resources in the area. The proposed Galbraith Lake and Ivishak River ACECs contain cultural resources eligible for nomination to the National Register of Historic Places.

## Areas of Critical Environmental Concern (ACECs)

The objectives of designating an ACEC are to identify and manage areas within the public lands where special management attention is required to protect: (1) important historic, cultural and scenic values, fish and wildlife resources, and other natural systems and processes; and (2) protect human life and property from natural hazards.

Development activities, when wisely planned and properly managed, can take place in these areas without either unduly risking human life or safety or causing permanent damage to historic, cultural or scenic values, or natural systems or processes. Thus, a particular ACEC designation may provide for a range of multiple-use activities. These may include specified kinds and degrees

of development and commodity production activities, provided that important environmental resources and human property or lives within that area are not damaged or endangered.

In the proposed plan there are no ACECs recommended for designation which would preclude the collection of baseline resource data nor would any proposed ACEC be managed in a way which would hamper existing or future energy transportation systems. Furthermore, mining activities with approved plans of operation would be allowed within ACECs.

**Proposed Action 52:** Under current management, there are no ACECs within the planning area. The proposed RMP would designate 13 ACECs (Map 2.10). One ACEC, Toolik Lake, would also be classified as a Research Natural Area (RNA), to protect the on-going and future research activities in that area.

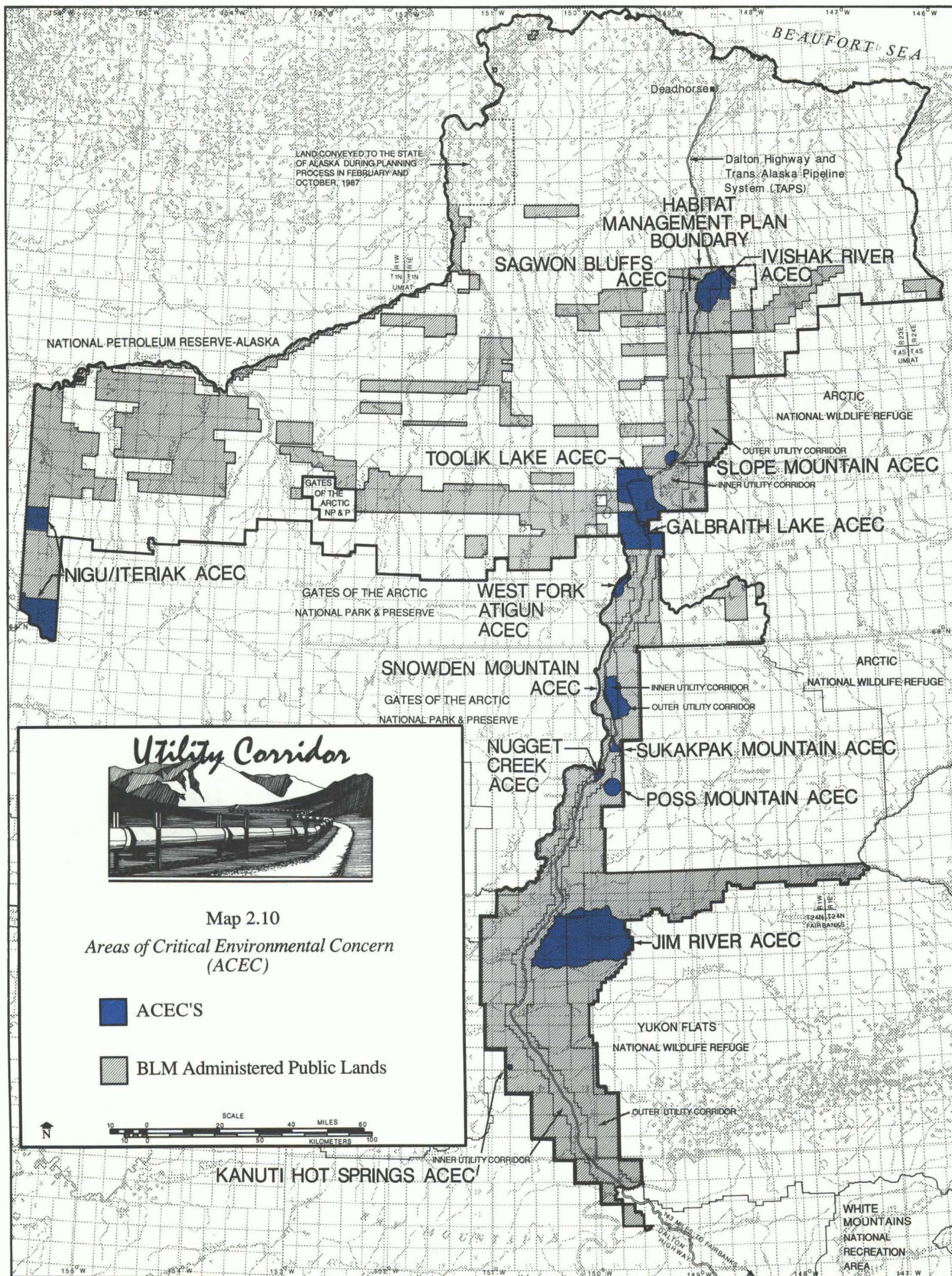
Due to the nature of on-going research activities and future projections of research needs, and as a result of comments received, the Toolik Lake RNA has been enlarged from that shown in the draft RMP/EIS. Portions of the watersheds of the Kuparuk and the Itigaknit rivers define this RNA. The Dalton Highway and energy transmission rights-of-way (TAPS, TAGS and ANGTS) cross the RNA. The U.S. Department of Energy, the National Science Foundation, and the University of Alaska are committed to long-term ecological research within the RNA. The Bureau fully supports these research efforts and views them as vitally important to a more complete understanding of arctic biosystems. Such research is a direct benefit to effective land and resource management systems by aiding in the design and implementation of stipulatory controls on authorized activities in the fragile arctic environment. The successful future of multiple resource management in the arctic largely depends on the success of these research efforts.

Detailed descriptions of each ACEC including size, location, importance, relevance and allowable uses follow Map 2.10. The ACECs designated under this proposed RMP are shown in Table 2.4.

**Table 2.4**  
Proposed Areas of Critical Environmental Concern

	ACEC	Size (in Acres)	Resources
1.	Galbraith Lake	56,000	Cultural, rare/sensitive plants, scenic values, lambing areas.
2.	Ivishak River	3,800	Fishery, cultural resources
3.	Jim River	200,000	Fishery, recreation, cultural
4.	Kanuti Hot Springs	40	Hot spring
5.	Nigu-Iteriak	64,000	Geology, cultural resources
6.	Nugget Creek	3,300	Lambing areas, mineral lick
7.	Poss Mountain	8,000	Lambing areas, mineral lick
8.	Sagwon Bluffs	42,200	Peregrine falcons,
9.	Slope Mountain	5,100	Lambing areas, mineral lick, cultural
10.	Snowden Mountain	28,000	Lambing areas, mineral lick
11.	Sukakpak Mountain	3,500	Scenic, geology
12.	Toolik Lake RNA	82,800	Research activities, cultural
13.	West Fork Atigun River	8,500	Lambing areas, mineral lick
	<b>Total</b>	<b>505,240</b>	







## **Galbraith Lake ACEC**

### **Location**

Galbraith Lake; Quad: Phillip Smith Mountain

### **Size**

56,000 acres

### **Management Objective**

To protect historical and archeological sites, critical wildlife habitat, paleontological and geological sites, scenic values, and possibly, rare and sensitive plants.

### **Importance**

This area has the highest concentration of historic and prehistoric cultural resources of any region yet inventoried along the Utility Corridor. Three of these sites have been nominated to the National Register of Historic Places, with more potentially eligible. The area provides crucial lambing areas and mineral licks for Dall's sheep. Located on the northern side of the Brooks Range, north of Atigun Pass, the scenic value is high. The geology and paleontology are remarkable and are accessible via the Dalton Highway. In the probable event of rare and sensitive plants found in the area, BLM policy requires that such plants be accorded the full protection of the Endangered Species Act of 1973, as amended.

### **Relevance**

The area contains the former Alyeska camp pad, a large improved airstrip with facilities, and an operating Pump Station. These are an inducement for further developments which could adversely impact the important resources noted above. The area has been recommended as an Ecological Reserve by the Joint Federal-State Land Use Planning Commission and for entry into the Registry of Natural Landmarks by the USGS and National Park Service.

### **Management Practices and Allowable Uses**

1. Protect habitats crucial to species considered threatened, endangered, candidate or sensitive (including plants) by U. S. Fish and Wildlife Service or the State of Alaska.
2. This area is currently withdrawn from mineral location and entry as part of the inner Corridor. No mineral withdrawal specific to mineral licks is necessary at this time.
3. Nonsurface occupancy restrictions would apply to mineral leasing because of the location of the ACEC within the inner Corridor.
4. Require plans of operation with protective stipulations and mitigation measures to all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
5. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.
6. Aircraft associated with all BLM-authorized land use activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 1 to August 31, unless doing so would endanger human life or be an unsafe flying practice.
7. Given the primary purpose of the Utility Corridor, every effort will be made to minimize visual impacts.

8. All recreational facilities will be consistent with the Dalton Highway Recreation Area Management Plan (RAMP), and will minimize disturbance to protected resources within the ACEC.
9. Allow the development of public campground facilities if the Dalton Highway is opened to public travel.
10. Establish cooperative agreements for cultural resource research and excavation.
11. Use by guides and outfitters will be allowed; no surface disturbing activities are permitted.

#### **Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Review plans of operation to ensure protective stipulations and mitigation measures in all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
3. Design wayside near lake to accommodate summer tour bus travel. Include displays or signs explaining features of the area. Emphasize resource importance and protection.
4. Inventory ACEC to identify any additional crucial habitats.
5. If the inner Corridor boundary should change, it will be necessary to prepare, publish, and implement a withdrawal from mineral location and entry under the 1872 mining law for each known mineral lick known or identified in future inventories.
6. If the inner Corridor boundary should change, apply nonsurface occupancy stipulations for mineral leasing to identified mineral licks, to threatened, endangered, or sensitive plant or animal habitat, and to protect other resources as appropriate.
7. Conduct class I and II cultural resource inventories for those areas that have not been surveyed. Require a class III cultural resource inventory for all ground disturbing actions. Nominate significant cultural resource sites to the National Register of Historic Places, and develop activity plans for each.
8. Prepare a detailed management activity plan for the Galbraith Lake ACEC in conjunction with the Toolik Lake Research Natural Area Plan.
9. Prepare a cultural resource management plan for the National Register Sites within the ACEC.
10. Record geological resources, and prepare a geologic map of the area at 1:24,000 scale.
11. Prepare a 1610.00 serialized case file.

#### **Supporting Programs**

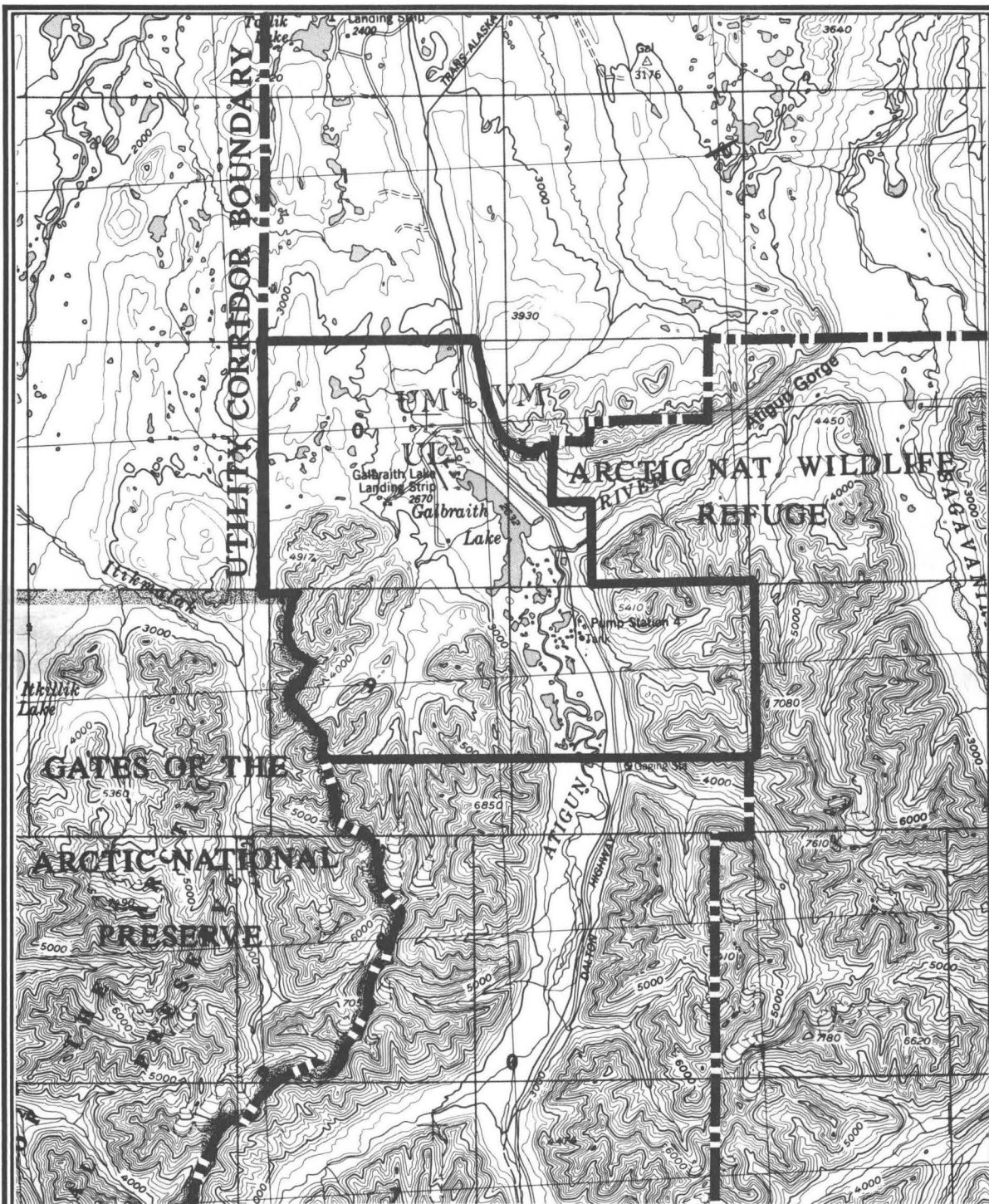
Lands, Recreation, Minerals, Wildlife, Cultural

#### **Monitoring and Evaluation**

1. Crucial Dall's sheep habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle.
2. Crucial plant habitats and population size will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle.
3. Annually inspect cultural resource properties on the National Register of Historic Places.

4. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.
5. Identify significance and evaluate use of cultural resources in consultation with the State Historic Preservation Officer.





BOUNDARY MAP

Map sheet Phillip Smith Mtns.

Scale in Miles



Within Tps. 11 and 12 S., Rs. 11 and 12 E.

Umiat Meridian



# GALBRAITH LAKE AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.11



## **Ivishak River ACEC**

### **Location**

Ivishak River between Sagavanirktok and Echooka Rivers (8 mi); Quad: Sagavanirktok B-3

### **Size**

3,800 acres

### **Management Objective**

To protect and/or enhance the fisheries resources and to protect the known archeological resources.

### **Importance**

The lower Ivishak contains the highest concentration of overwintering arctic char in the Central Arctic Area. Thousands of fish, apparently that spawn in other rivers, concentrate here every winter. A removal of habitat in this area would impact char populations in rivers outside the Ivishak system.

The "Sag-Ivishak" site (SAG-004) is the only stratified Inupiat archeological site known within the planning area and one of the very few known at all.

### **Relevance**

The proximity of the lower Ivishak River to the Dalton Highway and future pipeline routes increases the potential demand for stream and floodplain gravel, posing a threat to the resources in the area.

### **Management Practices and Allowable Uses**

1. New mineral materials sites throughout the ACEC would be approved only if no other economically feasible sites are available.
2. Temporary and casual use permits may be allowed.
3. Protect habitats crucial to species considered threatened, endangered, candidate or sensitive (including plants) by U. S. Fish and Wildlife Service or the State of Alaska.
4. Protect fisheries habitats and populations, including char spawning areas, overwintering habitat, and nursery/rearing habitat.
5. Protect habitat crucial to raptors, especially peregrine falcons.
6. Plans of operation with protective stipulations and mitigation measures will be applied to all surface disturbing activities to avoid unduly disturbing aquatic, riparian, and threatened, endangered, or candidate species, including plants. Nonsurface occupancy stipulations apply to oil and gas leasing activity.
7. All recreational facilities will be consistent with the Dalton Highway Recreation Activity Management Plan (RAMP), and will minimize disturbance to protected resources within the ACEC.
8. Establish cooperative agreements for cultural resource research and excavation.

### **Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Prepare an ACEC activity plan within one year of designation if the lands have not been transferred to the state.

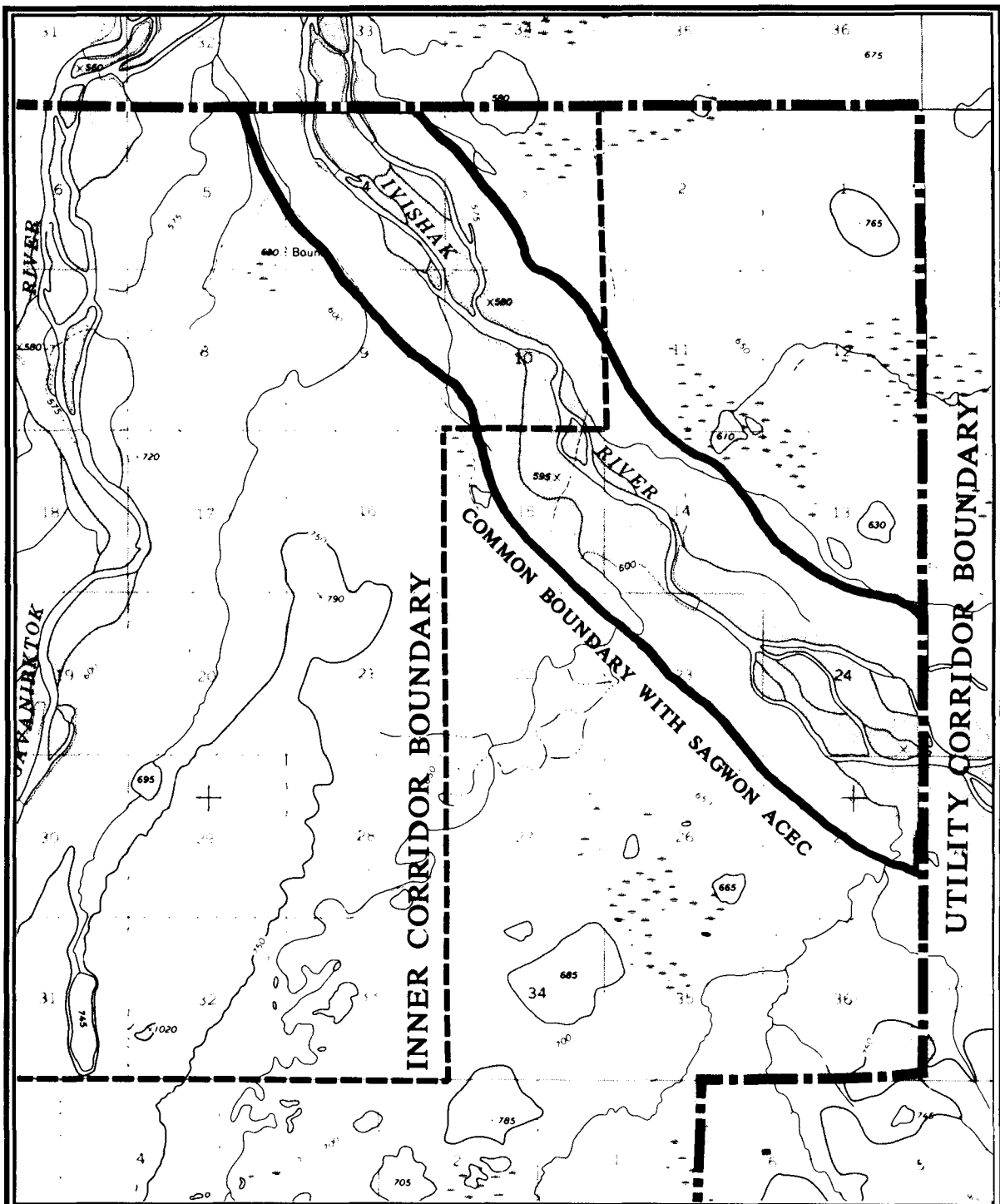
3. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials sales or permits.
4. Conduct class I and II cultural resource inventories for those areas that have not been surveyed. Require a class III cultural resource inventory for all ground disturbing actions. Nominate significant cultural resource sites to the National Register of Historic Places, and develop an activity plan for each.
5. Inventory ACEC to record fish populations and habitats, and aquatic and riparian resources. Identify any crucial habitats for future management actions.
6. Inventory ACEC to record and delineate raptor habitats, including that of the endangered peregrine falcon. Identify any crucial habitats for future management actions.
7. Inventory ACEC to record areas inhabited by threatened, endangered, or candidate plant species. Identify crucial habitats for future management actions.
8. Prepare a 1610.00 serialized case file.

### **Supporting Programs**

Minerals, Recreation, Cultural, Lands, Wildlife

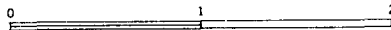
### **Monitoring and Evaluation**

1. Crucial fishery, raptor, and plant habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle. If disturbance to crucial habitat is noted, monitoring will occur annually.
2. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.
3. Annually inspect cultural resource properties on the National Register of Historic Places.
4. Identify significant and evaluate use of cultural resources in consultation with the State Historic Preservation Officer.
5. Reevaluate monitoring and evaluation guidelines listed above in accordance with the ACEC activity plan recommendations.



BOUNDARY MAP  
Map sheet Sagavanirktok B-3

Scale in Miles



Within T. 1 N., R. 15 E.  
Umiat Meridian



QUADRANGLE LOCATION

# IVISHAK RIVER AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.12



## Jim River ACEC

### Location

Jim River drainage; (east upstream) of inner Corridor. Quad: Bettles D-1, D-2, D-3; Beaver D-6

### Size

200,000 acres

### Management Objectives

Protect and/or enhance chum and king salmon spawning areas, overwintering habitat for resident and anadromous species, and sport fishing. Monitor and protect raptor habitat, and protect scenic, recreation, and archeological resources.

### Importance

**Fisheries.** The Jim River has the most concentrated chum and king salmon spawning in the upper Koyukuk region. Fish produced here are important to downstream subsistence and commercial users. The river is important not only for the spawning and overwintering of their eggs and fry but as habitat for resident species. The river is one of the most heavily utilized recreation streams in the planning area, and the sport fishing quality is excellent from a regional perspective.

**Archeology.** The river valley contains a rich concentration of prehistoric Athapaskan sites. At least three are of National Register quality.

**Scenic values.** The valley, along the Utility Corridor, is rated as Class A scenic quality or "Outstanding scenery." These resources are distinctive and have special worth because it is the only place with relatively easy road access by the public.

**Raptors.** One of the few known peregrine nesting sites south of the Brooks Range is located near the lower part of this ACEC. Several other raptor species are also known.

### Relevance

The Jim River/Prospect Creek area contains a number of current and potential developments which pose a threat to the continued viability of the high quality anadromous fishery, and to the other resources. These developments include: placer mining, DOT/PF camp, Bettles road, Dalton Highway with 5 bridge crossings, demand for riparian timber, demand for construction gravel, future pipeline construction, and community development.

### Management Practices and Allowable Uses

1. Protect fisheries habitats and populations, including salmon spawning areas, overwintering habitat, and nursery/rearing habitat.
2. Require plans of operation with protective stipulations and apply mitigation measures to all surface disturbing activities to avoid unduly affecting aquatic and riparian habitat or threatened, endangered, or candidate species (including plants and peregrine falcons), or affecting any other protected resource.
3. Seasonal use and surface occupancy restrictions, including oil and gas leasing, may be identified once inventory and monitoring studies have been conducted.
4. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.

5. Protect habitat crucial to threatened and endangered species, especially peregrine falcons.
6. New mineral material sites would be approved within the floodplain only if no other economically feasible sites are available.

#### **Program Activities**

1. Prepare a base map of appropriate scale.
2. Include on base map all significant ACEC features as they are located, and any restricted use areas as they are defined, including the Jim River and Prospect Creek floodplains
3. Prepare an activity plan for the Jim River ACEC.
4. Inventory ACEC to record aquatic and riparian resources, recreation areas, threatened, endangered, sensitive, or candidate plant and peregrine falcon location, and geologic resources. Identify any additional crucial habitats.
5. Conduct class I and II cultural resource inventories for those areas that have not been surveyed. Require a class III cultural resource inventory for all ground disturbing actions. Nominate significant cultural resource sites to the National Register of Historic Places, and develop activity plans for each.
6. Inventory visual resources in the ACEC.
7. Enhance fisheries populations and habitats, including spawning areas, nursery/rearing and overwintering habitat, and fish passage.
8. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities.
9. Prepare handouts, brochures, reports or display signs to present geologic information to the public.
10. Prepare a 1610.00 serialized case file.

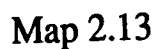
#### **Supporting Programs**

Recreation, Wildlife, Minerals, Lands, Cultural

#### **Monitoring and Evaluation**

1. Crucial riparian and aquatic habitats will be monitored annually. Once baseline data are collected, monitoring will occur on a three to five year cycle, unless disturbance is noted.
2. Identify significance and evaluate use of cultural resources in consultation with the State Historic Preservation Officer.
3. Annually inspect cultural resource properties on the National Register of Historic Places.
4. Annually monitor permitted actions, including water quality sampling, and cooperative agreements to assure compliance with protective stipulations and mitigative measures.
5. Evaluation of habitat improvement projects will be conducted after completion of each project.





## **Kanuti Hot Springs ACEC**

### **Location**

Caribou Mountain; T. 18 N., R. 15 W., Sec 31; Quad: Bettles B-2

### **Size**

40 acres

### **Management Objective**

To protect the hot springs and the associated meadow habitat.

### **Importance**

Kanuti Hot Springs is the only hot spring known to occur on BLM-administered land within the planning area. It is located approximately five miles southwest of Caribou Mountain along the Kanuti River. The spring temperature has been reported by some sources to be about 150°F and to have a strong sulphur dioxide odor. However, in December of 1988, BLM personnel measured the spring temperature at 125°F in the main outlet and 73°F in the lesser outlet.

### **Relevance**

The springs are about 8 miles west of and accessible from the Dalton Highway. There is an immediate need for special management attention in order to protect this undeveloped spring, since hot springs in Alaska's interior are usually developed.

### **Management Practices and Allowable Uses**

1. Restrict leasing and development to actions which would not directly affect the hot springs, any identified crucial wildlife habitat, and rare, endangered or listed plant species.
2. The ACEC would be closed to mineral entry. Also closed would be the surrounding lands (a total of approximately 160 acres) under PLO 399 of August 20, 1947, which withdrew from entry and all forms of appropriation all hot springs in Alaska.
3. Nonsurface occupancy stipulations apply for mineral leasing within the ACEC.
4. Maintain water quality of spring area and adhere to EPA and state water quality standards.
5. All surface disturbing activities having any affect on the resources within the ACEC will require plans of operation and appropriate mitigation to eliminate or minimize any adverse impacts.
6. The Kanuti Hot Springs ACEC would be closed to gravel extraction.

### **Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Baseline data gathering will be completed in FY89 to determine the spring's importance to area wildlife. A report will be prepared by FY90.
3. Prepare an activity plan for this ACEC with an emphasis on allowable FLPMA lease areas for development. Emphasis in this plan will be to protect the integrity of the hot spring and its potentially significant plant ecology. No development will be allowed at the springs or in the adjacent meadow.
4. Require a class III cultural resource inventory for all ground disturbing actions.

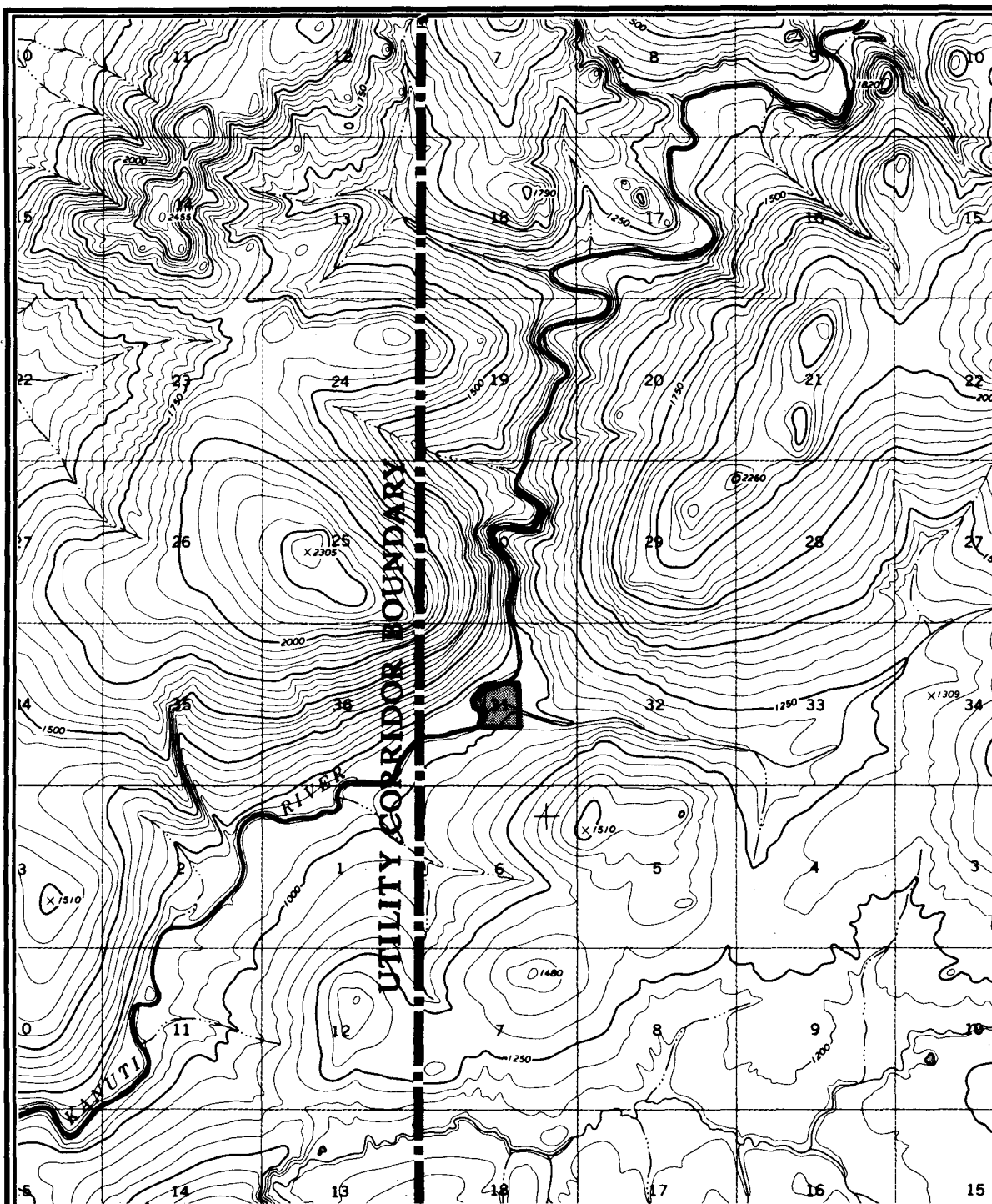
5. Inventory and record the presence of any threatened and endangered or listed plant species.
6. Prepare a 1610.00 serialized case file.

**Supporting Programs**

Lands, Minerals, Wildlife, Soil/Water/Air/Vegetation.

**Monitoring and Evaluation**

1. Seasonally monitor any FLPMA lease activities.
2. Annually monitor surface disturbance activities to prevent impacts to springs and the water quality of Kanuti River.
3. Sample water seasonally prior to and during FLPMA lease activities or mining operations.
4. Annually inspect cultural resource properties on the National Register of Historic Places.
5. Identify significance and evaluate use of cultural resources in consultation with the State Historic Preservation Officer.
6. Adhere to monitoring recommendations made in the activity plan.



BOUNDARY MAP  
Map Sheet Bettles B-2

Scale in Miles

Within T. 18 N., R. 15 W. sec. 31  
Fairbanks Meridian



# KANUTI HOT SPRINGS AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.14



## Nigu-Iteriak ACEC

### Location

Upper Nigu River and middle Iteriak Creek; Quad: Killik River A-5, B-5

### Size

64,000 acres

### Management Objective

To protect the unique geological, cultural, and scenic resources of the area.

### Importance

This ACEC consists of two separate areas about 19 miles apart: the upper Nigu River and the middle reaches of Iteriak Creek. Cultural resource values are similar to those in the NPR-A, e.g., National Register Districts at Etivluk, Liberator, Betty, Swayback, Tukuto, and Kinyiksukvik Lakes, and include two potentially eligible National Register sites.

The area has been recently glaciated and shows many features not present on other BLM lands associated with these events, such as ice-cored kame terraces and a collapsed pingo. Wildlife values are also high in the ACEC.

### Relevance

The area is adjacent to both the Gates of the Arctic National Park and the Noatak National Preserve, and is an extension of the special management situation that prevails within that system. The two areas are both part of the Etivluk River drainage, and both are bounded on the west by the National Petroleum Reserve - Alaska (NPR-A). A management plan is expected for the NPR-A; if ACECs can be designated under existing legislation for NPR-A, these areas could become a contiguous ACEC management area albeit designated under two plans.

### Management Practices and Allowable Uses

1. The upper Nigu section has been recommended for wilderness designation in the *Central Arctic Management Area Wilderness Recommendations and Final EIS* (USDOI, BLM; 1988) and the *Alaska National Interest Lands Conservation Act Section 1001 Report* (USDOI, BLM; 1988) that has been completed and submitted to Congress. If Congress should designate this area as wilderness it would be managed in accordance with Wilderness Management Policy. Until such time, both areas will be managed to protect their wilderness values in accordance with interim wilderness management policy and guidelines.
2. Regardless of Congressional action, the upper Nigu section would remain closed to mineral location, mineral materials extraction, and mineral leasing; the Iteriak section would be opened to mineral development (entry and leasing), but closed to mineral materials extraction.
3. Require plans of operation for any mining activities in the northern section.
4. Only ORV use for subsistence purposes would be allowed.

### Program Activities

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Prepare an activity plan for the ACEC.

3. Require a class III cultural resources inventory for all ground disturbing actions in the northern section.
4. If the Mesa Site is determined eligible to the National Register of Historic Places, prepare a cultural resources management plan for the site.
5. Inventory geologic resources of the area, and prepare a geologic map at 1:24,000.
6. Prepare a 1610.00 serialized case file.

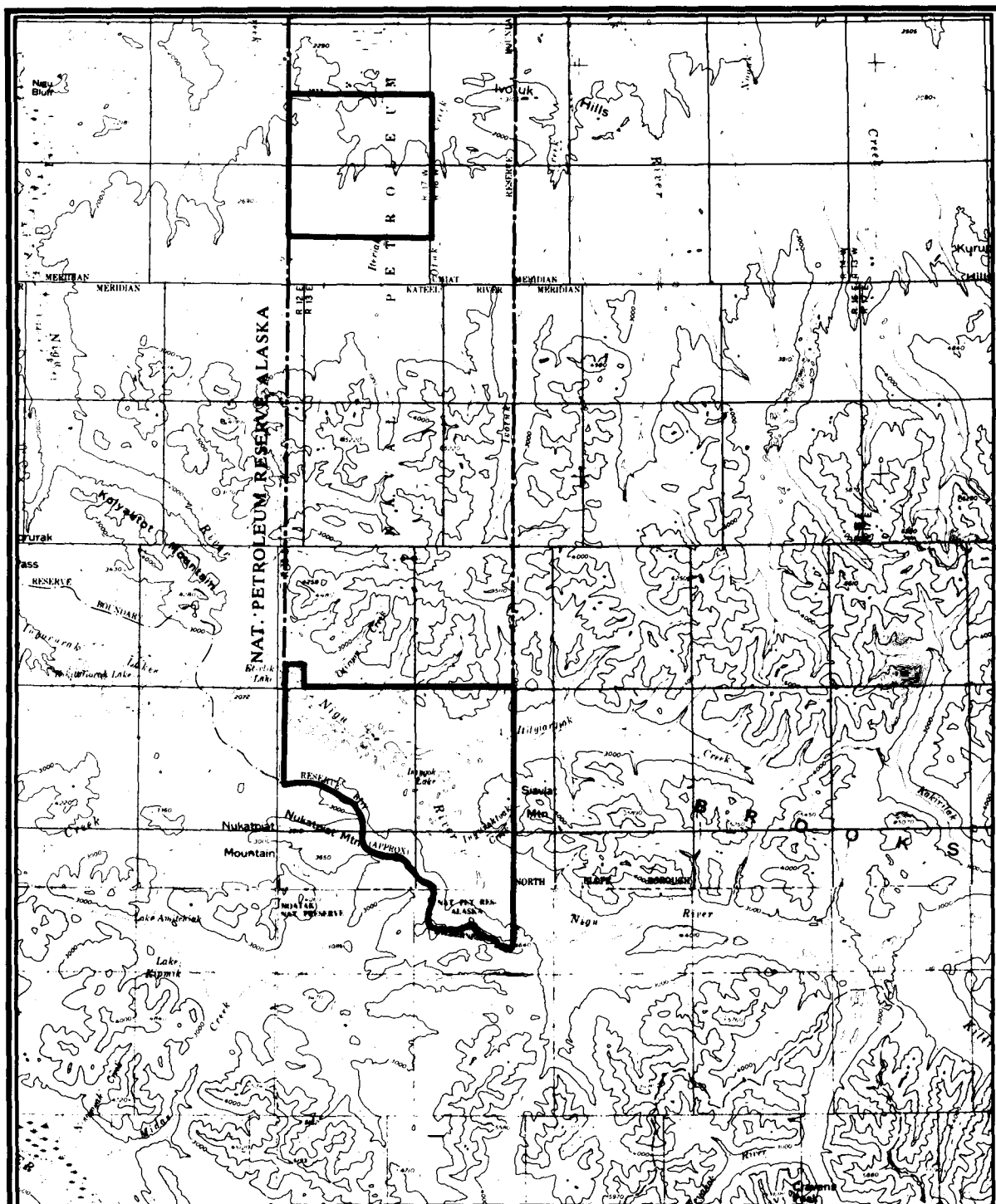
**Supporting Programs**

Recreation, Lands, Minerals, Subsistence, Wildlife, Cultural

**Monitoring and Evaluation**

1. Seasonally monitor activities in the area.
2. Sample water quality in Iteriak watershed if mining or leasing activities occur.
3. Annually inspect cultural resource properties on the National Register of Historic Places.
4. Identify significance and evaluate use of cultural resources in consultation with the State Historic Preservation Officer.





**BOUNDARY MAP**  
Map sheets Killik River,  
Howard Pass, Ambler River,  
and Survey Pass

Scale in Miles



Within Tps. 11 and 12 S., R. 17 W.  
Umiat Meridian  
and Tps. 30, 31 32 N., Rs. 13 and 14E.  
Kateel River Meridian



# **NIGU-ITERIAK RIVERS** **AREA OF CRITICAL ENVIRONMENTAL** **CONCERN**

Map 2.15



## **Nugget Creek ACEC**

### **Location**

Opposite Nugget Creek T. 31 N., R. 11 W.; Quad: Chandalar B-6, C-6

### **Size**

3,300 acres

### **Management Objective**

To protect mineral licks and lambing habitat for Dall's sheep.

### **Importance**

Ewes traditionally return to the same habitat each spring to bear their offspring. Dall's sheep use natural licks to replace important skeletal minerals. Destructive activities or excessive human disturbance may eliminate these important habitats necessary to sustain a viable sheep population.

### **Relevance**

A growing number of hunters use the Dalton Highway for easy access to hunt Dall's sheep; therefore, BLM needs to protect this crucial habitat to sustain a viable sheep population. Areas such as this ACEC should be earmarked for attention since a number of potentially disturbing activities (e.g., increases in traffic and recreation activity, future pipeline construction) may occur within the life of this plan.

### **Management Practices and Allowable Uses**

1. Mineral lick sites (160 acre parcels), would be closed to mineral entry and location under the 1872 mining law, to surface occupancy by BLM-authorized land activities, and to mineral materials extraction. Nonsurface occupancy stipulations would apply to mineral leasing.
2. Only allow mineral materials extraction with stipulations to prevent disturbance of Dall's sheep habitat or access.
3. Plans of operation with protective stipulations and mitigation measures would be applied to all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
4. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.
5. Aircraft associated with all BLM-authorized land use activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 1 to August 31, unless doing so would endanger human life or be an unsafe flying practice.

### **Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Conduct field exam of known mineral licks to establish metes and bounds description; record on map of appropriate scale. Write legal descriptions.

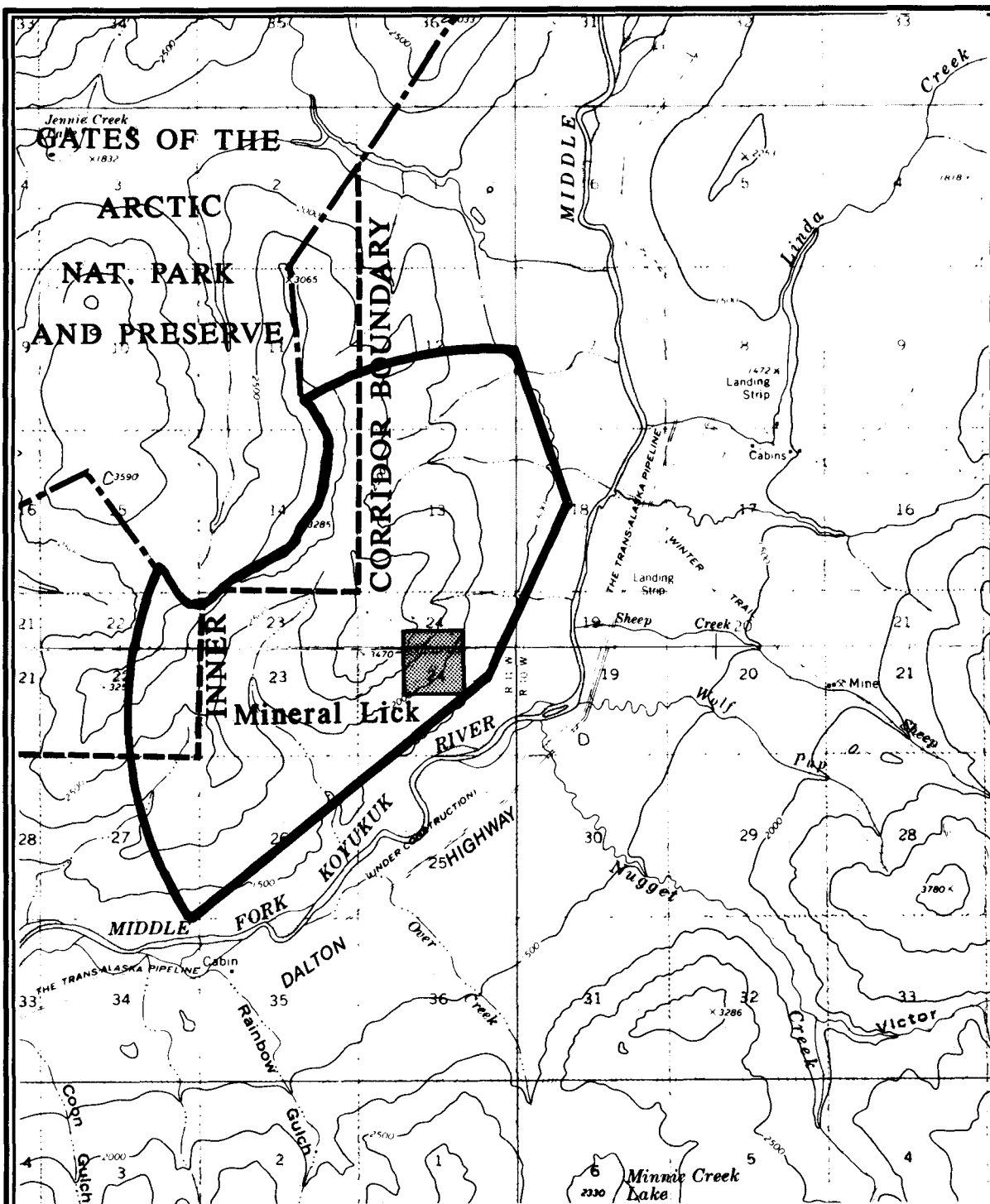
3. Prepare, publish, and implement a withdrawal from mineral entry and location under the 1872 mining law for each mineral lick (160 acres) currently known or those identified in future inventories.
4. Inventory ACEC to identify any additional crucial habitats.
5. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials sales or permits.
6. Record geologic features and prepare geologic map of the area at 1:24,000 scale.
7. Prepare a 1610.00 serialized case file.

### **Supporting Programs**

Minerals, Wildlife

### **Monitoring and Evaluation**

1. Crucial Dall's sheep habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle.
2. Evaluate all mining plans to insure that mineral licks and access to them are protected through appropriate stipulations.
3. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.



BOUNDARY MAP  
Map Sheets Chandalar  
B-6 and C-6

Scale in Miles

Within Tps. 31 N., Rs. 10 and 11 W.  
Fairbanks Meridian



# NUGGET CREEK AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.16



## Poss Mountain ACEC

### Location

Poss Mountain (east of Wiseman) T, 30 N., R. 10 W., Sec 3; Quad: Chandalar B-6

### Size

8,000 acres

### Management Objective

To protect lambing habitat for Dall's sheep and known mineral lick sites.

### Importance

Ewes traditionally return to the same habitat each spring to bear their offspring. Dall's sheep use natural licks to replace important skeletal minerals. Destruction of the licks and excessive human disturbance may eliminate these important habitat features that are necessary to sustain viable sheep populations.

### Relevance

A growing number of hunters use the Dalton Highway for easy access to hunt Dall's sheep; therefore, BLM needs to protect this crucial habitat to sustain a viable sheep population. Although this area is farther from the Dalton Highway than the Nugget Creek ACEC, the area should be earmarked for attention since a number of potentially disturbing activities near this habitat (principally mining) may occur within the life of this plan.

### Management Practices and Allowable Uses

1. Mineral lick sites (160 acre parcels), would be closed to mineral entry and location under the 1872 mining law, to surface occupancy by BLM-authorized land activities, and to mineral materials extraction. Nonsurface occupancy stipulations would apply to mineral leasing.
2. Only allow mineral materials sales with stipulations to prevent disturbance of Dall's sheep habitat or access.
3. Plans of operation with protective stipulations and mitigation measures would be applied to all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
4. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.
5. Aircraft associated with all BLM-authorized land use activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 1 to August 31, unless doing so would endanger human life or be an unsafe flying practice.

### Program Activities

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Conduct field exam of known mineral licks to establish metes and bounds description; record on map of appropriate scale. Write legal descriptions.

3. Prepare, publish, and implement a withdrawal from mineral entry and location under the 1872 mining law for each mineral lick (160 acres) currently known or those identified in future inventories.
4. Inventory ACEC to identify any additional crucial habitats.
5. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials sales or permits.
6. Record geologic features and prepare geologic map of the area at 1:24,000 scale.
7. Prepare a 1610.00 serialized case file.

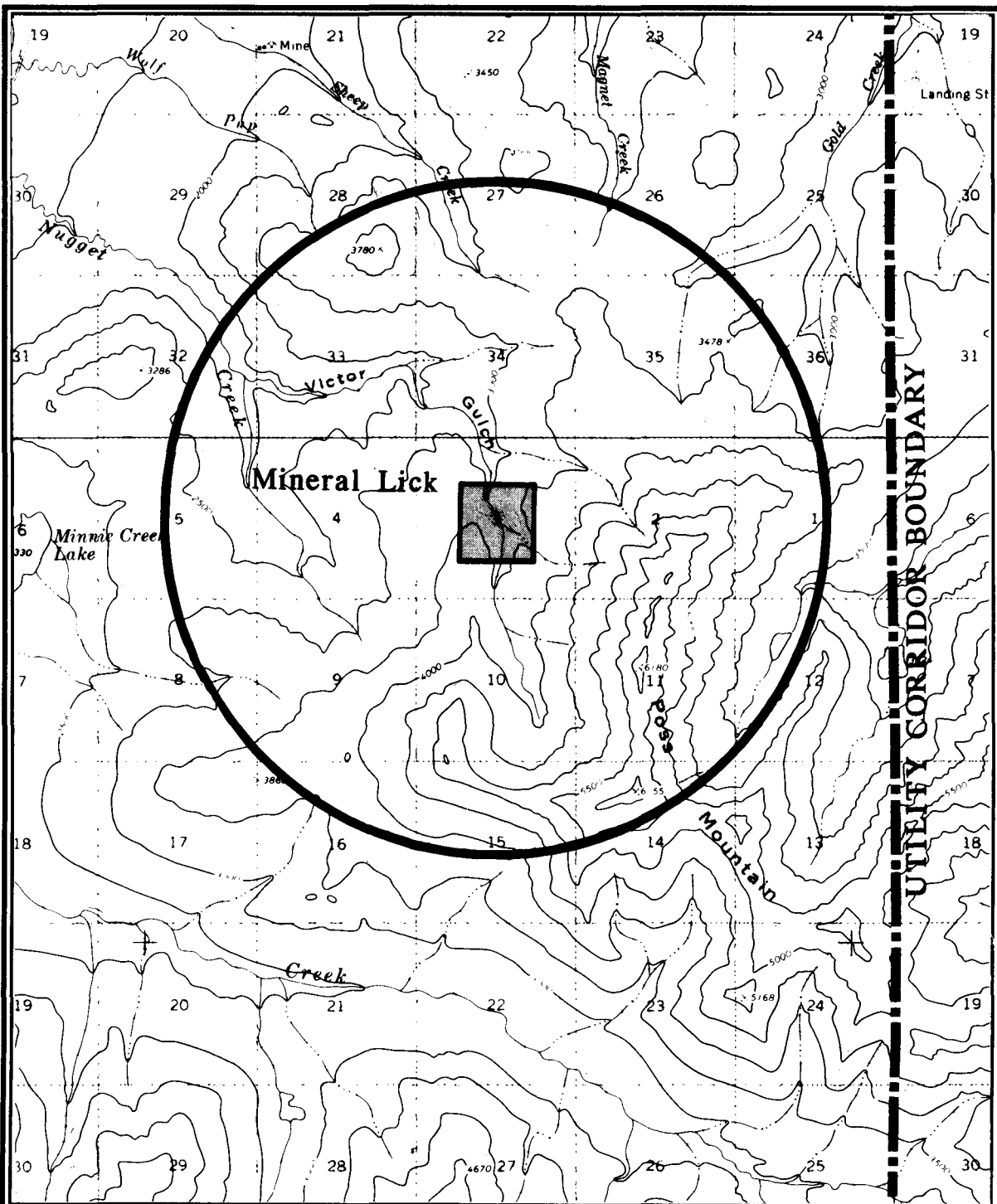
### **Supporting Programs**

Minerals, Wildlife

### **Monitoring and Evaluation**

1. Crucial Dall's sheep habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle.
2. Evaluate all mining plans to insure that mineral licks and access to them are protected through appropriate stipulations.
3. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.





BOUNDARY MAP  
Map sheet Chandalar B-6

Scale in Miles

Within Tps. 30 and 31 N., R. 10 W.  
Fairbanks Meridian



# POSS MOUNTAIN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.17



## Sagwon Bluffs ACEC

### Location

Sagwon Bluffs. Quad: Sagavanirktok B-3

### Size

42,200 acres

### Management Objectives

To protect threatened raptor habitat: peregrine, also gyrfalcon, rough-legged hawk. To protect riparian habitat: caribou, moose, grizzly bear. To protect the farthest north known Athapaskan archeological sites. To protect sensitive and rare plants.

### Importance

Approximately 20 percent of the known nesting pairs of arctic peregrine falcons (T & E species) occur along the Sagavanirktok River; nesting sites are protected under the Endangered Species Act. Protection of important hunting habitat in this ACEC provides additional safeguards for the peregrine falcon. A sensitive plant species (*Erigeron muirii*) is also present.

### Relevance

Close proximity to the Dalton Highway allows for scientific research by university and other groups. However, this convenient access also presents potential human impact unrelated to research activities, such as the rights-of-way for pipelines. This ACEC is currently included under the Sagwon Bluffs Habitat Management Plan, approved in 1979.

### Management Practices and Allowable Uses

1. Protect habitats crucial to species considered threatened, endangered, candidate or sensitive (e.g., *Erigeron muirii*) by U. S. Fish and Wildlife Service or the State of Alaska.
2. All BLM-authorized land use activities shall follow the protective measures for peregrine falcons identified in the *Peregrine Falcon Recovery Plan* (September 1982).
  - a. Within one mile of nest sites:
    - 1) Require aircraft to maintain minimum altitudes of 1,500 feet above nest level from April 15 through August 31.
    - 2) Prohibit all ground level activity from April 15 through August 31 except on existing thoroughfares.
    - 3) Prohibit habitat alterations or the construction of permanent facilities.
  - b. Within two miles of nest sites:
    - 1) Prohibit activities having high noise levels from April 15 through August 31.
    - 2) Prohibit permanent facilities that have high noise levels, sustained human activity, or alter limited, high quality habitat (e.g. ponds, lakes, wetlands and riparian habitats).
  - c. Within 15 miles of nest sites:
    - 1) Prohibit alteration of limited, high quality habitat which could detrimentally and significantly reduce prey availability. Of particular concern are ponds, lakes, wetlands and riparian habitats.
    - 2) Prohibit use of pesticides. The only exception may be limited non-aerial application of approved non-persistent insecticides at supply bases.
3. Nonsurface occupancy stipulations would be applied to plant habitat (*Erigeron muirii*) locations.

4. Plans of operation with protective stipulations and mitigation measures will be applied to all surface disturbing activities to avoid unduly disturbing peregrine falcons and their habitats, or affecting any other protected resource.
5. Establish cooperative agreements for cultural resource research and excavation.

#### **Program Activities**

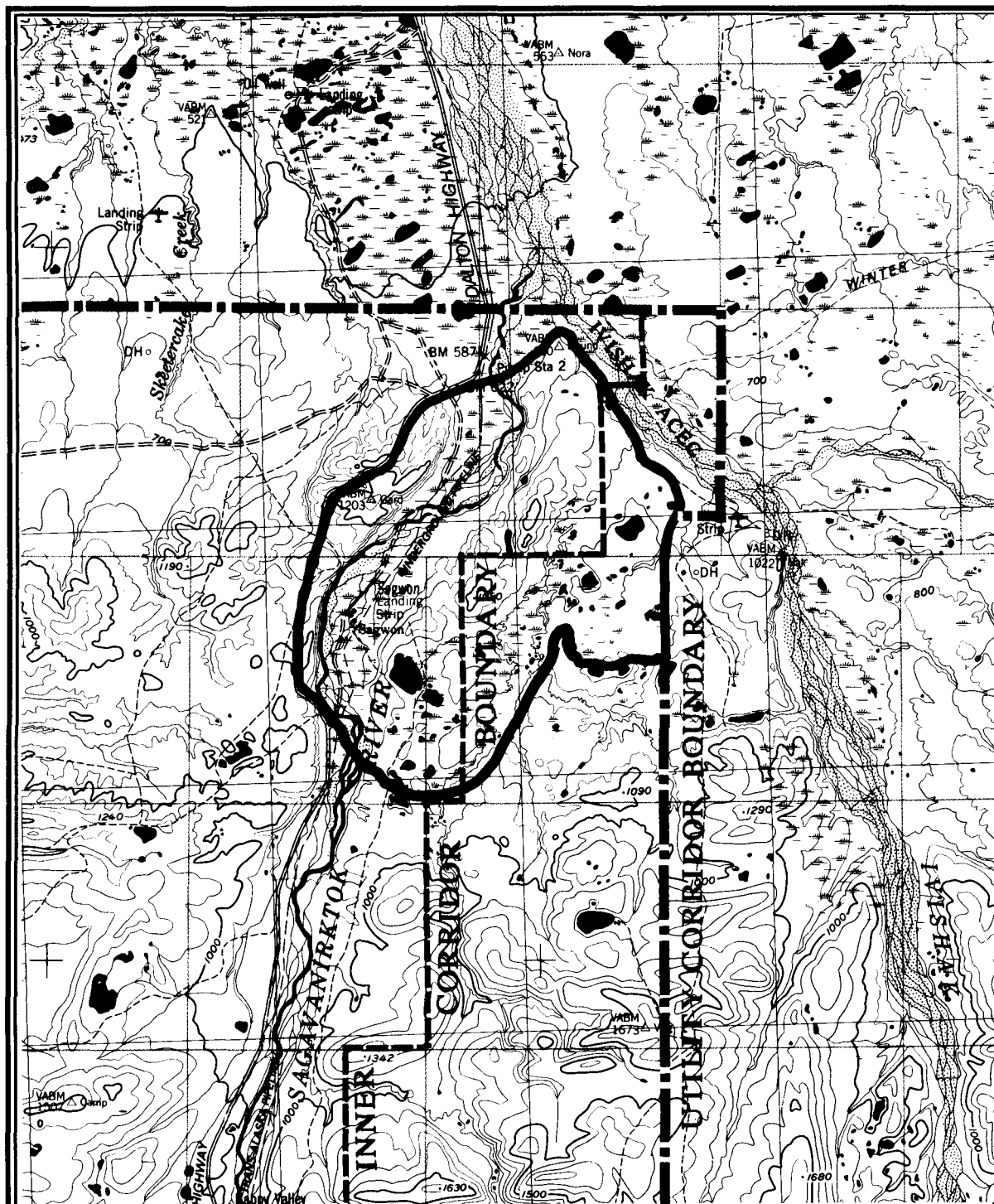
1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Continue implementation of the 1982 *Peregrine Falcon Recovery Plan - Alaska Population*, which outlines the protective actions necessary for the recovery of this species.
3. Inventory ACEC to delineate crucial habitats for peregrine falcon and other listed and candidate species. Identify any crucial habitats for future management actions.
4. For threatened and endangered candidate plant species (*Erigeron muirii*) BLM will develop a species management plan that includes habitat and population management objectives, and strategies necessary to meet those objectives.
5. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials extraction.
6. Conduct class I and II cultural resource inventories for those areas that have not been surveyed. Require a class III cultural resource inventory for all ground disturbing actions. Nominate significant cultural resource sites to the National Register of Historic Places, and develop activity plans for each.
7. Prepare a geologic map of the area at 1:24,000 scale.
8. Require plans of operation for all mining activity in the outer corridor before any ground disturbing activity begins.
9. Prepare a 1610.00 serialized case file.

#### **Supporting Programs**

Wildlife, Minerals, Cultural Resources, Soil/Water/Air/Vegetation.

#### **Monitoring and Evaluation**

1. Crucial habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle. If disturbance to crucial habitat is noted, monitoring will occur annually.
2. Annually monitor populations and habitat of *Erigeron muirii* to determine if management objectives are being met.
3. Annually inspect cultural resource properties on the National Register of Historic Places.
4. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.
5. Identify significance and evaluate use of cultural resources in consultation with the State Historic Preservation Officer.



BOUNDARY MAP  
Map sheet Sagavanirktok

Scale in Miles



Within Tps. 1 S. & 1 N.,  
Rs. 14 and 15 E.  
Umiat Meridian



# SAGWON BLUFFS AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.18



## Slope Mountain ACEC

### Location

Slope Mountain. T. 8 S., R. 13 E.; Quad: Phillip Smith Mt.; C-4.D-4

### Size

5,100 acres

### Management Objective

To protect mineral lick sites and lambing habitat for Dall's sheep. To protect cultural resources.

### Importance

Ewes traditionally return to the same habitat each spring to bear their offspring. Dall's sheep use natural licks to replace important skeletal minerals. Destructive activities or excessive human disturbance may eliminate these important habitats necessary to sustain a viable sheep population.

As late as the early 1980s, a known arctic peregrine falcon (a threatened species) nesting site was present on Slope Mountain. Therefore, the area is considered high potential for future nesting sites and warrants protection.

### Relevance

A growing number of hunters use the Dalton Highway for easy access to hunt Dall's sheep; therefore, BLM needs to protect this crucial habitat to sustain a viable sheep population. Areas such as this ACEC should be designated for attention since a number of potentially disturbing activities (e.g., increases in traffic and recreation activity, future pipeline construction) may occur within the life of this plan. Such activities may also potentially affect cultural resources.

### Management Practices and Allowable Uses

1. Mineral lick sites (160 acre parcels), would be closed to mineral entry and location under the 1872 mining law, to surface occupancy by BLM-authorized land activities, and to mineral materials extraction. Nonsurface occupancy stipulations would apply to mineral leasing.
2. Only allow mineral materials extraction with stipulations to prevent disturbance of Dall's sheep habitat or access.
3. Plans of operation with protective stipulations and mitigation measures would be applied to all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
4. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.
5. Aircraft associated with all BLM-authorized land use activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 1 to August 31, unless doing so would endanger human life or be an unsafe flying practice.
6. Protective measures for peregrine falcons within the ACEC will be those measures identified in the *Peregrine Falcon Recovery Plan* (September 1982). See Appendix K.

**Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Conduct field exam of known mineral licks to establish metes and bounds description; record on map of appropriate scale. Write legal descriptions.
3. Prepare, publish, and implement a withdrawal from mineral entry and location under the 1872 mining law for each mineral lick (160 acres) currently known or those identified in future inventories.
4. Inventory ACEC to identify any additional crucial habitats and potential peregrine falcon nest sites.
5. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials sales or permits.
6. If peregrine falcons return to the area, protective measures will be those identified on page 51 of the *Peregrine Falcon Recovery Plan* (September 1982).
7. Record geologic features and prepare geologic map of the area at 1:24,000 scale.
8. Require a Class III cultural resources inventory for all ground disturbing actions.
9. Prepare a 1610.00 serialized case file.

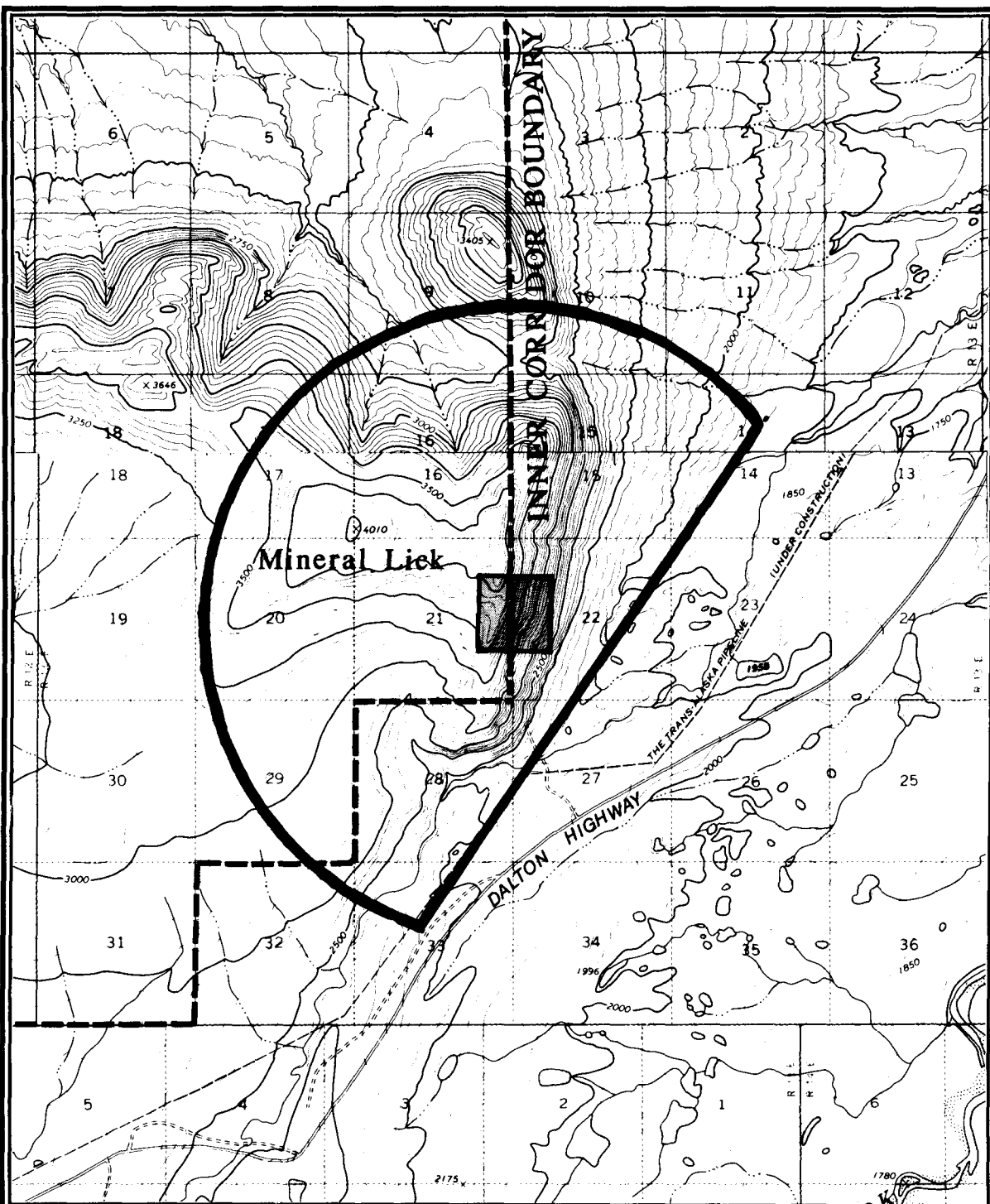
**Supporting Programs**

Minerals, Wildlife

**Monitoring and Evaluation**

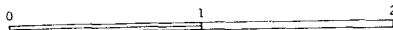
1. Crucial habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle. If disturbance to crucial habitat is noted, monitoring will occur annually.
2. Monitor area for peregrine falcon occupancy and use within the ACEC to determine population trends and critical use periods.
3. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.
4. Identify significance and evaluate use of cultural resources in consultation with the State Historic Preservation.





BOUNDARY MAP  
Map sheets Phillip Smith  
Mtns C-4 and D-4

Scale in Miles



Within T. 8 S., R. 13 E.  
Umiat Meridian



# SLOPE MOUNTAIN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.19



## **Snowden Mountain ACEC**

### **Location**

Snowden Mountain.; Mile 217 Dalton Highway; T. 34 N., R. 9 W., Sec. 6; Quad: Chandalar D-6

### **Size**

28,000 acres

### **Management Objective**

To protect Dall's sheep habitat and mineral lick sites. To protect the unique geologic exposures and associated paleontology.

### **Importance**

The area contains excellent exposures of Devonian and lower Paleozoic rocks: Devonian corals and Cambrian trilobites. Dall's sheep use natural licks to replace important skeletal minerals, and ewes traditionally return to the same habitat each spring to bear their offspring. Destructive activities or excessive human disturbance may eliminate these important habitats necessary to sustain a viable sheep population.

### **Relevance**

Close proximity to public access allows for scientific research by university and other groups, but, because of this easy access, this area needs additional management protection. This proximity and the relatively high locatable mineral potential in the outer Corridor warrant additional protection of sheep access to lick sites.

### **Management Practices and Allowable Uses**

1. Mineral lick sites (160 acre parcels), would be closed to mineral entry and location under the 1872 mining law, to surface occupancy by BLM-authorized land activities, and to mineral materials extraction. Nonsurface occupancy stipulations would apply to mineral leasing.
2. Only allow mineral materials extraction with stipulations to prevent disturbance of Dall's sheep habitat or access.
3. Plans of operation with protective stipulations and mitigation measures would be applied to all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
4. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.
5. Aircraft associated with all BLM-authorized land use activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 1 to August 31, unless doing so would endanger human life or be an unsafe flying practice.
6. All recreational facilities would be consistent with the Dalton Highway Recreation Activity Management Plan (RAMP), and will minimize disturbance to protected resources within the ACEC.

### **Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.

2. Conduct field exam of known mineral licks to establish metes and bounds description; record on map of appropriate scale. Write legal descriptions.
3. Prepare, publish, and implement a withdrawal from mineral entry and location under the 1872 mining law for each mineral lick (160 acres) currently known or those identified in future inventories.
4. Inventory ACEC to identify any additional crucial sheep habitats, unique geological features, and paleontological locations.
5. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials sales or permits.
6. Design displays or signs explaining features of the area. Emphasize resource importance and protection. Prepare brochures about significant features.
7. Record geologic features and prepare geologic map of the area at 1:24,000 scale.
8. Prepare a 1610.00 serialized case file.

### **Supporting Programs**

Recreation, Minerals, Wildlife

### **Monitoring and Evaluation**

1. Crucial habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle. If disturbance to crucial habitat is noted, monitoring will occur annually.
2. Annually evaluate all mining plans to insure that mineral licks and access to them are protected through appropriate stipulations.
3. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.



BOUNDARY MAP  
Map sheet Chandalar

Scale in Miles



Within Tps. 34 and 35 N.,  
Rs. 9 and 10 W.  
Fairbanks Meridian



# SNOWDEN MOUNTAIN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.20



## Sukakpak Mountain ACEC

### Location

Sukakpak Mt. T. 32 N., R. 10 W., Sec 10; Quad: Chandalar C-6

### Size

3,500 acres

### Management Objective

To protect unique geologic structures, folds, and faults; view of geologic process of mountain building and erosional forces. Rare plant species are also present. Sukakpak Mountain offers one of the more outstanding scenic views along the Dalton Highway.

### Importance

This is an excellent location for public viewing of the geology of the Brooks Range, including geologic formations and erosional processes. A rare plant species (*Orthotrichum diminutivum*) is found on the slopes of the mountain.

### Relevance

This area is accessible to the public via the Dalton Highway and is a readily available source of mineral materials. Access to the base of the mountain exists via a material source access road. Material sales on the mountain's slopes are now discouraged in order to ensure the scenic qualities of the area. The RMP's emphasis on recreation in the Utility Corridor identifies Sukakpak Mountain as having an outstanding opportunity for the development of a trailhead for day hikes.

### Management Practices and Allowable Uses

1. Mineral materials extraction would not be allowed on the slopes of Sukakpak Mountain.
2. Mineral location will not be allowed in this ACEC. (This area is located within the inner Corridor.)
3. Nonsurface occupancy stipulations would be applied to mineral leasing in the ACEC. (The area is located within the inner Corridor.)
4. All recreational facilities would be consistent with the Dalton Highway Recreation Activity Management Plan (RAMP).
5. Recreational opportunities of the area will be emphasized by trail development.

### Program Activities

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Develop a trailhead with informational and regulatory signs.
3. Inventory ACEC to record geologic resources. Prepare handouts, brochures, and reports to present geologic information to the public.
4. Prepare geologic map of the area at 1:24,000 scale
5. Inventory visual resources in the ACEC.

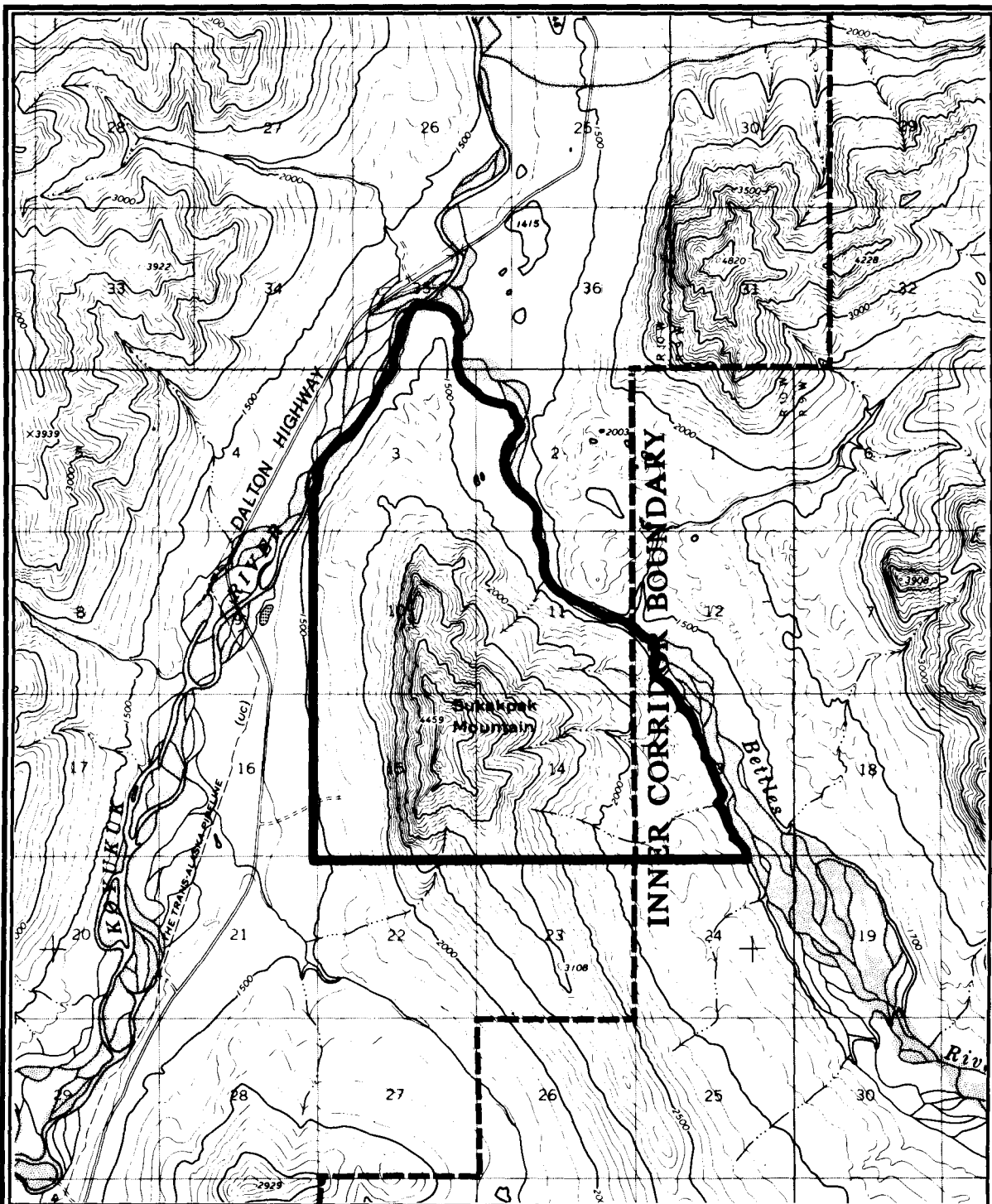
6. Prepare a 1610.00 serialized case file.

**Supporting Programs**

Minerals, Soil/Water/Air/Vegetation, Recreation

**Monitoring and Evaluation**

1. Use of trails in the ACEC would be monitored on a yearly basis.
2. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.



BOUNDARY MAP  
Map sheet Chandalar C-6

Scale in Miles

Within Tps. 32 and 33 N., R. 10 W.  
Fairbanks Meridian



# SUKAKPAK MOUNTAIN AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.21





## Toolik Lake ACEC / Research Natural Area

### Location

Quad: Phillip Smith Mountain C-5.

### Size

82,800 acres

### Management Objective

To protect a natural lake and tundra biome extensively used for arctic natural resources research.

### Importance

A large number of research projects have been based in and around this lake area. These research projects have produced and are producing extremely valuable information concerning the resources of public lands on the North Slope. Only through carefully planned and detailed research findings will it be possible to design land use and resource management strategies which will adequately protect environmental values in the face of resource development. Additionally, a sensitive plant species, *Montia bostockii*, is located in the Toolik Lake ACEC.

### Relevance

Energy transportation is the primary function of the Corridor lands which comprise this Research Natural Area. However, because of the vital importance of the data produced by ongoing research, the area needs to be protected to the extent possible.

### Management Practices and Allowable Uses

1. Protect habitats crucial to species considered threatened, endangered, candidate or sensitive (e.g., *Montia bostockii*) by U. S. Fish and Wildlife Service or the State of Alaska.
2. All authorized actions would be reviewed to avoid conflict with ongoing research projects in the area.
3. Mineral location will not be allowed in this ACEC. (The area is located within the inner Corridor.)
4. Nonsurface occupancy stipulations would be applied to mineral leasing. (The area is located within the inner Corridor.) Nonsurface occupancy stipulations would be applied to plant habitat (*Montia bostockii*) locations.
5. No recreational camping would be permitted within this Research Natural Area. No public use campgrounds would be developed at Toolik Lake.
6. ORV access for research activities would be allowed through permit.
7. Guiding operations would not be authorized at Toolik Lake.
8. The sale of mineral materials would be confined to already disturbed sites. New sites would be considered only if no other economically feasible alternatives are available.
9. No lands within the RNA would be made available for disposal (state selection, exchange, or sale).
10. Prepare a detailed management activity plan for the Toolik Lake Research Natural Area Plan, including the Galbraith Lake ACEC.
11. Prepare a species management activity plan for the sensitive plant species, *Montia bostockii*.

**Program Activities**

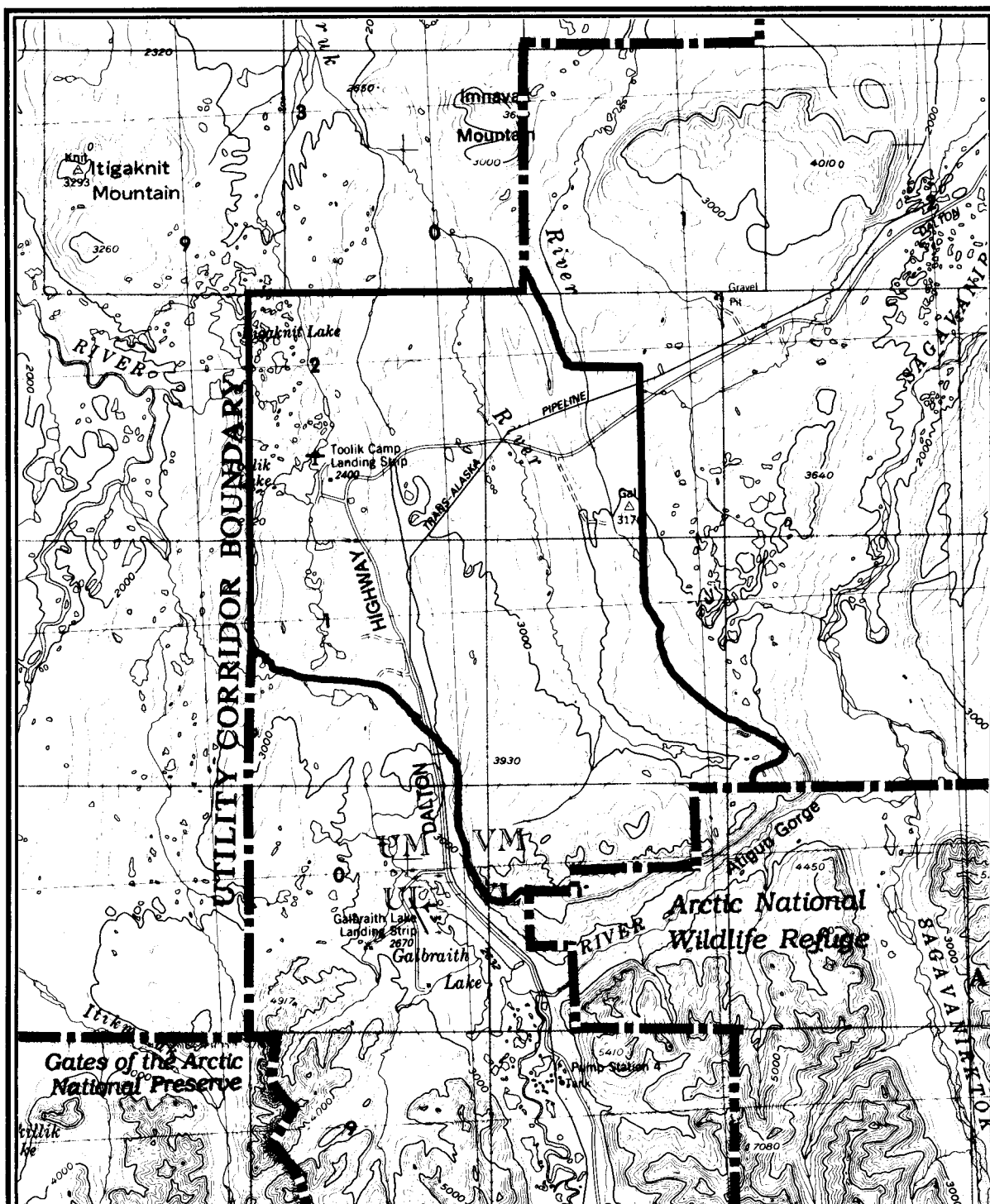
1. Prepare a base map of appropriate scale. Include all significant ACEC features, location of ongoing research activities, and any restricted use areas as they are defined.
2. Evaluation and consideration of proposed authorized actions, including solid waste sites, within the RNA would be coordinated with the University of Alaska to avoid conflicts with ongoing research.
3. Prepare and implement an activity plan to address management of all resources in the Toolik Lake RNA emphasizing maintaining both the energy transportation function of the corridor and the integrity of ongoing research.
4. Prepare a 1610.00 serialized case file.
5. Inventory ACEC to delineate crucial habitats for *Montia bostockii* for future management actions.
6. For threatened and endangered candidate plant species, (*Montia bostockii*), BLM will develop a species management plan that includes habitat and population management objectives, and strategies necessary to meet those objectives.

**Supporting Programs**

Wildlife, Minerals, Soil/Air/Water/Vegetation.

**Monitoring and Evaluation**

1. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.
2. Annually monitor populations and habitat of *Montia bostockii* to determine if management objectives are being met.
3. Obtain copies of published research results.
4. Annually coordinate with the University of Alaska to review research activity plans. Incorporate appropriate information on existing RNA base map.



BOUNDARY MAP

Scale in Miles  
0 5 10

Within Tps. 9,10,11S.,  
RS. 11,12,AND 13S.  
Umiat Meridian

# TOOLIK LAKE AREA OF CRITICAL ENVIRONMENTAL CONCERN

Map 2.22



## **West Fork Atigun ACEC**

### **Location**

West Fork Atigun River. T. 13,14 S.; R. 10,11 E.; Quad: Phillip Smith Mt. A-5, B-5

### **Size**

8,500 acres

### **Management Objective**

To protect mineral licks and lambing habitat for Dall's sheep.

### **Importance**

Ewes traditionally return to the same habitat each spring to bear their offspring. Dall's sheep use natural licks to replace important skeletal minerals. Destructive activities or excessive human disturbance may eliminate these important habitats necessary to sustain a viable sheep population.

### **Relevance**

A growing number of hunters use the Dalton Highway for easy access to hunt Dall's sheep; therefore, BLM needs to protect this crucial habitat to sustain a viable sheep population. Areas such as this ACEC should be earmarked for attention since a number of potentially disturbing activities (e.g., increases in traffic and recreation activity, future pipeline construction) may occur within the life of this plan.

### **Management Practices and Allowable Uses**

1. Mineral lick sites (160 acre parcels), would be closed to mineral entry and location under the 1872 mining law, to surface occupancy by BLM-authorized land activities, and to mineral materials extraction. Nonsurface occupancy stipulations would apply to mineral leasing.
2. Only allow mineral materials extraction with stipulations to prevent disturbance of Dall's sheep habitat or access.
3. Plans of operation with protective stipulations and mitigation measures would be applied to all surface disturbing activities to avoid restricting sheep movement, unduly disturbing sheep habitat, or affecting any other protected resource.
4. All BLM-authorized camps and support facilities located within the confines of the ACEC, including cabins and tent frames, shall be temporary and must be removed after their purpose has been accomplished.
5. Aircraft associated with all BLM-authorized land use activities shall be required to fly a minimum of 2,000 feet above ground level (AGL) from May 1 to August 31, unless doing so would endanger human life or be an unsafe flying practice.

### **Program Activities**

1. Prepare a base map of appropriate scale. Include all significant ACEC features as they are located, and any restricted use areas as they are defined.
2. Conduct field exam of known mineral licks to establish metes and bounds description; record on map of appropriate scale. Write legal descriptions.

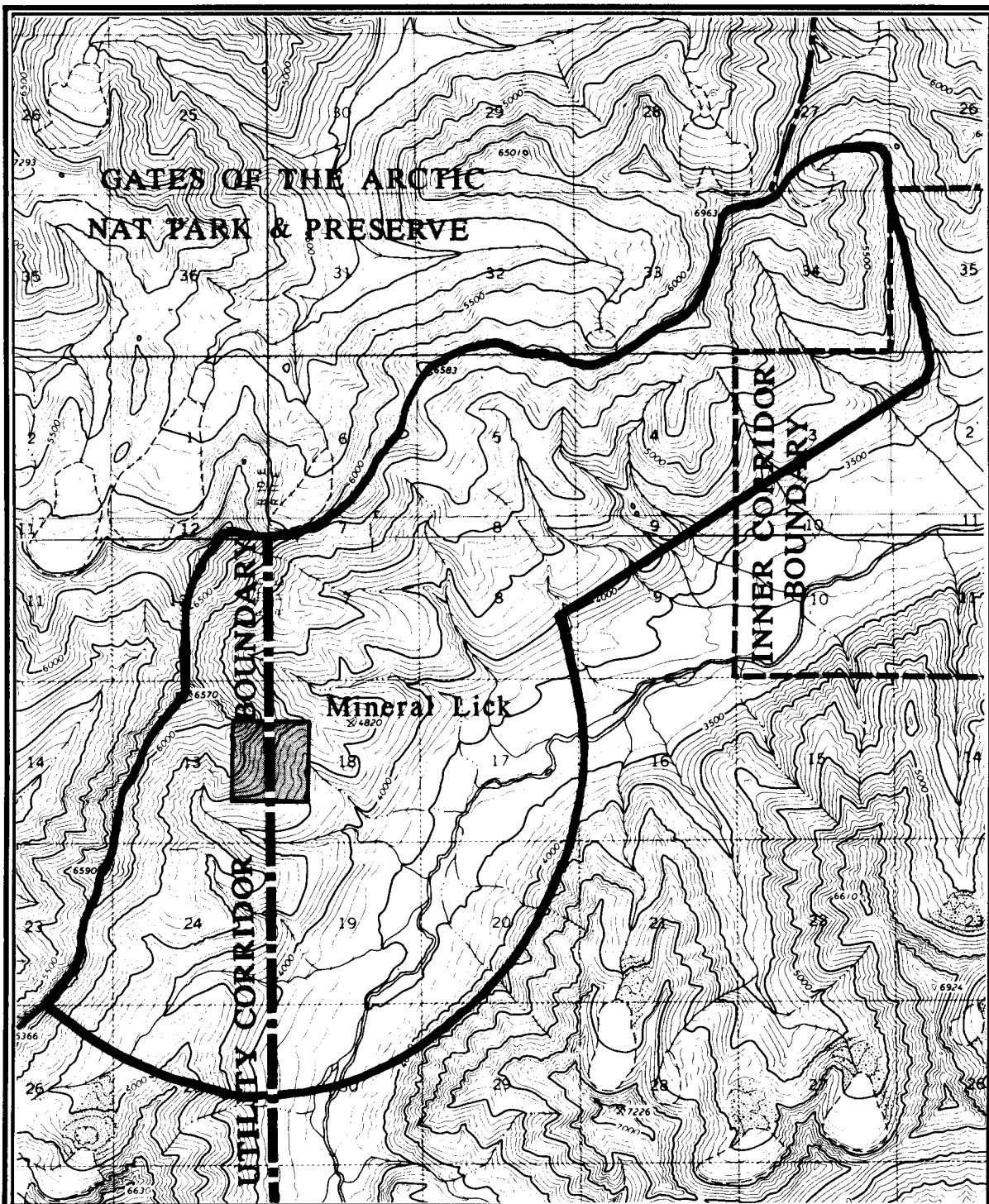
3. Prepare, publish, and implement a withdrawal from mineral entry and location under the 1872 mining law for each mineral lick (160 acres) currently known or those identified in future inventories.
4. Inventory ACEC to identify any additional crucial habitats.
5. Develop appropriate stipulations and mitigative measures to protect crucial habitat and/or resources during multiple use activities, including mineral materials sales or permits.
6. Record geologic features and prepare geologic map of the area at 1:24,000 scale.
7. Prepare a 1610.00 serialized case file.

### **Supporting Programs**

Minerals, Wildlife

### **Monitoring and Evaluation**

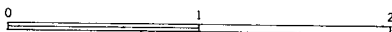
1. Crucial Dall's sheep habitats and use periods will be monitored. Once baseline data are collected, monitoring will occur on a three to five year cycle.
2. Evaluate all mining plans to insure that mineral licks and access to them are protected through appropriate stipulations.
3. Annually monitor permitted actions and cooperative agreements to assure compliance with protective stipulations and mitigative measures.



**BOUNDARY MAP**

Map sheet Phillip Smith Mtns. B-6

Scale in Miles



Within T. 13 S., R 11 E.

Tps. 14 S., Rs. 10 and 11 E.

Umiat Meridian



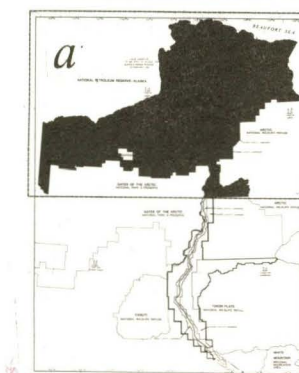
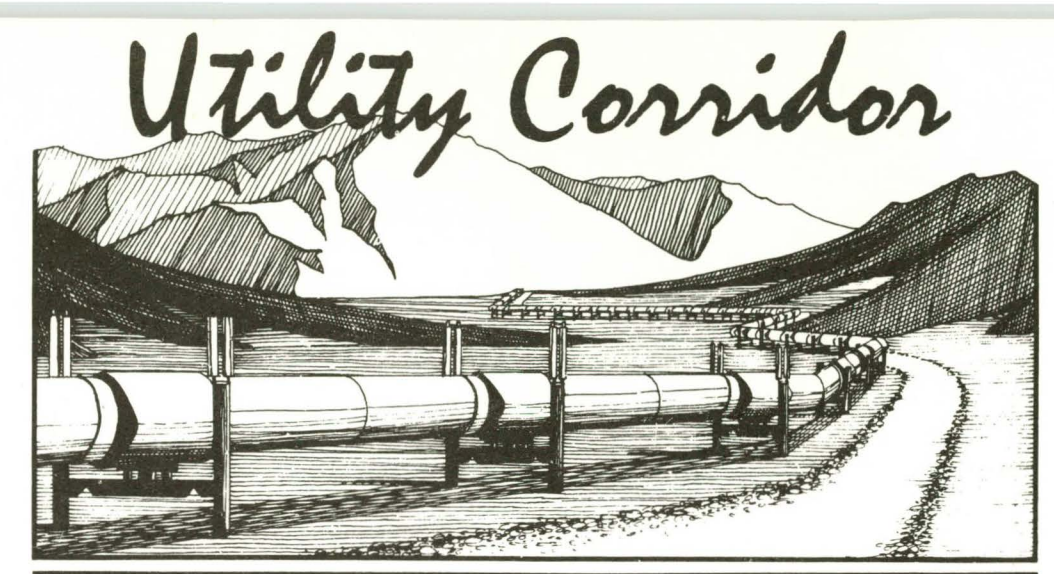
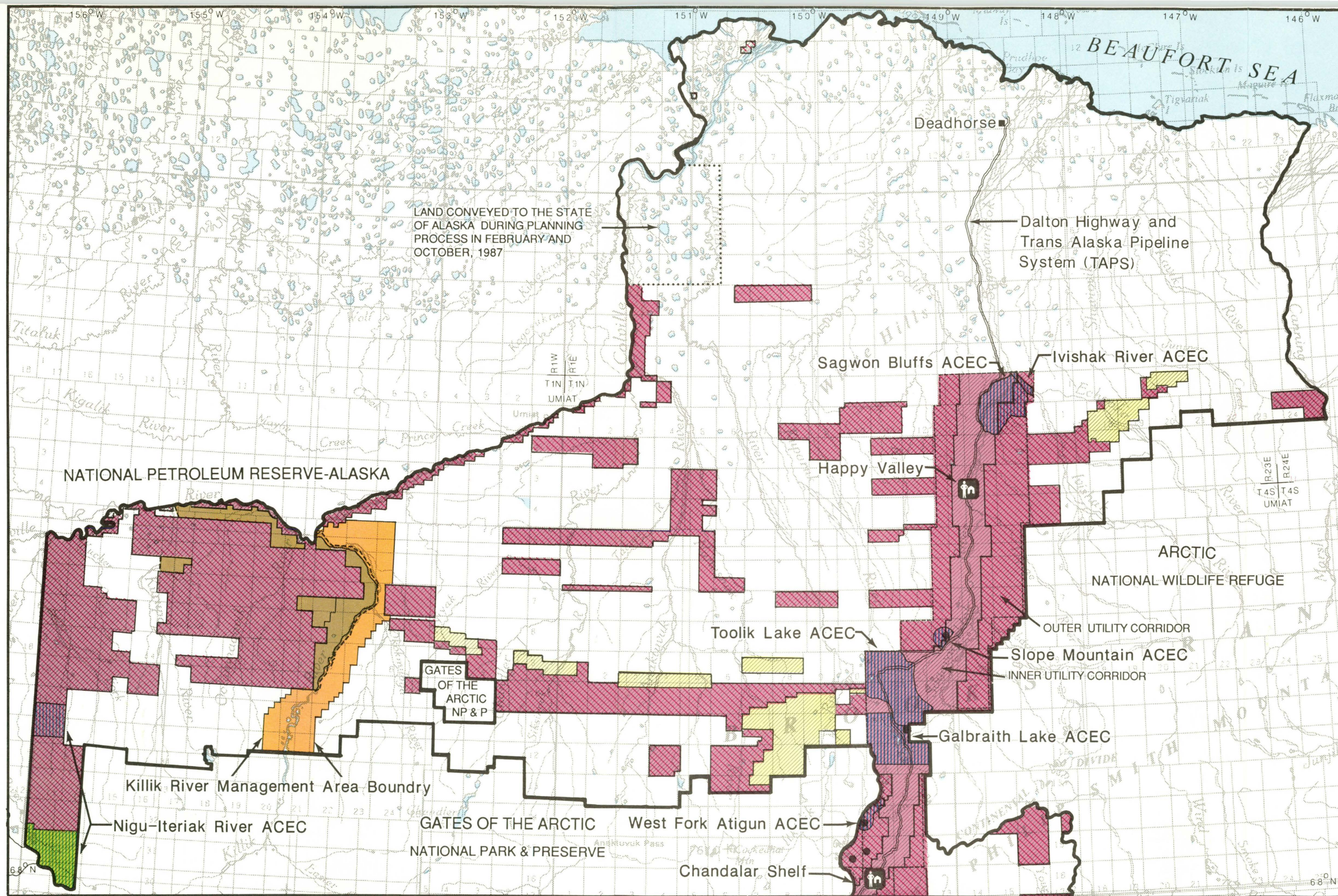
# **WEST FORK ATIGUN AREA OF CRITICAL ENVIRONMENTAL CONCERN**

Map 2.23



## Proposed Plan Maps





## Proposed Plan

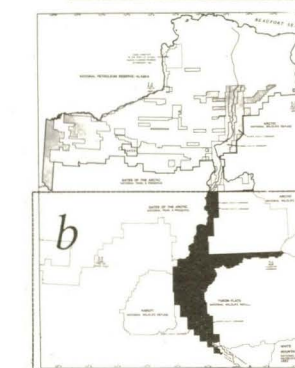
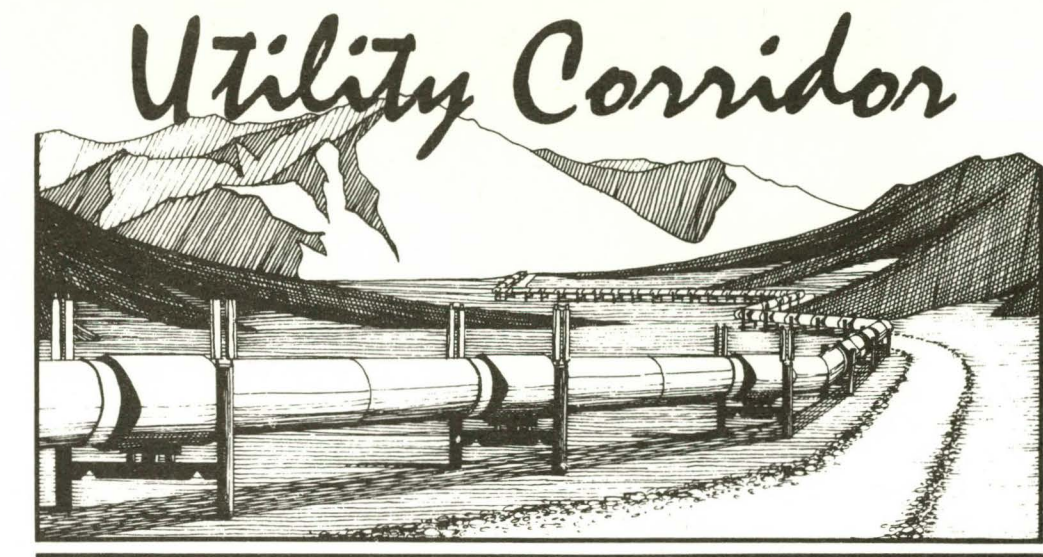
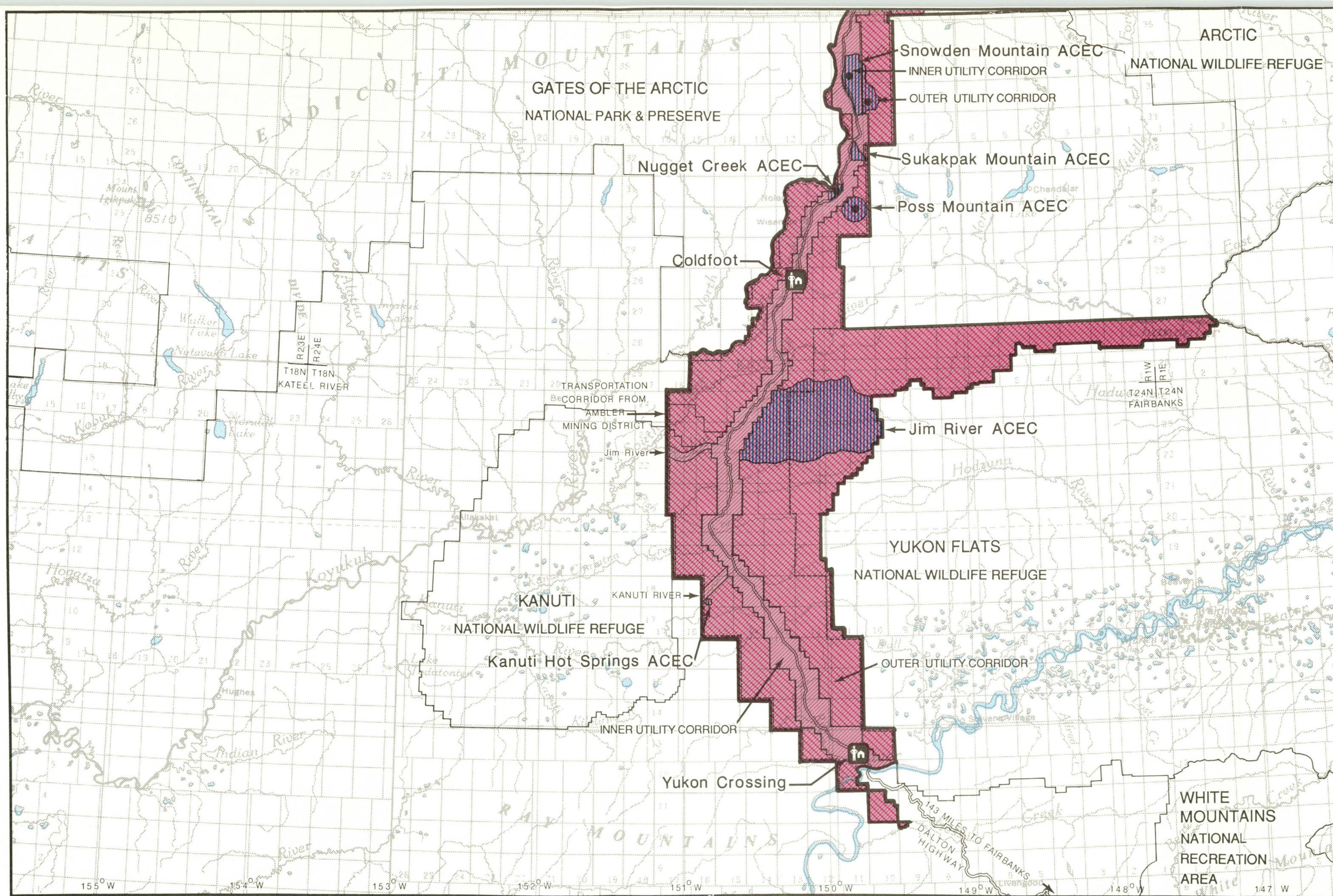
1 of 4

### LEGEND

- Development Node
- Open to Mineral Entry and Location
- Open to Oil and Gas Leasing
- Areas of Critical Environmental Concern ACEC
- Wilderness Recommendation (closed to mineral activity)
- Proposed Killik River Corridor Acquisition
- Proposed Oolamnagavik Consolidation Acquisition
- BLM Surface Management Only
- Mineral Licks Closed to Mineral Location
- BLM Administered Public Lands











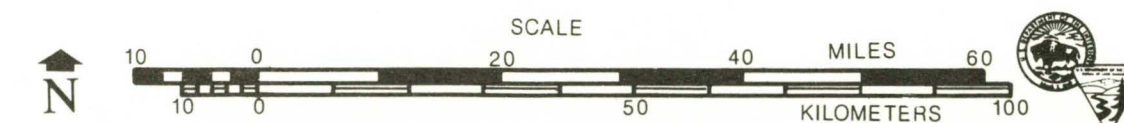


## Proposed Plan

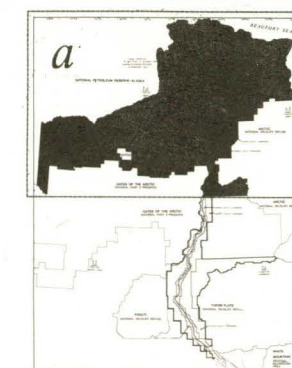
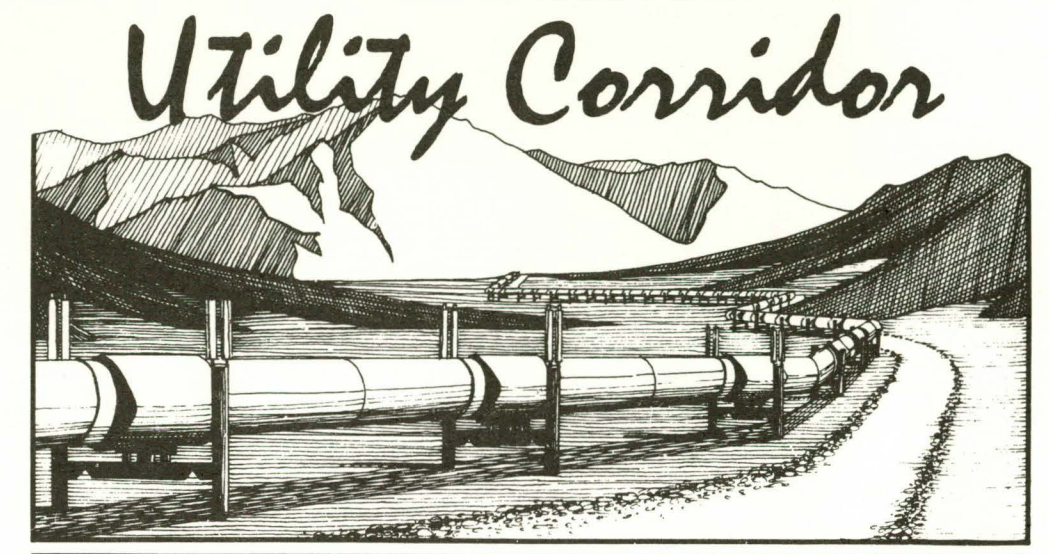
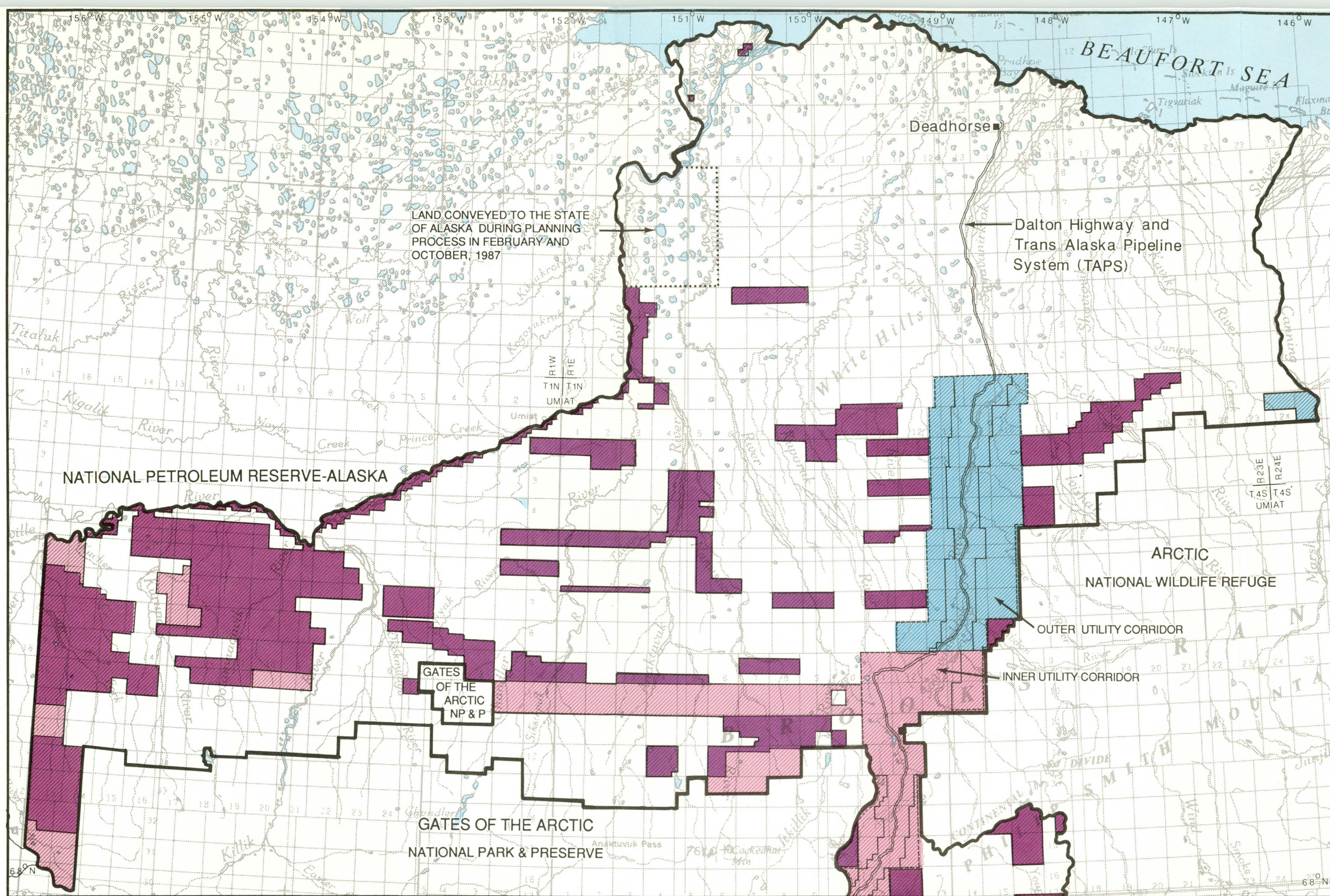
2 of 4

### LEGEND

-  Development Node
-  Open to Mineral Entry and Location
-  Open to Oil and Gas Leasing
-  Areas of Critical Environmental Concern ACEC
-  Mineral Licks Closed to Mineral Location
-  BLM Administered Public Lands





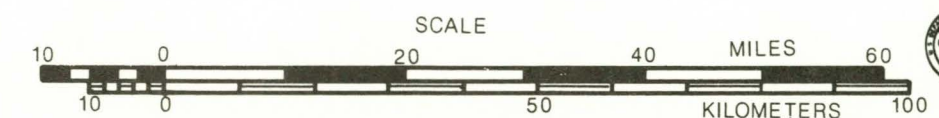


## Proposed Plan

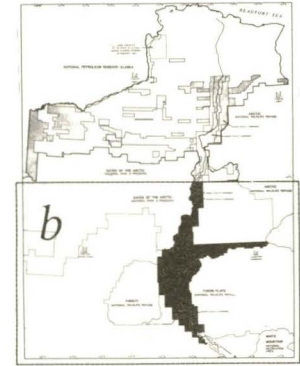
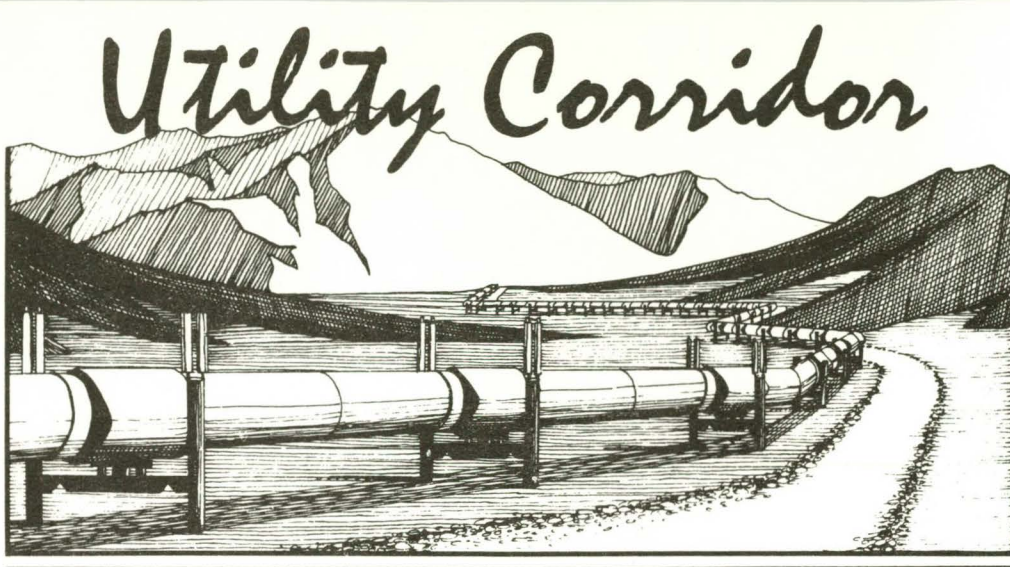
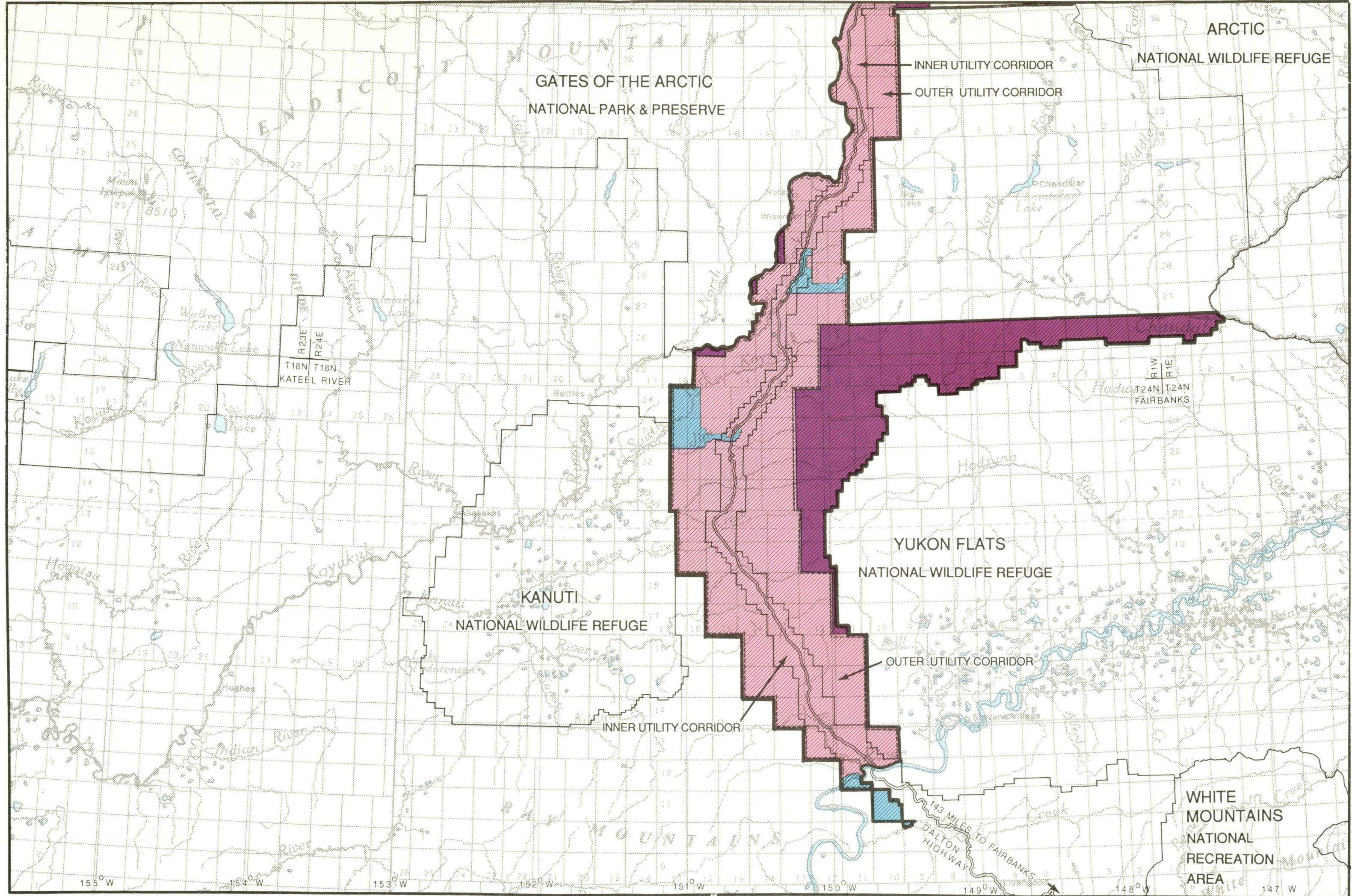
3 of 4

### LEGEND

- Areas to be Opened for State Selection
- Areas Presently Open for State Selection
- Areas to Remain Closed to State Selection
- BLM Administered Public Lands







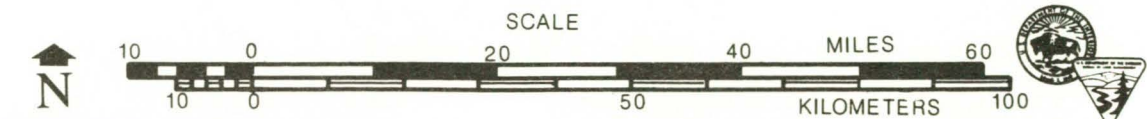
# Utility Corridor

Proposed Plan

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## LEGEND

- Areas to be Opened for State Selection
- Areas Presently Open for State Selection
- Areas to Remain Closed to State Selection
- BLM Administered Public Lands





Section 2:  
Scenarios- Actions and Activities with  
Potential for Environmental Impact

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**Potential for Environmental Impact**

## **Section 2: Scenarios - Actions and Activities with Potential for Environmental Impact**

In development of the activity scenarios and for purposes of analysis, certain assumptions have been made. These include:

1. BLM will have sufficient funding and work force to implement the management plan as described.
2. Many lands within the planning area have been selected by the State of Alaska and/or by Native Corporations to fulfill land entitlements granted by the Statehood Act and the Alaska Native Claims Settlement Act (ANCSA). Many more lands are or could be available for selection by the state and may be selected in the future. For a variety of reasons (e.g., overselections, relinquishments), lands selected are not necessarily conveyed to the selecting entity. Consequently, it is not possible to know which lands within the planning area will remain in federal ownership. Therefore, for purposes of analysis, the selection status of most planning area lands will not be considered (see item 3 below). Only for those lands within the Utility Corridor withdrawal being made available to state selection under the proposed plan will future selection and conveyance to the state be specifically addressed.
3. On lands validly selected by the State of Alaska or by (ANCSA) Native Corporations, certain activities which would be authorized under the proposed plan require prior concurrence of the selecting entity. Additionally, valid state selections segregate lands, otherwise available, from all appropriation including mineral location. To consider fully the potential consequences of plan proposals on the approximately 3.5 million acres of lands within the planning area either currently selected, available for selection, or proposed to be opened to selection, it has been assumed that identified activities would occur regardless of selection status (see item 2 above).
4. Where BLM retains the surface estate but not the subsurface, federal mining and leasing authorities do not apply. However, mineral exploration and development activities will not be prohibited on split estate lands. BLM will be responsible for mitigating surface impacts on these lands.
5. On planning area lands north of 68° N latitude (i.e., CAMA) and outside of the Dalton Highway "viewshed," implementation of the proposed plan must be held in abeyance until Congress has reached a decision on wilderness designation or nondesignation. Until such time as Congress acts, BLM must manage CAMA to protect its wilderness character. However, rather than base the impact assessment on an interim wilderness management scenario, it will be assumed that the proposed plan would be implemented.

## **Locatable Mineral Exploration and Development**

### **MANAGEMENT ACTIONS**

Under the proposed plan, approximately 1.7 million acres of federal land would remain open to development of locatable minerals (e.g., gold and silver) under U.S. mining laws. Approximately 3.0 million additional acres of federal land, now closed, would be opened to development of locatable minerals. Presumably, the approximately 274,000 acres of split-estate lands within the planning area to which Arctic Slope Regional Corporation (ASRC) owns the mineral estate would also be available to hardrock mineral development under provisions set forth by ASRC. Thus, approximately 5.0 million acres of land within the planning area would be available to locatable mineral development.

Approximately 1.1 million acres within the planning area would remain closed to locatable mineral development. Most of these lands are within the inner Corridor and have been closed since 1971.



Located within the closed areas are approximately 200 existing mining claims, which would not be affected as a result of the continued closures.

## ANTICIPATED ACTIVITIES

Of the approximately 5.0 million acres of planning area lands to be available for hardrock mineral development (including existing claims), the probability of development actually occurring during the life of this plan is likely only within the approximately 233,000 acres of high potential placer gold lands south of the Brooks Range continental divide and north of the Arctic Circle. North of the Brooks Range, development of potentially occurring, but as yet undiscovered hardrock minerals (primarily lead-zinc and related minerals), during the life of this plan is unlikely due to the area's remoteness, lack of access, and the availability of substantial lead-zinc deposits elsewhere in the state (e.g., Red Dog in western Alaska).

### *Exploration*

Before development of a mineral deposit occurs, a company or individual will normally collect field samples. In a typical placer operation, many "pan" samples are collected from creeks. Where panning or geochemical sampling indicates a promising area, further testing of the placer deposit can be accomplished by digging sample holes or trenches, by hand or with earth moving equipment. Holes are normally dug perpendicular to the course of a stream channel, across the "pay zone." Placer sampling may also be done by means of a churn or rotary type drill.

Exploration of a lode deposit begins with a geological mapping effort. Rock samples and pan concentrates are collected on a regular grid pattern. Mineral concentrations above normal usually result in further exploration, in which a portable rotary drill collects additional samples at depth. Drills can be moved from one location to another by tractor-pulled skids, on all-terrain vehicles, or lifted in and out of areas of difficult access by helicopters. Drilling is usually done in a grid pattern to establish the quality and quantity of the deposit. If it is determined that the deposit can be developed economically using sound mining practices, mining operations are developed through engineering studies, financing is obtained, and the mine is brought into production. In Alaska, it may take 10 to 20 years to develop a mine after exploration.

### *Placer Mining Operations*

It is anticipated that 36 placer operations will be active during the life of this plan (i.e., the next ten years), an increase of three operations from current management (USDOI, BLM, 1987). Because most of these mines are currently operating, for purposes of analysis we will assume all 36 operations to begin within one year of plan implementation.

A typical placer operation will employ three to five people and disturb about four to five acres per year. Operations that disturb more than five acres per year require that a plan of operations be submitted and approved by BLM before mining begins.

Placer mining operations may involve hydraulic, mechanical, or drift mining techniques. A mining operation can be divided into several steps: stripping, processing, and tailing disposal/reclamation. Overburden is generally removed by bulldozers or draglines although hydraulic monitors may be used. The amount of overburden removed in stripping operations varies from 1 to 10 feet or approximately 1,600 to 16,000 cubic yards per acre stripped.

Pay gravels are loosened by a bulldozer and pushed into a pile for feeding onto a sorting device (grizzly). Normally, mining operations process from 10 to 1,000 cubic yards of gold bearing gravels per day throughout the nearly 100-day season and use from 100 to 3,000 gallons of water per minute to wash the gravels. Typically, between 50 and 90 percent of the water used in the processing system is recycled from the settling ponds, and the rest is made up from streams diverted around the operation. Coarse tailings are removed from the processing area by bulldozer or loader and stacked for later reshaping or used to build settling ponds.

Generally, properly constructed ponds are capable of settling all the settleable solids and most of the suspended solids as required by the Environmental Protection Agency (EPA) and Alaska Department

of Environmental Conservation (DEC). Ponds are not capable of removing all the turbidity that is created during the processing phase. Additional treatment of the mine water through the use of flocculants, ground filtration systems, totally recycling of all mine waters, redesigning the processing plant, or a combination of the above is necessary to reduce turbidity to meet current standards. Generally, these techniques have not proven to be wholly effective.

Over the course of 3 to 5 years, most of a 20 acre claim is likely to be disturbed as a result of building construction, stripping, processing, and tailings disposal, and must undergo reclamation. Reclamation efforts to recontour the land and revegetate the surface cannot completely restore the land to its natural state. The remainder of a claim would either not be disturbed, due to the terrain or lack of values, or would receive only incidental disturbance (e.g., foot traffic or one time vehicle passes). Impacts from this disturbance would be of a short term nature.

As a claim is mined it would be expected that additional claims would be worked on the same stream. Over the 10 year life of this plan it will be assumed that three claims per operation would be worked along a stream. Total onsite disturbance per operation over the 10 year life of this plan would be approximately 40 acres, with a total disturbance over 10 years on the anticipated 36 "typical" operations of approximately 1,440 acres. Allowing for one new large scale operation, disturbing approximately 100 acres annually for about four years before ceasing operations, total onsite disturbance from placer operations would be about 1,800 acres during the life of the plan.

The coarse tailings not used for other mining purposes remain after the area is mined out and are reshaped to a natural contour. Topsoil, required to be saved, is spread over the reshaped ground to promote vegetation by natural species. Reclamation of disturbed areas is required annually on all areas not needed for ongoing operations. Because reclamation is ongoing and begins by the second year of operations, maximum *unreclaimed* acreage resulting from anticipated activities, excluding access roads, would be approximately 280 acres. At the end of 10 years most disturbed areas (approximately 85%) will have been reclaimed and be in various stages of recovery to a natural state.

In addition to the onsite disturbance, an access road of approximately 5 miles in length and 15 feet in width would be expected for each operation. Equipment and supplies would be brought in over frozen ground during the winter. The roadbed (including turnouts) would occupy approximately 9 acres. Road improvement would usually be done as required using available mine tailings. Due to the 1) soft wet soils, 2) inhospitable environment, 3) low speeds and volume of traffic, and 4) closure of BLM lands to summer recreational ORV activity, incidental disturbance adjacent to the road from dust, garbage and off-road "exploring" would be limited to less than an acre. Therefore, total disturbance along and adjacent to a five mile road would be expected to be less than 10 acres. Total disturbance due to access roads for the anticipated 36 operations would be about 360 acres and would remain essentially constant for the ten year life of the plan.

Thus, assuming that all anticipated mining operations would begin within one year of plan implementation, mining over the life of this plan would result in a total *reclaimed* onsite disturbance of 1,800 acres. In addition, new road disturbance would occur on approximately 360 acres; road extensions to new claims would go over previously disturbed areas. Assuming all operations to begin in year one, maximum *unreclaimed* disturbance at any one time would total about 640 acres (i.e., 280 acres onsite and 360 acres of roads).

### *Lode Deposit Operation*

Several lode prospects are known to occur within the Corridor portion of the planning area. Most appear to be small in size but more exploration is necessary to delineate the actual size of the ore zones. It is anticipated that a 100 ton per day mine operating four months per year (for a seven year mine life) will be developed within the Corridor area in the next five years.

Operations that disturb more than five acres per year, including access roads, must file plans of operation with BLM prior to beginning on-the-ground activities. It is assumed that a new lode development would file a plan for approval prior to beginning operations. Lode mining operations may be of two types, open pit and underground. The underground method is the most likely method of development during the life of this plan.

Lode mining operations can be divided into site preparation, mining and milling, and tailings/surface reclamation. Generally, in a small underground mine, surface disturbance occupies about two acres excluding the access road. The mine portal and associated ventilation shafts occupy minimal area, usually less than one acre. The milling of ore from an underground mine generally involves grinding the ore, processing the ground rock, concentrating the ore and refining the metal from the concentrations. In this scenario, the mill will process 100 tons per day. The amount of water used in the mine and in the mill is 50 and 2000 gallons per minute respectively. Water is generally taken from local streams or a well drilled for this purpose.

The disposal of tailings from a 100 ton per day mine will consist of two main products: waste rock that was not processed in the mill and finely ground material from the mill. The waste rock will be deposited on a surface site usually located on a hill slope or in a nearby valley. Because underground mining is selective, minimal waste rock is mined. It is assumed that only 100 tons of waste rock per day will require a disposal site with eventual reclamation. Over the life of the mine, this amount would cover approximately 1/3 of an acre ten feet deep.

Mill tailings will require a much larger area for disposal. This material is generally placed in settling ponds, allowed to drain, then reclaimed when the impoundment is full. Ninety percent of the water is recycled to the mill for reuse. The tailing ponds are usually located on stable soils within valleys. The amount of land necessary for a tailing pond to handle the tailings over the life of the operation is estimated at one acre for a pond 100 feet wide, 300 feet long and 10 feet deep. When the mining operation has ended, these tailing sites are stabilized and placed in such a condition to allow natural revegetation.

Access to a typical lode mine is by four wheel drive vehicle over improved gravel roads averaging about three miles in length and 25 feet in width. Improved roads are required due to the heavy machinery usually used in underground mining and in milling operations. Access roads are anticipated to occupy a total of approximately nine acres. In total, surface disturbance from an anticipated lode mine operation would be approximately 14 acres.

## Mineral Material Extraction

### MANAGEMENT ACTIONS

Mineral material (gravel) sales would be allowed throughout the planning area with certain safeguards for specific areas (e.g., within the Jim River and Prospect Creek floodplains and the Ivishak River ACEC). As a result of plan implementation, the quantity of gravel resources required would not change from the current situation, although in some cases sources of materials may be shifted to protect identified resources. Extraction of gravel from already disturbed sites rather than from new sites would be encouraged.

### ANTICIPATED ACTIVITIES

Extraction of mineral materials for the maintenance of existing transportation systems and related facilities is anticipated to be the major use of gravel resources during the life of this plan. Mineral materials needed for new construction would also be made available as required. Impacts from gravel extraction related to major new construction would be addressed in a required EIS specific to the proposal. Extraction of sand and gravel resources needed during the life of this plan will likely be confined to that portion of the planning area within the Utility Corridor along the Dalton Highway. At the present time there are approximately 60 existing material sites within the Utility Corridor between the Yukon River and Pump Station 2.

A typical site layout may be divided into stripping, excavation and reclamation operations. Exploration generally identifies areas that contain suitable rock for construction needs. The site may have little or no organic material that must be stripped from the site and saved for future reclamation, or the site may have from one to six feet of material. This material is pushed to one side and saved.

A bulldozer is used to strip the overburden and to break up the consolidated material. Bulldozers can generally dig to a depth of 10 to 12 feet. If the material is deeper, drills are used to create holes that are loaded with explosives and detonated, fracturing the material. The material is loaded into dump trucks by front end loaders or backhoe excavators. The trucks then haul the material to the location where it is needed.

The sides of the resulting pit are generally sloped to a 3:1 slope or flatter. The floor of the pit is leveled to prevent the accumulation of water which may become a hazard to animal and human life. The saved topsoil and organic material is then spread over the side slopes and access roads to allow reestablishment of natural vegetation and to prevent erosion.

Mineral material sites are generally located as close as possible to the location where the material is to be used. Most of these sites are located no more than 3/4 mile from the Dalton Highway. Under the proposed plan, gravel extraction will be limited to existing sites where possible, but it would be prohibited in the eight identified mineral lick areas, the Kanuti Hot Springs, Nigu-Iteriak, and Sukakpak Mountain ACECs, and in designated wilderness areas. Extraction would be allowed in the Jim River and Prospect Creek floodplains, and the Ivishak River ACEC only if no other economically feasible locations for material minerals can be found.

## Leasable Mineral Exploration and Development

### MANAGEMENT ACTIONS

As a result of plan implementation approximately 5.8 million acres of land would be opened to the exploration and development of leasable minerals (e.g., oil and gas) under federal law. Development activities would not be prohibited on the approximately 274,000 acres of split-estate lands within the planning area to which Arctic Slope Regional Corporation (ASRC) owns the mineral estate. Presumably, this split-estate land would be opened to oil and gas development through provisions set forth by ASRC. Remaining closed to exploration and development would be the Nigu-Iteriak ACEC (the recommended 41,000 acre Nigu wilderness area). Hence, approximately 6 million acres of land within the planning area would be available for oil and gas leasing and development (federal or ASRC) as a result of the proposed plan.

### ANTICIPATED ACTIVITIES

No oil and gas leases currently exist on any planning area lands. Presumably, all high potential lands would be leased in the future, and additional geophysical and exploratory work would take place. Therefore, it is anticipated that approximately 3,330,000 acres of planning area lands, all north of 68° N latitude (i.e., within CAMA) and considered to have high potential for oil and gas occurrence, would be leased. It is not anticipated that any lands south of 68° N latitude would be leased.

Leasing on the 3,330,000 acres of high potential lands within CAMA could result in several phases of development: geological and geophysical (principally seismic) exploration, exploratory drilling, development drilling, and construction of all-season roads, oil transmission pipelines and production facilities. During the life of this plan no development drilling, production facilities or associated road/pipeline construction is expected to occur. However, because leasing likely to occur during the life of this plan could result in these activities taking place, the following scenarios and analyses consider such activity.

### *Geological and Geophysical Exploration*

Additional geological surveys or studies during the snow free months would be expected to occur on most CAMA lands outside the recommended wilderness area. These surveys are brief: the investigators arrive by helicopter, study and measure geological sections, and perhaps take a few "grab samples" of rock, remaining on the ground for a few hours at most. Noise from the helicopter during arrival and departure would be the principal effect.

Geophysical (seismic) exploration would be expected over most of CAMA outside the recommended wilderness area. Seismic survey activity within CAMA has occurred in the past. Such activity is dependent on several interrelated factors and has been episodic in nature. In 1987 (the only seismic work in the last 5 years), approximately 500 miles of seismic lines were explored on CAMA lands. Future seismic examinations on the 3,330,000 acres of high potential lands would be expected to occur with an average of 500 miles of line annually.

To minimize surface disturbance, seismic surveys would be conducted during the winter months, usually between December 1 and June 1, when the ground is frozen to a depth of approximately 12 inches and adequate snow cover exists, approximately six inches. Seismic data would be obtained utilizing the vibroseis technique. This technique employs the use of a special vehicle that vibrates on top of the ground, sending sound waves into the ground where they are reflected to receiving stations. Seismic trains are generally routed through terrain where it is easiest to move equipment, minimizing potential for surface damage, although the route may not provide the shortest travel distance. Gently sloping banks would be selected for entry and exit to all stream crossings, reducing equipment strain and averting bank damage which could lead to erosion and stream siltation. This is especially important on CAMA lands that lie on the flatter topographic relief areas of the foothills and coastal plain, but where stream banks are steep along many drainages.

Seismic trains use about 2,000 gallons of water daily for domestic purposes. Where available, crews obtain water from lakes that do not freeze to the bottom. When such lakes are not available, a small snow or ice melter is used to obtain domestic water supplies. Brief and transitory effects of local noise and air pollution result from equipment operation. Minor fuel spills could also occur.

No ice roads or airstrips would be constructed to support seismic operations. Light, fixed-wing aircraft would be used for resupply and would land on 2,000 foot-long ice airstrips scraped on the nearest lake or pond. Occasionally, ski-equipped aircraft that can land on the snow-covered tundra would be used if there are no lakes nearby.

### *Exploratory Drilling*

Under the proposed plan, based on past drilling activity on nonfederal lands adjacent to CAMA, it is estimated that about 30 exploratory wells would be drilled over a 30-year period on CAMA lands. Exploratory drilling is a large scale operation that requires heavy construction equipment to prepare the well site and an airstrip large enough for Hercules C-130 aircraft. Activities associated with exploratory drilling would be confined to a localized area and allowed only during the winter (usually between November 15 and May 15) with at least 12 inches of frozen ground and 6 inches of snow cover. Construction equipment needed for initial site preparation would be brought in overland by low ground pressure vehicles. The airstrip would usually be located on a nearby frozen lake. If this was not possible it would be constructed over level tundra by applying layers of water over the snow cover with specially designed trucks until a minimum ice thickness of 12 inches was obtained. The drilling rig and the ancillary equipment are massive, requiring between 110 to 180 C-130 loads depending on the size of the rig. Roads between the airstrip and well site would be routed over frozen lakes or constructed ice roads. Drilling rigs must be set on a firm foundation, usually on pilings not susceptible to differential settlement; recently a drilling rig was successfully placed on an ice pad. Most exploratory drilling operations could be completed in one season. If an operation could not be completed in one season, operations would be suspended until the subsequent winter, when ice roads, airstrips, and other construction areas would be reconstructed to the extent necessary.

A typical drilling pad would be approximately 600 by 700 feet, covering about 10 acres. Within the pad would be the drilling rig, camp facilities for 50 to 75 people, support equipment, and drilling supplies. Also located within the pad adjacent to the well would be a reserve pit 10 to 20 feet deep, about 200 feet wide, and 300 to 400 feet long. This pit would contain used drilling muds and cuttings and would also be used to contain fluids in the event of a "blowout."

Preferably a suitable lake for an airstrip could be located near the drill site; otherwise water would need to be hauled or piped to the site. As much as 15 million gallons of water may be needed for one exploration well. Approximately 7 to 8 million gallons of water would be required for construction of an ice airstrip over the tundra. Approximately 2 million gallons of water would be

required for actual drilling operations and domestic use. Ice road construction and maintenance would require approximately 1.5 million gallons of water per mile (USDOl, USFWS; 1987).

After the drilling operation was completed and the well abandoned, dismantlement of the drilling rig and camp would begin immediately. Removal or securing of the equipment for movement to the next well site would be completed within several weeks. During the following summer final cleanup of remaining debris would be accomplished and rehabilitation checked.

After a discovery from exploration drilling, several other wells would be drilled in a similar manner. These wells would determine the size and characteristics of the reservoir. If the results of this drilling indicate economic recovery was possible, production would occur.

### *Production and Development*

The following description of production and development activities is broken into two parts. The first part is a general description of the type and nature of activities associated with oil and gas development and production on the north slope. The second part applies information contained in Part One and describes the anticipated activities specific to the proposed plan.

#### Part One: General Description

If an economic field were discovered in CAMA, development and production activities would begin on a year-round basis. Proposed plans for the production and transportation facilities would be developed during the economic study of the discovery and submitted to local, state, and federal agencies for approval. After completing the required review process, the plans would either be approved or denied, pending further information, studies, and/or modifications. Once approved, the construction of permanent production facilities, drilling/production pads, air support facilities, roads, and pipelines would begin. The first activity would be a temporary camp to support workers constructing the permanent pads, connecting roads, airport facilities, and a main road between a staging area and the producing field. Selection of the staging area depends on the location of the field, economic and environmental factors, and lease stipulations. Once the main road was completed, the permanent camp and production facilities would be transported to the field and assembled onsite. Depending upon the size of the field and the reservoir characteristics, the expected life of the field would be from fifteen to thirty years.

Table 2.5 summarizes the total acres of direct (primary) disturbance and gravel required for hypothetical small and large development projects. Drilling and production pads and gravel pits (assuming 10' pits) used in the small-scale scenario (8,000 acre development field) would disturb a total of approximately 400 acres. Under the larger scenario (23,000 acre development field) pads and pits would disturb a total of approximately 1,000 acres. Once the hydrocarbons are depleted from the prospect, the wells would be plugged and abandoned; the facilities would be removed, and the disturbed surface would be reclaimed in compliance with federal regulations.

The central production facility (CPF) would be the headquarters and primary operations center for the production activities of the field. Although one CPF is anticipated in the smaller scenario and two in the larger scenario, surface and subsurface conditions may require more to process the oil and gas adequately. Gravel pads needed to support housing and production modules would be five feet thick and cover 40 to 60 surface acres. Necessary modules would be built on pilings to ensure foundation integrity for the life of the project. Gravel needed for the construction of the production facility pad would probably be mined near the field.

Production facilities include the equipment necessary to process the crude oil into salable oil and usable gas and to transport it to the Trans-Alaska Pipeline System (TAPS). This process begins by separating the production fluid into oil, gas, and water. Oil would be dehydrated and piped to TAPS. Produced gas would most likely be dehydrated and compressed for use at the production facility or injected into the subsurface to maintain field pressure, unless the proposed gas pipeline from Prudhoe Bay to a port facility in southcentral Alaska is in place at the time when some gas could be sold and transported to market. Produced water is pumped to injection wells for enhanced recovery of the oil or for disposal.

Drilling rigs and support modules would be the first pieces of equipment located on drilling and production pads. As wells were completed, wellheads, pipelines, and the production manifold would be put in place. The size of these pads depends on the number of wells drilled and the distance between wellheads. In the smaller scenario, four pads are shown to cover 10-15 acres.

**Table 2.5**

Acres and Gravel Requirements for Hypothetical Prospects at Depths of 7,500 and 15,000 Feet.

Prospect Area*	Depth of Field	Description	Acres Disturbed	Gravel Needs**
8,000 acres	7,500 ft.	Central Production Facility (1)	50	440,000
		Drilling/Production Pads (4)	40	240,000
		Airstrip and Facilities (1)	35	300,000
		Roads and Pipelines (30.3 miles)	152	1,212,000
		Gravel pit(s) at 10' depth	136	
		<b>Total</b>	<b>413</b>	<b>2,192,000</b>
23,000 Acres	15,000 ft.	Central Production Facility (2)	100	880,000
		Drilling/Production Pads (5)	90	240,000
		Airstrip and Facilities (1)	35	300,000
		Roads and Pipelines (90.5 miles)	450	3,620,000
		Gravel Pit(s) at 10' depth	312	
		<b>Total</b>	<b>987</b>	<b>5,040,000</b>

\* Total surface area of prospect

\*\* In cubic yards.

The larger scenario requires five pads covering 15-20 acres. All pads would be at least five feet thick, requiring 60,000 to 100,000 cubic yards of gravel.

Depending on proposed depth and subsurface conditions, production wells would take 10-60 days to drill and complete. Most production wells are directionally drilled from the pads to various locations within the hydrocarbon reservoir. This procedure allows maximum depletion of the reservoir and minimizes the surface acreage disturbed. Unusable drilling muds and cuttings would be stored in reserve pits located on the pad. Figure 2.1 provides a visual display of a typical north slope directional drilling procedure located on a drill pad. As many as 20 to 30 well heads could be placed on a ten acre drill pad and 25 to 35 on a fifteen acre drill pad. Figure 2.2 provides a hypothetical development layout.

Production from each well would be piped to the production manifold where it would be metered and piped to the central production facility. Gathering lines would run from each production pad to the central production facility. One line transports the crude oil to the facility and a parallel set of lines would transport the gas and water from the facility to the production pads for fuel, injection, or disposal. These pipelines would be buried if possible, but are usually placed on steel vertical support members (VSMs). Pipe diameters range from three to twelve inches. Pipelines would most likely be placed parallel to the roads.

The main production pipeline leaving a field would be 16-24 inches in diameter and would be placed on five foot elevated VSMs. Construction would likely occur during the winter to reduce surface disturbance. The pipeline would run parallel to the road connecting the field directly to TAPS or other nearby producing fields. If fields within CAMA are developed before fields on adjacent lands, the most economical and shortest route to TAPS would maximize use of federal lands to the extent possible.



Airstrips would be permanent and maintained year-round for the lifetime of the project. Minimum length of the airstrip would be 6,000 feet, minimum width 150 feet. Twenty acres of surface would be covered by the airstrip itself, and another 10 to 15 acres would be required for the taxiway, apron, and support facilities. Approximately 250,000 to 300,000 cubic yards of gravel would be required to construct this pad.

Housing modules include sleeping and eating quarters, a food storage area, and recreation and sanitation facilities. The modules are designed to accommodate 150-300 workers. Adjoining offices house administration, engineering, communications, and other support services.

Water for domestic use would be obtained from local lakes or water-filled pits (abandoned gravel source areas). Insulated tanks could store a sufficient amount of potable water for human consumption. Sewage treatment and incinerator facilities would eliminate most of the human waste and trash. Items which could not be burned would be transported to an approved disposal site.

Fuel storage would hold diesel and other refined petroleum products necessary for operating equipment. The area would be diked to contain any spills which may occur. Electricity could be provided by a diesel powered generation plant.

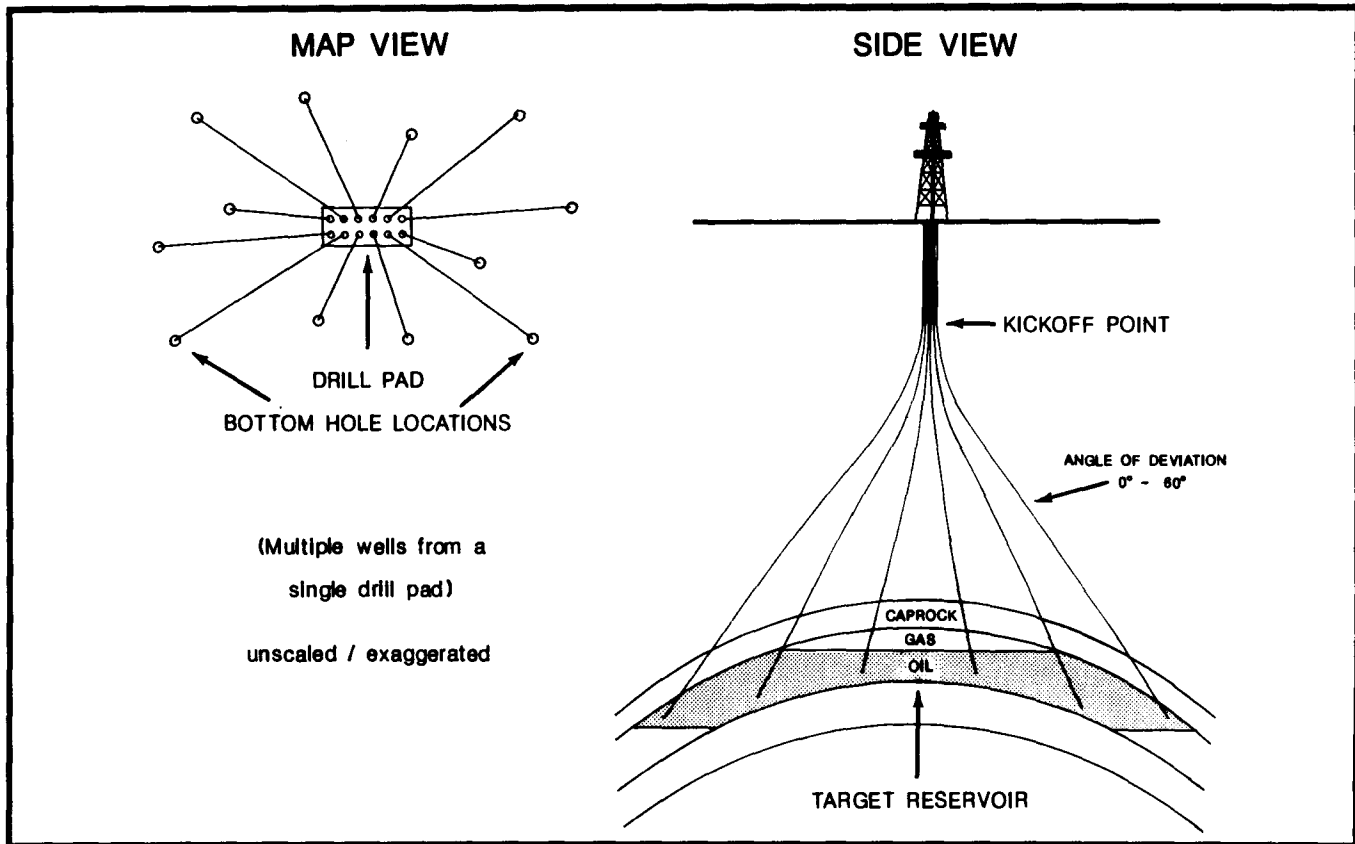
Roads would connect all of the above facilities. They would be built with a crown width of 35 feet and would be five feet thick. Each mile of road would cover five acres of surface and require 40,000 cubic yards of gravel. Total road mileage varies between projects, depending on the size and surface features of each prospect.

As more oil fields are developed under arctic conditions, engineers will design improved and less expensive methods of pad construction, drilling procedures, refining processes, and transportation systems. This will not only reduce the described surface acreage disturbed, but it will also improve the economics, and promote development of the arctic's smaller oil fields.

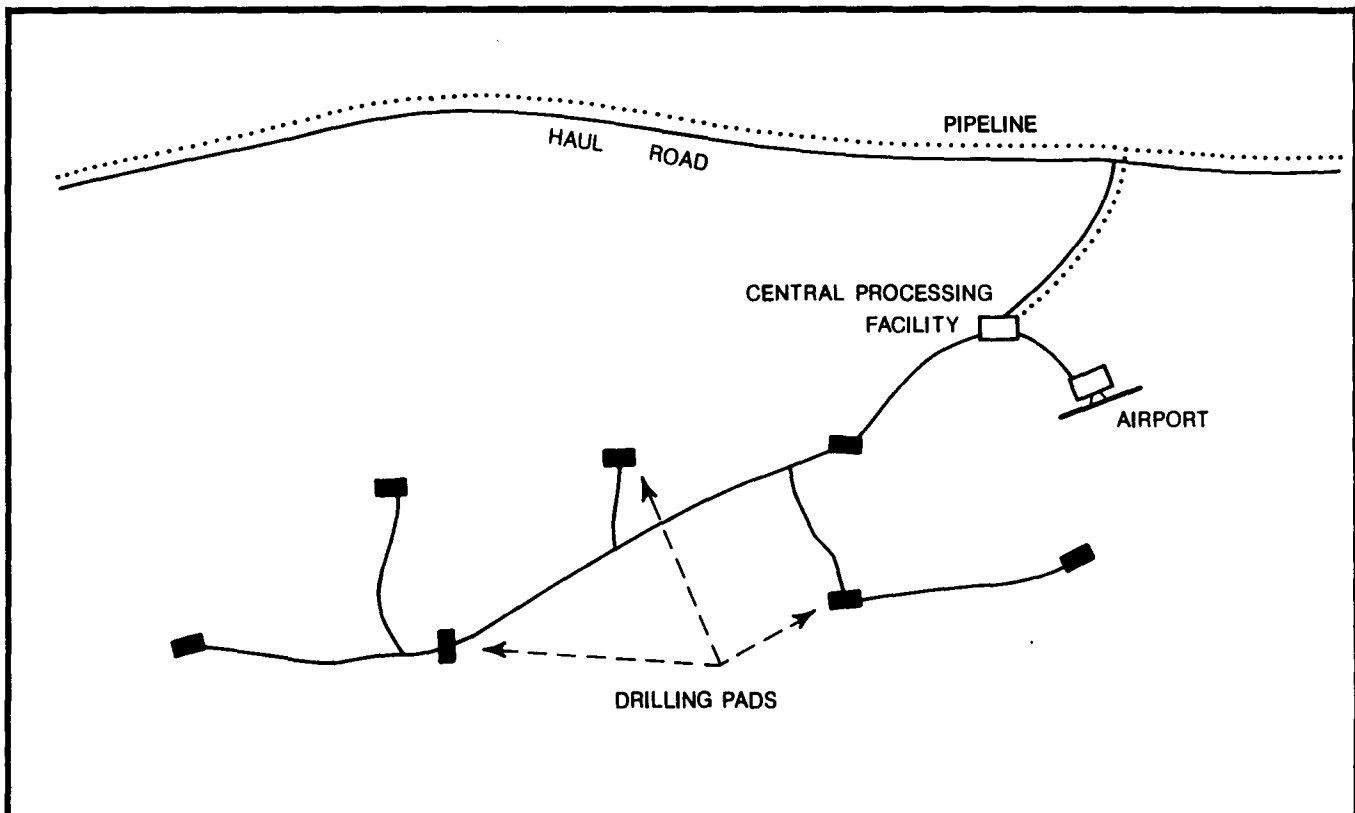
#### Part Two: Proposed Plan Oil/Gas Development Scenario

Development of oil and gas resources on Alaska's north slope is difficult and costly due to the area's harsh climate, remoteness, and lack of existing infrastructure. Development of smaller discoveries may not be economically feasible unless located near the existing Trans-Alaska Pipeline system (TAPS). In western CAMA, due to the distance from TAPS, development would probably be contingent on a major discovery or several smaller discoveries in the same vicinity. If such development occurred, other relatively small and otherwise undevelopable discoveries could also be developed along the route of a main production pipeline between the field and TAPS. Hence, discoveries adjacent to federal CAMA lands on state, Native, and federal lands (NPR-A) could facilitate or allow development of otherwise undevelopable oil and gas resources on federal CAMA lands. Conversely, development on federal CAMA lands could facilitate development on adjacent nonfederal lands. Because development of oil and gas resources within the entire region is interrelated, a reasonable oil and gas production scenario for BLM managed lands north of 68° N latitude must consider adjacent state, Native, and federal (e.g., NPR-A) lands.

Although no actual oil and gas production is anticipated to occur during the life of this plan (i.e., the next 10 years), there is a moderate potential that, as a result of the proposed plan and subsequent oil and gas leasing, production activities affecting federal lands within CAMA would occur at some point in the future. The probability of development actually occurring can not be accurately projected without extensive analysis. However, comparing CAMA with the Arctic National Wildlife Refuge (ANWR), located just east of CAMA, allows us to put the likelihood of finding economically recoverable oil into perspective. There is a 19% chance that economically recoverable oil occurs in the ANWR 1002 area. This area is the "Nation's best single opportunity to increase significantly domestic oil production. It is rated by geologists as the most outstanding petroleum exploration target in the onshore United States" (USDOI, USFWS, 1987, p. VII). Therefore, it is concluded that the likelihood of discovering economically recoverable oil in CAMA is less than 19%.



**Figure 2.1 Typical North Slope Directional Drilling Procedure**



**Figure 2.2 Hypothetical Development Scenario**

Should it occur, oil and gas development impacting CAMA lands is equally likely to take place along three different "corridors" which correspond to hypothetical pipeline routes (Map 2.5). For purposes of analysis, it is assumed that all three of these pipeline routes and associated development would occur as a result of the proposed plan. Impacts to CAMA lands would be the result of exploration, field development, and associated pipeline construction across CAMA to TAPS.

The following pipeline routes and associated development are not intended to represent specific alignments; rather, they display routes in only the most general sense. Specific alignments and alternatives to these alignments will have to await a more detailed study of route terrain, soils, and vegetative and biological resources. These alternatives will be considered as part of a detailed environmental impact statement submitted with any routing proposal before any federal rights-of-way are granted.

Furthermore, each of the pipeline routes described below reflect assumptions concerning the sequence or pattern of oil discovery in the region. They also reflect the known or potential oil reserves within CAMA or on lands adjacent to CAMA. Hypothetical alternatives to these pipeline routes could exist under different assumptions for patterns of discovery and development. The development scenario and hypothetical pipeline routes described here are limited strictly to known hydrocarbon resource potential and to the assumption that oil development will occur first in the northernmost sections of CAMA and much later in the southern and western sections. The only exception to this would be development within the Utility Corridor itself, which could be economic, even with lower proven reserves, due to nearness to the existing TAPS.

*Route A (and associated development):* Route A represents a pipeline for transportation of oil produced in the National Petroleum Reserve-Alaska (NPR-A) and would connect with TAPS at or near pump station 2. It reflects the possibility for development of potential discoveries in the northern half of the imbricate fold belt. The nearby Umiat field, containing 70-100 million barrels of oil, adds to the likelihood of this route. NPR-A is estimated to contain as much as 5.9 billion barrels of oil and 11.3 trillion cubic feet of natural gas.

This anticipated pipeline would cross approximately 24 miles of federal CAMA lands and 60 miles of private (ASRC) and state lands. No associated oil field development is anticipated to occur on federal lands within CAMA. The main field(s) will be within NPR-A and a smaller discovery(s), developable once the infrastructure is in place, would most likely occur on state land. Temporary construction camps would likely be located on state land, within NPR-A, or on existing pads near the Dalton Highway within the Utility Corridor. Therefore, direct "primary" surface disturbance of federal CAMA lands would be limited to approximately 120 acres from the actual construction and placement of the pipeline and roads, and approximately 60 acres from the excavation of necessary gravel pits. Direct "secondary" surface disturbance, primarily the result of dust and gravel spray along roads, is expected to be limited to 100 feet either side of roads, affecting approximately 582 acres. Total direct primary surface disturbance of federal CAMA lands under Route A development would be approximately 180 acres; total direct secondary disturbance would be approximately 580 acres (Table 2.6).

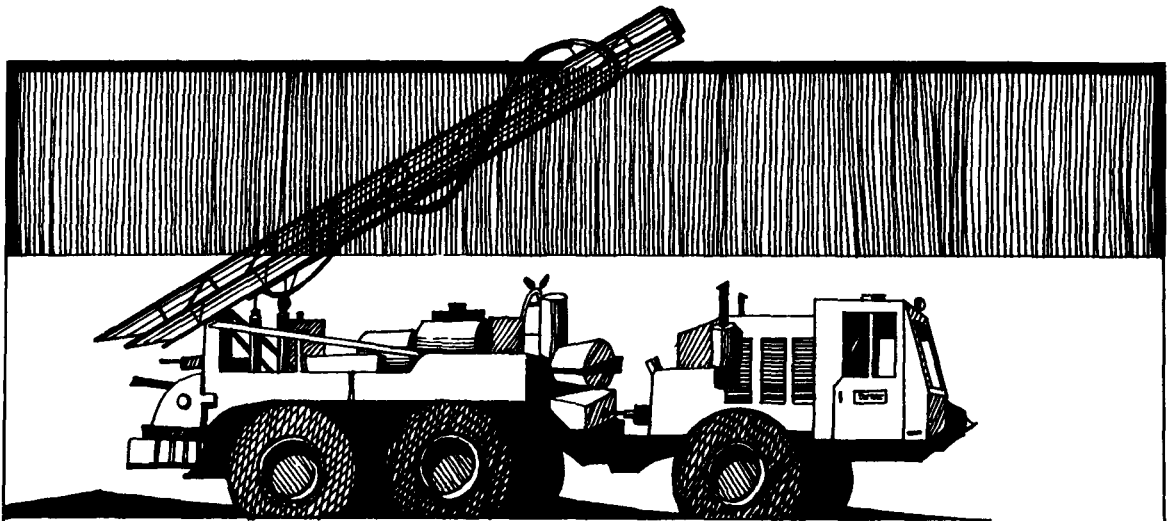
*Route B (and associated development):* Route B reflects the probable need for oil transportation from potential discoveries in the southern half of the imbricate fold and thrust belt plays within CAMA as well as from NPR-A to TAPS.

The anticipated pipeline would cross approximately 124 miles of federal CAMA lands and about 43 miles of state and private (ASRC) land. Oil field development associated with this pipeline is also anticipated to occur outside of NPR-A on federal CAMA and adjacent lands. The main field(s) would be within NPR-A or the western portion of CAMA. It will be assumed for purposes of this document that a large field would be developed on federal lands in the extreme western portion of the planning area. Smaller discoveries, developable once the infrastructure is in place, would be located on state or private land along the pipeline route to TAPS. A portion of the pipelines and access roads needed to transfer oil from these smaller fields to TAPS would also cross approximately 6 miles of federal lands. Direct "primary" surface disturbance to federal CAMA lands would be approximately 675 acres from the construction of facilities at a large oil development project and approximately 650 acres from the construction of feeder lines and the

main Route B pipeline/road to TAPS. It is also anticipated that along the main pipeline route in CAMA, at least one pump station requiring approximately 40 acres (350,000 cu. yds of gravel), and one temporary construction camp and airstrip requiring approximately 80 acres (540,000 cu. yds of gravel) would be needed on federal lands, resulting in approximately 690 acres of primary surface disturbance from excavation of gravel pits (assuming a 10 foot depth). Secondary surface disturbance, primarily the result of dust and gravel spray along roads, is expected to be limited to 100 feet either side of roads, affecting approximately 5,370 acres of land. Total direct primary surface disturbance of federal CAMA lands under Route B development would be approximately 2,135 acres; total direct secondary surface disturbance would be approximately 5,370 acres (Table 2.6).

*Route C (and associated development):* Route C reflects the potential need for the transportation of fluid minerals to the Trans-Alaska Pipeline (TAPS) from within the Utility Corridor. Proximity to TAPS would greatly reduce construction and transportation costs for discoveries in this area.

The anticipated pipeline(s) would be entirely within the Utility Corridor, and include two sections of pipeline/road located on either side of TAPS. These two sections of pipeline would connect with TAPS at the same approximate location to reduce costs and future maintenance. For ease of analysis and description these two sections will be considered a single pipeline of approximately 20 miles in length, and associated with two small development fields within the Corridor. Direct primary surface disturbance to planning area lands would be approximately 554 acres from the construction of facilities at the two development projects and approximately 100 acres of surface disturbance from the construction of the main Route C pipeline/road to TAPS. Approximately 322 acres of primary surface disturbance would result from excavation of gravel pits (assuming a 10 foot depth). Due to the proximity of the TAPS and the Dalton Highway, pump stations and construction camps would either be located within the development fields or on existing pads and disturbed sites adjacent to the Dalton Highway. It is also possible that much of the gravel necessary for this project would come from existing sites along the Dalton Highway. Direct secondary surface disturbance of approximately 1,940 acres would occur along the main pipeline/road as well as within the development fields. Secondary surface disturbance, primarily the result of dust and gravel spray along roads, is expected to be limited to 100 feet either side of roads, affecting approximately 1,940 acres of land. Total direct primary surface disturbance of planning area lands under Route C development would be approximately 976 acres; total secondary surface disturbance would be approximately 1,940 acres (Table 2.6).









**Table 2.6**  
Disturbance to CAMA Lands Resulting from the Proposed Action

Activity	Units	Pipeline Routes			Totals
		Route A	Route B	Route C	
Primary Disturbance from the main pipeline to TAPS and feeder lines	Miles	24	130	20	174
		(84)*	(167)*	(20)*	(271)*
	Acres	120	650	100	870
Primary disturbance within the development fields, camps, pump stations, etc (excluding gravel pits)	Acres	0	800	550	1,350
Total Gravel Needs	Cubic Yards	960,000	11,130,000	5,184,000	17,274,000
Gravel Pit(s) Size (Primary Disturbance)	Acres	60	690	322	1,070
Total Secondary Disturbance**	Acres	580	5,370	1,940	7,890
Total Area of Surface Disturbance including Secondary Disturbance	Acres	760	7,510	2,910	11,180

\* Figures in parentheses represent total length of main pipeline to TAPS; these figures include those portions of the pipeline on federal CAMA and nonfederal (i.e., state and private) lands.

\*\* Secondary disturbance is defined here as gravel spray areas: 100' either side of service roads.

**Summary:** Under the proposed action, based on the assumptions and development scenarios described above, the following surface disturbance to federal CAMA lands will occur from oil and gas development:

Acres of direct primary disturbance	3,290 acres
Development fields/pump stations, etc.	1,350 acres
Main pipelines/roads (i.e., routes A,B,C)	870 acres
Gravel Pits	1,070 acres
Acres of direct secondary disturbance	7,890 acres
Total surface disturbance	11,180 acres

## Land Disposals through State Selection

### MANAGEMENT ACTIONS

In total, the proposed plan allows for approximately 0.7 million acres of land within the Corridor to be opened to state selection. These lands are located in four separate areas or units: 1) the Corridor lands south of the Yukon River, originally described in the preferred alternative of the draft RMP (approximately 25,000 acres), 2) the Sagavanirktok unit, described in the supplement to the draft RMP as Corridor lands located north of Toolik Lake (approximately 600,000 acres), 3) the Coldfoot unit, which

includes the node described in the draft RMP as well as a transportation corridor to the east (a total of approximately 26,000 acres), and 4) the Prospect unit (approximately 55,000 acres).

## ANTICIPATED ACTIVITIES

Under state management, activities which could result in significant environmental impacts to Corridor lands and resources would depend largely on the management priorities established by the state through their land-use planning process. While state management priorities cannot be predicted with certainty, priorities established after a public planning process would likely be similar to those established by BLM under this proposed plan: 1) the energy transportation function of the Corridor is primary; 2) subsistence and other important resources must be protected; 3) further recreational planning and development is important, and 4) mineral development should be allowed to occur.

Because the management priorities established by the state are expected to be similar to those established by the BLM, the activities anticipated to occur would also remain essentially unchanged. The major impacting activities as described in this document and in the draft plan would be: locatable mineral exploration and development, and oil and gas exploration and development. Other potentially impacting activities would be related to recreational activities and commercial development within the nodal areas.

The following activity scenarios are specific to the four areas within the Corridor being opened to state selection. BLM is unaware of any specific development proposals the State of Alaska may have for any of these areas. However, as stated, state management of these areas is not expected to differ substantially from proposed federal management. Consequently, the following discussion describes development activities which in most cases are as likely to occur under federal management as under state management.

### *Lands South of the Yukon River*

The Corridor lands south of the Yukon River are isolated from other BLM managed lands (see foldout map of Proposed Plan). No improved overland access to these lands exists and no development is reasonably foreseeable under either federal or state management.

### *Prospect Unit*

**Access Development:** Conveyance of the Prospect unit (Figure 2.1) to the State of Alaska is in conformance with the state's and village of Bettles' expressed need for the development of all-weather overland access from the Dalton Highway. The nature and extent of the Prospect unit reflects the need for additional planning and study on the part of the state to determine an appropriate route for such access. Consequently, the exact alignment of the anticipated all-weather road cannot be determined at this time.

BLM identified this same area in the draft plan (USDOI, BLM, 1987) as the appropriate location for the "Ambler Mining District Transportation Corridor." The corridor was identified to facilitate BLM's responsibility under ANILCA Sec. 201 (4)(b) to provide a right-of-way from the Ambler Mining District (AMD) to the Dalton Highway. This area was selected for the corridor because of its location relative to both the AMD and Dalton Highway, the existence of a winter trail to Bettles in the general direction of the AMD, the existence of a 100 foot wide right-of-way extending from the Dalton Highway to a point approximately 2.2 miles to the west granted to the state in 1984 (F-79198) and, as stated earlier, the expressed interest of the state and village of Bettles to improve existing overland access to Bettles. Consequently, development of all-weather overland access from the Dalton Highway to the west is anticipated to occur in the future, but it is no more or less likely to occur as a result of state management.

**Development Node Activity:** Located within the Prospect unit is an area that had been identified by BLM through an earlier planning process as a development node. This previously identified node encompassed the intersection of the Dalton Highway with the winter trail to Bettles, a now dismantled Alyeska construction camp, the State of Alaska's Jim River Highway Maintenance Camp, Pump Station 5, and a state maintained airstrip.

Depending on management priorities set by the state through its planning processes, state management of this area may differ from proposed federal management. Federal planning proposals emphasized protection and promotion of recreational opportunities and resources. Consequently, under the latest federal planning recommendations, designation of this area as a development node for roadside commercial service facilities was to be dropped. Federal planning proposals do call for a campground in the area, probably at or near the site of the former Alyeska construction camp. Regardless of management priorities established under state or federal planning, increased activity in the area is likely to occur.

Under state management, this area is likely to remain open to development of roadside commercial service facilities. Increased local mining, tourist traffic and/or the development of an all-weather road from the Dalton Highway would likely lead to increased interest in and the development of such services near the Dalton Highway.

*Pipeline Construction and Maintenance:* On-going road maintenance as well as future pipeline construction would continue the need for locally obtained gravel. Continued use of existing gravel sources are likely to be expanded. Gravel sources within the Jim River floodplain have been addressed by both the BLM and the State of Alaska. The state has indicated (letter to BLM, November, 1987: page 9) that it is "reasonable and appropriate" to exclude gravel extraction from the streambed in areas of fish spawning. In addition, the state has indicated that appropriate mitigation measures should be applied to any gravel extraction within the floodplain of the Jim River.

*Mining:* At this time there are approximately 25 federal mining claims but no active mining operations within the Prospect unit. After transfer of these lands to the state, a federal mining claimant may refile his claim under state mining laws. However, this is not required and it is not anticipated to occur. Therefore, administration of these claims and enforcement of surface protection regulations on active operations will remain a federal responsibility. Therefore, administration of these claims and enforcement of surface protection regulations would remain a federal responsibility. It is not anticipated that the number of claims or active mining operations would change as a result of state ownership.

### *Coldfoot Unit*

*Development Node Activity:* Coldfoot currently provides a truck stop/service area for commercial vehicles serving Prudhoe Bay. This area also features a motel and restaurant serving the increasing number of visitors travelling the Dalton Highway (primarily in conjunction with bus tours). Also located at Coldfoot is a State of Alaska Highway Maintenance Camp, a state maintained airstrip, administrative sites for several federal agencies including BLM, and a multi-agency visitor's center.

Future development within the Coldfoot unit (Map 2.2) would likely be focused within the area that was identified as a node under federal management plans. Anticipated development in the nodal area would include emphasizing increased recreation opportunities and expanding the road related service facilities. Also possible within the node is development of the initial portion of a transportation route from the Dalton Highway to state owned lands east of the Utility Corridor.

*Recreation:* An increasing number of tourists are travelling the Dalton Highway as far north as the state allows (currently just north of Coldfoot). Most of this activity occurs in the summer, with most of these visitors (approximately 4000 visitors) reaching Coldfoot in conjunction with bus tours. Another approximately 3800 visitors reach Coldfoot during the summer season using privately owned vehicles (see Chapter 3). This use of the area is expected to increase and result in an expansion of tourist services at Coldfoot as well as development of a public campground, possibly near Marion Creek. Increases in motel and restaurant services and in the presence of federal and state agency management personnel is also likely. Increases in recreational use of the area would occur regardless of federal or state ownership.

*Access Development:* A major purpose in allowing state selection of the Coldfoot unit is to address the state's expressed need for contiguous land ownership and future access between the Dalton Highway and state owned lands to the east. To date, no development or formal planning for



improved access or road construction in the area has occurred, and none is anticipated in the near future. Currently unimproved access to mining operations east of Coldfoot does exist.

*Mining:* There are approximately 100 federal mining claims and two active mining operations located within the Coldfoot unit. After transfer of these lands to the state, a federal mining claimant may refile his claim under state mining laws. However, this is not required and it is not anticipated to occur. Therefore, administration of these claims and enforcement of surface protection regulations on active operations will remain a federal responsibility. Also, because the area is essentially "claimed-up," it is not anticipated that either the number of claims or active operations will significantly change as a result of state ownership.

### *Sagavanirktok River Unit*

*Pipeline Construction and Maintenance:* Activities associated with maintenance of the Dalton Highway and Trans-Alaska Pipeline (TAPS), including gravel extraction, will continue to occur within this unit. It is also reasonable to assume that activities associated with new construction would occur within this unit in the future. Two federal rights-of-way have already been issued for future pipeline construction through this unit: the Alaska Natural Gas Transportation System (ANGTS) and the Trans-Alaska Gas Pipeline System (TAGS). Stipulations and mitigation measures addressing the specific rights-of-way will be maintained regardless of land transfer actions.

Hypothetical pipeline and road construction to access potential oil and gas resources within, and to the west of, this unit, were discussed in the preceding "Leasable Mineral Exploration and Development" section. These potential pipeline routes are highly speculative in nature and are unlikely to occur in the near future. It should be noted that the probability of actual development would not differ under state or federal ownership. For a description of development activities associated with these pipelines see the oil and gas development scenario above.

*Development Node Activity:* Located within the Sagavanirktok unit (see foldout map of Proposed Plan) is the Happy Valley node. It is expected that the state will continue to consider this area a development node. The major use of Happy Valley has been as a support base for guides and outfitters, nine of whom are currently operating from this area. Some expansion of current activities would be expected to occur under federal ownership, and is also expected to occur under state management. The number of guide/outfitter operations at Happy Valley is not anticipated to exceed fifteen.

*Recreation:* Recreational opportunities in the Sagavanirktok unit are relatively limited and largely controlled by the State of Alaska (even under federal management). The State of Alaska currently restricts noncommercial use of the Dalton Highway north of Disaster Creek (located south of the Sagavanirktok Unit) and prohibits hunting and recreational ORV use within five miles (on either side) of the Dalton Highway. Currently the major recreational use of the area is sightseeing from the Dalton Highway (bus tours), which is increasing and expected to reach about 5000 annual visitor use days (VUDs) in the next five years. Bus tour activity within this area is not anticipated to be affected as a result of state ownership. Should the state open the highway to the general public (which could occur even under federal management), the major recreational use of this area is expected to be as an access route to the final destination points of the Arctic Ocean and Prudhoe Bay. Due to the area's remoteness, the treeless and relatively flat terrain, and the harsh arctic environment, other recreational activities are not expected to increase substantially. State ownership of this area is not expected to have an effect on anticipated recreational activity.

## Recreation

### MANAGEMENT ACTIONS

Under the proposed plan, enhancement of recreation opportunities within the Dalton Highway Recreation Management Area (i.e., roughly those lands visible from the Dalton Highway) south of the state road closure would occur after completion of a recreation area management plan (RAMP). Likely developments along the road would be campgrounds, undeveloped pull-outs with interpretive facilities,

and trailheads. North of the road closure, development of recreational facilities would be dependent on state action regarding permitted public use of the road. Outside the Dalton Highway Recreation Management Area, BLM management would emphasize primitive-traditional recreational opportunities.

Under the proposed plan an area along the upper Nigu River (approximately 41,000 acres) would be designated as wilderness. The final decision on this wilderness proposal must be made by Congress (see *Central Arctic Management Area Wilderness Recommendations and EIS*, USDOI, BLM; 1988).

## ANTICIPATED ACTIVITIES

If campground and facility improvements are developed they would be placed in existing disturbed areas where possible. Campgrounds would be small, not exceeding 10-15 acres. Facilities might include vault toilets, trash receptacles or dumpsters, a recreation/interpretive information display, and possibly a recreational vehicle dump station. Other roadside developed recreation sites will provide for the health, safety, visitor information, or access needs of the public. Depending upon the location, the sites may have highway pull-off areas, interpretive displays, sanitation facilities or public land access facilities. Highway pull-off areas would be managed by the Alaska Department of Transportation/Public Facilities, while visitor service facilities would be managed by BLM cooperatively with the state. Trailheads and boat launches, if developed, would be managed for day use only and would provide for long-term parking of vehicles off the main highway as near as possible to the facility. Additional facilities might include vault toilets.

Outside of the proposed Nigu wilderness area where it would be prohibited, BLM policy throughout the planning area restricts use of ORVs to periods of frozen ground and adequate snow cover (except by permit). All recreational ORV use and rifle hunting is prohibited within 5 miles of the Dalton Highway by state law. (Note: BLM's recreational regulations require adherence to state laws pertaining to ORVs if more stringent than BLM policy).

As a result of the proposed plan, current recreational use of the planning area would remain focused along and adjacent to the Dalton Highway. In the near future, use would continue to be sightseeing from the Dalton Highway between May and September. Much of this now occurs in conjunction with bus tours (about 4,000 annual visitors) with an additional 3,000 to 4,000 visitors reaching the area by private vehicle. Visitation by bus tour groups would be largely unaffected by state/federal recreational proposals or by state decisions on public use of the Dalton Highway. Annual visitation by bus tour groups is expected to reach 5,000 annual visitors in the near future. With implementation of recreational development plans, and should the state open the Dalton Highway to the public north of Disaster Creek, visitation by individuals unaffiliated with tour activities would be expected to increase. However, most recreational use of the area will continue to be sightseeing and car-camping along the highway between May and September. Other activities within 5 miles of the Dalton highway would be hiking and fishing in conjunction with car-camping, bow hunting, rafting, kayaking or canoeing, and recreational mineral collection.

Recreational use of the planning area away from the highway is anticipated to remain light and highly dispersed. Sport hunting with some river floating would remain the primary recreational activity occurring in remote areas. Access away from the Dalton Highway is almost exclusively by small aircraft using gravel bars as airstrips.

## Commercial Development

### MANAGEMENT ACTIONS

Under the proposed plan four areas were identified as appropriate for road related commercial development. These four areas are: Yukon Crossing, Coldfoot, Chandalar Shelf, and Happy Valley (see Figures 2.3 to 2.6). Under the proposed plan Coldfoot and Happy Valley would be transferred to the State of Alaska. "The state supports BLM's proposal for a limited number of 'development nodes' within the corridor" (letter to BLM, November, 1987: page 7). Therefore, it is expected that under state management Coldfoot and Happy Valley would continue to serve as development nodes. In addition, it is expected that the Prospect area would serve as a node under proposed state management.

Prospect was originally identified by BLM as a development node in 1979 (USDOI, BLM, 1979), but was excluded as a node under the proposed plan.

## ANTICIPATED ACTIVITIES

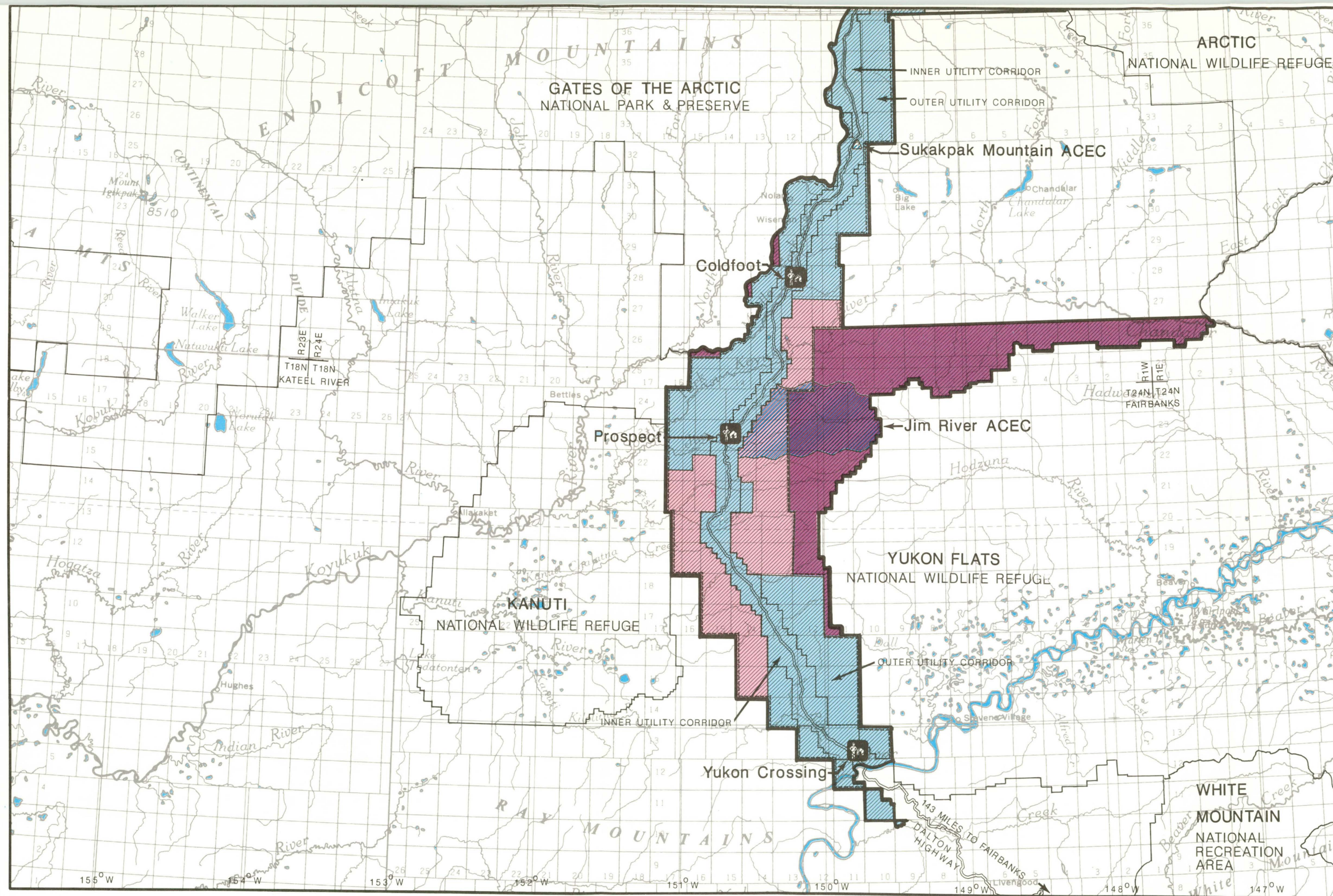
Currently there are food, fuel, lodging and emergency road services available at Yukon Crossing and Coldfoot. No commercial facilities currently exist at Prospect, Chandalar Shelf, or Happy Valley. Future commercial development in the nodes is primarily dependent on the demand for goods and services from recreational and commercial users of the Dalton Highway. Commercial traffic is primarily dependent on oil development and production activities on the North Slope. Recreational traffic north of Disaster Creek is largely dependent on bus tour activity and state action regarding permitted public use of the Dalton Highway. Given the current road closure and nature of bus tour operations, it is not anticipated that the demand for goods and services would significantly increase at either Chandalar Shelf or Happy Valley in the near future. Because more recreational use of the Corridor south of Disaster Creek is anticipated to occur, some expansion of existing services may occur at Yukon Crossing and Coldfoot. However, the need for expansion of existing facilities at these locations is also tempered by recent decreases in commercial traffic to Prudhoe Bay. Future development at Prospect is difficult to predict and is dependent on several factors including recreational/commercial traffic in the area and state management intentions. See the above discussions on development node activities under the section entitled "Land Disposals through State Selection."

## Alternative Maps A, B, C, and D

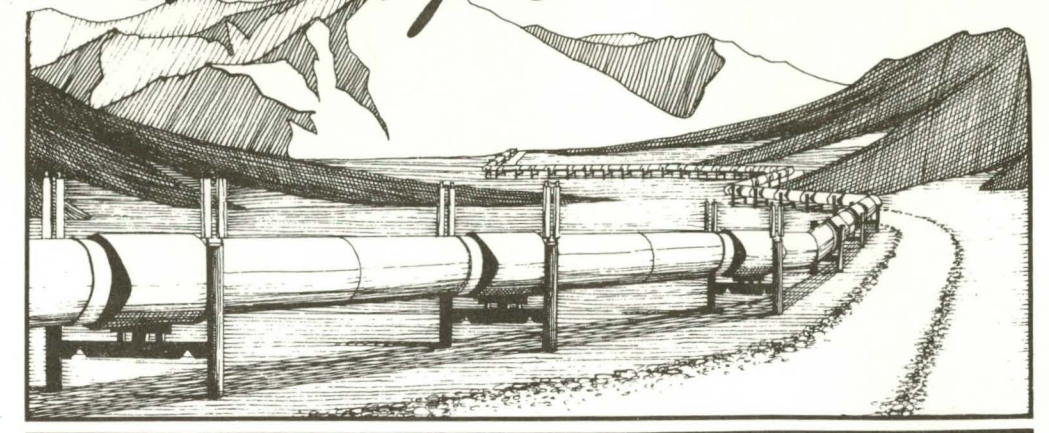
### Errata

1. Maps for Alternatives A, B, and C should show the Dalton Highway ending approximately 15 miles further south. The highway actually ends at Deadhorse (not shown).
2. The map of Alternative B, sheet 2, should show Kanuti Hot Springs ACEC one township to the north, within T. 18 N., R. 15 W., Fairbanks Meridian.



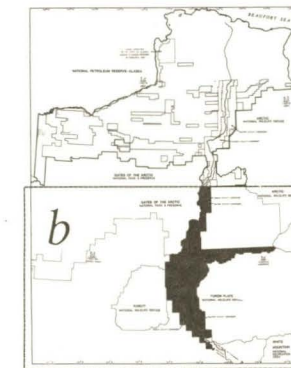


# Utility Corridor









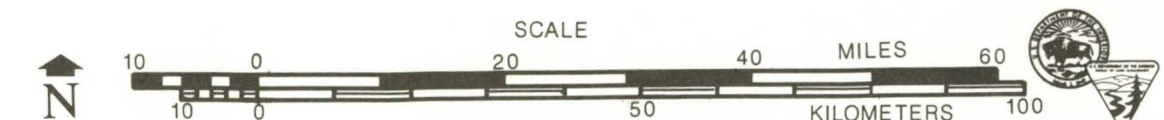
### Alternative C

2 of 2

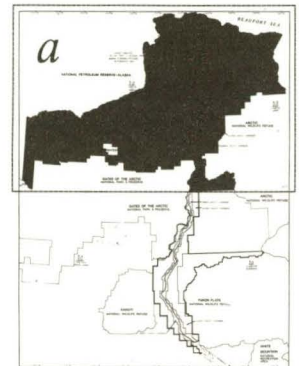
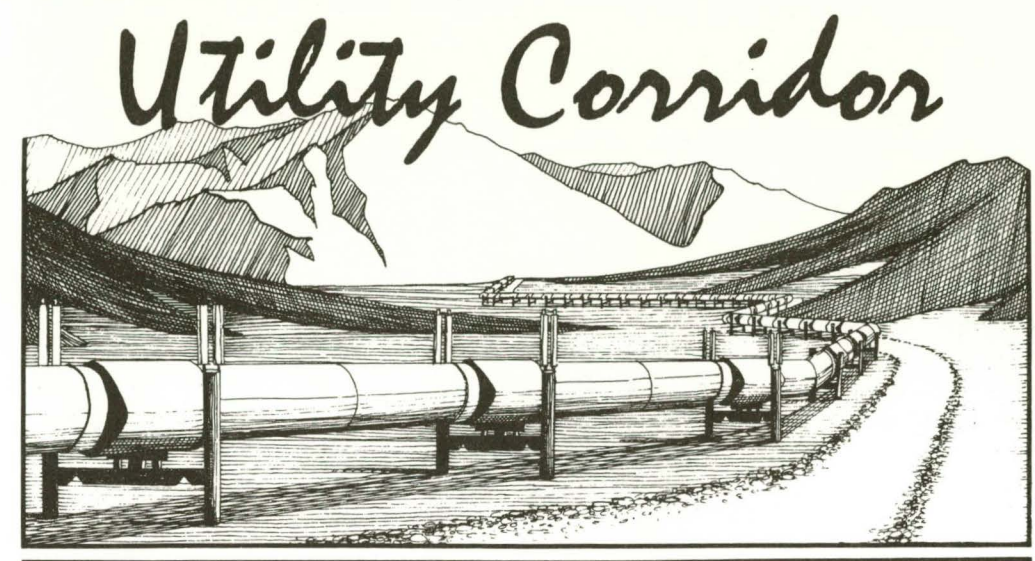
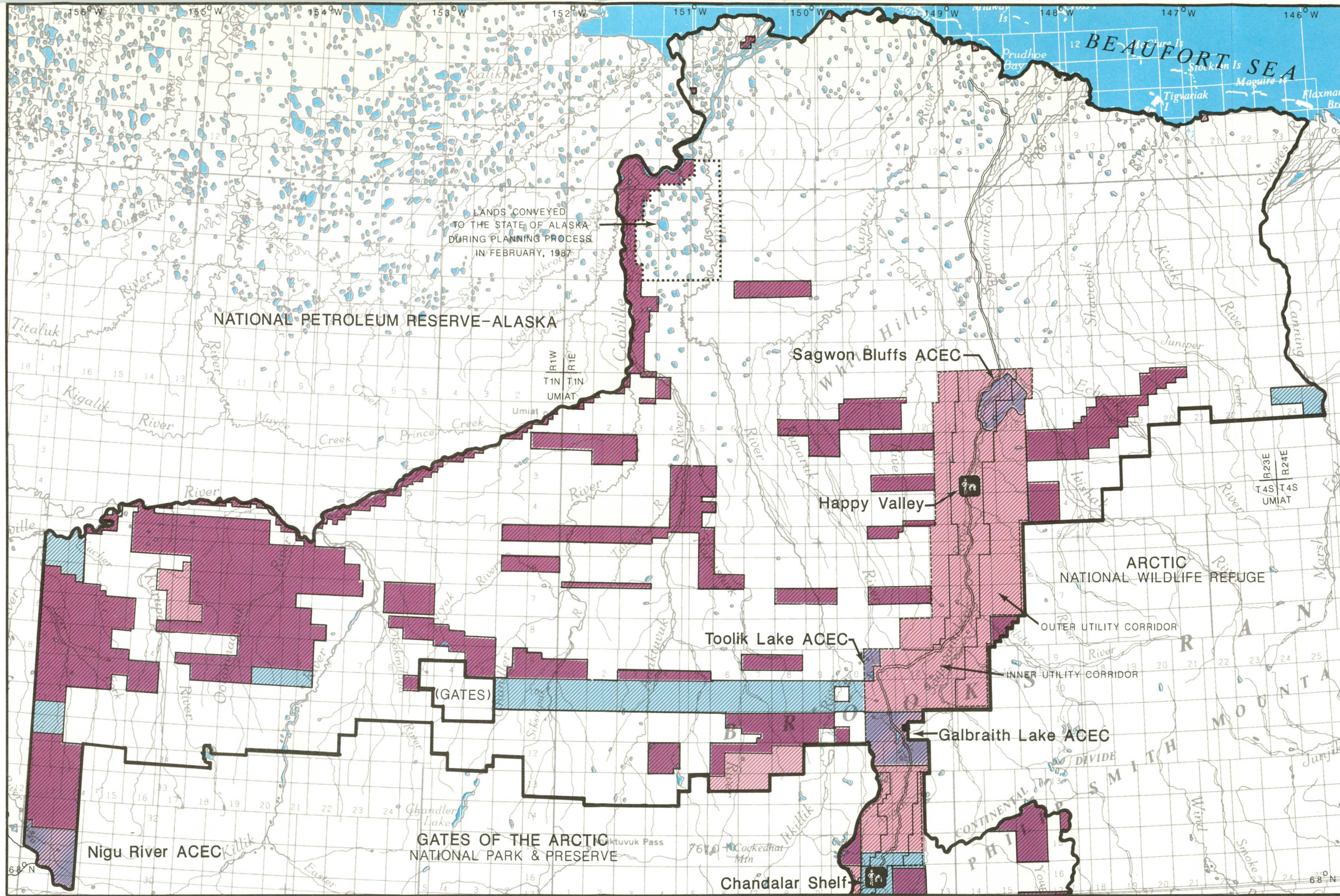


## LEGEND

-  Development Node
-  Areas of Critical Environmental Concern (ACEC)
-  Areas to be Opened for State Selection or Other Forms of Disposal
-  Areas Presently Open for State Selection
-  Areas to Remain Closed to State Selection
-  BLM Administered Public Lands





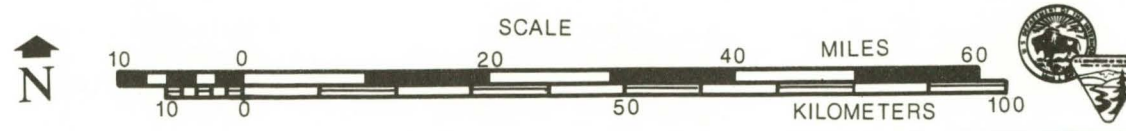


## Alternative C

1 of 2

### LEGEND

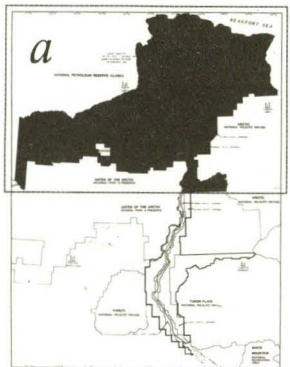
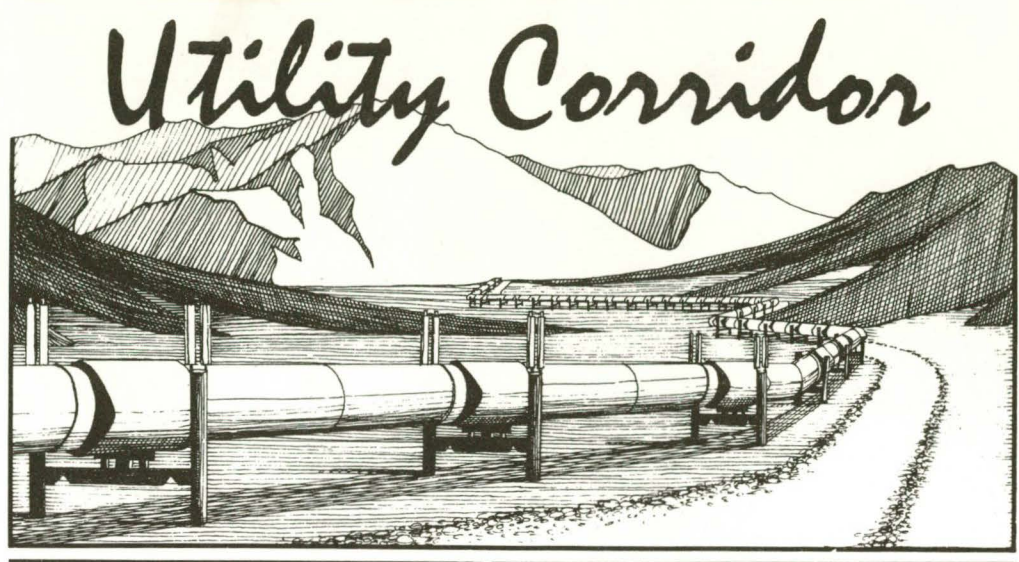
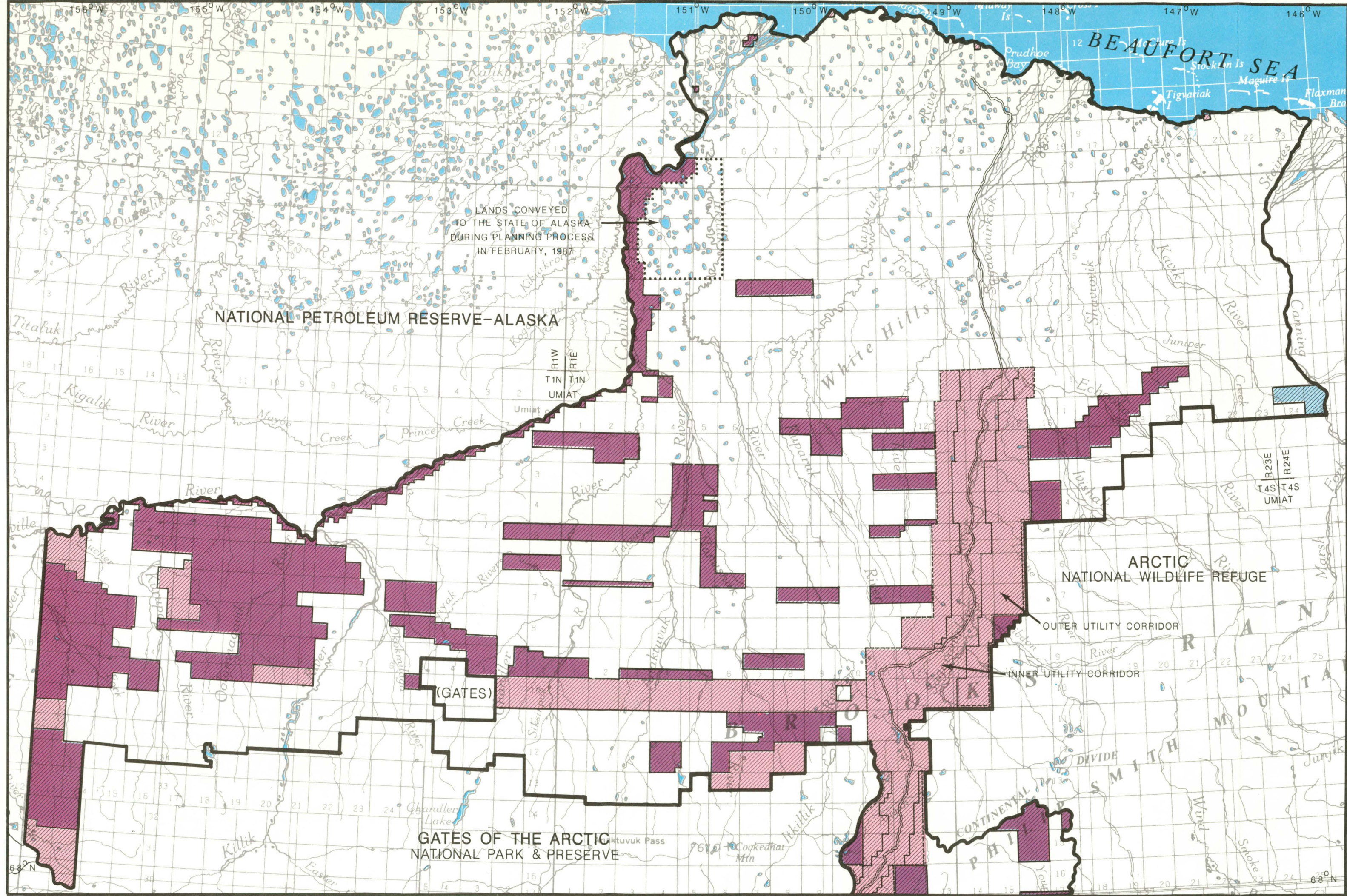
- Development Node
- Areas of Critical Environmental Concern (ACEC)
- Areas to be Opened for State Selection or Other Forms of Disposal
- Areas Presently Open for State Selection
- Areas to Remain Closed to State Selection
- BLM Administered Public Lands











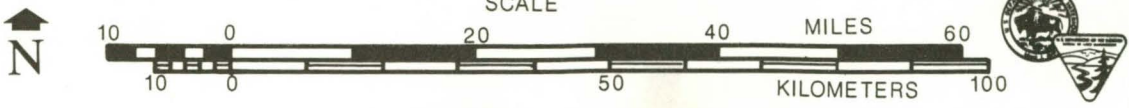
# Utility Corridor

## Alternative B

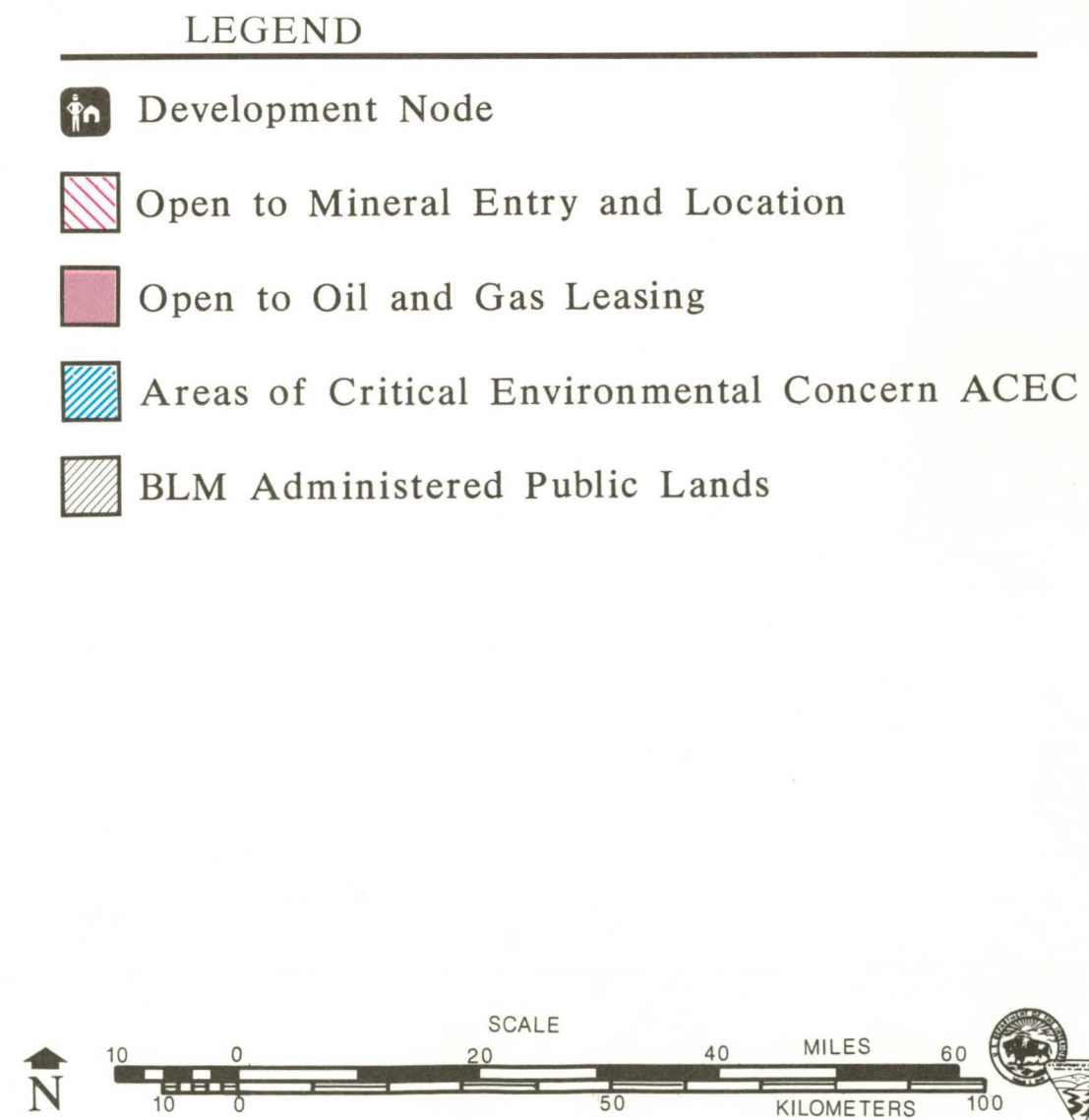
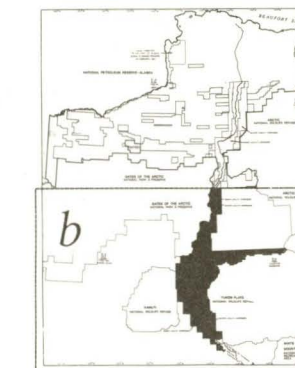
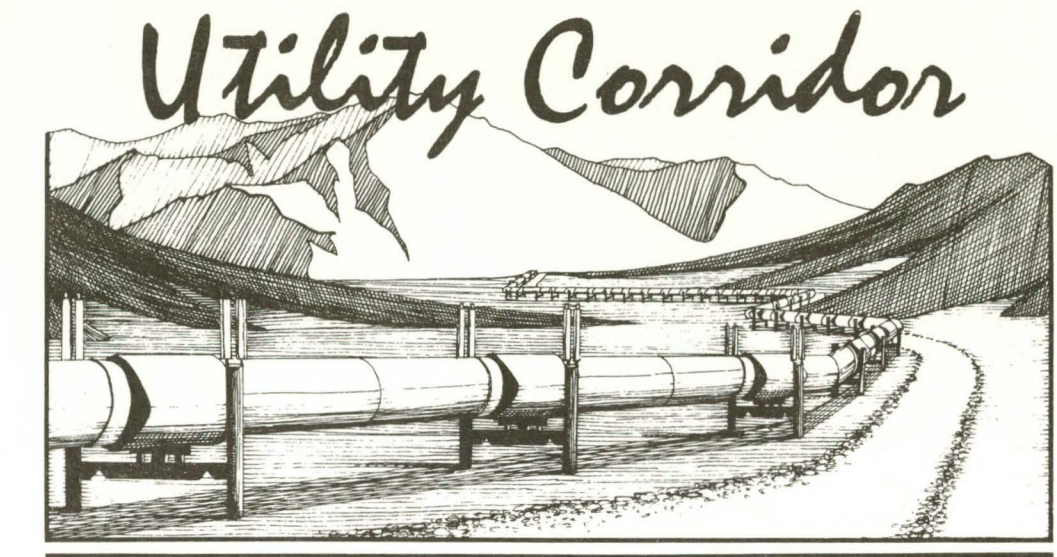
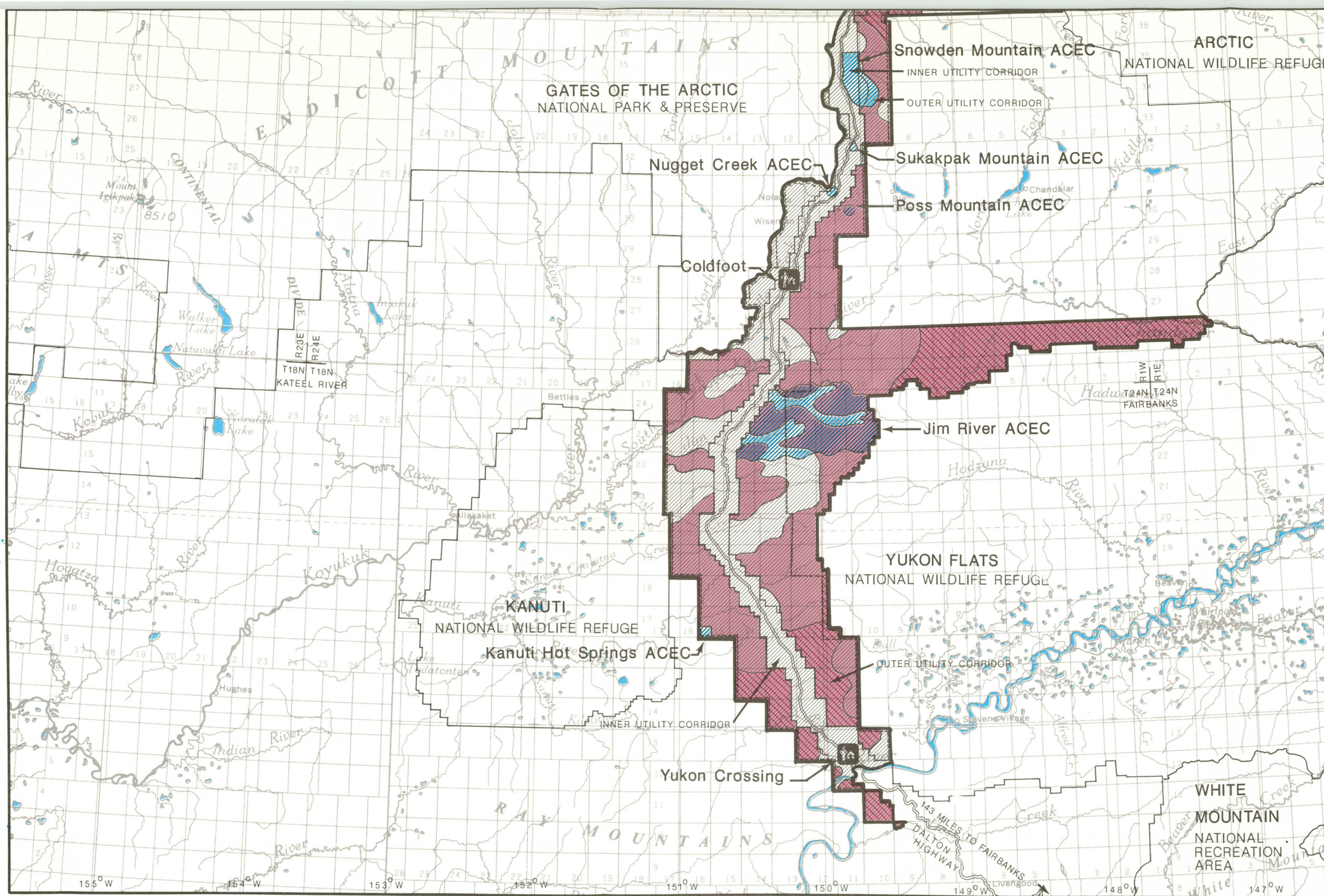
3 of 4

### LEGEND

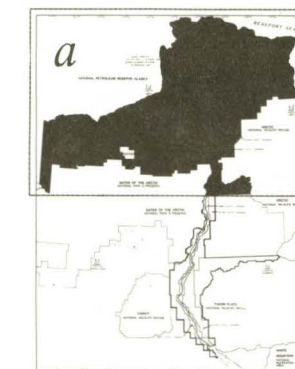
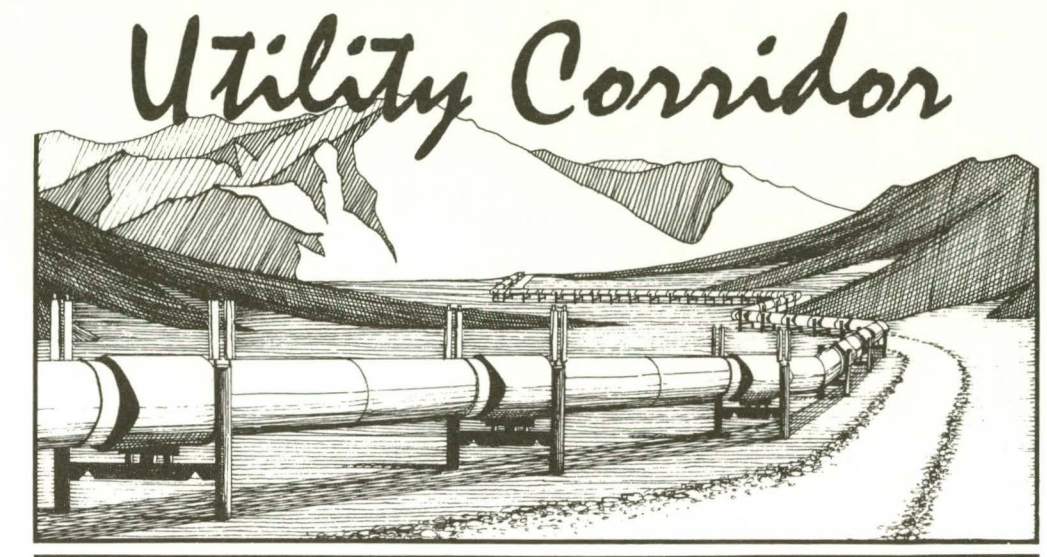
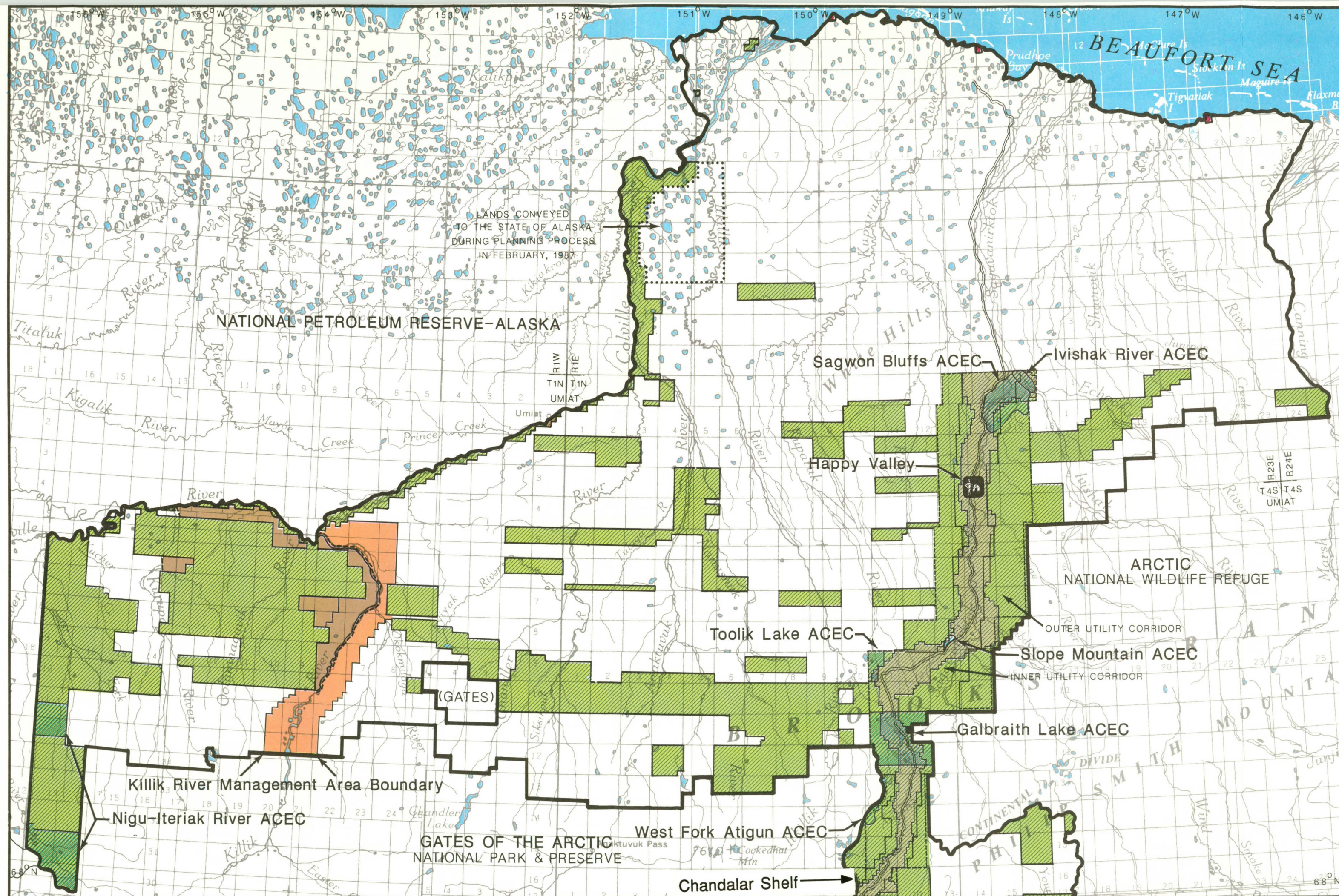
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- Areas Presently Open for State Selection
- Areas to Remain Closed to State Selection
- BLM Administered Public Lands











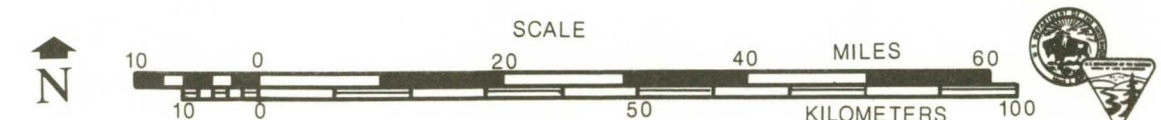
## Utility Corridor

### Alternative B

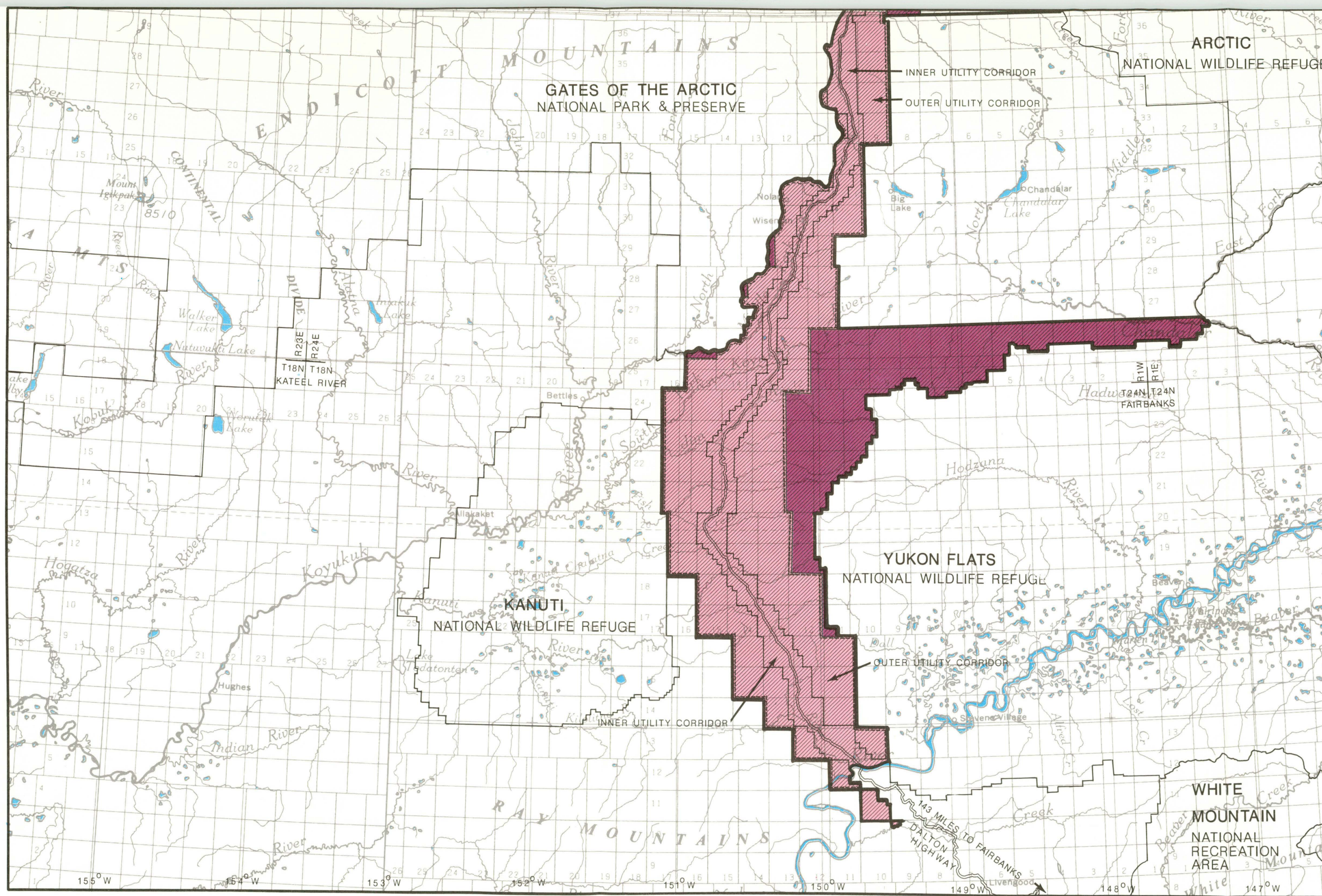
1 of 4

#### LEGEND

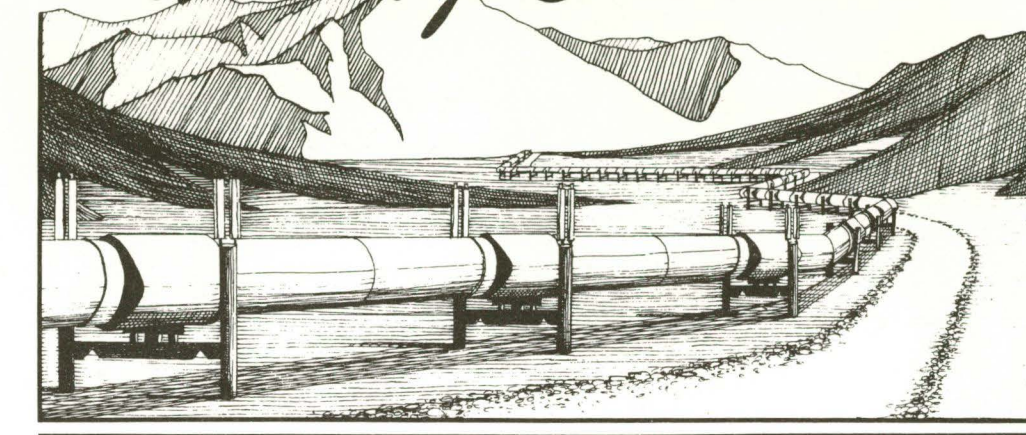
- Development Node
- Proposed Killik River Corridor Acquisition
- Proposed Oolamnavik Consolidation Acquisition
- Areas of Critical Environmental Concern ACEC
- Wilderness Recommendation (closed to mineral activity)
- Nonwilderness Assessment Area
- Military Withdrawals
- BLM Administered Public Lands





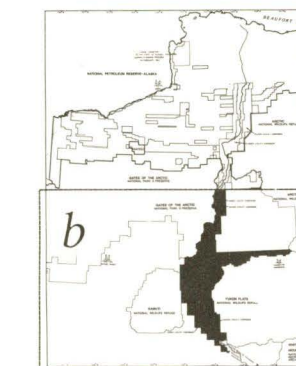


# Utility Corridor






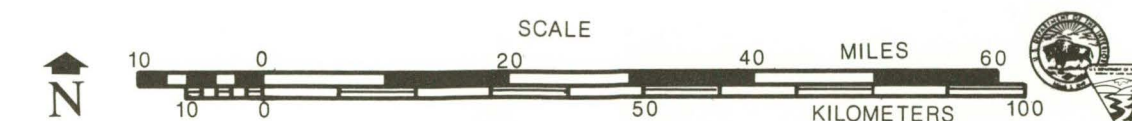
## Alternative A (present management)

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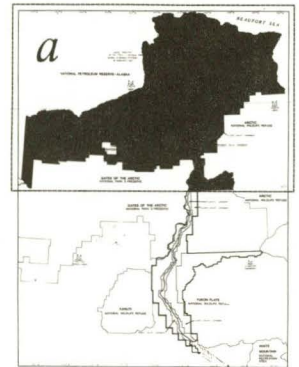
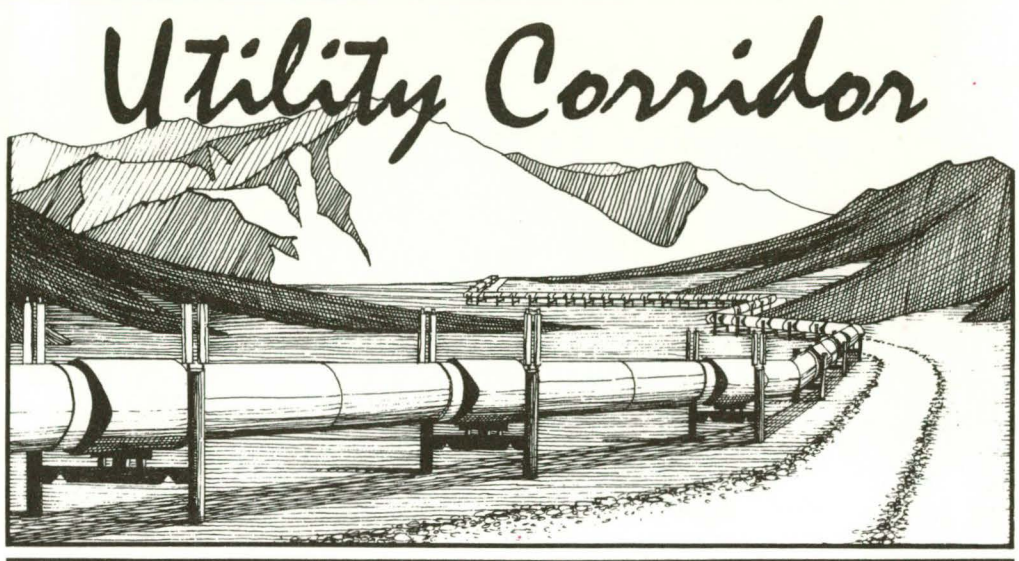
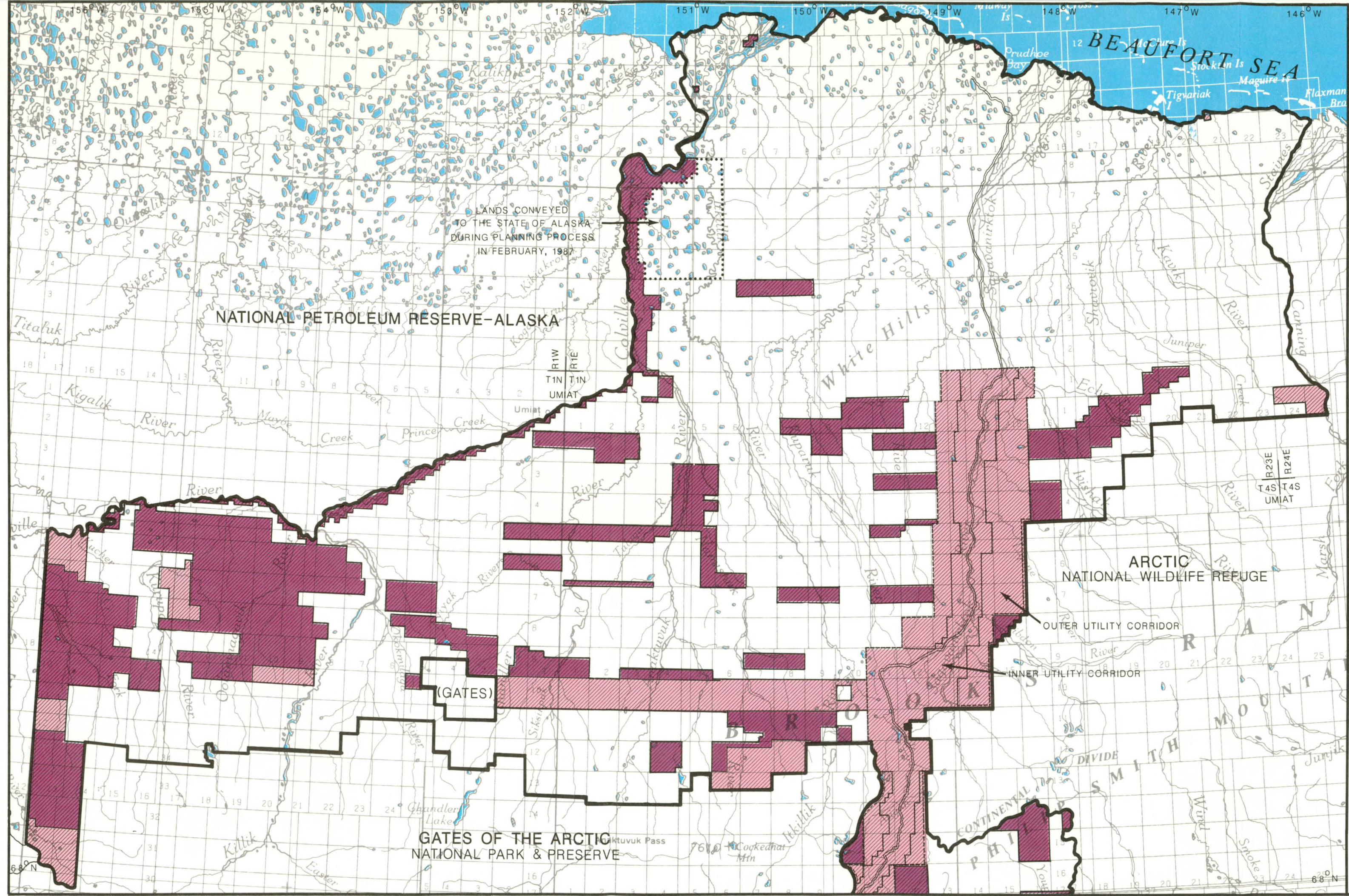


### LEGEND

-  Areas Presently Open for State Selection
-  Areas Presently Not Open for Selection
-  BLM Administered Public Lands







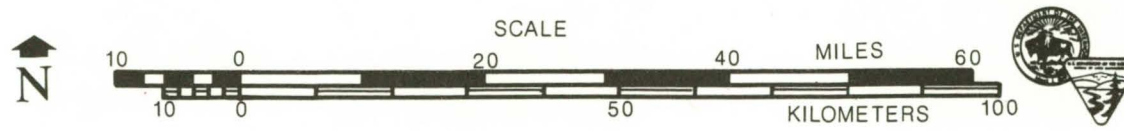
# Utility Corridor

## Alternative A (present management)

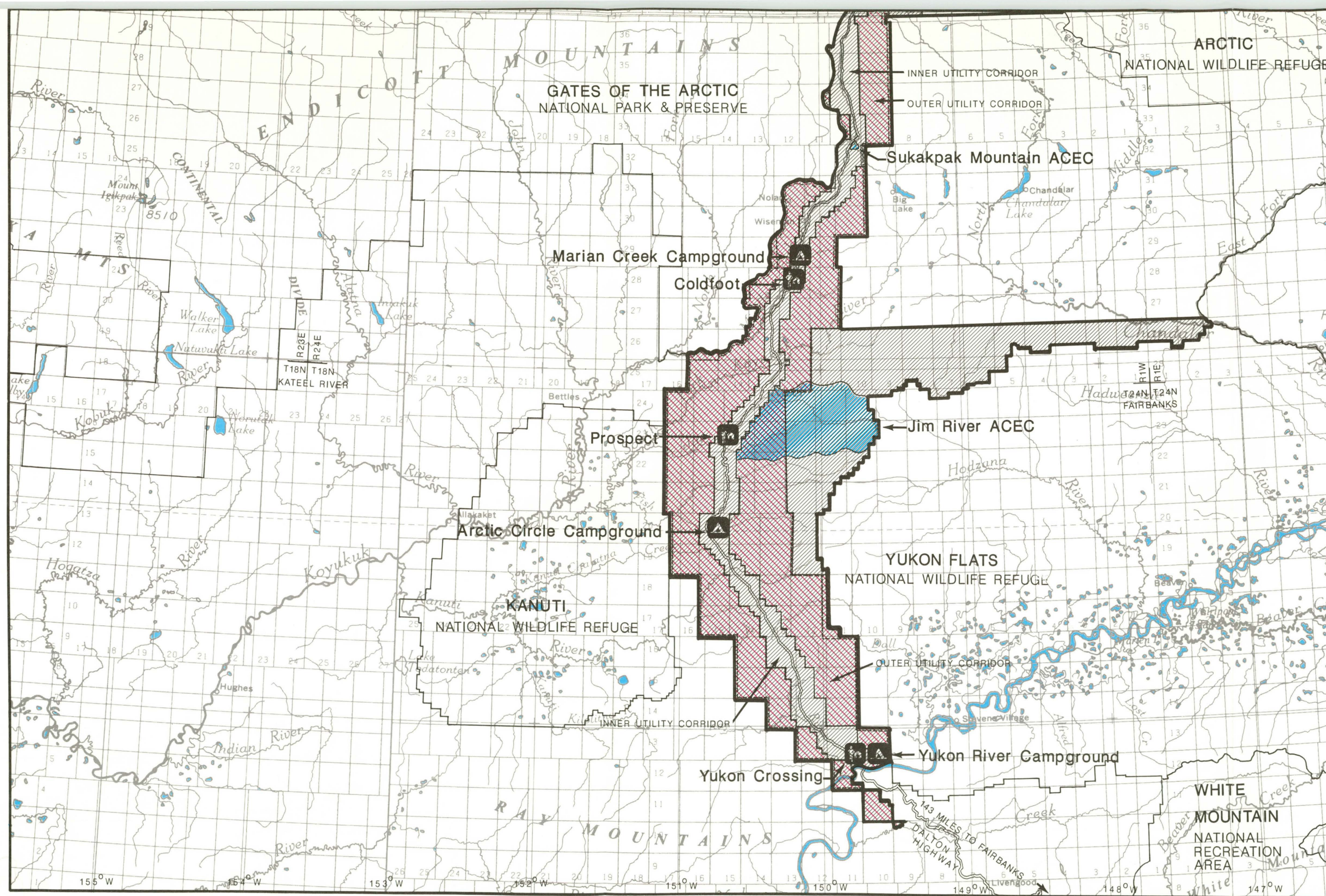
3 of 4

### LEGEND

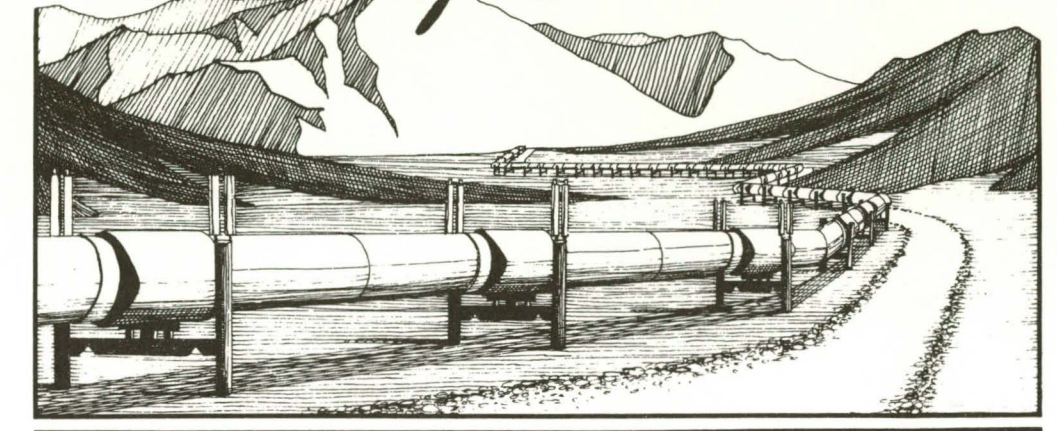
- Areas Presently Open for State Selection
- Areas Presently Not Open for Selection
- BLM Administered Public Lands





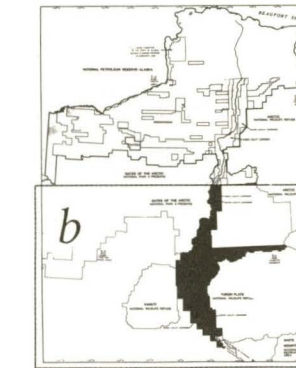


# Utility Corridor



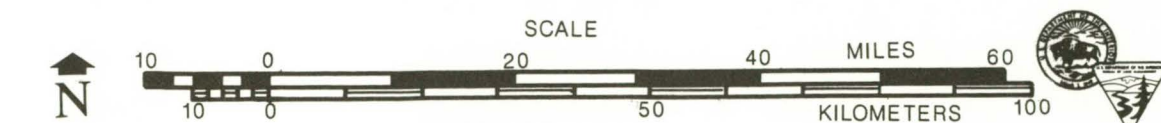
## Alternative A (present management)

2 of 4

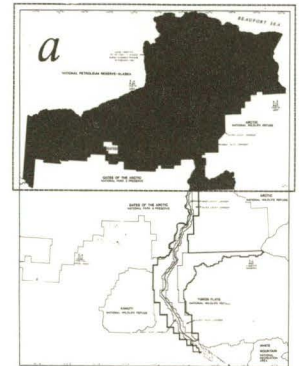
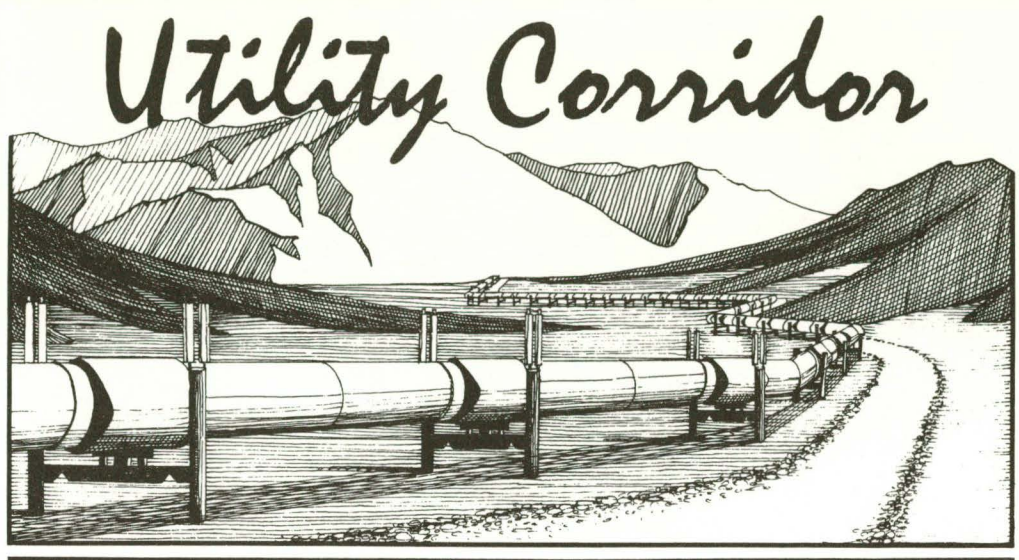
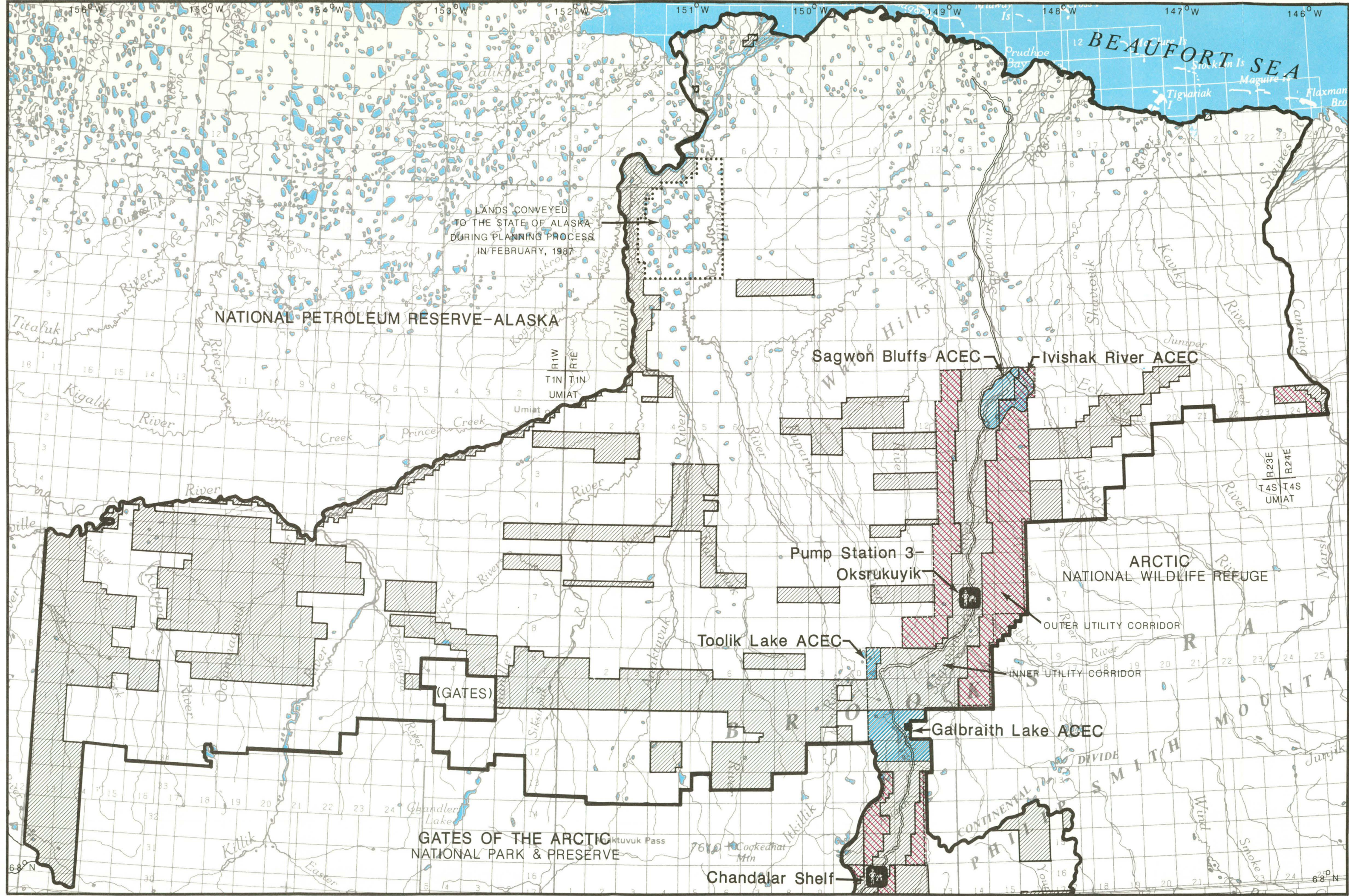


### LEGEND

- Development Node
- Recreation Site
- Areas of Critical Environmental Concern ACEC
- Open to Mineral Entry and Location  
All other BLM lands in planning area closed to mineral entry and leasing
- BLM Administered Public Lands







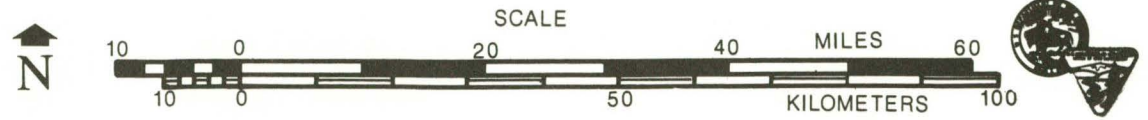
# Utility Corridor

## Alternative A (present management)

1 of 4

### LEGEND

- Development Node
- Recreation Site
- Areas of Critical Environmental Concern ACEC
- Open to Mineral Entry and Location  
All other BLM lands in planning area closed to mineral entry and leasing
- BLM Administered Public Lands





## **Alternative D**

This alternative proposed opening all planning area lands to State Selection. Consequently current management would continue until land ownership patterns are clarified. Refer to the maps for Alternative A.

**Summary Table of Management Actions  
by Alternative**



**Table 2.7:**  
**Summary of Management Actions by Alternative**

(The Proposed Plan and the Preferred Alternative which appeared in the *Draft Utility Corridor Resource Management Plan* are similar. Important changes to the Preferred Alternative are noted in *italics*.)

## ALTERNATIVES

Issues and Resources	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
<b>Development</b>					
Mineral leasing	Approximately 5.8 million acres would be open to mineral leasing. Closed to leasing would be the southern portion of the proposed Nigu-Iteriak ACEC (the recommended wilderness area). Nonsurface occupancy stipulations in inner Corridor, 8 identified mineral licks, on portions of Jim and Kanuti river, and Prospect Creek floodplains.	No areas (0 acres) are now open to mineral lease.	Approximately 1.5 million acres would open to mineral leasing. Closed to leasing would be the outer Corridor adjacent to Gates of the Arctic National Park, the recommended wilderness area, crucial wildlife habitat, and the inner Corridor.	The entire planning area, approximately 6.1 million acres, would be open to mineral leasing.	Same as Alternative A.
Mineral location	Approximately 4.7 million acres would be opened to mineral location. Closed would be the inner Corridor, the Nigu-Iteriak ACEC (recommended wilderness area), portions of the Jim and Kanuti river and Prospect Creek floodplains, and eight identified mineral licks.	Only the outer Corridor, approximately 1.7 million acres, is open to mineral location. All other areas are closed.	Approximately 0.5 million acres would be open to mineral location. Closed would be the inner Corridor, crucial wildlife habitat, areas that drain into adjacent CSUs, recommended wilderness areas, and the outer Corridor adjacent to Gates of the Arctic National Park.	The entire planning area, approximately 6.1 million acres, would be open to mineral location, including the inner Corridor.	Same as Alternative A.

**Table 2.7 cont.:**  
**Summary of Management Actions by Alternative**

Issues and Resources	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
<b>Development cont.</b>					
Mineral materials	Throughout the area, mineral materials extraction would be allowed. However, it would be prohibited in the eight identified mineral lick areas, the Kanuti Hot Springs, Nigu-Iteriak, and Sukakpak Mountain ACECs, and in designated wilderness areas. Extraction would be allowed in the Jim River and Prospect Creek streambeds and annual floodplains, and the Ivishak River ACEC only if no other economically feasible locations for material minerals can be found.	Mineral material extraction allowed in entire planning area. Standard stipulations apply.	Mineral material extraction allowed only from existing sites unless it is shown that new sites would not be in conflict with crucial wildlife habitat, stated purposes of ACECs, etc. No gravel extraction from floodplain of the Jim River and its tributaries.	Same as Alternative A.	Same as Alternative A.
Development nodes	Four nodes would be designated at Yukon Crossing, Coldfoot, Chandalar Shelf, and Happy Valley. <i>No land sales would be allowed within nodes under federal ownership.</i>	Five nodes are located at Yukon Crossing, Prospect, Coldfoot, Chandalar Shelf, and Pump Station 3.	Same four nodes as Proposed Plan, but limit development at Yukon Crossing to current levels.	Same five nodes as Alternative A. Also allow development outside of nodal areas when appropriate.	Same as Alternative A.
<b>Realty Actions</b>					
Acquisitions	Seek acquisition of 1) Killik River corridor; 2) lands adjacent to the Oolam-nagavik block.	No acquisitions.	Same as Proposed Plan.	No acquisitions.	No acquisitions.
Other	Resolve split-estate management through disposal or acquisition. Allow sale of cabin lots at Wiseman.	Allow sale of cabin lots at Wiseman.	Same as Proposed Plan.	Same as Proposed Plan.	Same as Alternative A.



**Table 2.7 cont.:**  
**Summary of Management Actions by Alternative**

Issues and Resources	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
<b>Realty cont.</b> State selection	Within the Utility Corridor, allow state selection of approximately 0.7 million acres located in four discrete blocks: 1) Corridor lands south of the Yukon River; 2) lands near Prospect; 3) Coldfoot node and associated access corridor; 4) Corridor lands north of Toolik Lake. <i>The preferred alternative in the draft plan allowed selection of Corridor lands south of the Yukon River and at Coldfoot (approximately 32,000 acres total). The amended preferred alternative (April, 1988) allowed selection of Corridor lands south of the Arctic Circle and north of Toolik Lake (a total of approx. 1.1 million acres).</i>	No Corridor lands are available for selection.	Within the Utility Corridor, only allow state selection of the approximately 25,000 acres south of the Yukon River.	Within the Utility Corridor, allow state selection of the approximately 1.3 million acres the state has expressed interest in obtaining through "906(e) top-filings." Most of these "top-filed" lands are located south of the Brooks Range. Opened to selection would be all of the inner Corridor and much of the outer Corridor south of the Brooks Range.	Allow state selection of all lands within the Utility Corridor (approximately 2.8 million acres). Modify plan after disposals, or begin a new land use plan on lands remaining in BLM management.
<b>Recreation</b>	Manage the Utility Corridor with emphasis on recreation. Put a priority on development of a recreation area management plan for lands along the Dalton Highway.	Maintain present levels of recreation facility development. No new facilities.	Same as Alternative A.	Emphasize private investment in recreation development.	Same as Alternative A.

**Table 2.7 cont.:**

**Summary of Management Actions by Alternative**

Issues and Resources	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
<b>ORVs</b>	Conduct ORV use evaluation after the proposed plan is approved. Interim management would 1) allow noncommercial use of ORVs less than 1500 lbs on snow and frozen ground; 2) require permits for all commercial ORV use regardless of weight; 3) limit public access across TAPS to designated crossing points if 1500 lbs or over; 4) adhere to state restrictions on ORV use, but apply above interim management if restrictions are lifted.	Conduct ORV use evaluation. Interim management would 1) require permits for all ORVs during summer, freeze-up and breakup; 2) require permits for all ORV use with the except of snow machines 600 lbs or less; 3) limit public access across TAPS to designated cross points, if 1500 lbs or over; 4) adhere to state restrictions on ORV use but apply above interim management if restrictions are lifted.	Same as proposed plan, but emphasis on ORV use evaluation would be to develop appropriate mitigation of ORV impacts.	Same as Proposed Plan.	Same as Alternative A.
<b>Access</b>	The proposed plan would allow state selection of "access corridors" at Prospect and Coldfoot. Other access to state/private lands from the Corridor would be achieved through issuance of appropriate rights-of-way. Appropriate access to CSUs adjacent to the Corridor would be determined through cooperative study.	Appropriate access to state-owned lands adjacent to the corridor allowed through issuance of appropriate rights-of-way.	An access corridor at Prospect would be reserved to allow for rights-of-way from Ambler Mining District in accordance with Sec. 201 of ANILCA. Other access from the Corridor would be achieved through issuance of appropriate rights-of-way. Appropriate access to CSUs adjacent to the Corridor would be determined through cooperative study.	State selection opportunities allow state to obtain lands desired for access at Prospect and Coldfoot. Otherwise same as Alternative B.	Same as Alternative C.



**Table 2.7 cont.:**

**Summary of Management Actions by Alternative**

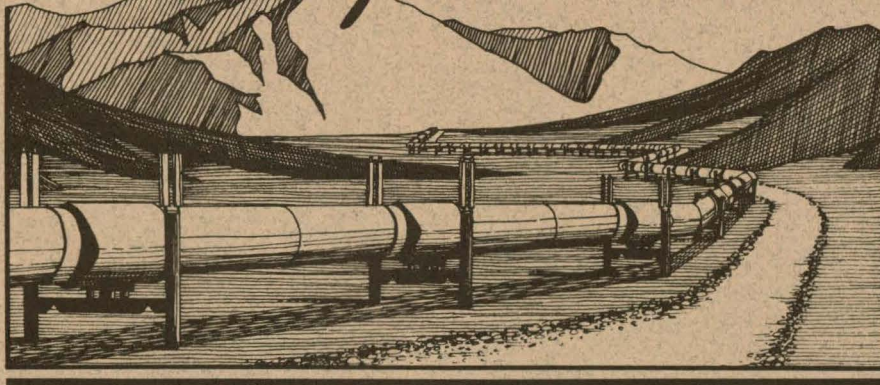
Issues and Resources	Proposed Plan	Alternative A	Alternative B	Alternative C	Alternative D
<b>Subsistence</b>	Conduct 810 evaluations on all agency discretionary actions. Cooperative planning would consider impacts on subsistence from land use proposals. The proposed ORV use evaluation would consider appropriate limitations on ORVs to protect subsistence resources.	Conduct 810 evaluations on all discretionary actions.	Conduct 810 evaluations on all discretionary actions. The proposed ORV use evaluation would consider appropriate limitations on ORVs to protect subsistence resources.	Same as Alternative A.	Same as Alternative A.
<b>Wilderness</b>	Approximately 41,000 acres in upper Nigu River area recommended for wilderness designation.. <i>Central Arctic Management Area Wilderness Recommendations and Final EIS</i> (USDOI, 1988)	Continue interim management. <i>Central Arctic Management Area Wilderness Recommendations and Final EIS</i> (USDOI, 1988)	Approximately 3.4 million acres recommended for wilderness. This represents the entire CAMA Wilderness Study Area, except the non-wilderness assessment area (i.e., lands adjacent to Dalton Highway). <i>Central Arctic Management Area Wilderness Recommendations and Final EIS</i> (USDOI, 1988)	Recommend no areas for wilderness designation. <i>Central Arctic Management Area Wilderness Recommendations and Final EIS</i> (USDOI, 1988)	Same as Alternative A. <i>Central Arctic Management Area Wilderness Recommendations and Final EIS</i> (USDOI, 1988)
<b>Wildlife</b>	The following wildlife related measures are recommended under the proposed plan: 1) transplant muskox to the Oolamnagavik area; 2) conduct fisheries inventory throughout planning area; 3) close selected streams and mineral licks to mineral location; 4) restrict gravel extraction from Jim and Ivishak river floodplains.	Maintain current low intensity monitoring of wildlife resources.	Same as the Proposed Plan.	Same as Alternative A.	Same as Alternative A.

**Table 2.7 cont.:**  
**Summary of Management Actions by Alternative**

Issues and Resources								
	Proposed Plan		Alternative A		Alternative B	Alternative C		Alternative D
ACECs	Galbraith Lake	56,000	Galbraith Lake	56,000	Same as the Proposed Plan.	Galbraith Lake	56,000	Same as Alternative A.
	Ivishak River	3,800	Ivishak River	3,800		Jim River	200,000	
	Jim River	200,000	Jim River	200,000		Sagwon Bluffs	42,200	
	Kanuti Hot Spr.	40	Sagwon Bluffs	42,200		Sukakpak Mt.	3,500	
	Nigu-Iteriak	64,000	Sukakpak Mt.	3,500		Toolik Lake	82,800	
	Nugget Creek	3,300	Toolik Lake	82,800		Nigu River	41,000	
	Poss Mountain	8,000						
	Sagwon Bluffs	42,200	Total	388,300		Total	425,500	
	Slope Mountain	5,100						
	Snowden Mt.	28,000						
	Sukakpak Mt.	3,500						
	Toolik Lake	82,800						
	West Fork Atigun	8,500						
	Total	505,240						



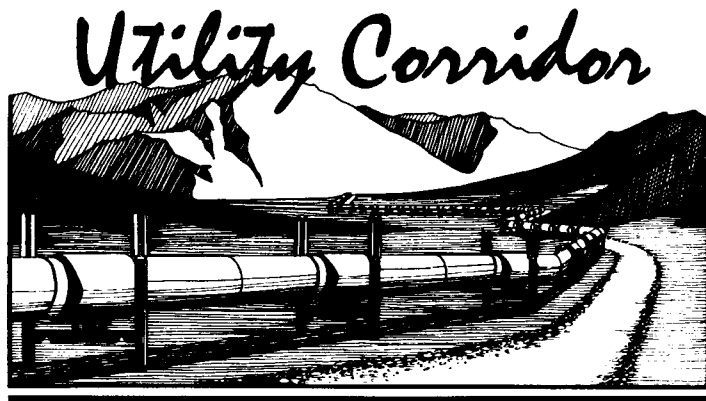
# Utility Corridor



## Chapter 3: Affected Environment

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## Chapter 3:

# AFFECTED ENVIRONMENT

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## Introduction

### PREFACE

Chapter 3 provides descriptions of the environmental factors which characterize the planning area. These descriptions form a body of information for a more thorough understanding of the proposed plan presented in Chapter 2 and the environmental impacts described in Chapter 4. This chapter is essentially the same as was printed in the draft RMP, but some material has been updated and/or revised as a result of new information, most notably, oil and gas potential north of the Brooks Range (i.e., CAMA).

The discussions of environmental factors are illustrated by maps at the end of the chapter. The northern and southern portions of the planning area are displayed on separate maps because: 1) the size of the planning area necessitated a scale of 1:1,000,000 for proper illustration; 2) the northern half of the planning area is a Wilderness Study Area requiring a separate study, facilitated by a discrete map; and 3) the areas north and south of the Brooks Range are dramatically different ecological regions.

### GENERAL DESCRIPTION

On its southern end, the planning area begins within the Utility Corridor just south of the Yukon River (folded map at end of chapter). Continuing north, it passes through the Brooks Range at Atigun Pass and widens into the Central Arctic Management Area (CAMA) extending as far north as the Beaufort Sea. The entire area is composed of two connected but ecologically distinct parts. The southern portion, representative of Interior Alaska, includes the Utility Corridor and the Venetie Block between the Yukon River and the boundary of the North Slope Borough, approximately along the Brooks Range Continental Divide. The northern portion, representative of the North Slope, extends north of the Borough boundary and includes the Corridor to approximately 60 miles south of Prudhoe Bay and a scattered collection of BLM managed lands east of the National Petroleum Reserve-Alaska. There are approximately 6,080,000 acres of BLM managed federal lands in the planning area.

## Lands

### OWNERSHIP

Lands within the southern portion of the planning area (i.e., lands south of 68° N latitude) are predominantly public lands managed by the Bureau of Land Management (BLM). There are a few scattered parcels of private land within this area, some patented, and some pending patent. Nearly all of these parcels are approved Native allotments. There are also a number of unpatented mining claims in the area. This area is not within the boundaries of any organized local government. Approximately 30 percent (650,000 acres) of the southern portion is available for state selection; the remainder was withdrawn from state selection as a utility and transportation corridor in 1971. The State of Alaska has expressed interest in selecting much of the area currently closed to selection by "top-filing" under provisions of Section 906(e) of the Alaska National Interest Lands Conservation Act (ANILCA). The ownership of lands adjacent to the southern portion of the planning area includes Native regional and village corporations, the State of Alaska, and federal agencies, such as the National Park Service and the U.S. Fish and Wildlife Service.

All lands within the planning boundaries north of 68° N latitude, known as the Central Arctic Management Area (CAMA), are in the North Slope Borough. Land ownership in CAMA is a changing patchwork of federal, state, and private holdings. Most of this land is owned by the State of Alaska and



the Arctic Slope Regional Corporation (ASRC) with a few parcels surrounding the Native villages of Anaktuvuk Pass and Nuiqsut owned by the village corporations. Very few private interests such as Native allotments or mining claims exist in this area. Remaining lands are scattered and are managed by BLM. The subsurface mineral estate of some BLM managed lands has been conveyed to ASRC. Much of the BLM managed land has been selected for conveyance by the state and/or ASRC. On some lands currently closed to state selection, the state has "top-filed" under Section 906(e) of ANILCA.

Land ownership adjacent to the planning area boundaries is largely consolidated. Adjacent landowners and managers include Native regional and village corporations, the State of Alaska and federal agencies, including the National Park Service, the U.S. Fish and Wildlife Service, and the BLM. Oil and gas exploration and development, subsistence and recreation activities are the main uses occurring on adjacent lands. A detailed description of land status is shown on Land Status Maps at the end of the Chapter. Acreages are provided in Appendix C.

## LAND WITHDRAWALS

Public lands within the Utility Corridor, withdrawn by Public Land Order (PLO) 5150, as amended, are currently closed to all forms of appropriation including selection by the State of Alaska and Native Corporations and from mineral leasing under mineral laws. A portion, referred to as the "inner Corridor" due to its "inner" position along the length of the Corridor withdrawal is also withdrawn from location and entry under mining laws. Public lands within the Venetie Block are currently open to selection by the State of Alaska, but are closed to all other forms of appropriation, including location and entry under mining laws and selection by Native corporations.

Most unselected federal lands within CAMA outside the Utility Corridor withdrawal (PLO 5150, as amended) are open to selection by the State of Alaska but closed to all other forms of appropriation under the public land laws. Lands other than the Utility Corridor currently closed to state selection in CAMA are: lands described by ANILCA-1431(j), lands described by ANILCA 1431(e), lands withdrawn by PLO 5182 and PLO 5860, and lands within the Nigu-Iteriak area formerly considered to be within the National Petroleum Reserve-Alaska.

## ACCESS

Access to public and private lands and interests within and adjacent to the planning area is provided primarily by rights-of-way, ANCSA 17(b) easements, mining operations (43 CFR 3809), and traditional ways. The most common means of access is by motor vehicle along the Dalton Highway, a 28-foot wide all weather gravel highway, which runs north-south, to connect Livengood with Prudhoe Bay on the Arctic Ocean. The Dalton Highway is managed by the State of Alaska Department of Transportation and Public Facilities.

At present, travel along the highway into the North Slope Borough, north of Disaster Creek, is restricted by the State of Alaska. The most significant roads leaving the highway to lands inside and outside the planning area are located at Prospect Creek (Bettles Road), Coldfoot (Slate Creek/Venetie Trail) and Wiseman (Nolan Road). Roads have also been built in some areas to provide access to mining operations. The state has airports under lease at Prospect Creek, Coldfoot, Dietrich Camp (not maintained), Chandalar Camp and Galbraith Lake, all of which are adjacent to the Dalton Highway. At 5-Mile Camp near the Yukon River Alyeska Pipeline Service Company maintains a "semi-private" airport which the public is allowed to use with prior permission from Alyeska.

Other than lands adjacent to the highway system, the most of the land within the planning area are remote, and reached using traditional means of transportation, including travel by foot, dogsled, and snowmachine, travel on navigable waterways by boat, and aircraft landings on land and water. The Yukon River is a major transportation route for boats. Many remote airstrips exist within the planning area, some of which are major airstrips. Access by all-terrain vehicles may be occurring on and off established roads and trails.

Section 17(b) of the Alaska Native Claims Settlement Act (ANCSA) provided for public easements on Native corporation lands so the public could legally cross private lands to get to public lands. Accordingly, BLM has reserved in conveyance documents various types of easements to provide access ranging from 25-foot wide trails and 60-foot wide roads to one acre site easements along rivers. The

locations and restrictions of each easement can be found in the appropriate conveyance document available to the public at the BLM Support Center in Fairbanks and at the Federal Building in Anchorage.

## RIGHTS-OF-WAY

The majority of granted rights-of-way within the planning area are located along the Dalton Highway and Trans-Alaska Pipeline System (TAPS). They include rights-of-way for: the Dalton Highway; Wiseman-Nolan and Wiseman-Hammond River roads; highway maintenance camps; the TAPS oil pipeline; the Alaska Natural Gas Transportation System (ANGTS) and Trans-Alaska Gas System (TAGS) pipelines, including related access roads, pump and compressor stations; Alascom, Inc. and BLM communications sites; federal and state administrative sites; barge landing sites; private access; and other uses. At present, there are no designated rights-of-way avoidance or exclusion areas within the planning area.

The Dalton Highway is a state highway with a 200 foot wide right-of-way granted under the authority of the Trans-Alaska Pipeline Authorization Act of November 16, 1973. The highway has since been placed in the federal aid highway system. The highway maintenance camps are also in the federal aid highway system and are located at 5-Mile, Prospect Creek, Coldfoot, Chandalar Camp, and near Oksrukuyik (near Pump Station 3). The Trans-Alaska Pipeline System (TAPS) is managed by Alyeska Pipeline Service Company and occupies a 54-foot wide right-of-way also granted under the authority of the TAPS Act. The Alaska Natural Gas Transportation System is a proposed chilled gas pipeline that would be managed by Northwest Alaskan Pipeline Company. It would be built on a 54-foot wide right-of-way granted under the authority of the Alaska Natural Gas Transportation System Act. The Trans-Alaska Gas System (TAGS) is a proposed chilled gas pipeline that would be built by Yukon Pacific Corporation. It would be built on a 54-foot wide right-of-way granted under the authority of Section 28 of the Mineral Leasing Act of 1920, as amended. The Wiseman-Nolan and Wiseman-Hammond River Roads, which do not connect to the Dalton Highway, are 100-foot wide rights-of-way conveyed to the state by the Omnibus Act Quit Claim Deed (page 44, route number 6270). The remaining rights-of-way were granted under the authority of FLPMA. There are also several pending applications for rights-of-way.

Additionally, there may be highway rights-of-way within and adjacent to the planning area granted under the authority of Revised Statute 2477 (RS 2477). However, no claims to any RS 2477 rights-of-way within or adjacent to the planning area have been formally asserted. Many potential RS 2477 rights-of-way may be found in the *Alaska Existing Trail System, 1973*. This document is not to be considered a complete listing of these potential rights-of-way nor a validation that these trails are RS 2477 rights-of-way.

There are three federally designated corridors within the planning area to accommodate rights-of-way. The "Alaska Utility Corridor" which is a strip of land six to 24 miles wide that runs north-south through most of the planning area. It consists of an inner and outer Corridor. The inner Corridor is closed to mining, while the outer Corridor is open to mining. The Utility Corridor is reserved for utility and transportation purposes and currently serves the Dalton Highway, TAPS, and two proposed gas pipeline projects. Another corridor was implied by Section 201(4)(b) of ANILCA to provide surface access for transportation purposes across public lands from the Ambler Mining District to the Dalton Highway. The third right-of-way corridor was established across CAMA by Section 1431(j) of ANILCA in order to provide the Arctic Slope Regional Corporation access, including pipelines, across public lands from the Kurupa Lake and Killik River areas east to the Utility Corridor. This corridor, six to twelve miles wide, was specifically described in ANILCA.

## SALES/EXCHANGES

No public lands within the planning area are currently open or classified for FLPMA sale. However, in the mining community of Wiseman proposals are pending for noncompetitive purchase of 23 parcels of public land by the occupants (U.S. Survey 5276). Future land exchanges and negotiations are taking place in CAMA. Section 1431 of ANILCA authorized a number of land exchanges involving Arctic Slope Regional Corporation lands and federal lands in CAMA.

## LAND USE AUTHORIZATIONS

All federal lands within the planning area are potentially available for most public uses. BLM has few or no restrictions on casual use of these lands, including access. Casual use is defined as any short-term,



noncommercial activity which does not cause appreciable damage or disturbance to the lands, their resources, or improvements, and which is not prohibited by specific closure. These uses within the planning area include driving on established roads, short-term camping, hiking, boating, fishing, hunting, trapping, snowmobiling (outside the restricted area), and dog sledding. Limitations and restrictions are imposed when use becomes more intensive, and require a land use authorization, as permits and leases, from BLM.

Permits of various types are usually issued for low intensity, low capital investment, and short-term activities, including long-term camping by the public, cross-country moves with heavy equipment, incidental uses related to rights-of-way, temporary camps for research projects, seasonal camps for outfitting guides, bore hole drilling to test soils and geologic structures, and other seasonal noncasual uses. Temporary use permits were also issued to Alyeska Pipeline Service Company under the authority of the Trans-Alaska Pipeline System Act for temporary camps used during construction. These camps are now in the process of being dismantled, leaving vacant gravel pads and, in some cases, airstrips. Special use permits have also been issued to Northwest Alaska Pipeline Company under special legislative authority for their "fly camps," used for reconnaissance of a route for a gas pipeline right-of-way, but are now dismantled, leaving gravel pads and airstrips. It is anticipated that there will be more requests in the future for permits of these types relating to energy transportation.

Leases are issued at the discretion of the BLM for long-term, capital intensive use of the lands, including public airports, occupancy, and agricultural and commercial developments that are appropriate for a lease. Five public airport leases have been issued within the planning area to the State of Alaska at Prospect Creek, Coldfoot, Dietrich Camp, Chandalar Camp, and Galbraith Lake. At present, two FLPMA leases have been issued within the planning area to individual commercial operators, one at the Yukon River bridge and the other at Coldfoot to provide fuel, food, lodging and vehicle repair services along the Dalton Highway.

## Soil, Water, Air, and Vegetation

### SOILS

Soils vary due to differences in location on the landscape, drainage, aspect, elevation, parent material, soil temperatures, fire history, and climate. Soils within the planning area have developed under a cold temperature regime in which biological and chemical transformations are slow, and in which soil horizons or layers are subject to physical dislocations as a result of the freeze-thaw processes. Permafrost, generally at depths less than 20 inches, acts to retard internal drainage, which, combined with low soil temperatures has resulted in soils with wet, shallow, poorly differentiated profiles and significant organic components that are only minimally decomposed. These soils are highly susceptible to erosion or other soil movement caused by disturbance of the ground-covering vegetation and subsequent thawing of the permafrost. The processes of frost heaving and sorting, ice lens and wedge formation, and thawing, solifluction and stream erosion have developed these soils into a complex mosaic of polygons, ice-cored mounds (pingos), terraces, and remnant oxbows. A few soils, especially those in depressions, have a sufficient thickness of organic materials (peat) to be termed organic soils.

Within the planning area south of the Brooks Range continental divide (approximately 68° N latitude) soils vary with topography and generally have thicker organic horizons and deeper active layers (still less than 30 inches) than soils north of the continental divide. In the Kokrine-Hodzana Highlands, an area covering much of the planning area between the Brooks Range and the Yukon River, the soils are almost neutral pH silt loams. The moderately well drained soil on slopes usually has fine textured upper horizons over gravelly subhorizons. Gravelly, granite derived materials are commonly found in the uplands. Loess is also a significant part of the highland profiles. Organic or mineral soils with thick organic horizons occur in tussock meadows.

On spruce-covered, lower slopes in the northern portion of the Kokrine-Hodzana Highlands, multiple soil associations are found composed of poorly drained, gray mineral soils with thin organic horizons and poorly drained soils with thick, acid, slightly decomposed organic horizons. Broad valley bottoms, commonly occupied by sedge or sedge-tussock meadows with scattered to heavy stands of willow, are found to have organic or very poorly drained mineral soils with thick organic horizons.

In the mountainous areas on steep forested slopes, mass movement of soils produces complexes of poorly drained, gray mottled silt loams, gravelly textured acid soils with relatively thin organic horizons and similar poorly drained soils with thick organic horizons. The seasonal thaw layer is usually less than 20 inches except on ridge crests and coarse textured terraces where deeper thawing permits development of well drained soils with oxidized horizons.

The majority of the soils north of the Brooks Range have developed on fine textured materials, such as the silt loams and silty clay loams found on low rolling hills, at the foot of slopes, on valley bottoms and on the coastal plain.

## WATER RESOURCES

### *Major Watersheds*

In general, the headwaters of all the major watersheds in the planning area are located in the Brooks Range or its foothills. Exceptions to this are those rivers in the southern portion of the planning area with headwaters located in the Kokrine-Hodzana Highlands. Drainages north of the continental divide flow north into the Beaufort Sea (Arctic Ocean). Those south of the continental divide flow into the Yukon River and eventually the Bering Sea. Table 3-1 lists the major rivers found, at least partially, within the boundaries of BLM managed lands within the planning area.

**Table 3-1**  
Major Rivers in the Planning Area

South of the Continental Divide (Drain into the Yukon River)	North of the Continental Divide (Drain into the Beaufort Sea)	
Yukon	Anaktuvuk	Killik
Ray	Atigun	Kurupa
Jim	Canning	Kuparuk
Dall	Colville	Nanushuk
Kanuti	Chandler	Oolamnagavik
Fish Creek	Ivishak	Sagavanirktok
South Fork Koyukuk	Itkillik	Shavirovik
Middle Fork Koyukuk	Kadleroshilik	Toolik
Chandalar	Kavik	

### *Watershed Condition*

Watershed condition in the planning area is good to excellent. Erosion is not a problem except for human disturbance of the vegetation cover or altered stream channel morphology. When the vegetation cover is disturbed and the ground ice melts, many of the fine grained, ice rich soils are highly erodible, resulting in silt pollution of nearby streams and/or lakes. However, this condition usually occurs only along roads and trails, at construction sites, and mining operations.

Surface water quantity and quality varies with the season. Generally, maximum discharge occurs during spring breakup which usually happens during the latter part of May south of the Brooks Range and during the middle of June north of the Brooks Range. Stream discharge rates peak during snow melt and summer rains. The presence of permafrost decreases infiltration, increasing runoff peaks but reducing base flow rates. In the fall and winter much of the precipitation and runoff are in a frozen state, and stream flows decline. Seasonal snowpack is the most important annual water storage component in the hydrologic cycle. River icings (aufeis) also store considerable quantities of water.

Water quality is generally good except during high water events and downstream from some construction projects and placer mining operations. Total dissolved solids vary considerably with the flows. Chemical quality tends to be better during the summer when the flows are higher and the impurities are diluted. Smaller streams usually have better quality than larger rivers.

Waters south of the continental divide are of the calcium bicarbonate type. In the Koyukuk River total dissolved solids have been found to vary from 50 to 200 milligrams per liter (mg/l). North of the divide,



at the mouth of the Sagavanirktok River, total dissolved solids vary from 500 to 2000 mg/l with calcium and magnesium constituting over 80% and sulfates 10 to 20% of the dissolved solids.

#### *Consumptive Water Use*

Consumptive water use is probably greatest in the Sagavanirktok watershed and is estimated at less than 100,000 gallons per day. Water use here is primarily from surface water due to the difficulties maintaining wells in permafrost materials. Elsewhere in the planning area water use is unknown but is probably minimal due to the small number of users.

Only one hot spring is known to occur on BLM administered land within the planning area. This is Kanuti Hot Springs, approximately five miles southwest of Caribou Mountain along the Kanuti River. The spring temperature has been reported by some sources to be about 150° F and to have a strong sulphur dioxide odor. However, in December of 1988, BLM personnel measured the spring temperature at 125° F.

### AIR QUALITY

Overall the air quality is considered excellent except along the Dalton Highway and at human habitations where fugitive dust and exhaust gases from truck traffic and heating plants create both visual and physical impacts.

South of the Brooks Range, forest fires in the summer months increase the airborne particulates, a natural condition and usually of short duration. Smoke from forest fires has been known to drift in from as far away as Siberia. The greatest effect of smoke is restriction of visibility, although it may be thick enough to cause discomfort for individuals with respiratory problems. In localized situations, heavy smoke from nearby fires may restrict aircraft operations for short periods.

### VEGETATION

#### *Major Vegetation Types*

The flora within the planning area is typical of Alaska's Interior and North Slope and includes a wide variety of plant communities

Bottomland mixed forest is a tall, relatively dense forest which occurs along major streams. Primary species are white spruce (*Picea glauca*) and balsam poplar (*Populus balsamifera*). Meadows of tall grass with willows occur in periodically flooded areas. Undergrowth is usually dense scrub, including alder (*Alnus* spp.), willow (*Salix* spp.), prickly rose (*Rosa acicularis*), labrador tea (*Ledum* spp.), and blueberries (*Vaccinium* spp.). Bluejoint grass (*Calamagrostis* spp.), fireweed (*Epilobium* spp.), horsetails (*Equisetum* spp.), and other herbs, lichens ferns and mosses cover the forest floor. This forest occurs on level floodplains, low river terraces, and more deeply thawed south facing slopes of major rivers in the Interior.

Upland mixed forest is composed of white spruce with scattered paper birch (*Betula papyrifera*) and aspen (*Populus tremuloides*) on moderate south facing slopes, while northern exposures and poorly drained flat areas are mostly black spruce (*Picea mariana*). The understory consists of moss and low shrubs, with prickly rose, currants (*Ribes* spp.), labrador tea, and blueberries on the cool moist slopes, grass on dry slopes, and willows, alders and dwarf or resin birch (*Betula nana* or *glandulosa*) in the high open forests near tree line. Paper birch and aspen dominate the well drained southern slopes. This is the most common forest type along the Dalton Highway.

Lowland mixed forest is a mixture of stands of black spruce, paper birch, balsam poplar, and aspen. Species of willow, labrador tea, dwarf birch, blueberries, sedges (*Carex* spp.), mosses, and lichens compose the understory. Bogs and muskegs occur on low ground. These areas occur only in the southernmost portions of the planning area.

Lowland coniferous forest is characterized by almost pure stands of black spruce with occasional small stands of birch, aspen, and alder. The forest floor is covered with a thick mat of mosses, lichens, grasses,

and shrubs such as willow, dwarf birch, blueberries, and labrador tea. The black spruce forest is commonly found on poorly drained soils, including those with permafrost close to the surface, foot hills, valley bottoms, and on north facing slopes.

Tall shrub scrub consists of dense thickets of willow and alder greater than five feet in height with a number of low shrubs, herbs, grasses, ferns, and mosses in the understory.

Low shrub scrub is composed of vegetation communities in which the dominant species are between eight inches and five feet high. In the planning area the most common shrubs are willow, dwarf birch, alder, prickly rose, and labrador tea. Low shrub scrub communities may be intermixed with forest types and are major components of the vegetation association known as tundra when they are located north and west of treeline, or above treeline in elevation.

Shrub bogs and bogs are found over much of the planning area. These communities are dominated by ericaceous shrubs, but stunted black spruce and dwarf birch are also commonly found. Shrub bogs occur on wet sites, have a thick organic mat, and are underlain by permafrost. This community is frequently found as an inclusion in the lowland black spruce forest and low shrub scrub. Shrub cover is greatly reduced on the wetter bog sites, and sphagnum moss dominates.

Herbaceous vegetation types are found throughout the planning area and vary from lowland grass or sedge meadows in the forests and on ridge tops, to patches of alpine sedge - dwarf shrub tundra on ridges and peaks of the Brooks Range.

#### *Threatened And Endangered Plant Species*

No federally listed or proposed threatened or endangered plant species occur in Alaska. Several plant species have been classified as "category 2" species by the U.S. Fish and Wildlife Service. BLM has labeled these category 2 plants as "sensitive" and gives them the same protection as threatened and endangered species. Expert botanists have identified other rare plant species (Murray 1980). Table 3.2 list four sensitive and seven rare species known to occur in the planning area.

**Table 3.2**  
Sensitive and Rare Plant Species Found in The Planning Area

Name	Status	Location *
1. <i>Andreaebryum macrocarpa</i>	Rare	Wiehl Mountain
2. <i>Aster yukonensis</i>	Sensitive	Oolah Mountain (CAMA)
3. <i>Burbula corcensis</i>	Rare	Wiehl Mountain
4. <i>Cypripedium calceolus</i> (spp. <i>parviflorum</i> )	Rare	Middle Fork Koyukuk River
5. <i>Draba macounii</i>	Rare	Haul Road 215, Atigun (CAMA)
6. <i>Erigeron muirii</i>	Sensitive	Sagwon, Shainin Lake, MS117 Anaktuvuk (CAMA)
7. <i>Melandrium triflorum</i>	Rare	Near Umiat (CAMA)
8. <i>Montia bostockii</i>	Sensitive	Toolik Lake (CAMA)
9. <i>Orthotrichum diminutivum</i>	Rare	Sukakpak Mountain
10. <i>Potentilla stipularis</i>	Rare	Near Umiat (CAMA)
11. <i>Oxytropis glaberrima</i>	Sensitive	Kurupa River (CAMA)

\* Location of plants listed is an approximate area of occurrence.

## Forestry Resources

Forest resources are limited to areas south of the Brooks Range. The forests may be classified as taiga coniferous and are primarily comprised of black and white spruce with extensive stands of birch and/or aspen. Mixed with this taiga coniferous forest community are "islands" representing other biotic community types. From the Yukon River to milepost 96 the Utility Corridor is forested. From there the forest is intermittent until the "farthest north white spruce" within the Utility Corridor is reached at milepost 236. Forests end as the elevation increases or where one enters the tundra biome.



Along the rivers and streams individual trees can achieve significant size. In the vicinity of the Yukon crossing 12-inch diameter trees can be found. Even as far north as Coldfoot trees of significant size can be seen along the creek bottoms. However, most of the stands are composed of small- to medium-sized trees with large areas of dwarf black spruce dominating.

There are no prospects for commercial timber sales in the planning area in spite of the existence of the Dalton Highway. However, the forests can support some limited use for firewood, house logs, and other forest products for local use. Given the current population level and distribution there should not be a shortage of forest products for local residents within the Utility Corridor.

## Terrestrial Wildlife

This section describes only priority species selected for discussion in this plan. These priority species and their significance for management are displayed in Table 3.3.

**Table 3.3**  
Priority Wildlife Species in the Planning Area

Wildlife Species	Human Use			Associated Habitat	
	Subsistence	Sport Hunting	Trapping	Riparian	Wetland
Caribou ( <i>Rangifer tarandus</i> )	•	•			
Moose ( <i>Alces alces</i> )	•	•		•	
Dall's sheep ( <i>Ovis dalli</i> )	•	•			
Bears	•	•		•	•
Furbearers	•		•	•	•
Game birds	•	•		•	
Waterfowl	•	•		•	•
Raptors incl. peregrine falcon				•	•

### CARIBOU

Caribou (*Rangifer tarandus*) that currently inhabit the planning area are divided into four herds: the Western Arctic herd, the Porcupine herd, the Central Arctic herd, and the Ray Mountains herd. These herds also inhabit adjacent Conservation System Units (CSUs) during different times of the year. The Western Arctic herd is currently the largest caribou herd in Alaska. Its population declined from an estimated 242,000 animals in 1970 to 75,000 in 1976, but has rebounded to about 230,000 animals. The Porcupine herd was stable near 100,000 animals during the 1960s and early 1970s but has increased to a current estimate of 180,000 caribou. The Central Arctic herd was first recognized as a distinct caribou herd in 1975 and is currently one of the fastest growing herds in Alaska. It has grown from an estimated 5,000 animals in 1975 to 13,000 animals in 1983. The Ray Mountains herd is a much smaller herd (Cameron and Whitten 1979, Davis and Valkenburg 1978, Hemming 1971, Robinson 1985, Skoog 1968).

Caribou is an important source of red meat for subsistence and sport hunters. The average reported harvest of the Western Arctic Herd in recent years is approximately ten times that of either the Porcupine

Herd or the Central Arctic Herd. Increased numbers of hunted Western Arctic Caribou and Central Arctic caribou have been reported in recent years, while hunting of the Porcupine herd caribou has decreased. Most of the reported harvest of Ray Mountain herd caribou occurs near Old Man and Caribou Mountain along the Dalton Highway. Because harvest data is compiled by the Alaska Department of Fish and Game for areas which do not correspond to the planning area boundaries, the number of caribou taken by hunters on BLM land within the planning area is not known.

## MOOSE

Moose (*Alces alces*) are widespread throughout the planning area and adjacent land. Population estimates for the Utility Corridor are lacking, but numbers are considered to be stable at low levels. Moose densities outside, but adjacent to the Corridor, range from 0.1 to 0.3 moose per square mile. The lower portion of the Middle Fork Chandalar River had densities of 1.5 moose per square mile in 1980 and 0.4 moose per square mile in 1981. The estimated moose population for the Colville River drainage, approximately 60% of the total moose population of the North Slope, increased from 1,223 animals in 1970 to 1,418 animals in 1984.

Moose inhabit nearly all habitats except high, steep, rocky slopes. Lowland bog habitat is important summer range because all known major calving concentrations in Alaska occur in this habitat type. Calving occurs during the first half of June. Abundant herbaceous vegetation and escape cover can also support large numbers of moose (LeResche et al. 1974). Moose concentrate in riparian habitat along the rivers during late winter. Willow is very important winter forage (Milke 1969, Coady 1976, Wolff 1976, Machida 1979). Some moose spend their entire life cycle along the rivers, while others remain resident in upland areas. Streams such as Hess Creek, Fish Creek, Bonanza Creek, Prospect Creek, Jim River, South Fork Koyukuk River, and Chandalar River support riparian habitat that is important to moose. The highest known wintering densities in CAMA occur along the central Colville River and its tributaries ranging from the Itkillik to the Oolamnagavik Rivers. Lowland bog and willow riparian habitats are crucial habitats for moose.

Like caribou, moose are an important source of red meat for subsistence and sport hunters. The reported harvest of moose appears to be stable, but a growing number of hunters have been using the Dalton Highway for access in recent years. Most of the hunting on the North Slope occurs along the Colville River and its tributaries.

## DALL'S SHEEP

Dall's sheep (*Ovis dalli*) inhabit the Brooks Range and adjacent foothills. At present, the number of sheep throughout the Brooks Range is stable at an estimated 30,000 animals, of which an estimated 18,500 are on lands available to hunters. There are about 545 sheep between the Atigun and Sagavanirktok Rivers (Jakimchuk et al., 1984).

Most of the Dall's sheep habitat is either within the Gates of the Arctic National Park or the Arctic National Wildlife Refuge. A 1981 BLM survey identified the following areas as sheep habitat within CAMA: Slope and Notch mountains, Tuktu Bluff, Hat Box Mesa, and "Buteo Ridge." Movements between Slope, Fortress, and Castle mountains and the Brooks Range is suspected. Sheep moved between Tuktu Bluff and Hat Box Mesa during the 1981 summer, but left both areas by October. The extent of movements and migration routes within CAMA is not currently known (Silva 1981, 1982).

Fourteen lambing areas have been identified in the planning area (Daum 1982, Hemming and Morehouse 1976). The lambing season extends from May 14 to June 10. These areas provide important shelter for seclusion, resting, and escape. Nineteen natural mineral licks also have been identified in the planning area (Daum 1982, Finkler 1979, Hemming and Morehouse 1976, Silva 1982). Maximum use of the licks probably occurs from June 12 to June 30. Mineral licks are important to ewes and rams up to two years of age, but older rams appear to be less dependent. Lambing areas and mineral licks are crucial habitats for Dall's sheep.

Dall's sheep are a source of red meat for subsistence hunters as well as a trophy for the sport hunter. The reported harvest of Dall's sheep appears to be stable. However, more hunters have been using the Dalton Highway for access in recent years which may result in a greater harvest.



## BEARS

Bears can be found throughout the planning area, and on adjacent lands. Black bear (*Ursus americanus*) populations are currently thought to be either stable or increasing and are lightly hunted relative to population numbers. The current population of grizzly bears in the southern portion of the planning area appears to be stable. The Brooks Range currently has an estimated minimum population of 2,200 to 2,700 grizzly bears (*Ursus arctos*); the population appears to be increasing.

Polar bears (*Ursus maritimus*) seasonally inhabit onshore areas. The Colville River delta contains suitable habitat for potential denning, but no den sites have been documented in recent years. Female bears den in snowdrifts along river cutbacks, and are not faithful to the same den sites year to year. The young are born in December, but the mother and her cubs do not emerge until spring.

## FURBEARERS

Important furbearers inhabiting the planning area are beaver (*Castor canadensis*), arctic fox (*Alopex lagopus*), red fox (*Vulpes vulpes*), lynx (*Lynx canadensis*), marten (*Martes americana*), river otter (*Lutra canadensis*), wolverine (*Gula gula*), and wolf (*Canis lupus*). Marten is the "bread and butter" of many trappers in the interior of Alaska, while arctic fox is the most important furbearer in CAMA. Current population densities of beaver, red fox, lynx, otter, and wolverine are low to moderate. Populations of beaver and lynx are currently increasing, while marten, otter, and wolverine are stable. Red fox populations may be decreasing. Arctic fox experienced a low in its three to five year population cycle during the winter of 1982-83; this was less pronounced near the oil fields and along the TAPS pipeline due to alternative food sources. The previous low occurred during the winter of 1977-78.

Wetland and riparian habitat is crucial habitat for beaver, red fox, lynx, marten, and river otter. Protection of crucial habitat for caribou and moose should insure habitat protection for wolves and wolverines. Known den sites for foxes and wolves are also crucial habitat.

The wolf population between Stevens Village and Tanana is currently high relative to the abundance of ungulate prey. The western portion of the Yukon Flats has about 40 to 45 wolves, and the North Slope has from 184 to 365 wolves. Wolves prey mostly on caribou, moose and sheep, while wolverines scavenge the remains of these same species. Wolves and wolverines tend to occupy much of the same habitat as these ungulates.

The reported harvests for beaver, lynx, river otter, wolverine, and wolf are based upon sealing certificates that are required for each of the five species by the Alaska Department of Fish and Game. Most furbearers are trapped in the Yukon Flats and Koyukuk River drainage. The reported lynx harvest appears to be decreasing, wolverine harvest appears to be increasing, and harvest of other furbearers appears to be stable. Additional numbers of wolves and wolverines are harvested but not reported. The number of wolves taken each year is often dependent upon weather and subsequent landing conditions for aircraft.

## SMALL GAME SPECIES

Important small game species in the planning area south of 68° N latitude are spruce grouse (*Dendragapus canadensis*), ruffed grouse (*Bonasa umbellus*), and sharp-tailed grouse (*Tympanuchus phasianellus*); willow ptarmigan (*Lagopus lagopus*) and rock ptarmigan (*Lagopus mutus*); and snowshoe hare (*Lepus americanus*). Populations of these animals fluctuate widely; current populations are moderately low. Willow ptarmigan is the only important small game species in CAMA.

## WATERFOWL

Scaup (*Aythya* spp.), pintail (*Anas acuta*), and American wigeon (*Anas americana*) are the more abundant nesting ducks south of 68° latitude. The Yukon Flats has an estimated 99.4 breeding ducks per square mile, and the Kanuti Flats has an estimated 32.4 ducks per square mile (King and Lensink 1971). Canada geese (*Branta canadensis*) and white-fronted geese (*Anser albifrons*) as well as trumpeter swans (*Cygnus buccinator*) and tundra swans (*Cygnus columbianus*) are also present. Canada goose populations appear to be stable, while populations of white-fronted goose have been declining.

The North Slope has 15 ducks per square mile, with pintail and oldsquaw (*Clangula hyemalis*) being the more abundant nesters (King and Lensink 1971). Gavin (1972) reported an average of 3.6 pairs per square mile from 1970 to 1972. An average of 40 pairs of tundra swans nested between the Colville and Canning Rivers during this same period. A small colony of snow geese (*Anser caerulescens*) began nesting near the mouth of Sagavanirktok River in 1971.

The ocean coastline provides a major migration route in CAMA (King and Lensink 1971). Birds begin arriving by mid May, and begin nesting soon after arrival (Gavin 1972). The general nesting habitat consists of small pot holes, lake shores, and stream banks. Because important wetland habitat in the lower 48 states has been drained or otherwise destroyed since colonial times all wetland and riparian habitat in the planning area are crucial habitat for waterfowl.

## RAPTORS

Nineteen species of hawks, eagles, falcons, and owls are regular inhabitants of the planning area south of 68° N latitude. Seven species are year long residents while the other 12 migrate south for the winter. Eight of these nineteen species also inhabit the CAMA area. Gyrfalcon (*Falco rusticolus*) and snowy owls (*Nyctea scandiaca*) are resident species while the other six are migratory. Populations of these raptors can fluctuate in response to population cycles of their prey.

Many raptor species, including peregrine falcons nest along the rivers. The Colville, Sagavanirktok, and Yukon Rivers are major nesting areas for the peregrine falcon. Some species, such as peregrine falcons, nest on cliff ledges while others use tall trees for nest sites. Snowy owls and short-eared owls (*Asio flammeus*) nest on the open tundra. Golden eagles (*Aquila chrysaetos*) nest on cliffs in the foothills of the Brooks Range.

## Threatened and Endangered Wildlife

The arctic peregrine falcon (*Falco peregrinus tundrius*) found in CAMA is classified as "threatened," and the American peregrine falcon (*Falco peregrinus anatum*) found south of 68° is classified as "endangered." The historic breeding population of peregrine falcons along the Colville River was about 100 pairs, but is currently about 30 pairs (Cade 1960, BLM survey data). At least eight additional pairs nest along the Sagavanirktok River. The Yukon River between Fort Hamlin and Tanana may have had 10 nesting pairs, but currently has six (Bente et al. 1985, White and Cade 1975). The Eskimo curlew (*Numenius borealis*) is endangered and may breed on the upland areas of the North Slope. There is a remote possibility this species may yet exist in CAMA. It was once known to nest on the tundra of the Mackenzie Delta of Canada and possibly northeastern Alaska.

## Fisheries Resources

The following streams and lakes are considered to contain regionally important fishery values within or adjacent to BLM managed lands: Yukon River, Fish/Bonanza Creek, Jim River, South Fork and Middle Fork Koyukuk River, Grayling Lake, Galbraith Lake, Toolik Lake, unnamed lakes in the vicinity of Toolik Lake, Kuparuk River, Sagavanirktok River and its tributaries, Ivishak River, Itkillik River, Anaktuvuk River and certain tributaries, Chandler River and certain tributaries, and the Colville River. Some of these streams also are anadromous fish habitat, listed in Table 3.4. Twenty-two species of fish are found in the planning area. Table 3.5 lists these species by common and scientific name.

**Table 3.4**  
**Anadromous Fish Streams in the Planning Area by Drainage**

South of Brooks Range	North of Brooks Range
<b>Yukon River</b> A. Big Salt River B. Ray River C. South Fork Koyukuk 1. Fish Creek 2. Bonanza Creek D. Jim River 1. Prospect Creek 2. Douglas Creek 3. Eagle Creek 4. Bear Creek E. Middle Fork Koyukuk 1. Rosie Creek 2. Slate Creek 3. Minnie Creek 4. Hammond River	<b>Sagavanirktok River</b> A. Ivishak River 1. Echooka River 2. Flood Creek 3. Saviukviayak River B. Lupine River C. Ribdon River D. Accomplishment Creek  <b>Colville River</b> A. Itkillik River B. Anaktuvuk River 1. Nunushuk River a. May Creek b. Cobblestone Creek 2. Kanayut River C. Chandler River

## SUBSISTENCE FISHERIES

Subsistence fisheries within the planning area occur on the Yukon River where 35,449 salmon and 2,534 whitefish were harvested in 1985 in a 60 mile section between the mouth of Hess Creek and Stevens Village (Anderson, 1986). Subsistence fishing also occurs at scattered locations in CAMA. However, subsistence fishing on BLM lands in CAMA is practically nonexistent. Residents of Anaktuvuk Pass occasionally fish in some of the larger Brooks Range lakes in Gates of the Arctic National Park and in the Anaktuvuk River and its tributaries. Grayling taken in the spring and summer are the most utilized fish in the Anaktuvuk area (Campbell, 1962), with char, lake trout, and burbot being important. Toolik and Galbraith Lakes were fished in the past but are not now fished (Kunz, personal communication 1986). The Colville River is a subsistence fishery for residents of Nuiqsut as far upstream as Ocean Point (Silva, personal communication 1986). Streams within BLM managed lands produce fish utilized in subsistence fisheries elsewhere. The Middle Fork and South Fork Koyukuk rivers and their tributaries produce chum and chinook salmon utilized in downstream communities. The Jim River, a tributary of the South Fork Koyukuk is a significant producer of salmon.

## COMMERCIAL FISHERIES

Commercial fishing occurs on the Yukon River. The harvest specific to the Utility Corridor portion of the Yukon River is unknown but the reported harvest between Rampart and Waldron Creek, which enters the Yukon River between the Yukon River Bridge and Stevens Village, was 1,568 chinook salmon and 9,415 chum salmon in 1984 (Alaska Department of Fish and Game 1984). North of BLM managed lands, but also within the planning area, a second commercial fishery exists in the Colville River delta area. In 1985 the following harvest was reported from that area: broad whitefish (401); humpback whitefish (191); Arctic cisco (23,679); and least cisco (17,595) (Anderson, 1986).

## SPORT FISHERIES

Sport fishing in the planning area occurs primarily along or close to the Dalton Highway. The most frequently fished locations south of Atigun Pass are Prospect Creek, Jim River and Grayling Lake. North of Atigun Pass, the lakes in the vicinity of Toolik Lake, and the upper Kuparuk and Sagavanirktok Rivers are the most frequently fished. Grayling are the principal species taken along the highway. Lake trout and char are also taken north of the Brooks Range. Fishing pressure is described as light (Bendock and Burr, 1985).



**Table 3.5**  
**Species, Human Use, and Location of Fish Found in the Utility Corridor Planning Area.**

Common Name	Scientific Name	Human Use			Location <sup>1</sup>	
		Subsistence	Sport	Commercial	North of Brooks Range	South of Brooks Range
Alaska blackfish	<i>Dallia pectoralis</i>					L
Arctic char	<i>Salvelinus alpinus</i>		•	•		L
Dolly Varden char	<i>Salvelinus malma</i>		•			L
Arctic cisco	<i>Coregonus autumnalis</i>	•		•	S	
Arctic lamprey	<i>Lampetra japonica*</i>				S	S
Arctic grayling	<i>Thymallus arcticus</i>	•	•		S	S
Broad whitefish	<i>Coregonus nasus</i>	•		•	S	S
Burbot	<i>Lota lota</i>	•	•		S&L	S&L
Chum salmon	<i>Oncorhynchus keta</i>	•	•	•	S	S
Coho salmon	<i>Oncorhynchus kisutch *</i>	•	•	•		S
Humpback whitefish	<i>Coregonus pidschian</i>	•		•	S&L	S&L
Chinook salmon	<i>Oncorhynchus tshawytscha *</i>	•	•	•		S
Lake trout	<i>Salvelinus namaycush</i>	•	•		L	L
Lake chub	<i>Couesius plumbeus *</i>					S&L
Least cisco	<i>Coregonus sardinella</i>	•		•	L	
Pink salmon	<i>Oncorhynchus gorbuscha</i>	•	•	•	S	S
Round whitefish	<i>Prosopium cylindraceum</i>	•		•	S&L	S&L
Sheefish	<i>Stenodus leucichthys *</i>	•	•			S
Slimy sculpin	<i>Cottus cognatus</i>					S

<sup>1</sup> (S) Species prefers stream or river habitat (L) Species prefers lake habitat

\* Species not known to be found north of 68 ° latitude.

## Visual Resources

As in many places within the state, the outstanding visual qualities of the planning area are primary attractors for many visitors. A recent publication, *Scenic Byways*, published by the Federal Highway Administration (USDOT 1988) recognized that scenic corridors, or roads which tourists have the opportunity to view "high natural beauty and cultural and scenic value", are one of America's most valuable resources. In the publication, a summary of state and local scenic road programs commented:

"Although Alaska has no scenic highway program, the State indicates that 'all roads in the State, except for local city streets, are heavily used for recreational purposes by residents as well as by tourists.' Further, the State believes 'the great potential for recreation and scenic majesty is what draws many to move to Alaska and is the key to tourist travel.'"

The Dalton Highway (Pipeline Haul Road) is specifically recognized in *Scenic Byways* for "spectacular mountain and arctic scenery." The Dalton Highway is one of the road corridors recognized in the Nation where recreational opportunities related to scenic values are outstanding. This recognition is supported by analyzing the scenic values utilizing the Bureau's Visual Resource Management (VRM) system. VRM has been developed to help minimize the impacts associated with development activities without unduly hindering development objectives. A visual resource inventory assigns a management classification, considered in project planning, design and construction in an area (Appendix H). The inventory consists of a sensitivity level analysis, a determination of distance zones and a scenic quality evaluation. Table 3.6 provides a summary of the scenic units and their characteristics.

**Table 3.6:**  
Characteristics of Scenic Units in Planning Area

Scenic Quality Unit	Class *	Characteristics
North Slope	C	Low rolling hills, covered with tundra. Uniform color.
Foothills	B	Gently sloped highlands. Color uniform. No unique features.
Brooks Range	A	Highly varied landscape. Wide variety of color. Numerous rivers and lakes. Area is unique.
Dietrich / Koyukuk	A	Predominantly mountainous. Color highly varied. Vegetation varied. Moderately unique.
Koyukuk Drainages	B	Little visual variety. Vegetation varies. Area not unique visually.
Arctic Circle Highlands	C	Rolling hills. Color lacks variety. No significant unique natural features.
Fort Hamlin Hills	B	Small hills and drainages. Marked color variation. Visual variety present.
Yukon River	A	River cuts through canyons. Seasonal color of high diversity. Unique features in Corridor.

\* Scenic quality is a measure of the appeal of an area of land. Lands are given a rating based on seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity and the effect (positive or adverse) of human modifications to a landscape. The ratings can be summarized as follows:

- 1) Scenic Quality Class A - Distinctive landscapes of outstanding visual quality.
- 2) Scenic Quality Class B - Areas that, although pleasing to the eye, tend to be common throughout a landscape.
- 3) Scenic Quality Class C - Areas where features offer only minimal variety and lack visual quality. Includes all areas not included in classes A and B.

## Recreation

Until recently, certain regions of the planning area, such as the central Brooks Range, have been some of the most remote and inaccessible lands in the world. The construction of the Dalton Highway in the mid-1970s changed, to some extent, the inaccessible character of the region. Human use of this area, in particular recreational use, has changed dramatically since the road was opened to Disaster Creek in 1980

by the State of Alaska. The new road has improved access to hunting and fishing areas along the Utility Corridor and provides automobile access to the scenic grandeur of the Brooks Range.

Visitors to the Utility Corridor and in CAMA are comprised of four main groups:

1. *Tour groups:* Although there have been substantial numbers of tourists visiting Barrow and Prudhoe Bay by air since the late 1970s, regularly scheduled (bus) tours along the Dalton Highway only began in 1987. Bus tour visitation has grown from approximately 300 visitors in 1987 to approximately 4000 in 1988.
2. *Highway tourists:* This group consist of individuals who drive up the highway to sightsee and rarely stray far from their vehicles.
3. *The Alaska resident sportsman (hunter/angler):* These recreationists use areas adjacent to trails or the highway, and rivers and lands accessible by boat, for hunting and fishing.
4. *Backpackers, hikers, and river floaters:* Individuals in this group desire a "wilderness experience" and enter backcountry planning area lands. These individuals often seek access to adjacent conservation units (e.g., Gates of the Arctic National Park).

Although a 1978 survey was conducted for BLM (Duncombe, 1978) which projected future use, only recently has work begun to survey actual recreational use along the Dalton Highway. Although information is sketchy, recent observations by BLM personnel and findings of the 1978 survey have been used here to make assumptions in order to provide an estimate of current visitor use in the planning area.

Estimates of recreational use in the planning area along the Dalton Highway south of the Brooks Range have been made based on the following observations and assumptions:

1. Based on recent observations, approximately 25 private recreational vehicles per day are estimated to travel the Dalton Highway and reach the Yukon River from June 1 to September 30. Approximately three private recreation vehicles per day are estimated to travel the Dalton Highway and reach the Yukon River from October 1 to May 31.
2. Seventy-five percent of the recreational traffic reaching the Yukon River continues on to the Arctic Circle and 50% travels to Coldfoot or beyond.
3. Most users reaching the Yukon River and the Arctic Circle will never leave the highway right-of-way.
4. Visitors traveling past the Arctic Circle would be the principal source of potential recreation related impacts to other resources.
5. Each private recreation vehicle has an average of 2.5 people.
6. Each visitor to the Yukon River Bridge equals 1.0 visitor day; each visitor to the Arctic Circle equals an additional 0.5 visitor days (or 1.5 visitor days), and each visitor to Coldfoot equals an additional 3.0 visitor days (or 4.0 visitor days).
7. Approximately 10% of the users who reach Coldfoot will continue north on the Dalton Highway to the State of Alaska road closure at Disaster Creek or beyond.

Based on these observations and assumptions, approximately 27,000 visitor days (Table 3.7 and Table 3.8) are spent by nonlocal recreationists in the Corridor south of the checkpoint at Disaster Creek. Local resident recreational use of the region is limited since few people reside in the area. Use by local residents in the Corridor south of the checkpoint is estimated to be approximately 3000 visitor days per year. In addition, approximately 4,000 visitors travel the Dalton Highway as part of tour groups.

North of the checkpoint, recreational use is limited due to the area's remoteness, harsh environment, and inaccessibility. Use of guides for hunting and to a lesser degree for float trips on the Colville and other rivers make up the principal recreational activities in CAMA. Use is estimated at 2,000 visitor days per year of which approximately 1,500 visitor days occurs along the Dalton Highway. Local recreational use (differentiating from subsistence activities) in CAMA is virtually nonexistent.



**Table 3.7****Total Recreation Vehicles in Utility Corridor (summer and winter seasons)**

Season	Estimate	Vehicle Total
June 1 - Sept. 30	25 ADT* x 120 days	3,000
Oct. 1 - May 31	3 ADT* x 240 days	720
<b>Total</b>		<b>3,720</b>

\* ADT: Average daily (recreational) traffic based on BLM observations.

**Table 3.8****Total Annual Visitors to Selected Areas in the Utility Corridor**

Place	Estimate	Visitors	Visitor Days*	Total Visitor Days
Yukon River Bridge	3,720 vehicles x 2.5 people per vehicle	= 9,300	x 1.0 =	9,300
Arctic Circle	3,720 vehicles x 75% x 2.5 people per vehicle	= 6,975	x 0.5** =	3,488**
Coldfoot	3,720 vehicles x 50% x 2.5 people per vehicle	= 4,650	x 3.0** =	13,950**
<b>Total Visitor Days</b>				<b>26,738</b>

\* A visitor day is defined here as a visit by a person for the purpose of engaging in any recreation activity for a period of 12 hours.

\*\* This figure represents additional visitor days from the Yukon River, not total visitor days.

## Mineral Resources

### LOCATABLE MINERALS

#### Active Claims

There are approximately 3,600 properly located and maintained mining claims within the planning area. Due to existing withdrawals, resource values and access provided by the Dalton Highway, most of these claims are located within the Utility Corridor south of 68° N latitude. Table 3.9 provides a summary of existing claims in the planning area.

**Table 3.9****Lode and Placer Claims in Planning Area\***

Areas	Lode	Placer	Total
Corridor North of 68°	0	19	19
Corridor South of 68°	410	3147	3557
CAMA outside of Corridor	0	0	0
Venetie Block	0	14	14
<b>Total</b>	<b>410</b>	<b>3180</b>	<b>3590</b>

\* As of December 30, 1986

## Mineral Potential

The potential for finding significant new mineral deposits within the planning area is greatest between 67° and 68° N latitude. Several smaller areas within this region exhibit very high potential for locatable mineral occurrence. This evaluation is the result of a study by the State of Alaska, Division of Geological and Geophysical Surveys (ADGGS) using a methodology called ROCKVAL (for a description of ROCKVAL see to *Introduction to ROCKVAL* by Barbara White in Dillon, et al., Draft Report 1985).

In general, the categories of mineral potential found in the planning area may be described as follows:

**Low Potential.** There are two areas of low potential. One area lies between the Yukon River and the foothills of the Brooks Range (including the Venetie Block). Rocks in this area are not extensively deformed or faulted. Intruded rocks are generally of the type that have not developed mineral deposits of any size or grade. The second area of low potential is the region from the northern flank of the Brooks Range across the foothills to the Arctic Ocean. The area is characterized by thick sedimentary rock, indirect geophysical evidence which suggests a low potential. Only minimal direct evidence suggests that there would be a higher potential for locatable minerals. The mineral potential of both areas is assigned a ranking of "Low/B" (BLM Manual 3031).

**Moderate Potential.** Planning area lands of moderate mineral potential include a small block of land in the Fort Hamlin Hills (a zone of rocks from Prospect Creek northward through the Brooks Range to the crest of Atigun Pass) and the area known as the Nigu Block, adjacent to NPR-A. These areas are characterized by metamorphic rocks and intruded granitic plutons that have formed favorable areas of mineral deposits. Direct evidence support s the occurrences of these deposits, but not enough evidence to quantify the size of any deposit is available. These areas of moderate potential have been assigned a ranking of "Moderate/C" (BLM Manual 3031).

**High Potential.** A region of high potential is located within the core of the Brooks Range. Beginning near Coldfoot and extending northward to the crest of the Brooks Range, this region also extends outside the planning area to the east and west for hundreds of miles. There is abundant historical and direct evidence of the existence of minerals through the active mining operations in the region. Areas without active mining in this high potential region have been assigned a ranking of "High/C" while the areas encompassing the active mines are assigned a rank of "High/D" (BLM Manual 3031).

Types of mineral occurrences are not assigned to the above described ranking. In general, the areas rated as having very high mineral potential are favorable for lode and placer gold production. The mineral potential of the other areas depends on the geology and geologic processes present and is highly variable from south to north in the study area. Table 3.10 provides a summary of mineral potential and current availability of planning area lands to mineral location; note the proposed plan would open substantially more lands to mineral location (Chapter 2).

**Table 3.10**  
Areas Currently Open and Closed to Mineral Location\*

	Locatable Mineral Potential			
	High	Moderate	Low	Total*
Open	133,000	214,000	1,332,000	1,679,000
Closed	90,000	672,000	3,365,000	4,127,000

\* The figures do not include the approximately 274,000 acres of low potential split estate lands (mineral estate is owned by ASRC).

As to specific mineral occurrences the ADGGS report states that:

"The Dalton Highway Corridor has known lode gold, copper-molybdenum porphyry, [and] skarn deposits. It also includes areas that are regionally favorable for deposits of syngenetic lead-zinc and barite, volcanigenic massive sulfides, and greisens. The Upper Koyukuk gold district, the most productive gold district in the Brooks Range, lies within the corridor. The [genetically related] Chandalar gold district lies just 40 miles to the east. Lode gold deposits in these districts are the source of spatially associated gold placer deposits.... The copper-rich "schist belt" strikes through the corridor and more Devonian volcanic rocks per unit are found in some parts of the corridor than are found in the Devonian volcanigenic massive - sulfide rich Ambler district. The Ambler District is Alaska's richest and largest massive sulfide district and is one of the most continuous volcanigenic massive sulfide belts in the world. Finally, there are good lithologic and geochemical syngenetic indicators of lead-zinc and barite deposits within the Dalton Highway Corridor." (Dillon et al., draft report, 1985:195.1).

The ADGGS draft report concludes that the following deposit types are likely to occur in the Utility Corridor between 67° and 68° N latitude:

1. Gold placers - silver, gold;
2. Gold lodes and polymetallic vein deposits - gold, silver, antimony;
3. Lead-zinc massive sulfides - lead, zinc, silver, BaSO<sub>4</sub> (barite);
4. Tin greisens - tin;
5. Copper skarns - copper, silver, cobalt, lead, zinc;
6. Copper porphyry - copper, molybdenum;
7. Copper-zinc-lead massive sulfides - copper, lead, zinc, silver, gold.

The gross recoverable value of these mineral commodities, as estimated by the ADGGS report, is displayed by Table 3.11.

None of the mineral potential of CAMA has been analytically evaluated. However, based upon the similarity of rocks found within the National Petroleum Reserve - Alaska (Drenchwater Prospect), and further west at the Red Dog and LIK properties, the potential for locatable minerals occurrences along the northern foothills of the Brook Range within CAMA (including the Upper Nigu Block) should be considered moderate. As more geologic exploration of the area occurs these mineral potential evaluations may change.

## LEASABLE MINERALS

### *Hydrocarbons*

The hydrocarbon potential within the planning area north of the Brooks Range (i.e., within CAMA) is excellent. There are at least twelve known fields within CAMA and at least three more just west of the study area in the National Petroleum Reserve - Alaska. Figure 3.1 displays the oil fields and exploratory wells on the North Slope. Using BLM's mineral potential classification system (Appendix F), most lands within CAMA are considered to have a high potential for the occurrence of hydrocarbons. Only those lands within the Brooks Range are considered to have a low potential. The "Hydrocarbon Potential" map at the end of this chapter delineates BLM classifications of hydrocarbon potential within the planning area. The following is a brief description of the hydrocarbon potential of CAMA as shown on that map.

*Low Potential.* An area of low potential lies between the northern base of the Brooks Range and south to 68° N latitude. The area contains intensely deformed, rugged mountains. Although rocks further north in the area have known source and reservoir potential, and areas of the same structural type as the overthrust belt in Wyoming, Idaho and Utah are present, there is no direct evidence of any hydrocarbon potential in this area.

*Moderate Potential.* At the time the draft RMP/EIS was published, certain lands within CAMA were classified as having a moderate potential for hydrocarbons, the classification of these lands has been changed. These lands are now classified as being of high potential.

*High Potential.* Just north of the Brooks Range lies an area of high hydrocarbon potential (level of certainty D). This area closely corresponds to the northern Brooks Range foothills. This area



**Table 3.11**

Summary of the Results of the Dalton Highway Corridor Assessment, Trans-Alaska Pipeline Utility Corridor\*

Commodity	Resource Endowment <sup>1</sup>				Recoverable Resources <sup>2</sup>				Gross Recoverable Value <sup>3**</sup>			
	Average	95% Fractiles	50%	5%	Average	95% Fractiles	50%	5%	Average	95% Fractiles	50%	5%
Gold (10 <sup>3</sup> oz)	1,090.0	180.0	690.0	3,300.0	549.0	36.0	260.0	2,200.0	174.0	12.0	81.0	710.0
Silver (10 <sup>3</sup> oz)	6,600.0	23.0	240.0	300,000.0	45,500.0	3.9	35.0	220,000.0	305.0	0.0	0.2	1,400.0
Antimony (tons)	16,100.0	0.0	2,700.0	82,000.0	8,300.0	0.0	0.0	54,000.0	20.7	0.0	0.0	130.0
Copper (10 <sup>3</sup> tons)	292.0	0.0	32.0	1,506.0	140.0	0.0	0.0	850.0	182.0	0.0	0.0	1,100.0
Molybdenum (10 <sup>3</sup> tons)	1.2	0.0	0.0	0.5	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Zinc (10 <sup>3</sup> tons)	2,050.0	0.0	50.0	10,000.0	1,340.0	0.0	0.0	5,700.0	1,210.0	0.0	0.0	5,100.0
Lead (10 <sup>3</sup> tons)	1,110.0	0.0	10.0	4,600.0	668.0	0.0	0.0	2,800.0	254.0	0.0	0.0	1,100.0
BaSO <sub>4</sub> (10 <sup>3</sup> tons)	10,500.0	0.0	0.0	43,000.0	5,530.0	0.0	0.0	13,000.0	5.5	0.0	0.0	13.0
Cobalt (tons)	97.0	0.0	0.0	250.0	5.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Tin (tons)	37.0	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Coal (10 <sup>3</sup> tons)	4,400.0	250.0	3,000.0	15,000.0	--	--	--	--	--	--	--	--
Sand & Gravel	--	--	--	--	--	--	--	--	--	--	--	--
Gross Ore Value	--	--	--	--	--	--	--	--	2,150.0	13.0	130.0	10,000.0

<sup>1</sup>Subject to limitations of mode occurrence set by appraisers.<sup>2</sup>That portion of the resource endowment amenable to profitable exploration based on 'net-present-value' calculations.<sup>3</sup>Calculated using 1985 metals prices.

\*Source: Dillon et al. draft report (1985)

\*\*In millions of 1985 dollars.

Arctic

Ocean

South Barrow

East Barrow

Simpson

Kaparak River

Prudhoe Bay

Pt. Thompson

Elaxman Island

Fish Creek

Meade

NPRA

Square Lake

Wolf Creek

Umiat

Gubik

East Umiat

Kemik

Kavik

BROOKS

RANGE

ANWR

### Northern Alaska Petroleum Resources

Figure 3.1 Petroleum deposits and exploratory wells on the North Slope of Alaska. Wells within outline of oil and gas fields are not shown and may be quite numerous, e.g., in Prudhoe Bay Field. Data are current through 1978. (Bird, 1981)

Scale in Miles

0 50 100 150

### Legend

● Exploratory well

□ Gas field

◐ Oil field



contains known source and reservoir rocks in a structure ranging from simple anticlines to complex thrust faults. There are five known fields within the area and approximately thirty-six wells. Although most of the wells are considered "dry holes," there is abundant direct evidence to indicate a high potential for hydrocarbon occurrence in this area.

Beginning just north of the Brooks Range foothills lies another area having high potential for hydrocarbon occurrence, but with a lower level of certainty (level C) than the adjacent high potential areas to the south and north. At the time the draft RMP/EIS was published this area was classified as having a moderate potential for hydrocarbon occurrence. It extends to approximately 12 to 24 miles south of the coast. The area is known to contain both source and reservoir rocks, with gentle dips and few readily apparent structures to trap hydrocarbons. There is a possibility that stratigraphic traps or subtle structural traps exist in the area. The available data provide direct evidence that the area is of high potential, but are quantitatively minimal.

The remaining area of high potential (certainty level of D) lies along the coast over the Barrow Arch. This area contains at least seven fields, including the giant Prudhoe Bay Field and numerous wells, and known source and reservoir rocks. The rocks either drape over the Barrow Arch, or truncate against it, creating both structural and stratigraphic traps. There is abundant direct evidence that this area has a high potential for hydrocarbons.

The hydrocarbon potential of the southern portion of the planning area is dramatically different from that of the northern portion and ranges from zero to moderate ("Hydrocarbon Potential" map). The following is a brief description of the hydrocarbon potential of the southern portion of the planning area as shown on that map:

*Moderate Potential.* The areas of moderate hydrocarbon potential correspond closely with the Kanuti Flats and its underlying sedimentary basin. There have been no wells drilled, nor has much exploratory work been done. However, rocks of the types and ages found here are known to produce in other areas. Some geologic mapping in the area (Brosge et al., 1973; Patton and Miller, 1973) does show structures that could be potential traps. There is both direct and indirect evidence of moderate potential in this area.

*Low Potential:* The areas of low hydrocarbon potential are comprised of the Brooks Range, those areas between the sedimentary basins, and the igneous and metamorphic rocks in areas with no hydrocarbon potential. There is good indirect evidence, but no direct evidence, of hydrocarbon potential within the Brooks Range; therefore considering the structural complexity of the area, it was assigned a low potential. The other areas of low potential are structurally complex, and lie between the sedimentary basins underlying Kanuti and Yukon Flats, and the igneous and metamorphic rocks of the Yukon-Tanana Uplands. These areas contain both crystalline (igneous and metamorphic) and sedimentary rocks, such as those found in the nearby sedimentary basins. Although there is some indirect evidence of hydrocarbon potential, these areas were assigned a low hydrocarbon potential.

*No Potential.* The areas of no hydrocarbon potential correspond to areas of igneous and metamorphic rock (Beikman 1980). As long as current theories on hydrocarbon generation are accepted, these rocks must be considered to have no hydrocarbon potential.

## Coal

Within the planning area local coal resources have not been identified south of 68° N latitude. On the other hand, CAMA contains significant resources of both subbituminous and bituminous coal. Approximately 2,400 square miles of the Arctic Coastal Plain are underlain by subbituminous coal resources, and approximately 1,000 square miles of the Arctic Coastal Plain and 1,500 square miles of the Arctic Foothills of the Brooks Range are underlain by bituminous coal reserves.

The only reserve calculations for coal in CAMA were done by Chapman, et al. (1964). They calculated the reserves for a two square mile area on the southern bank of the Colville River one mile downstream from the mouth of the Oolamagavik River to be just over 1 million tons of recoverable coal with overburden not exceeding 100 feet. If this reserve calculation is extrapolated over the bituminous reserves in the southern foothills, the recoverable reserve is over 1.5 billion tons. However, the coal resources of CAMA are considered uneconomic in the foreseeable future.



## MINERAL MATERIALS

The planning area is currently open to the operation of the mineral material disposal laws and regulations. The disposal of mineral materials is at the discretion of BLM.

Mineral materials (usually sand and gravel) were used in the construction of the Trans-Alaska Pipeline System (TAPS). This construction project required approximately 40 million cubic yards of materials for the pipeline bed, access roads, pump station pads, and other related facilities. In addition, about 24 million cubic yards of mineral material was used to construct the Dalton Highway paralleling the pipeline. Of the over 100 individual material sites developed to meet this large volume of gravel, only twenty are currently active.

Depending on the location, there are several geologic types of mineral materials available for use as construction and maintenance materials within the planning area. Generally, the amount of material existing in an area is virtually unlimited in quantity, but quality can be marginal. The best quality sand and gravel deposits are found in modern floodplains, terraces, and glacial outwash deposits. Deposits of lower grade material are found in alluvial fans and kame and kettle deposits.

Although mineral material in the planning area appears unlimited, the amount actually available for use is low because of various management constraints such as the prohibition of gravel extraction within an active stream channel, poor quality of suitable material for aggregate, or seasonal restrictions for protecting raptor habitat.

The primary users of mineral material in the planning area are the State of Alaska and Alyeska Pipeline Service Company, who use in excess of 150,000 cubic yards, with an estimated value greater than \$50,000 annually, for road and pipeline maintenance within the planning area. Of this total, north of 68° N latitude (i.e., in CAMA), the amount of material used by these two groups is about 35,000 cubic yards of material worth approximately \$10,000. Along the Dalton Highway the material sites range from six to twenty miles apart.

For areas outside the Utility Corridor, no requests have been received for mineral materials since 1982, and no active or inactive sites currently exist. The only need for materials outside the Corridor has been in CAMA for facilities associated with oil and gas exploration, such as drill pads and airstrips. The average amount of material requested for each exploration well has been approximately 50,000 cubic yards of material.

## Cultural Resources

There are 269 known archeological sites within the Utility Corridor, almost exclusively within the inner Corridor, and an additional 46 known within CAMA. There is only one known archeological site within the Venetie Block. The scarcity of data for the Venetie block is due entirely to insufficient survey in that area. Most of the site discoveries in the planning area are the result of survey work done for the Trans-Alaska Pipeline System. These sites range in age from historic to probably more than 10,000 years old and represent a variety of aboriginal cultures relating to the ebb and flow of cultural boundaries and the development of both Eskimo and Indian cultures within the state. Of the known sites, 127 have either been totally excavated or otherwise destroyed; the records and artifacts are all that remain.

There are several concentrations of prehistoric occupation along the Corridor and in CAMA. To some extent, these concentrations represent survey methodology; some areas were surveyed more thoroughly than others. For instance, in CAMA the only comprehensive survey has been in the Iteriak Creek area to the west. Within the Corridor, only the inner Corridor has been studied. Thus, the Venetie Block, central and eastern CAMA, and the outer Corridor have been only lightly inventoried, if at all.

There are concentrations of cultural resources near the following areas (from south to north using Dalton Highway milepost figures):

1. Old Man Camp (milepost 107)

2. Bonanza Creek (milepost 118)
3. Prospect Creek/Jim River (milepost 136-147)
4. South of Cathedral Mountain (milepost 166)
5. Wiseman (milepost 186)
6. Galbraith Lake (milepost 227)
7. Toolik Lake (milepost 284)
8. Slope Mountain (milepost 298)
9. Iteriak Creek (western border of CAMA)

The Old Man sites are primarily small flaking stations associated with bare hill lookouts. Most of them have been excavated, or are of such a scattered nature that they have utility for scientific or interpretive purposes only as a group. They do indicate that further development in the vicinity will reveal more sites, and mitigation may be a concern. Those sites near the road which were not excavated should be collected, or they will be indirectly impacted by casual visitors, already occurring at some sites.

Near Bonanza Creek, the sites are almost all located on finger-like ridges which project into and command good views of the flat valley floor. An exception is BET-022, the Island Site, which is a long-term campsite rather than a game lookout location.

The valley north of Prospect Creek and along the Jim River to Grayling Lake contains some highly significant buried sites. The sites that made up the Girl's Hill locality have been excavated, although there may be an associated base camp in the vicinity. The valley serves as a north-south corridor for animals, and it seems probable that most sites were situated for improved visibility for spotting game; all of the sites are located on slight elevations. The northerly or southerly aspects of the sites probably indicate whether sites were occupied in the spring or all for intercepting caribou herds.

The sites clustered just south of Cathedral Mountain are situated on lateral or terminal moraines or kames scattered through the flats. All of them have good lookout potential and appear to be hunting camps.

A number of prehistoric sites were located along the pipeline route on the east side of the Middle Fork Koyukuk River, opposite the town of Wiseman. These sites are located on the northern and southern margins of the many moraines which served as impediments to the movements of migratory caribou and concentrated them for the prehistoric hunters. Many of the sites are buried and intact, increasing their potential significance. Previous surveys were restricted to the pipeline right-of-way, but there are undoubtedly more sites in the vicinity, possibly including larger base camps.

Several sites in the Galbraith Lake vicinity have been nominated to the National Register. These include the Mosquito Lake, Aniganigaruk, and Atigun sites. The latter still contains much cultural material that could be significant in unraveling the prehistory of Athapaskan occupation of the North Slope. The same is true of the shoreline and low hills immediately around Toolik Lake. A large number of tent ring clusters, some of which have been excavated, may have considerable significance to the comparative study of late Eskimo occupations across the North Slope.

Immediately to the south and east of Slope Mountain are several sites, including the National Historic Landmark site of Gallagher Flint Station, that pertain to earlier phases of the Eskimo culture. Most of these have been excavated and are fully studied. Some, however, are intact, and near enough to the Dalton Highway to be in jeopardy from vandalism or inadvertent disturbance.

The Iteriak Creek area, on the western part of CAMA, contains a large number of sites. Most of these have not been excavated and may have a relatively high significance. One, the Mesa Site, is being nominated to the National Register.

On the basis of the topographic settings of known sites, it can safely be assumed that a considerable number of additional sites are located in areas which have not been surveyed. (These settings are also ideal for gravel or rip-rap material sources; 57 sites or 18% were found within such material sources.)

There are some 25 sites at present known which may be eligible to the National Register. Some definitely are of National Register quality, and nominations have already been prepared. The others are

considered significant, but formal determination procedures have not been implemented. The Gallagher Flint Station has already been listed and is a National Historic Landmark. The Killik Bend site, along the Colville River, is a late Prehistoric Contact Period site, is probably eligible, but is eroding into the river.

## Socioeconomic Resources

### POPULATION AND EMPLOYMENT

A population of approximately 7,500 lives within or near the boundaries of the planning area. About 62 percent of this population is considered residential. The remaining 38% of the population is divided among Alaska Department of Transportation facilities, pump stations operated by Alyeska Pipeline Service Company and the Prudhoe Bay complexes, and are housed in these development facilities. Most of the residential communities in the area are isolated from the more transient populations by distance and limited accessibility.

These populations are not only divided by location and degree of residency, but also by cultural distinctions. The Native population, which is 81% of total permanent population, may be further categorized into 88% Inupiat Eskimo located within the North Slope Borough and 12% Athapaskan Indian located within the Doyon Region. These two cultural groups have different employment and development experiences.

#### *North Slope Borough*

Within the North Slope Borough village population is primarily Alaskan Native with Inupiat comprising 94 percent of the Anaktuvuk Pass population, 90 percent of the Kaktovik population, 87 percent of the Nuiqsut population and 78 percent of Barrow's population. Barrow is the only area to show consistent changes in the Native proportion of the population. In 1970, 90 percent of Barrow's population was Native compared to 78 percent in 1980. A special census conducted by the North Slope Borough in 1986 (North Slope Borough 1986) found that the Native population was 60 percent of the total population. The North Slope Borough's *Draft Comprehensive Plan* (1981) assumes a population growth from 3 percent to 5 percent a year for Barrow, and 2 percent to 3 percent a year for Anaktuvuk Pass, Kaktovik and Nuiqsut. With the lower growth assumption, the population would be 4,453 in 1990, 5,115 in 1995 and 5,878 at the end of the century. Table 3.12 summarizes population changes in selected North Slope Borough villages.

Overall, the North Slope Borough's economy is dominated by an oil production industrial base. The Prudhoe Bay oil field, which began producing a projected 9.6 billion barrels of recoverable crude oil in 1977 (Wickersham and Flavin 1983), is the major underpinning of the Borough's economy. By 1985, 45 percent of the 9,234 workers employed in the borough were employed in mineral development, followed by 15 percent in local government, 14 percent in construction, and 12 percent in services. Total aggregate employment showed an almost constant increase until 1983, growing from about 2,000 workers in 1970 to 11,217 in 1983 (North Slope Borough 1985). Since 1983, employment has fallen to a little over 9,000 in 1985.

Permanent residents typically work in other than oil related occupations. In 1980, only 3.7 percent of the 4,874 North Slope employees at oil-related work sites in the Borough were permanent residents (Swanson 1983). Employment opportunities for permanent residents, particularly Inupiat, in the North Slope Borough have been augmented by increases in local government hire. The Borough is the dominant force in the local cash economy. It collects substantial taxes on oil industry properties at Prudhoe Bay (Institute of Social and Economic Research 1983), and borough revenue has risen from \$528 thousand in 1973 (Wickersham and Flavin 1983) to \$369 million projected for the 1986 fiscal year (North Slope Borough 1986). To illustrate that employment changes correlated to borough revenues and expenditures, the Borough employed 19 workers in 1972 (Wickersham and Flavin 1983), which rose to 1,579 by 1985.



**Table 3.12**

Population Summary for Selected Villages in the North Slope Borough 1980-1985

Community	1980	1981 (%)	1982 (%)	1983 (%)	1984 (%)	(1985 (%)
Anaktuvuk Pass	203	235 (15.7)	250 (6.4)	228 (-8.8)	232 (1.7)	278 (19.8)
Kaktovik	165	201 (21.8)	214 (6.5)	203 (-5.1)	208 (2.3)	220 (5.8)
Nuiqsut	208	270 (29.8)	287 (6.3)	324 (12.9)	309 (-4.6)	332 (7.4)
Barrow	2207	2539 (15.0)	2882 (13.5)	2938 (1.9)	2930 **	3075 (4.9)
Village Totals	2783	3245 (16.6)	3633 (11.9)	3693 (1.7)	3679 **	3905 (6.1)

SOURCE: Alaska Department of Community and Regional Affairs, Division of Local Government Assistance, Juneau (personal communication 1985).

\* Figure represent the percent change in population during the previous interval.

\*\* Less than 1/2 of one percent change.

Between 1970 and 1977 median Native household income increased 60 percent from \$6,923 to \$17,347 (Wickersham and Flavin 1983). Median income for all households was \$31,378 in 1979 (U.S. Census Bureau 1983). In 1979, 12 percent of all borough households received some public assistance income.

North Slope unemployment was 8.4% in April 1986, the second highest unemployment rate recorded for any April since 1981. Generally, the unemployment rate falls below the Alaska statewide average, which was 11.4% in April 1986. Alaska Department of Labor methodology may underestimate some unemployment since research methods include workers who are considered residents living at Prudhoe Bay and Deadhorse.

### *Planning Area South of the North Slope Borough*

The total population south of the North Slope Borough boundary within or near the planning area was 806 in 1984. Most of this population lives in six scattered, principally Athapaskan, communities. Access to area villages is primarily limited to either air or water traffic, although Evansville/Bettles maintains a winter road and Wiseman is adjacent to the Dalton Highway. Within development areas, only Coldfoot can be considered a potential community, primarily because of the population resurgence at Wiseman and continuing small populations at Nolan, Linda Creek, Emma Creek, and Tramway Bar mining sites.

Most of the village populations have remained stable between 1980 and 1984, growing only 1.5 percent per year, very similar to the growth between 1970 and 1980 (Bureau of the Census 1983). Only Allakaket displayed significant growth, growing from 133 individuals in 1980 to 175 in 1984. The recent population increase in Wiseman, however, is attributed to the development of Coldfoot. Many of the Wiseman residents were at one time employed in Coldfoot. Thus, the Wiseman population has grown from about 10 individuals in 1980 to 30 permanent and 4 seasonal residents in 1986.

The size of development node populations is dependent upon the amount of vehicular traffic moving up and down the Dalton Highway. Table 3.13 provides a summary of village and development area populations.

**Table 3.13**  
**Baseline Population for Planning Area South of the North Slope Borough**

Native Villages <sup>1</sup>	Pop #	Other Villages/ Communities	Pop #	Development Areas <sup>2</sup>	Pop #
Rampart	50	Wiseman	34	Pump Station	—
Stevens Village	96	Nolan	11	Pump Station	—
Bettles/Evensville	94	Linda Creek	3	Coldfoot DOT	6
Venetie	132	Emma Creek	4	Coldfoot Node	9
Alatna	30	Tramway Bar (seasonal)	8	7-Mile DOT	10
Allakaket	133				
<b>Total</b>	<b>712</b>		<b>60</b>		<b>34</b>

Sources: U.S. Department of Commerce, Bureau of the Census, *American Indian Areas and Alaska Native Villages 1980* (Washington D.C.). Marie Mead, Wiseman, Alaska 1986 (personal communication).

<sup>1</sup>Estimated 1984 village resident population includes all of the villages except Alatna. The Alatna population is based on the 1980 U.S. Census materials.

<sup>2</sup>The U.S. Census Bureau and the Alaska Department of Labor only provide data for designated places. Thus, Wiseman, Nolan, Coldfoot, Yukon Crossing and other development areas have no recorded population for either 1980 or 1984. The populations used for these areas are based upon data gathered during the summer of 1986.

Evansville/Bettles, located 190 miles north of Fairbanks on the Koyukuk River outside the planning area, serves as the transportation hub and service center for Allakaket/Alatna, Wiseman, Anaktuvuk Pass, and several mining operations. The major source of income in Evansville is the Federal Aviation Administration. This area contains the largest non-Native population (71 percent) in the vicinity of the planning area (U.S. Bureau of the Census 1983).

Venetie is located within the region allocated to the former Venetie Reservation. Venetie is totally dependent upon air transport for supplies. Like many of the smaller isolated communities, Venetie is dependent on subsistence activities and some tourism. Venetie is 98 percent Native Alaskan.

Stevens Village is a small community located on the Yukon River, close to the Yukon Crossing. Employment opportunities are limited to local construction activity and to the operation of the local school. Some residents engage in trapping and two families operate a commercial fishing business. There is an airport, a fuel supply business, and two small stores.

The economy along the Dalton Highway focuses on servicing the vehicular traffic that moves tourists and recreationists to spots terminating at Disaster Creek or trucks that carry supplies to and from Prudhoe Bay. Recreational and tourist travel in this area is limited. It has been estimated that only 20 to 30 private (recreational) vehicles travel the road per day for a three-month summer season, or 1,800 to 2,700 vehicles during this period. About one-quarter of these tourists end their journey at the Yukon River, another one-quarter end their journey at the Arctic Circle and the remainder continue to Coldfoot or points beyond. Because Coldfoot only hosts one-half of this tourist/recreationist traffic, it has been more dependent upon the trucking business than Yukon Crossing. However, recently Coldfoot has become part of a tour package offered out of Fairbanks. This package includes a bus tour that travels the Dalton Highway, stops at Coldfoot, and continues to Deadhorse. In 1988 approximately 4,000 people participated in this tour.

Mining is also a major economic activity in this area. There are about 13 active mining operations in the vicinity of Wiseman. This region produced about 14,400 ounces of gold in 1985 (Alaska Division of Ecological and Geophysical Surveys 1985). Since the average price of gold was about \$325 an ounce during 1985, the product value approximated \$4.7 million. The Department of Transportation facility sites located at Coldfoot and the Yukon Crossing employ sixteen people. There are two hunting guide businesses that operate out of Wiseman, and a small store that caters primarily to the Wiseman community.

It is estimated that unemployment in rural Interior villages ranges from 30 to 50 percent in the summer season and higher during the winter months (Tanana Chiefs Conference 1985). Median family income in the Interior villages is low. Family income in 1979 ranged from a low of \$6,250 in Stevens Village to \$11,000 in Allakaket (U.S. Bureau of the Census, 1983). Only Evansville/Bettles showed a marked difference with a median family income of \$29,000.

## DEVELOPMENT NODES

The development node concept originated during the planning process for the Utility Corridor Management Framework Plan (BLM, 1979) to overcome scattered or random development of facilities needed to maintain the Dalton Highway, to provide services to the road users, and to provide housing and storage needed by governmental agencies managing land on or near the Dalton Highway. The needs of the general public were not considered because the road was closed to the public north of the Yukon River when the plan was completed in 1979.

The five node areas currently within the Planning Area are:

- 1) The Yukon Crossing/Five Mile area extending from the Yukon River north for about five miles;
- 2) Prospect, located about 80 miles north of the Yukon River at the intersection of the trail to Bettles;
- 3) Coldfoot, located about 40 miles north of Prospect at the intersection of the Slate Creek Trail;
- 4) Chandalar, located about 62 miles north of Coldfoot, just inside the North Slope Borough boundary and about seven miles south of Atigun Pass; and
- 5) Pump Station No. 3, located about 75 miles north of Chandalar camp and about 100 miles south of Deadhorse/Prudhoe Bay.

## Current Activities

Two primary land uses are currently permitted in these nodes: (1) necessary governmental facilities (e.g., highway maintenance camps), and (2) commercial development related to road use.

*Yukon Crossing/5-Mile Node:* There are several commercial and governmental facilities within this area. The commercial operator, under lease from BLM, provides services for road travelers with fuel, wrecker and repair service, food, and lodging. A barge landing on the Yukon River is operated under a sublease from Alaska Department of Transportation and Public Facilities.

Alyeska operates an airstrip close by 5-Mile Camp under a temporary use permit from BLM. Also nearby is the (dismantled) 7-Mile construction camp, the AK DOT/PF road maintenance camp and a Northwest Alaska Pipeline Company "fly camp."

*Prospect Node:* Pump Station 5 is located within the Prospect node, and the State of Alaska has a lease on an adjacent airstrip. Nearby is the Jim River AK DOT/PF road maintenance camp built under a temporary use permit from BLM. The AK DOT/PF was not successful in finding another site more suitable for a permanent maintenance camp and has made a substantial commitment to remaining at the Jim River site. If this area is not opened to state selection, BLM may grant a right-of-way for the present site.

*Coldfoot Node:* Coldfoot has the greatest concentration and diversity of development within any node. Both BLM and the National Park Service (NPS) have administrative and housing sites in Coldfoot; the NPS site is open during the summer, and the BLM site is used intermittently by employees working in the area. A United States Post Office has been opened in Coldfoot. The BLM site at the intersection of the Dalton Highway and the Slate Creek Trail contains an old cemetery with potential for National Historic Site registration. A commercial operator, under lease from BLM, provides fuel, food, vehicle repair services and lodging for travelers. The State of Alaska maintains a public airstrip within the node and also has a highway maintenance camp here.

*Chandalar Node:* Only government facilities are located within this node. BLM has a building to house employees working in the area, and the State of Alaska has an airport lease and a road maintenance camp. The state also has relocated its highway permit checkpoint station from Disaster



Creek to Chandalar (note: the road remains closed at Disaster Creek south of the actual checkpoint station).

*Pump Station 3 Area Node:* The state's Slope Mountain road maintenance camp is at material site 119-4 about six miles south of Pump Station No. 3.

## Subsistence

### GENERAL DESCRIPTION

The major types of subsistence activities occurring in or near the planning area include the following:

- 1) hunting of moose, caribou, brown and grizzly bear, Dall's sheep, hare, and a variety of waterfowl;
- 2) fishing for salmon, char, cisco, grayling, and other varieties of fish;
- 3) trapping of various furbearers, including beaver, marten, fox, wolf, wolverine, marmot, etc.;
- 4) collecting of various plant resources for food and other needs, including berries, roots, seeds, fuel wood and construction materials; and
- 5) utilization of water resources for drinking and food processing needs.

Subsistence activities usually occur within 50 miles of local villages although some individuals, particularly trappers, may exceed this distance. Certain fish and wildlife resources, such as migratory caribou, salmon, and waterfowl, used for subsistence are drawn from a larger area. Other species, such as moose and smaller animals, are more localized.

Human access to subsistence resources varies by season and location. Year-round access methods include foot transportation, use of scheduled and chartered airlines services, and use of all-terrain vehicles and other forms of mechanized travel. The Dalton Highway is open year round and facilitates access to areas used by both subsistence and sports users. Seasonal access methods include the use of boats with motors in the summer and the use of snow machines in the winter. Since the 1970s, dog sleds are rare to nonexistent as a form of winter transportation for subsistence purposes.

### CURRENT SUBSISTENCE RESOURCE USES

#### *Rampart:*

The majority of subsistence uses by residents of Rampart occur outside the planning area. Some trapping and moose hunting may take place along the portion of Hess Creek at the southern most portion of the planning area. Similar use is likely for portions of Isom Creek and the Yukon River valley about 20 to 30 miles northeast of Rampart. On the north side of the Yukon River, hunting and trapping may extend into the lower reaches of the Big Salt River (based on general statements made in a BLM meeting held in Rampart in December, 1983).

#### *Yukon Crossing:*

Known subsistence use of the Corridor area at Yukon Crossing in 1981 included some trapping and two or three permanent fish camps utilizing fish wheels. The temporary fueling station currently located at Yukon Crossing provides fuel for riverboats of some subsistence users (USDOI, BLM 1981).

Fish harvest statistics maintained by the State of Alaska Division of Commercial Fisheries include data on reported salmon and white fish catches between the mouth of Hess Creek and Stevens Village, a 60-mile area which includes the Yukon Crossing. In 1985, this region had harvest totals of 35,449 salmon and 2,534 white fish (Alaska Department of Fish and Game, Division of Commercial Fisheries 1985). Statistics for commercial fishing in 1984 on a larger stretch of the Yukon River from Rampart upstream to Waldron Creek, which enters the Yukon River between the Yukon River Bridge and

Stevens Village, report harvests of 9,415 chum salmon and 1,568 chinook salmon (Alaska Department of Fish and Game, Division of Commercial Fisheries 1984). While most subsistence users of Yukon River fish are distinct from commercial users, there is some overlap. Depending on the season, certain individuals may fish from the same location as first one category of user and then the other. Also, summer sports fishing occurs to some extent near the Yukon Crossing by visitors accessing the area via the Dalton Highway.

*Stevens Village:*

Residents of Stevens Village travel in all directions for a variety of subsistence activities. The Ray River watershed has been "traditionally used, occupied, and governed by the Native Alaskan members of Stevens Village" for hunting, trapping and other purposes (USDOI, BLM, 1986:138-375). This area extends northward from the Yukon River 25 or more miles through the Fort Hamlin Hills. Residents of Stevens Village are also documented to have used portions of the Fort Hamlin Hills around and south of the West Fork Dall River for trapping and moose hunting during the period 1974 to 1984 (Sumida and Alexander, 1985; Sumida 1988). Additionally, trapping has traditionally occurred within the Corridor northward to the vicinity of Old Man although present day use is not frequent (based on general statement made in a BLM meeting held in Stevens Village on May 13, 1986). Further, localized berry picking and wood use by residents of Stevens Village occurs along the Yukon River, particularly in the vicinity of several Native allotments and fish camps on the north side of the Yukon River.

*Allakaket/Alatna:*

The villages of Allakaket and Alatna are located on opposite sides of the Koyukuk River near the mouth of the Alatna River, approximately 45 miles west of the planning area. While most subsistence activities by residents take place on lands west of the planning area, some reported uses do occur within the Utility Corridor. In 1981, residents were reported to travel up the Kanuti River for trapping and caribou hunting in the spring and for moose hunting in the fall (USDOI, BLM, 1981). In particular, the area around Olson's Lake, about five miles south of Old Man near the Kanuti River, is utilized for beaver trapping (Nelson, Mauntner, and Bane 1982, Map B-10).

Additional trapping, fishing and limited moose, bear, and waterfowl hunting occurs along portions of Fish and Bonanza Creeks, and northwest of Old Man near Hulgothen Bluffs (McGee, McIntosh and Strong 1985, figures 6 and 9). Furbearers trapped in this vicinity include wolf, wolverine, marten, mink and beaver (BLM meeting in Allakaket, May 13, 1986).

Elsewhere, other subsistence activities, such as fishing, trapping and moose hunting up the South Fork of Koyukuk River, extend somewhat into the planning area from the intensively used Kanuti Flats area west of the Corridor (Marcotte and Haynes, 1985; Nelson, Mauntner, and Bane 1982, Map B-13; McGee, McIntosh and Strong 1985, figure 4; USDOI, BLM, 1981).

*Prospect Creek:*

Approximately seven households are reported established in the vicinity of Pump Station 5 at Prospect Creek/Jim River. Residents are AKDOT/PF employees involved with highway maintenance. Their subsistence uses include localized fishing in Jim River and Prospect Creek, plus localized hunting and trapping in the area (Personal Communication, B.J. Strong February 18, 1986 and May 13, 1986). Otherwise, use of the area of Prospect Creek is reported for people of Bettles and Evansville, as noted in the next section.

*Bettles/Evansville:*

Local residents of Bettles and Evansville are recorded as trapping in portions of the planning area east of their villages, including areas of the Jim River, South Fork Koyukuk River, and a portion of the Middle Fork Koyukuk River to near Chapman Bar (McGee, McIntosh and Strong 1985; Marcotte and Haynes, 1985). At least three residents have traplines up the South Fork Koyukuk River, including one line to the vicinity of John R. Creek through the White Range Mountains (May 14, 1986 BLM meeting in Evansville). Reportedly, the area around Prospect also was used by Bettles residents in winter for trapping although residents at Jim Creek currently utilize this area. Existing traplines extended almost to the Dalton Highway in 1981 (USDOI, BLM, 1981).

*Venetie:*

The majority of the subsistence activities by inhabitants of Venetie occur either on the former Venetie Indian Reservation or on the Yukon Flats National Wildlife Refuge; however, there is limited use in the Venetie block. Furbearer trapping is recorded in the eastern part of the block, from approximately Schilling Creek eastward. The portion of the Chandalar River Valley which passes through the easternmost part is noted for fishing, trapping, caribou and bear hunting, and use of vegetative resources (Caulfield, 1983: 181-183; USDOI, USFWS, 1987).

*Coldfoot:*

Coldfoot existed as a temporary campsite for Alyeska during pipeline construction in the 1970s and then as a AKDOT camp. About 1980, BLM issued a lease to establish a service center for highway traffic along the Dalton Highway. Subsistence activities by employees at the new facility include fishing, wood use, and possibly hunting or trapping. Reportedly, people trap out of Coldfoot with some traveling into the Gates of the Arctic National Park and Preserve, and others to Chandalar Shelf. Otherwise, reported known uses of the Coldfoot area include use of the valley of the Middle Fork Koyukuk River for hunting and fishing by the residents of Wiseman, and some residents of Bettles who use this area in the fall for moose hunting (USDOI, BLM, 1981).

*Wiseman/Nolan:*

Wiseman, an historic mining community, lies within the Corridor along the Koyukuk River. About six families reside in the area while two families plus four individuals reportedly live near the old mining area of Nolan to the northwest of Wiseman. Subsistence uses of the area include trapping along the Koyukuk River and its tributaries, from the Coldfoot area northward (USDOI, BLM, 1981). Reportedly, current subsistence trapping by local residents extends northward to Chandalar Shelf and southward to the vicinity of the old cat trail which goes to Bettles (about 25 miles south of Wiseman) (personal communication, Rick Reakoff, Aug. 2, 1986). Trapping also occurs both east and west of the Nolan/Wiseman vicinity.

Most caribou hunting by area residents occurs outside the Corridor. Reportedly, some people hunt in the Gates of the Arctic National Park and Preserve while others go north of the Brooks Range toward Prudhoe Bay (personal communication, Marie Mead, Aug. 2, 1986). Most moose hunting is done in the vicinity of the road between Nolan and Wiseman (personal communication, John Holland, Aug. 2, 1986). Currently, most residents rely on oil stoves for heat, but some still obtain firewood in the local area, particularly in the vicinity of Marion Creek campground (personal communication, Marie Mead, Aug. 2, 1986). Local subsistence fishing includes grayling from the Koyukuk River in the Wiseman area. Salmon are infrequently seen in this region due to the extreme upriver location.

*Anaktuvuk Pass:*

The people of Anaktuvuk Pass use an extensive area of northern Alaska in their pursuit of subsistence activities, including portions of the Gates of the Arctic National Park and Preserve to the south and west, the Colville River in the north, and across to the Corridor area on the east (Pedersen 1979). A 1985 map of the total lifetime subsistence territories of 21 Anaktuvuk Pass residents expands the area even farther due in part to the recording of past subsistence use areas (Hall, Gerlach and Blackman April 1985, Vol II, pocket 4).

Specific subsistence use of the Corridor by Anaktuvuk Pass residents has declined from the past. Traditionally, the area around Galbraith Lake and Atigun Gorge served as a location for various fishing, hunting, trapping, and camping activities, but in recent years, with the construction of the Dalton Highway, use is infrequent. The same is true for earlier use of the area south of Pump Station 3.

CAMA, besides receiving generalized, sporadic travel by Anaktuvuk Pass hunters primarily in search of caribou or moose, contains documented subsistence use sites. Among the specific sites are the following:

- 1) Pingaluligit Mountain - about 20 miles south of the Killik Bend of the Colville River; noted for hunting, camping, moose, and marmots (North Slope Borough, 1977, Anaktuvuk Pass TLUI, site 76).
- 2) Qiruktagiaq - a hunting area near Horseshoe Mountain, north of the isolated portion of the Gates of the Arctic National Park and Preserve (Ibid., TLUI site 46).



- 3) Ayiyak River area - a hunting area about 30 miles south of Umiat.
- 4) Aninagnauraq and Quunnut - two localities near the Anaktuvuk River and Banded Mountain; noted for fishing, fox trapping, hunting, camping, and salmon berry picking.
- 5) Irgnyivik Lake - about 25 miles northwest of Anaktuvuk Pass; noted as a caribou hunting area (Ibid., TLUI site 15).
- 6) Nanushuk Lake and Nanushuk River - about 35 miles northeast of Anaktuvuk Pass; noted as area of fishing and wolf trapping (Ibid., TLUI site 23; Inupiat of the Arctic Slope et al., 1974-75).
- 7) Itkillik River sites - east of Galbraith Lake; noted for fishing, hunting, trapping, and camping (North Slope Borough, 1977, Anaktuvuk Pass TLUI Site 104, 108).

The residents of Anaktuvuk Pass also have been documented to utilize portions of the Colville River for trapping, hunting, and fishing from near the confluence of the Awuna River upstream to the confluence of the Anaktuvuk River (Inupiat of the Arctic Slope et al. 1974-75). Use of the north-south area along the Colville formerly part of the National Petroleum Reserve-Alaska is minimal to nonexistent.

*Nuiqsut:*

Residents of Nuiqsut have no documented subsistence use of the Corridor but do utilize portions of the BLM lands extending up the eastern side of the Colville River from below its confluence with the Anaktuvuk River northward to the Beaufort Sea (Pedersen 1979). Such documented uses include: trapping; collecting fuel, berries, roots, and seeds; and hunting caribou, moose, and waterfowl (Inupiat of the Arctic Slope et al. 1974-75; North Slope Borough, 1976; North Slope Borough Geophysical Services Incorporated maps May 1985). These lands, however, represent only a small portion of the total subsistence use area for Nuiqsut. A new report is in preparation by the Alaska Department of Fish and Game, Subsistence Division (Pedersen and Shishido 1986) which provides a current assessment of subsistence harvest and use patterns.

*Kaktovik:*

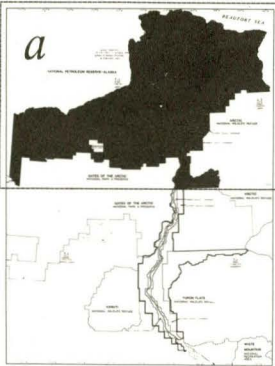
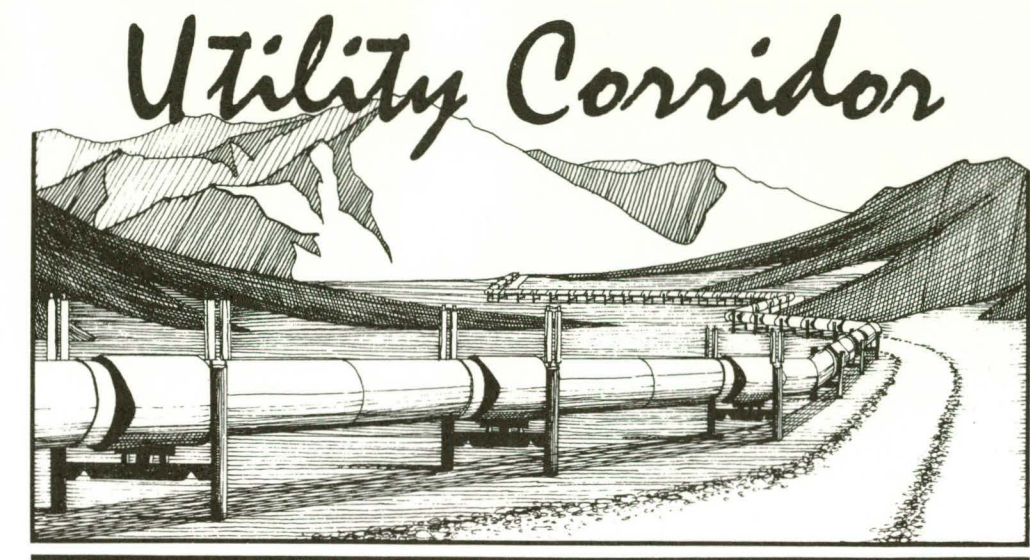
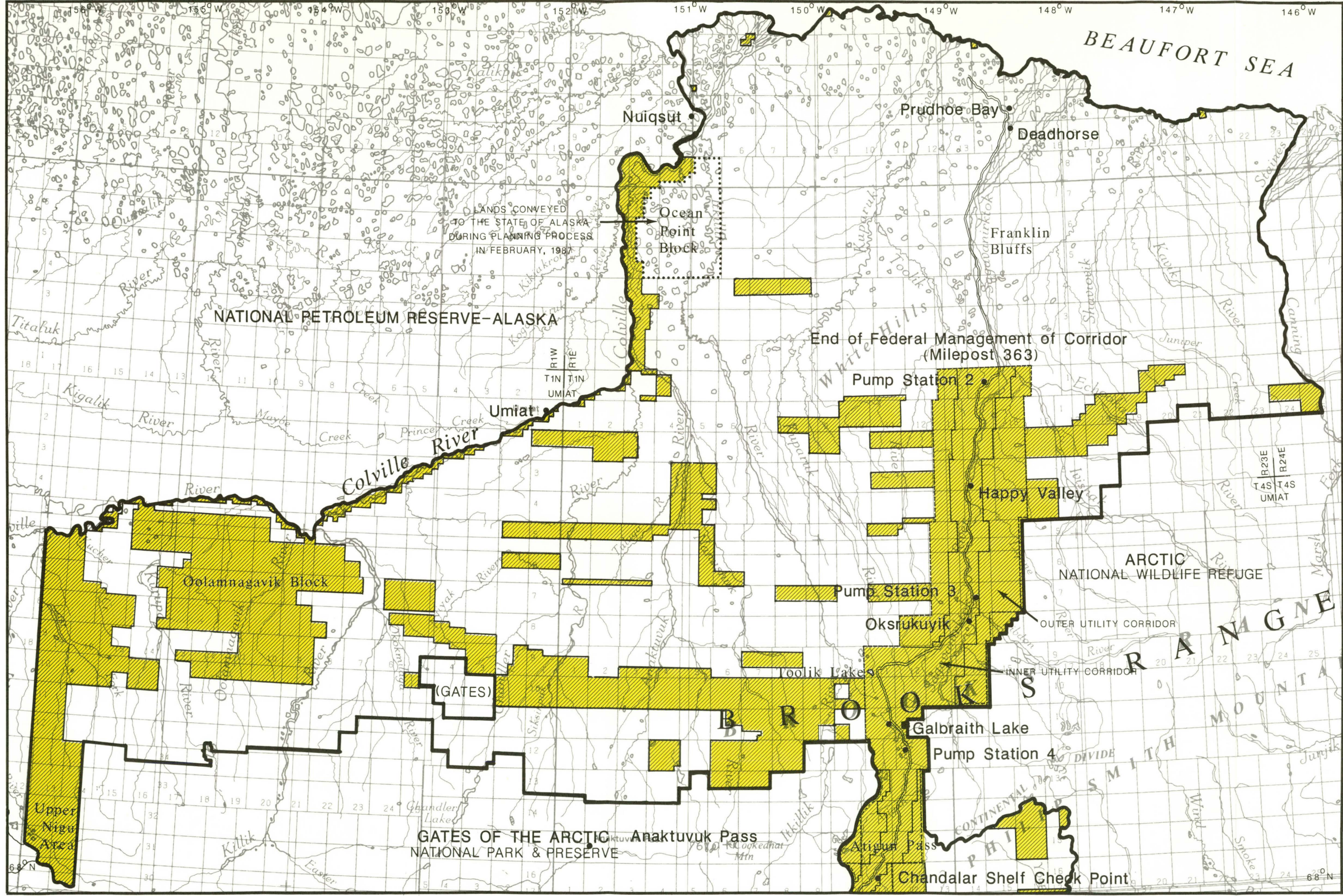
In the past, people of Kaktovik ranged west of the Colville River for subsistence activities (Pedersen 1979; Pedersen and Coffing 1984; Pedersen, Coffing, and Thompson 1985). However, most of the land used today is on the eastern side of the Canning River. In the early 1970s, one fishing and camping area was recorded as near or on BLM land along the Canning River in the area of Ikiakpaurak Valley (Inupiat of the Arctic Slope et al. 1974-75). Some use of BLM land involving fishing along the Ivishak River, about 25 miles northeast of Happy Valley, was also indicated in the *Traditional Land Use Inventory for the Beaufort Sea* (North Slope Borough 1977). Similarly, subsistence fishing was noted in the same document for an area on the Sagavanirktok River, about 15 miles down river from Happy Valley. Today, such uses are rare or may not occur at all.

## Resource Maps

### Errata

1. All resource maps of the northern portion of the planning area should show the Dalton Highway ending approximately 15 miles further south. The highway ends at Deadhorse (not shown).
2. Threatened and Endangered Species map sheet 2 shows potential habitat for sensitive and rare plants within T. 17 N., R. 15 W., Fairbanks Meridian. The correct location is one township to the north in T. 18 N., R. 15 W., FM.
3. The Existing Access map sheet 1 of 2 incorrectly shows the Nuiqsut airstrip on the east side of the Colville River. The airstrip is on the west side of the Colville River within the village.
4. On Existing Access map sheet 2 of 2, the highway near Nolan-Wiseman depicted in blue-green is a state highway.
5. The key for Scenic Quality Classes on Recreation Opportunities Scenic Quality Classes Map, sheet 1 is incorrect. Scenic Quality Class B should be a lighter gray; see map sheet 2 for correct key color.



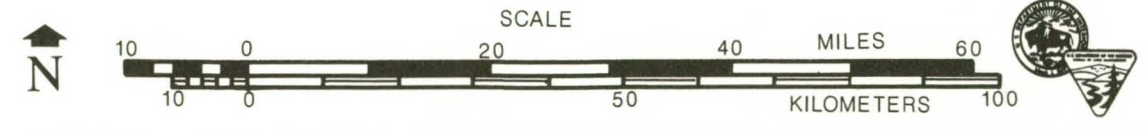


# Utility Corridor

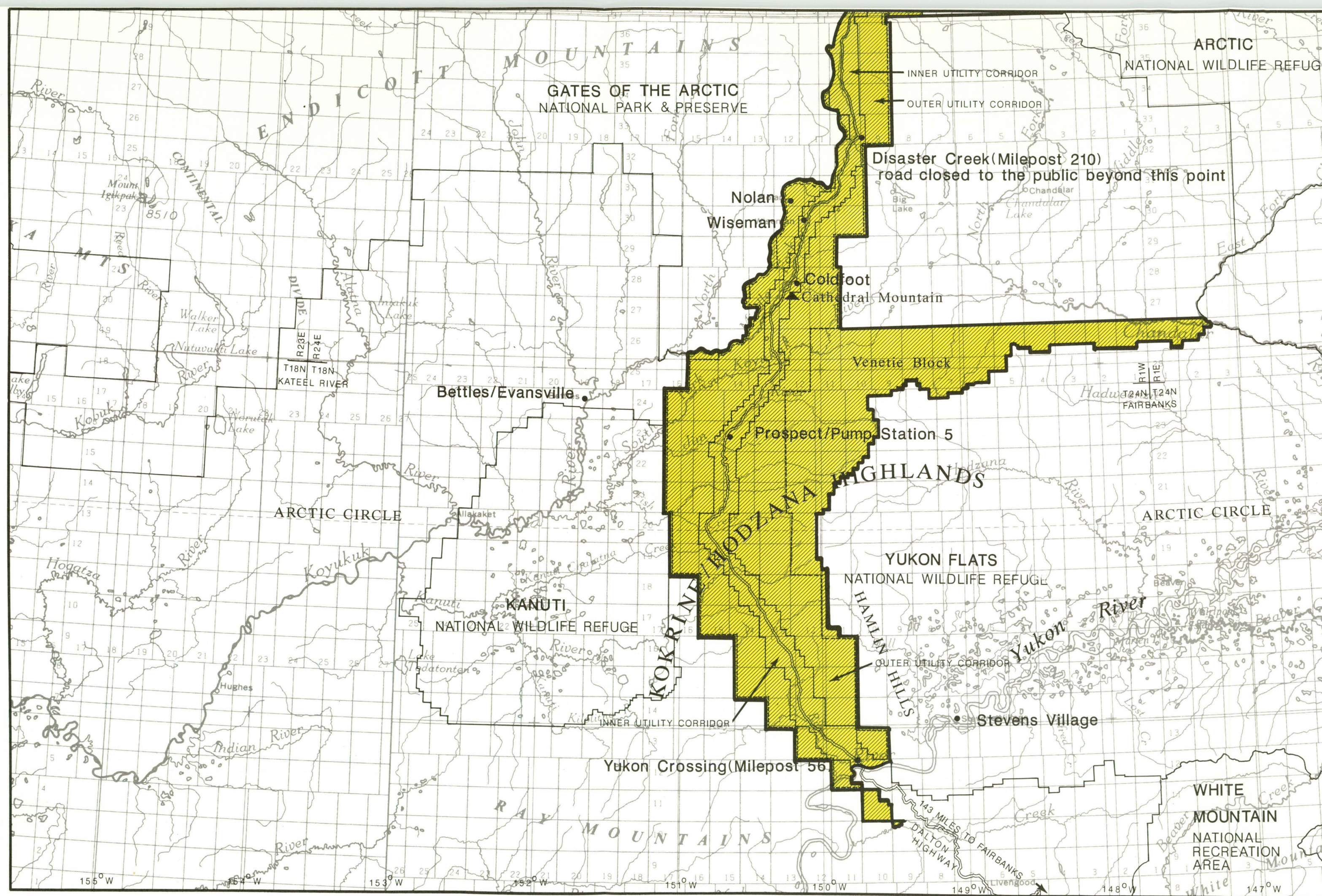
1 of 2

## Area Map

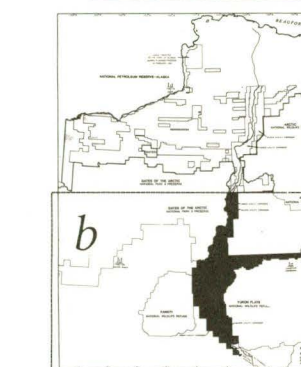
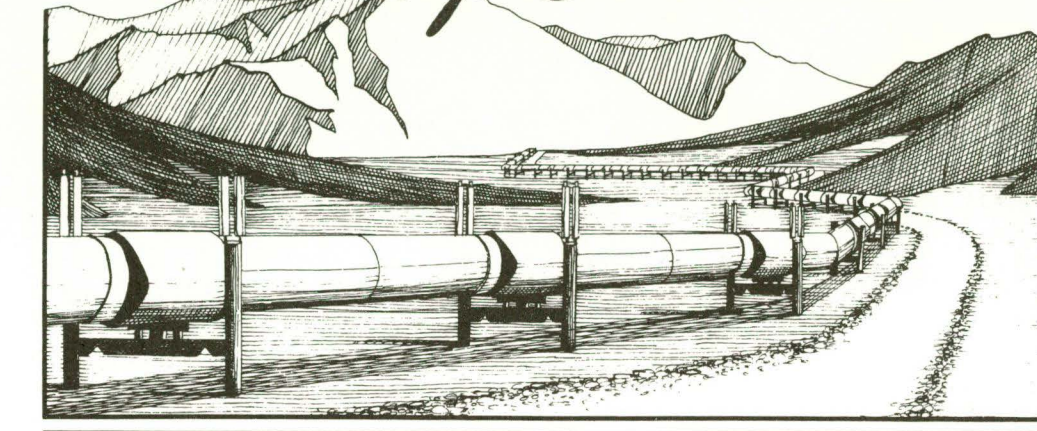
- LEGEND**
- BLM Administered Public Lands which includes unselected, state top filed, surface management, state selected, native selected, and other Federal land.








# Utility Corridor

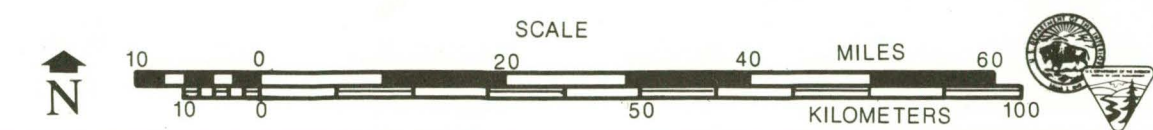


## Area Map

2 of 2

### LEGEND

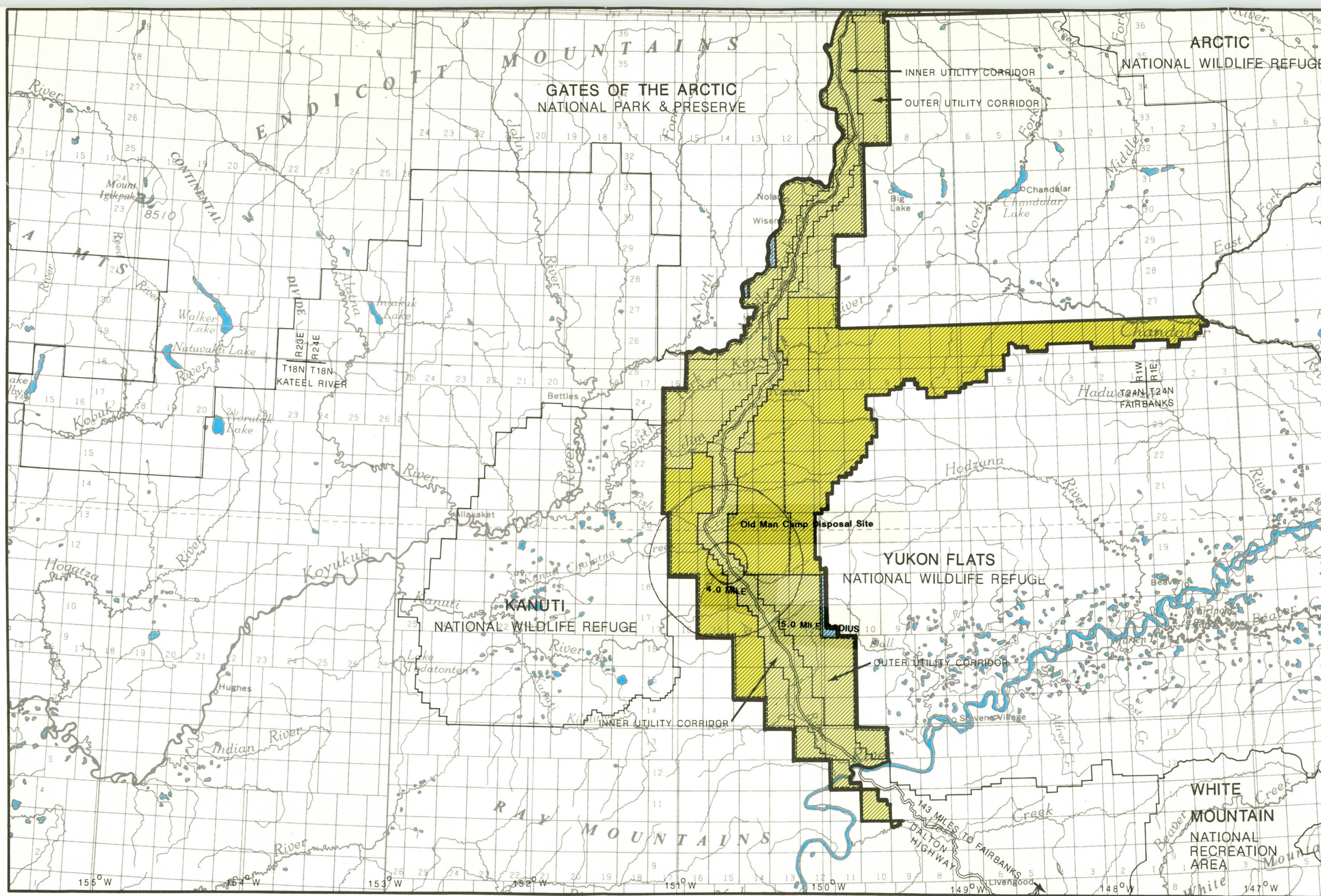
-  BLM Administered Public Lands which includes unselected, state top filed, surface management, state selected, native selected, and other Federal land.



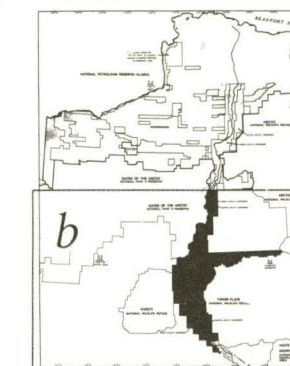
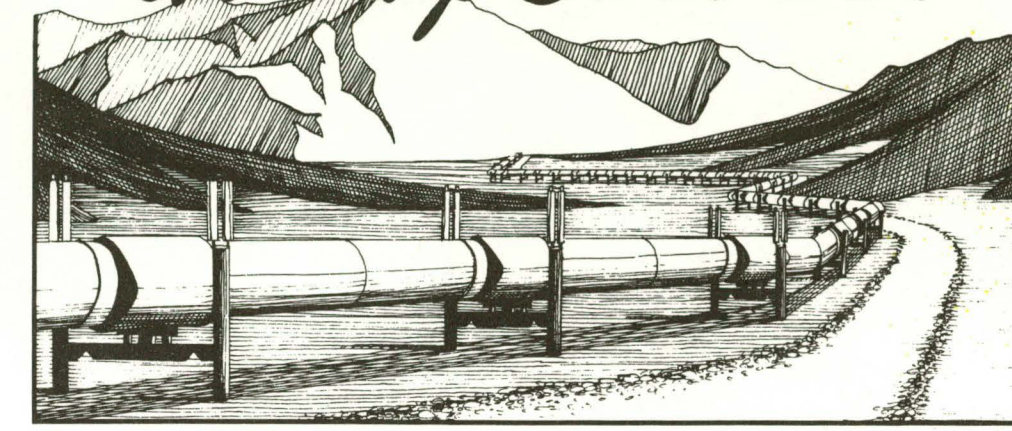








# Utility Corridor

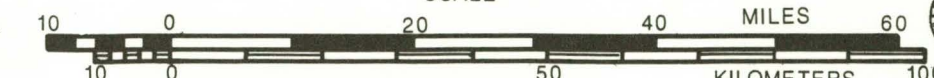


## Land Status

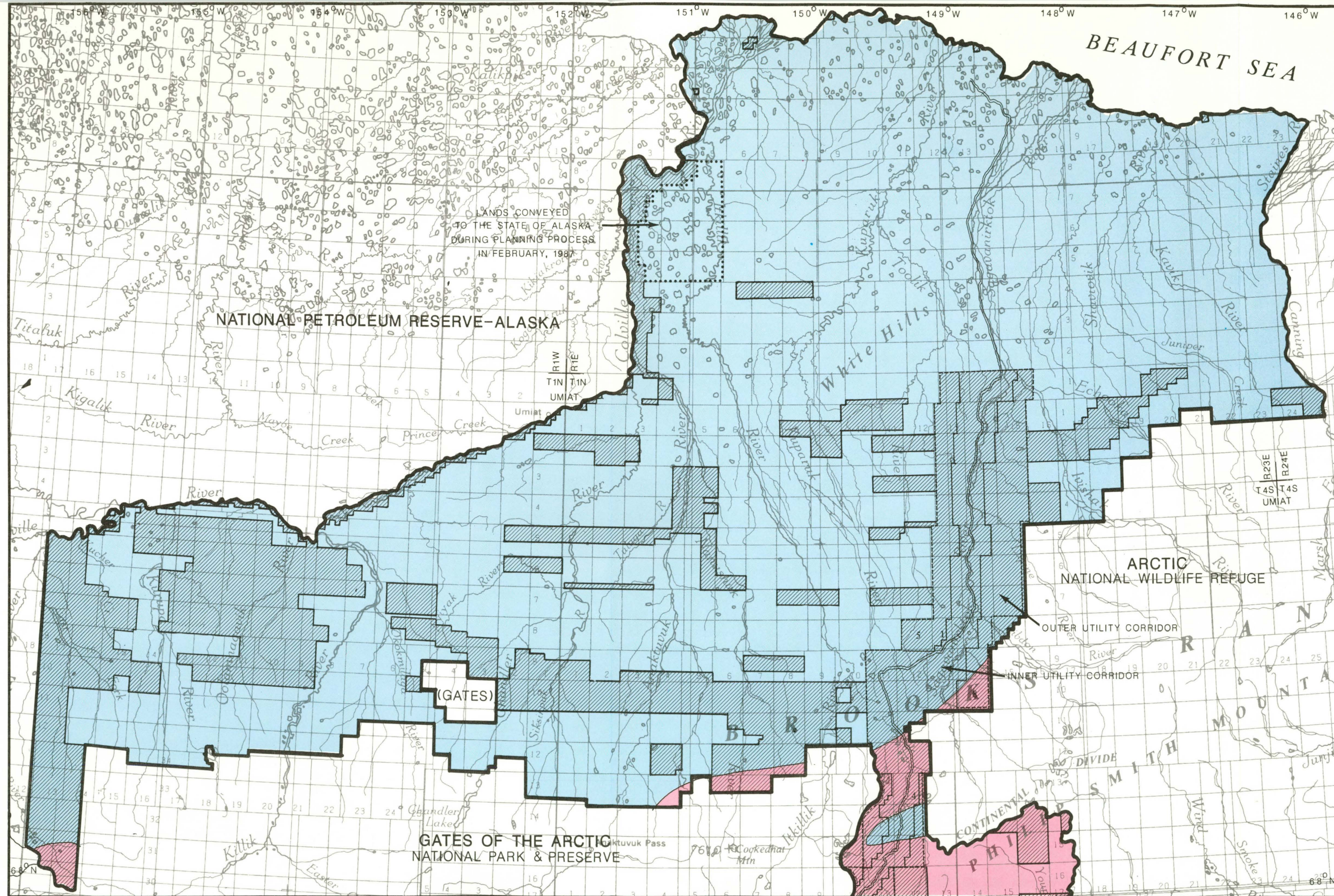
2 of 2

### LEGEND

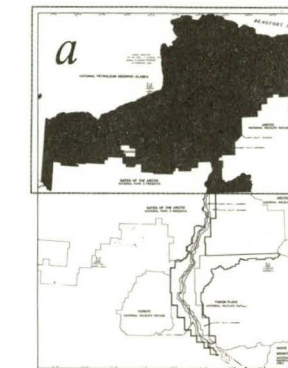
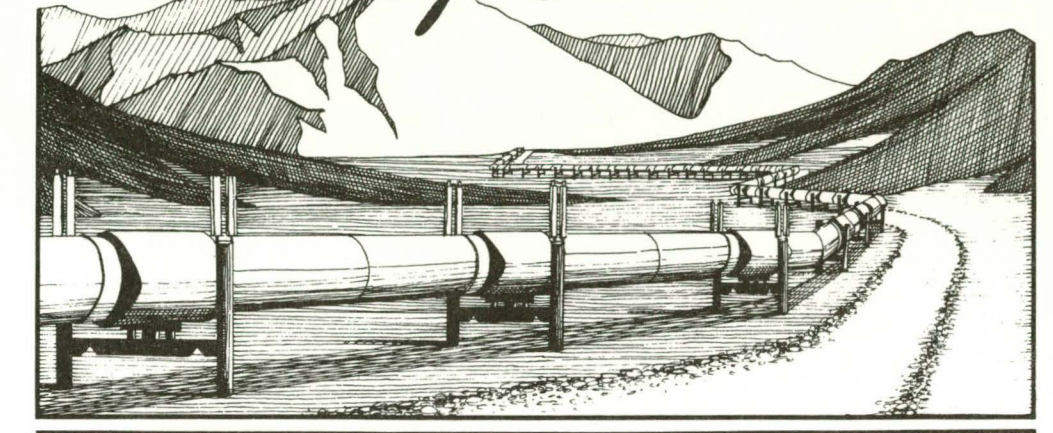
- Public Land-Unselected
- Public Land-State top-filed
- State Selected Land
- BLM Administered Public Lands







# Utility Corridor



## Locatable Mineral Potential

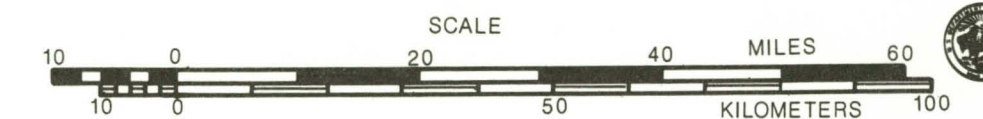
e.g. gold, silver, lead, zinc, copper

## Number of Mining Claims Per Township

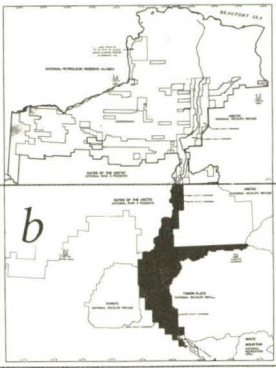
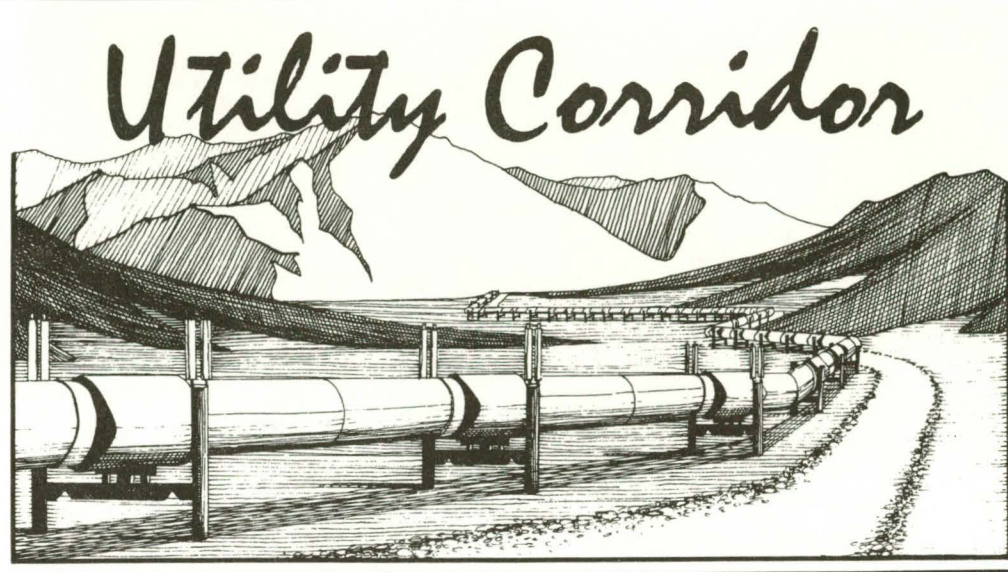
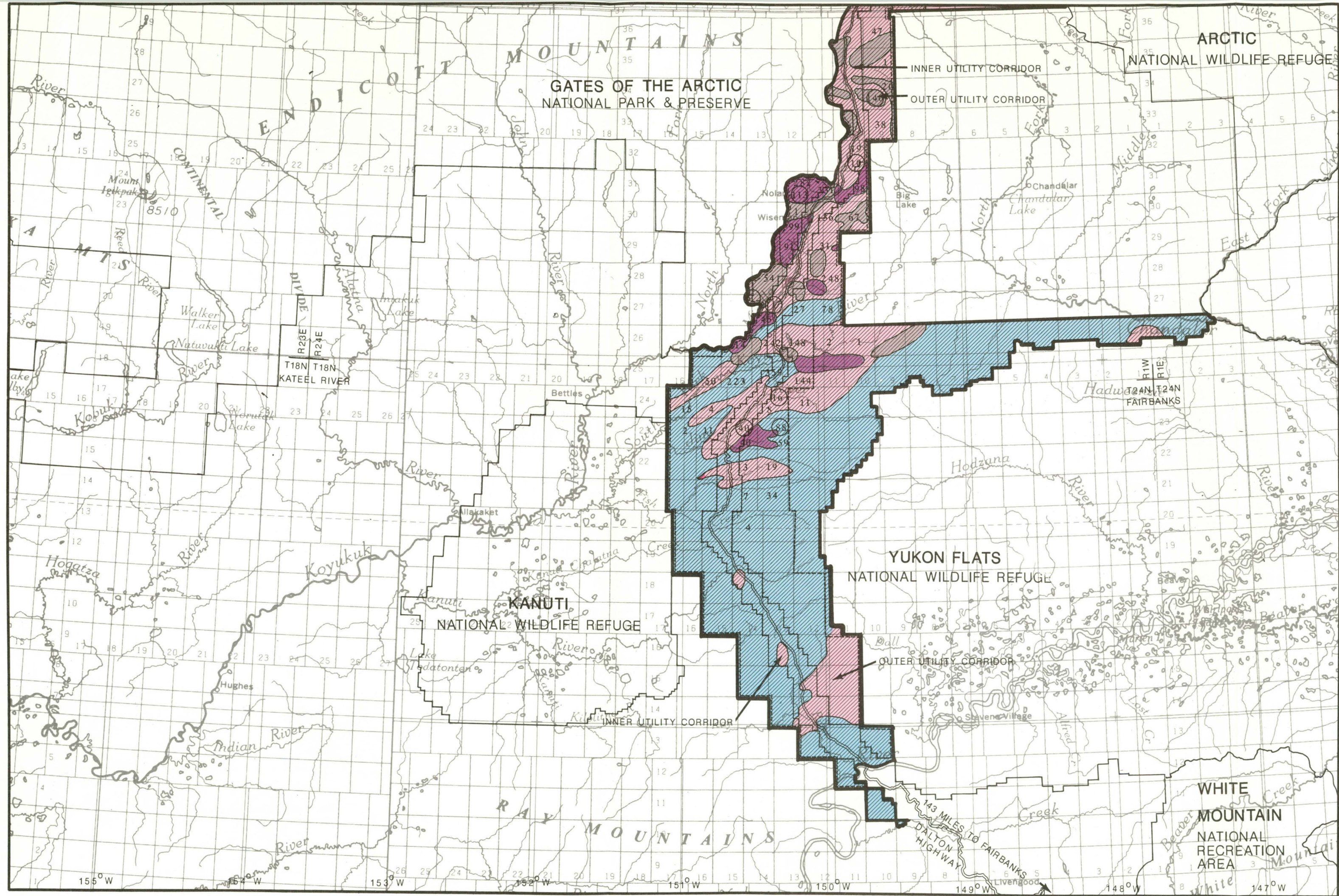
1 of 2

### LEGEND

- Moderate Potential BLM Classification M/C
- Low Potential BLM Classification L/B
- Placer Claims as of 1/1/87
- BLM Administered Public Lands





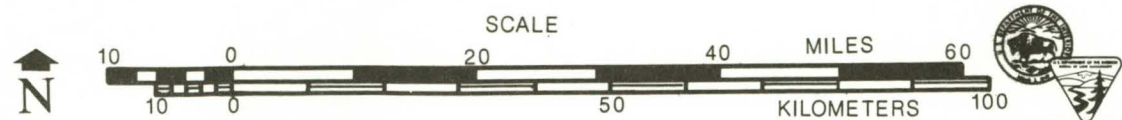


**Locatable Mineral Potential**  
e.g. gold, silver, lead, zinc, copper

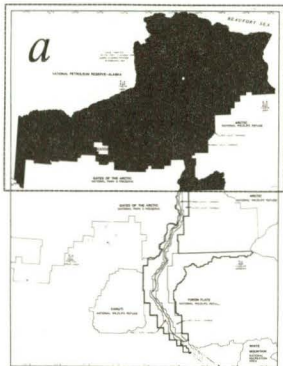
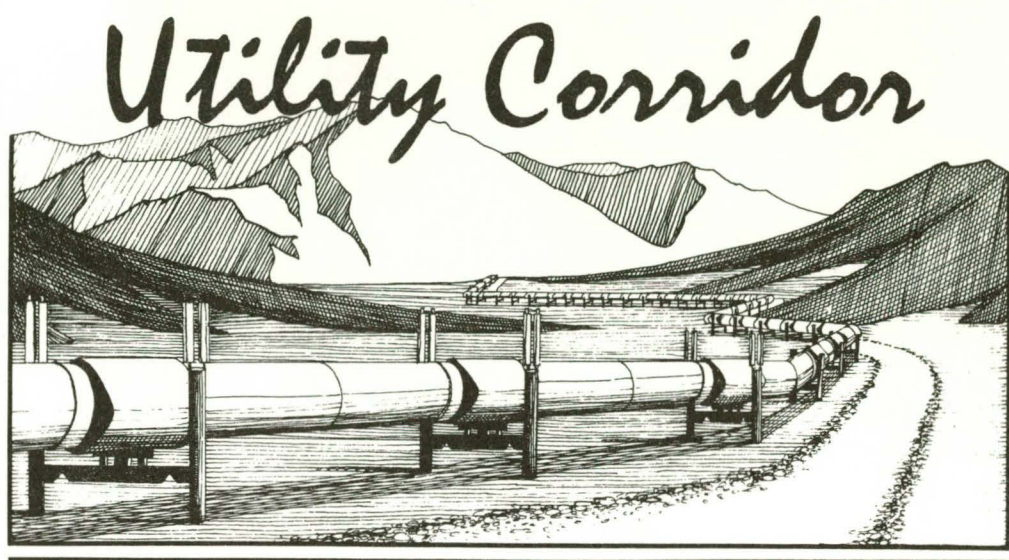
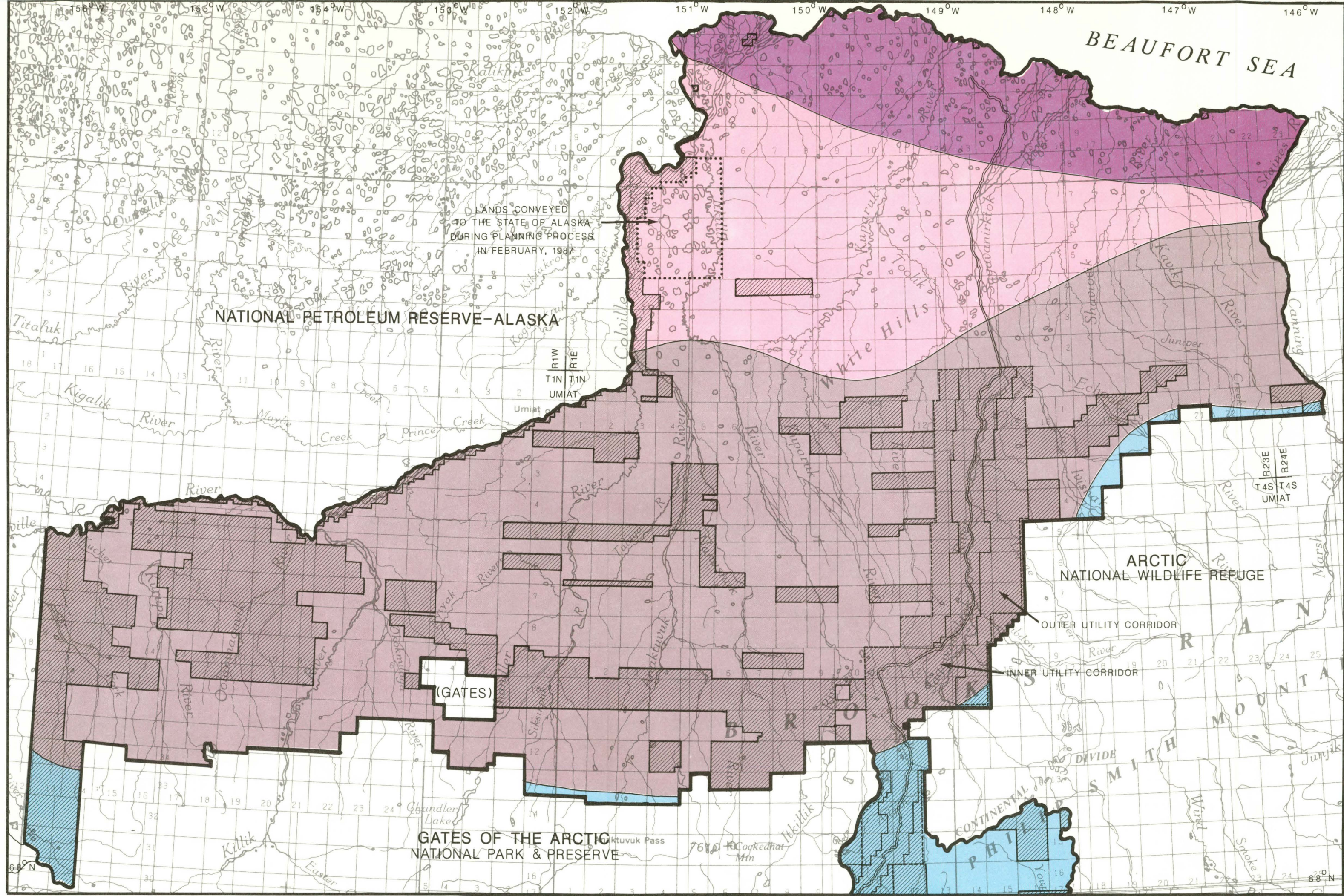
**Number of Mining Claims Per Township**  
2 of 2

**LEGEND**

- High Potential BLM Classification H/D
- High Potential BLM Classification H/C
- Moderate Potential BLM Classification M/C
- Low Potential BLM Classification L/B
- Placer Claims as of 1/1/87
- Lode Claims as of 1/1/87
- BLM Administered Public Lands

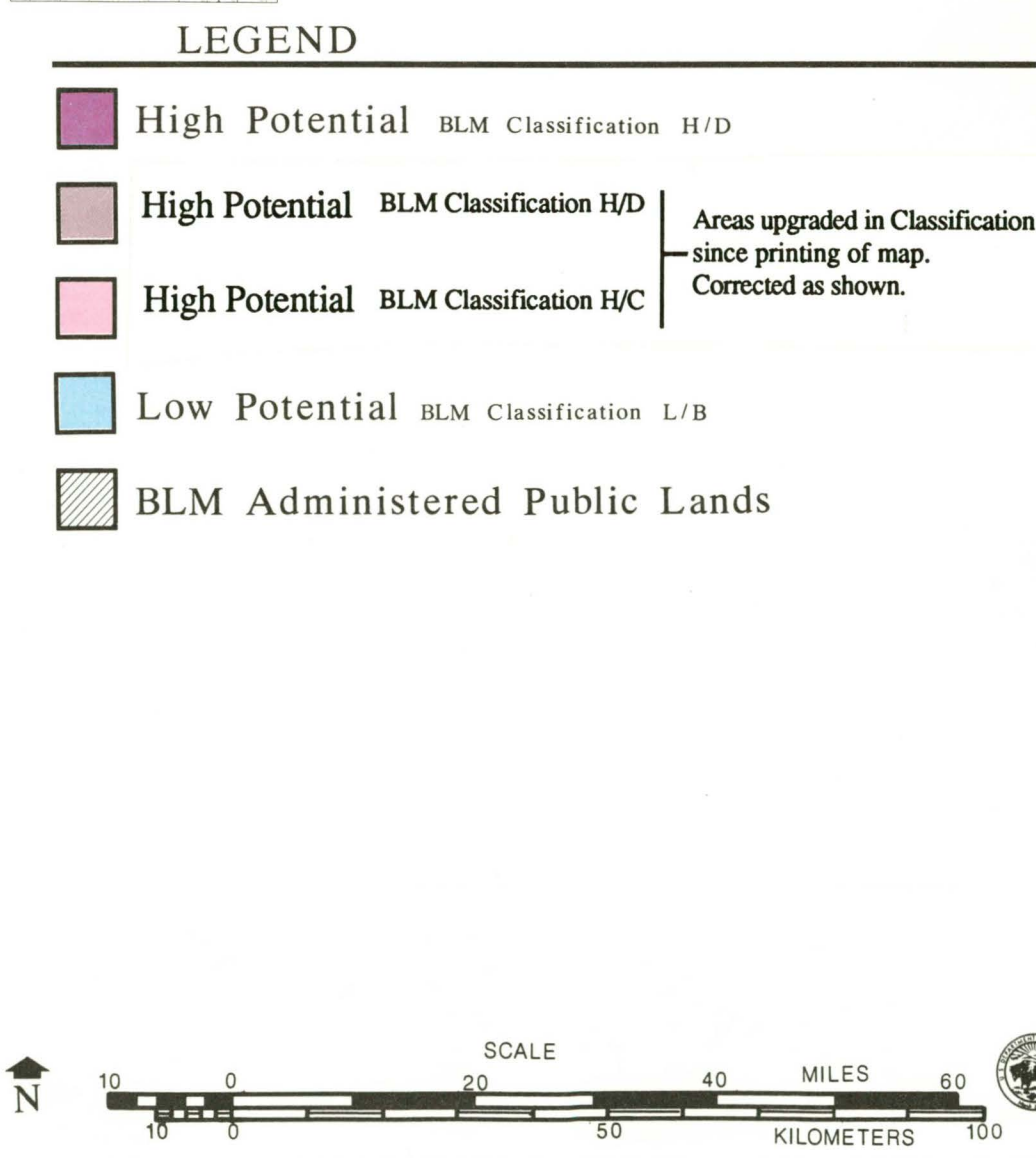




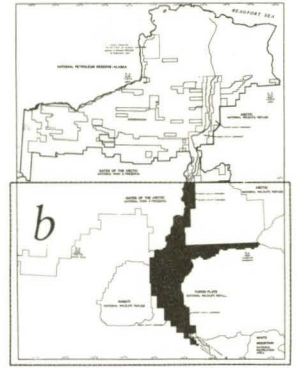
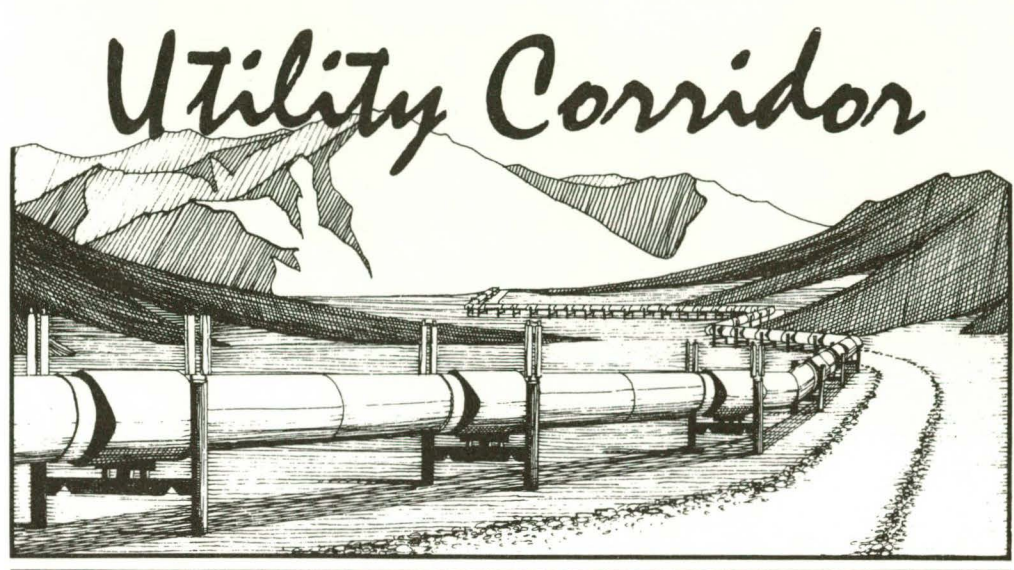
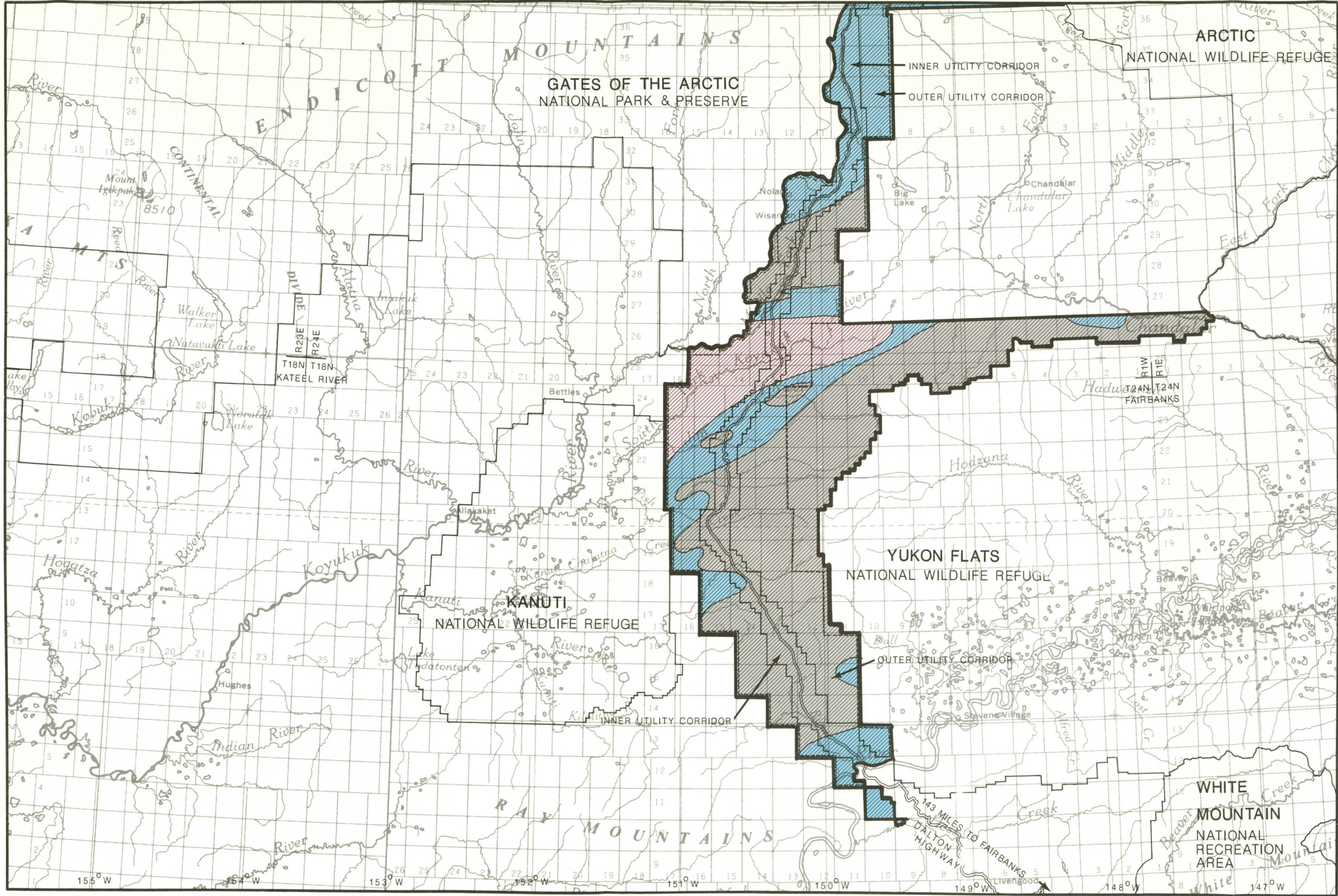


## Hydrocarbon Potential

1 of 2





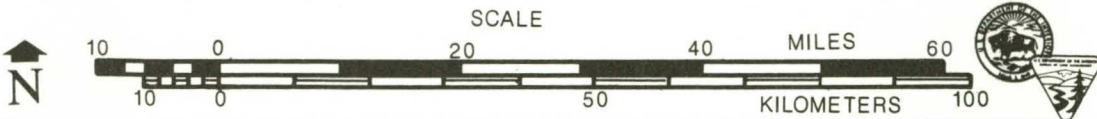


## Hydrocarbon Potential

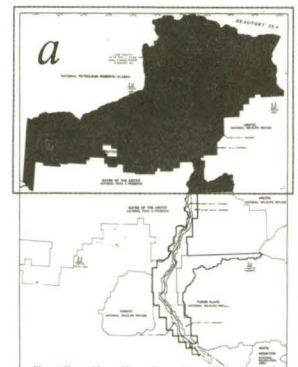
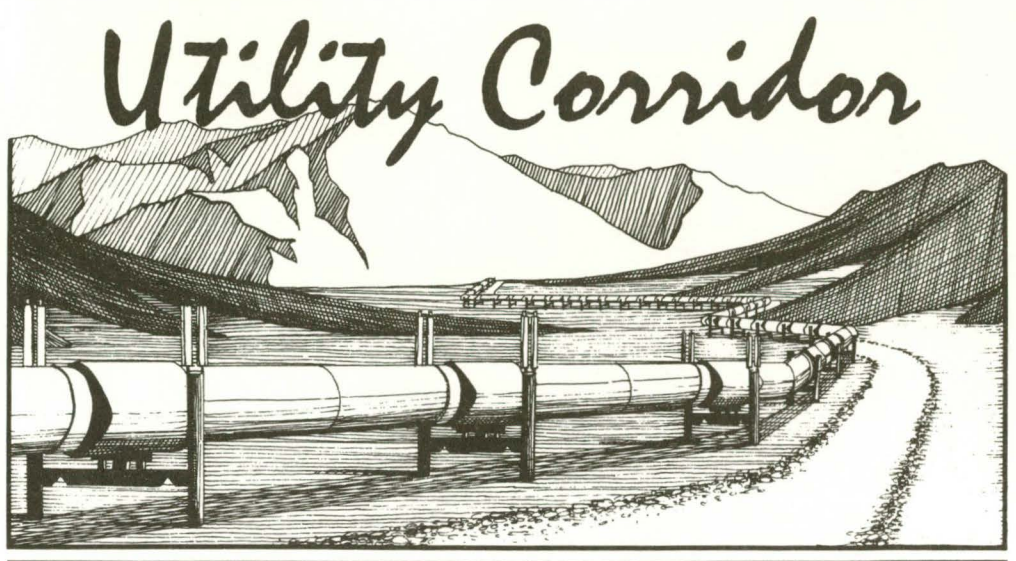
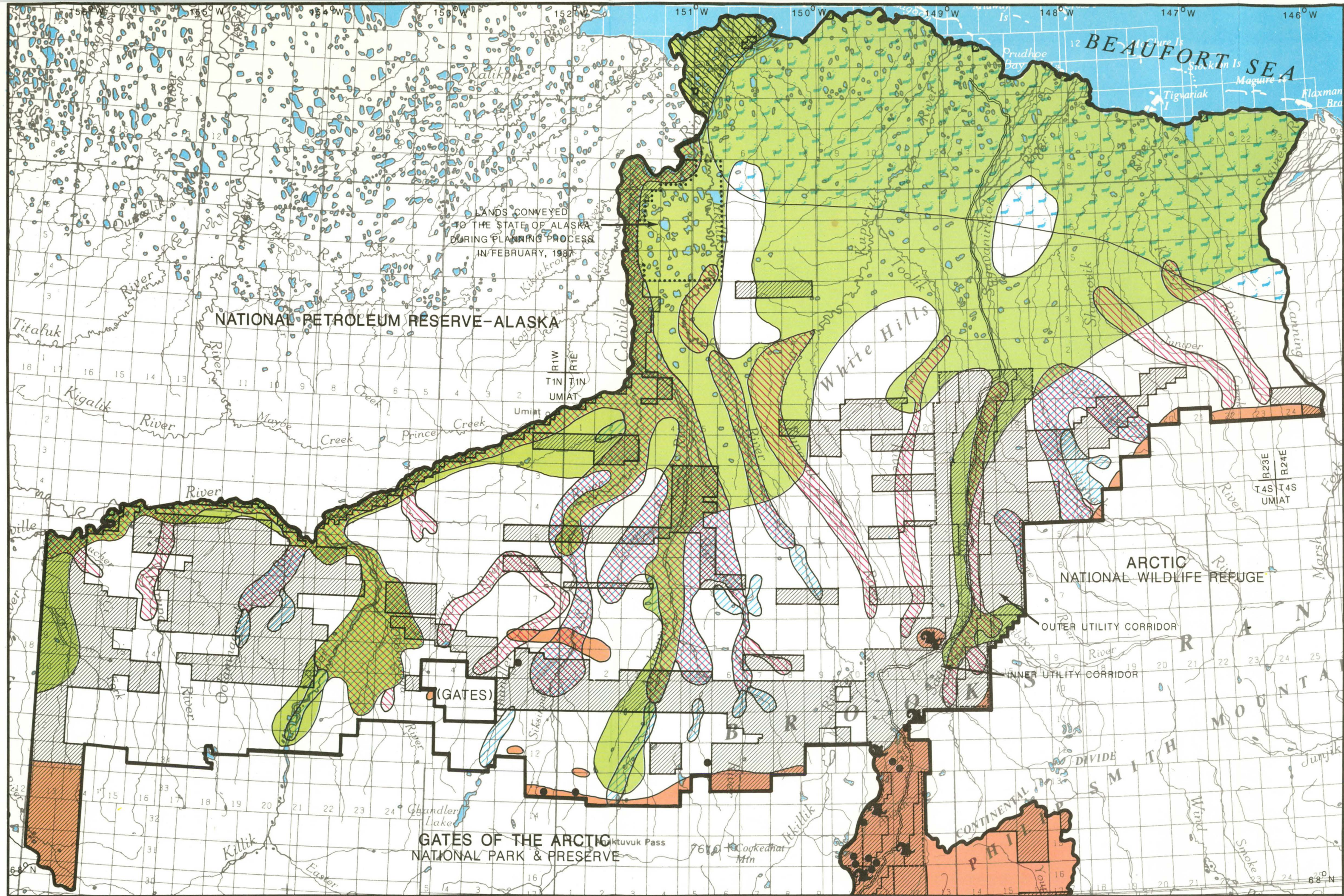
2 of 2

**LEGEND**

- Moderate Potential BLM Classification M/BC
- Low Potential BLM Classification L/B
- No Potential BLM Classification O/C
- BLM Administered Public Lands





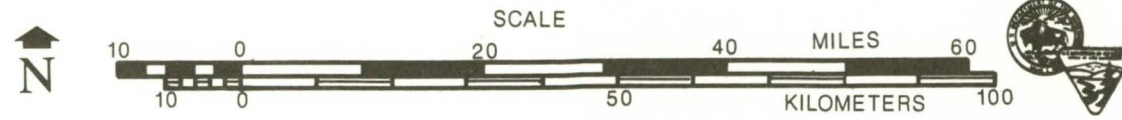


## Wildlife Habitat

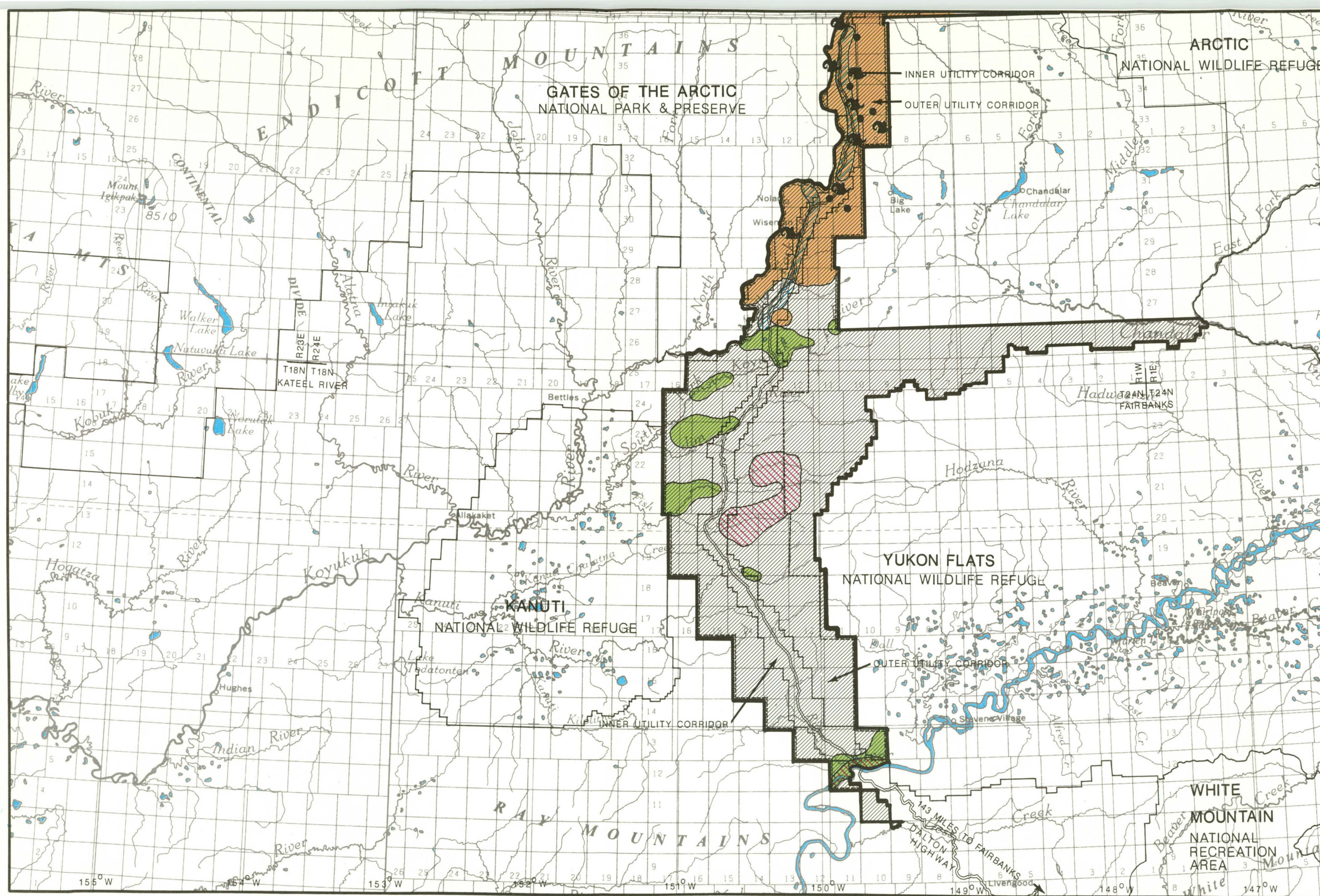
1 of 2

### LEGEND

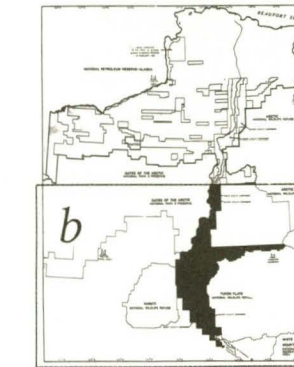
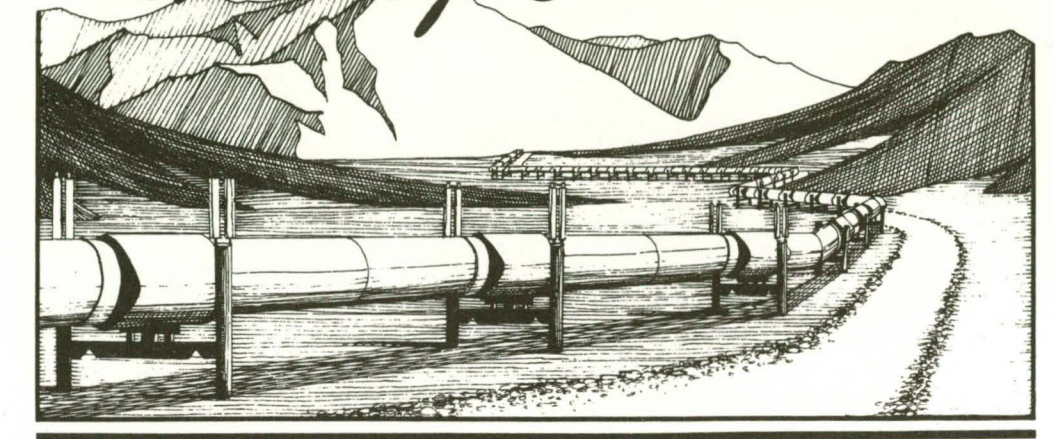
- Dall's Sheep Habitat
- Known Dall's Sheep Lambing Areas
- Waterfowl Habitat
- Known Caribou Calving Areas
- Known Moose Concentration Areas
- Known Grizzly Bear Concentration Areas
- Polar Bear Coastal Denning
- Known Mineral Licks
- BLM Administered Public Lands







# Utility Corridor



## Wildlife Habitat

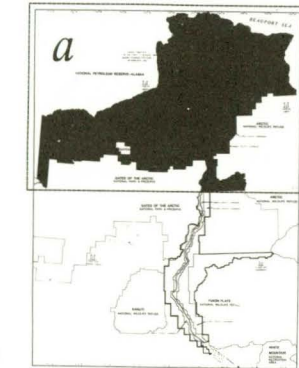
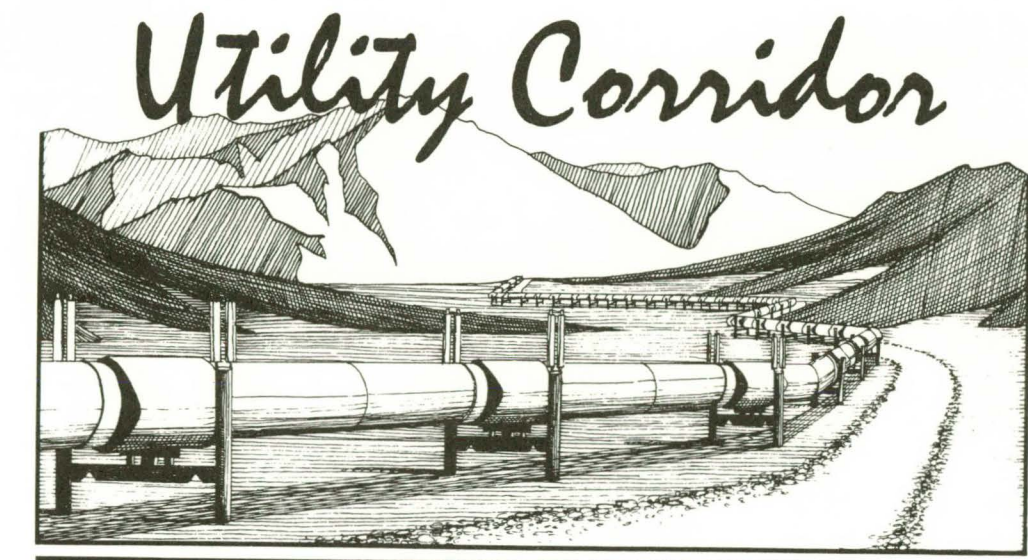
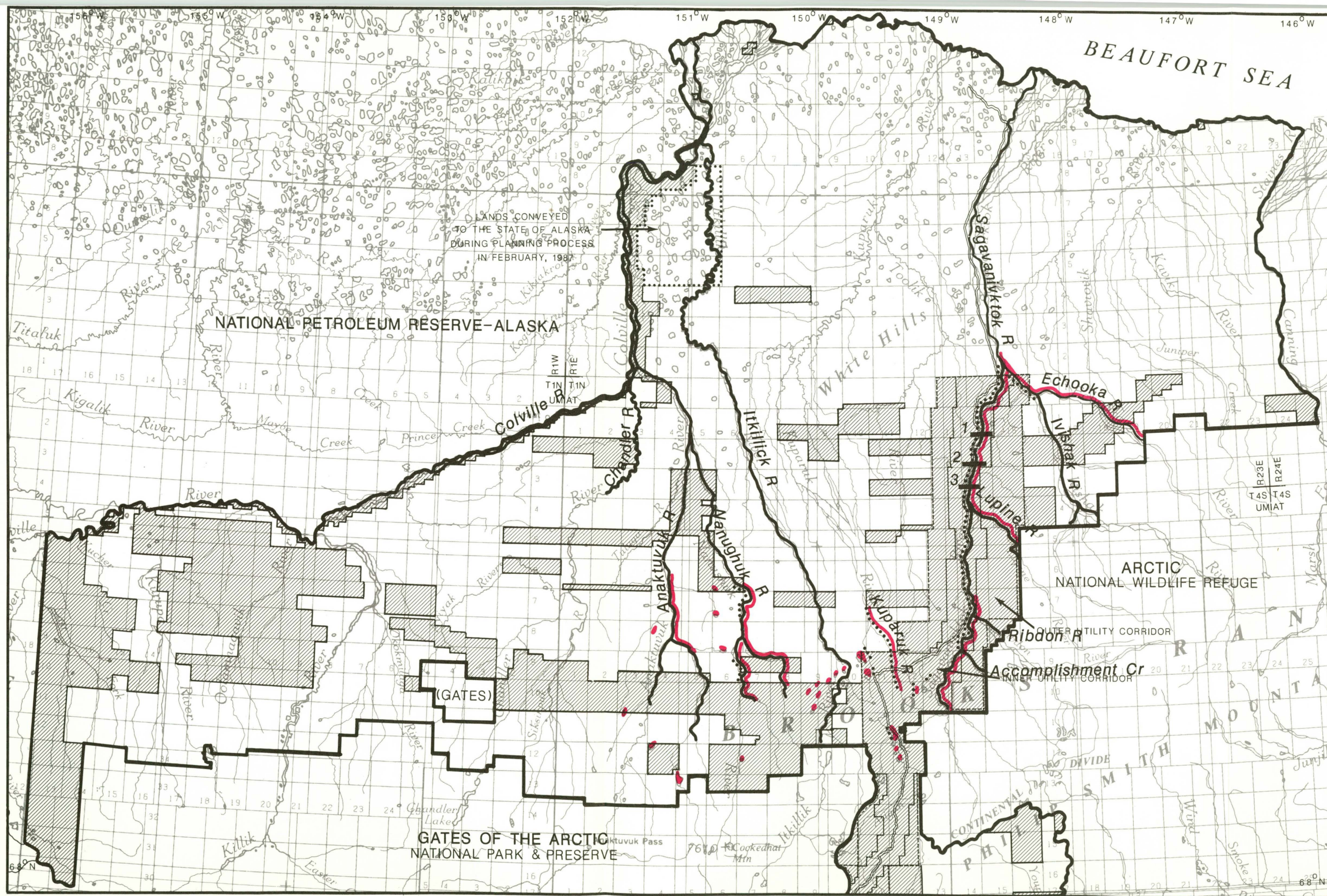
2 of 2

### LEGEND

- Dall's Sheep Habitat
- Known Dall's Sheep Lambing Areas
- Waterfowl Habitat
- Known Moose Concentration Areas
- Known Grizzly Bear Concentration Areas
- Known Mineral Licks
- BLM Administered Public Lands







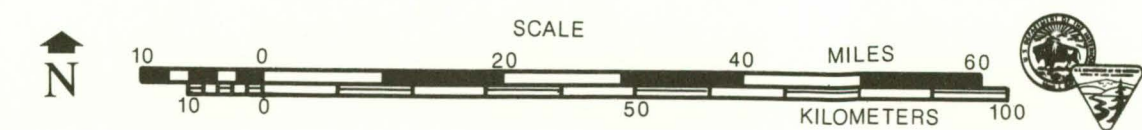
## Utility Corridor

### Fisheries Habitat

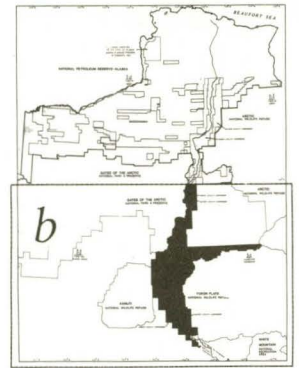
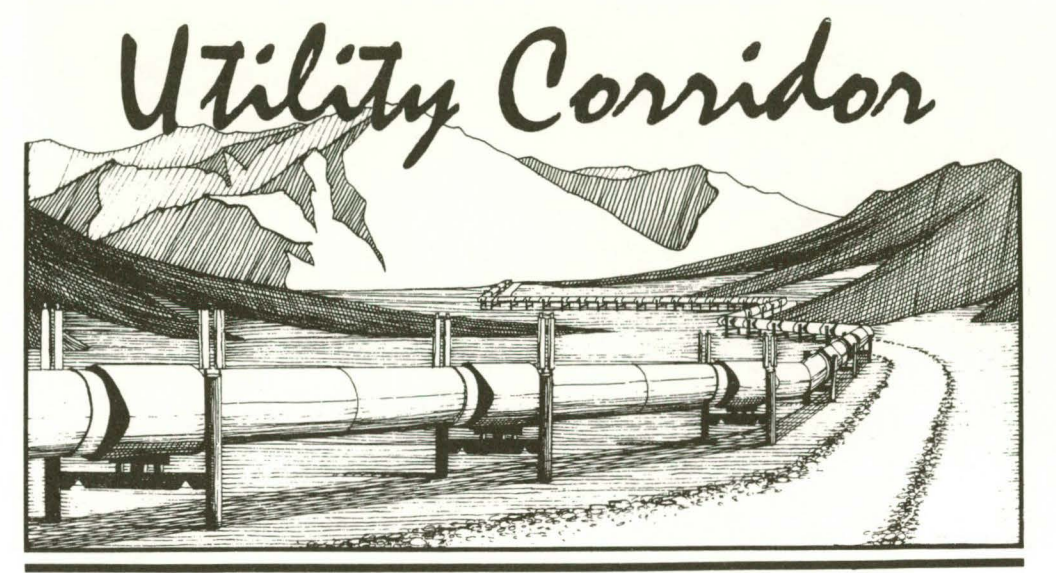
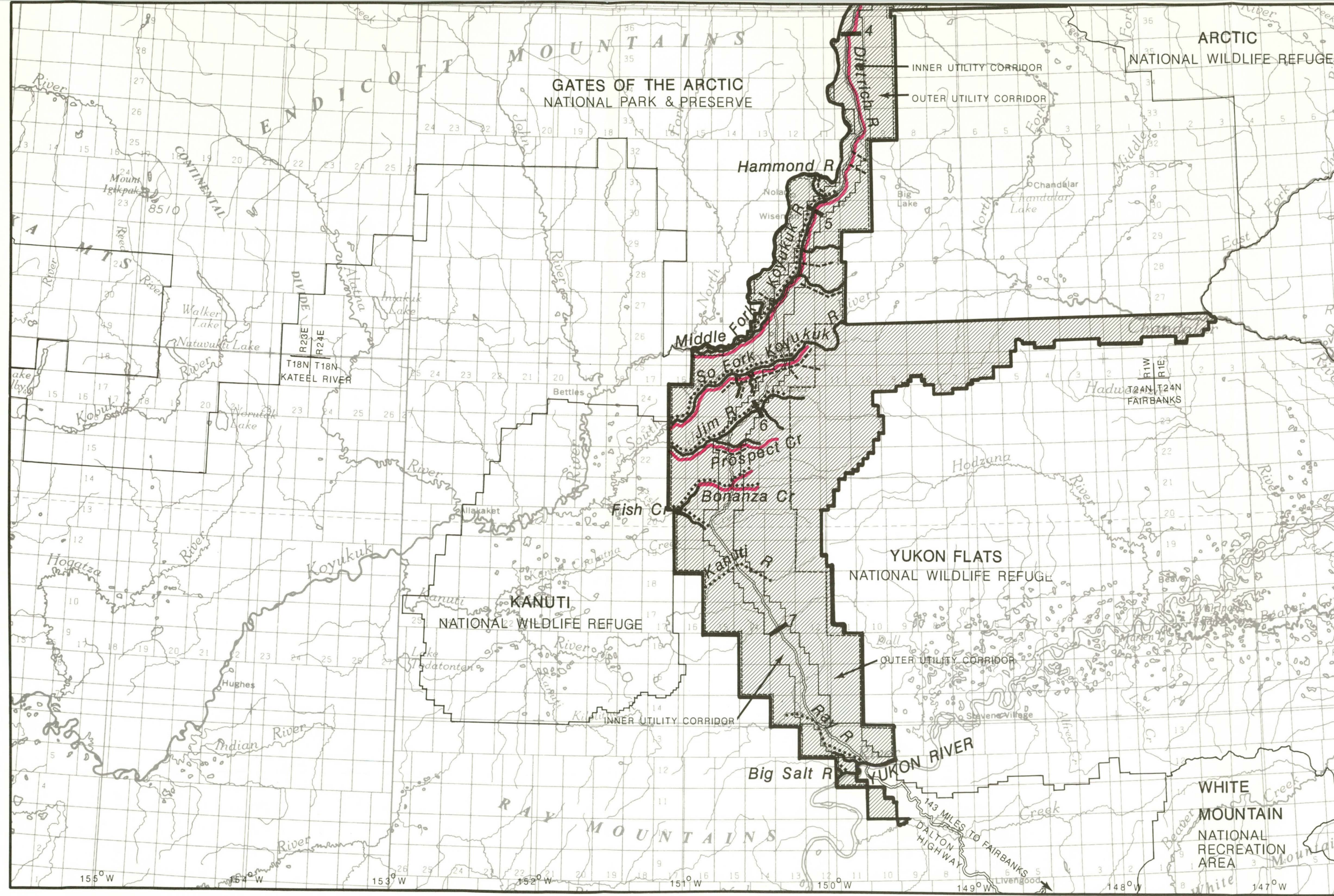
1 of 2

- LEGEND
- Anadromous Fish Stream
  - Crucial Habitat- Spawning and/or overwintering streams/lakes
  - Fisheries Use Areas- existing or potential
  - Road/Pipeline Impact Locations\*
    - 1. Dan Creek-Improper bridge location
    - 2. Milke Creek- Improper culvert
    - 3. Stout Creek - Improper culvert
  - BLM Administered Public Lands

\*source ADF&G Habitat Division;  
Also see Chapter 4







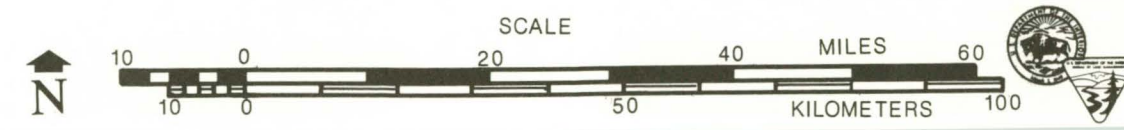
### Fisheries Habitat

2 of 2

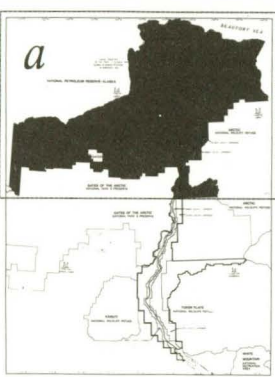
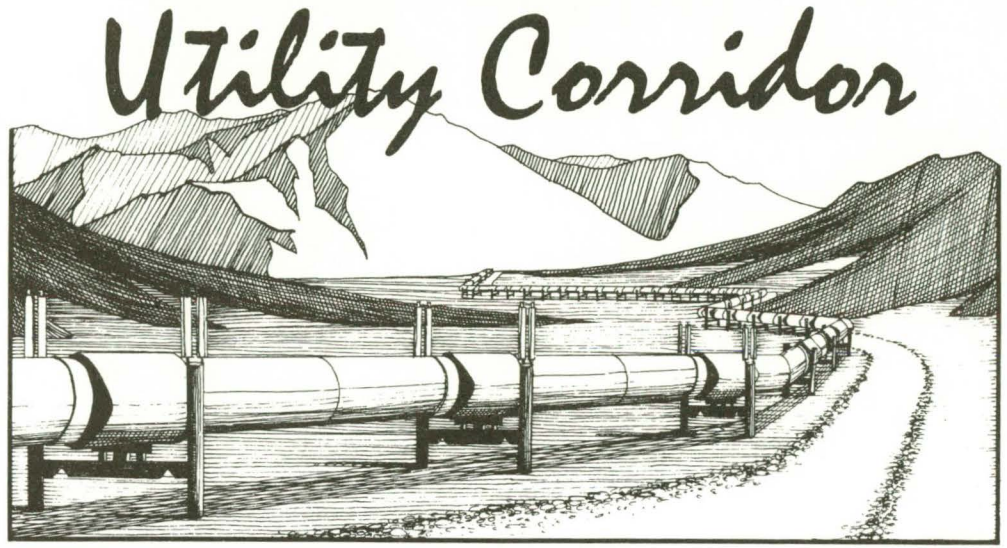
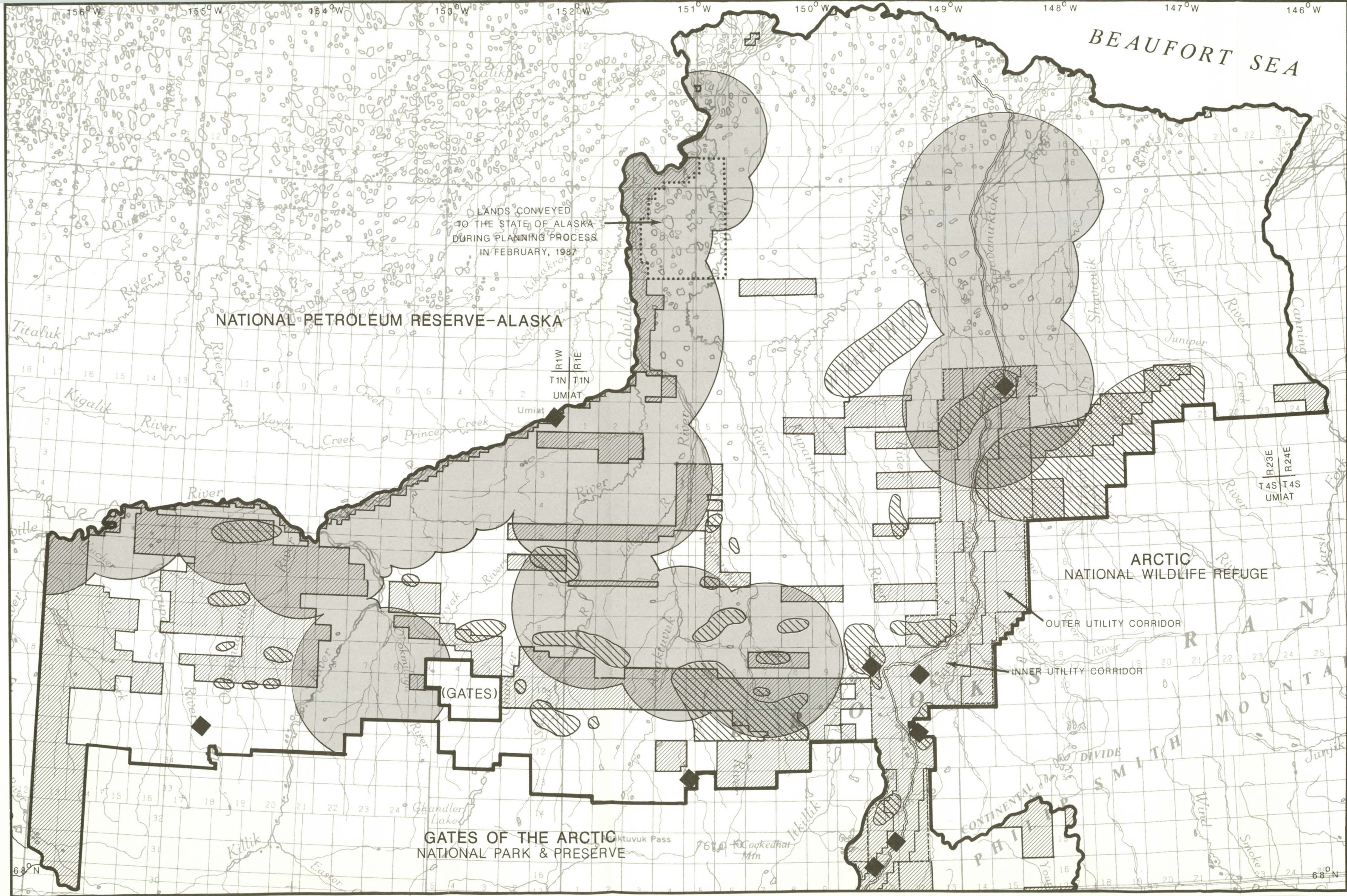
#### LEGEND

- Anadromous Fish Stream
- Crucial Habitat - Spawning and/or overwintering streams/lakes
- Fisheries Use Areas - existing or potential
- Potential Gold Mining Impact Areas \*
- Road/Pipeline Impact Locations \*
  - 4. Nutirwik Creek - Perched culvert
  - 5. Unnamed-Road cut soil slide
  - 6. Douglas Creek - Excessive aufeis
  - 7. Dall River - Collapsed culvert
- BLM Administered Public Lands

\* source ADF&G Habitat Division;  
Also see Chapter 4







# Utility Corridor

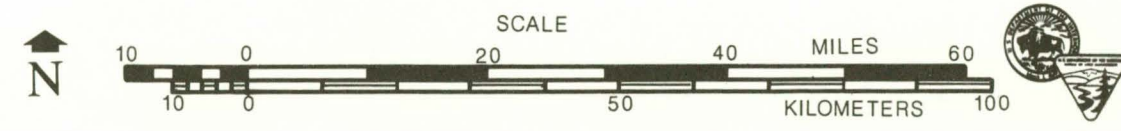
## Threatened/Endangered Animals Habitat

### Rare/Sensitive Plants Locations

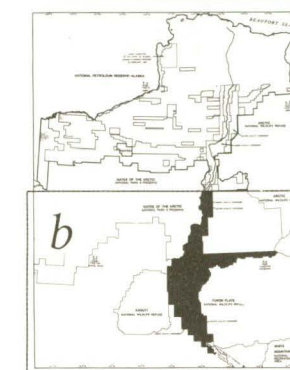
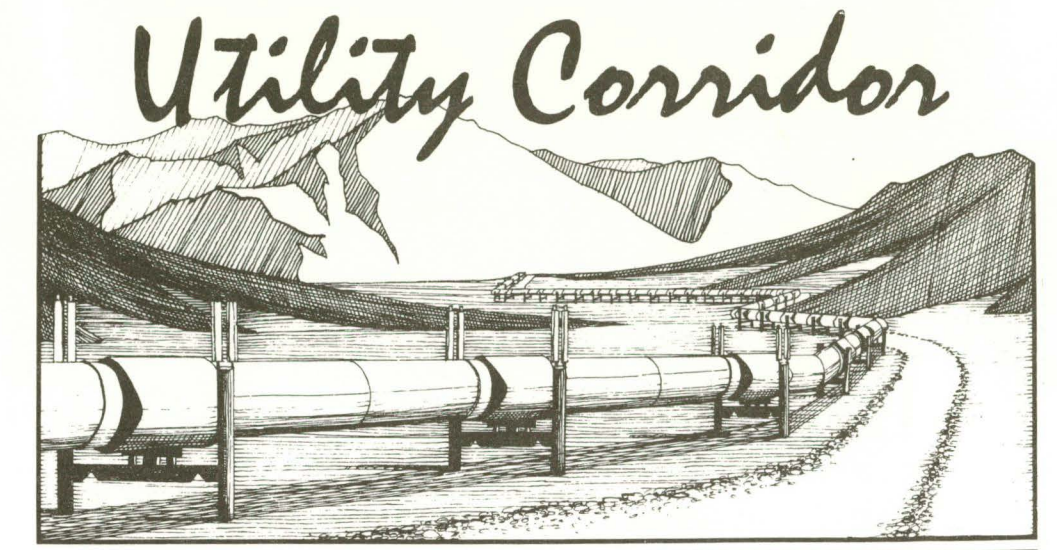
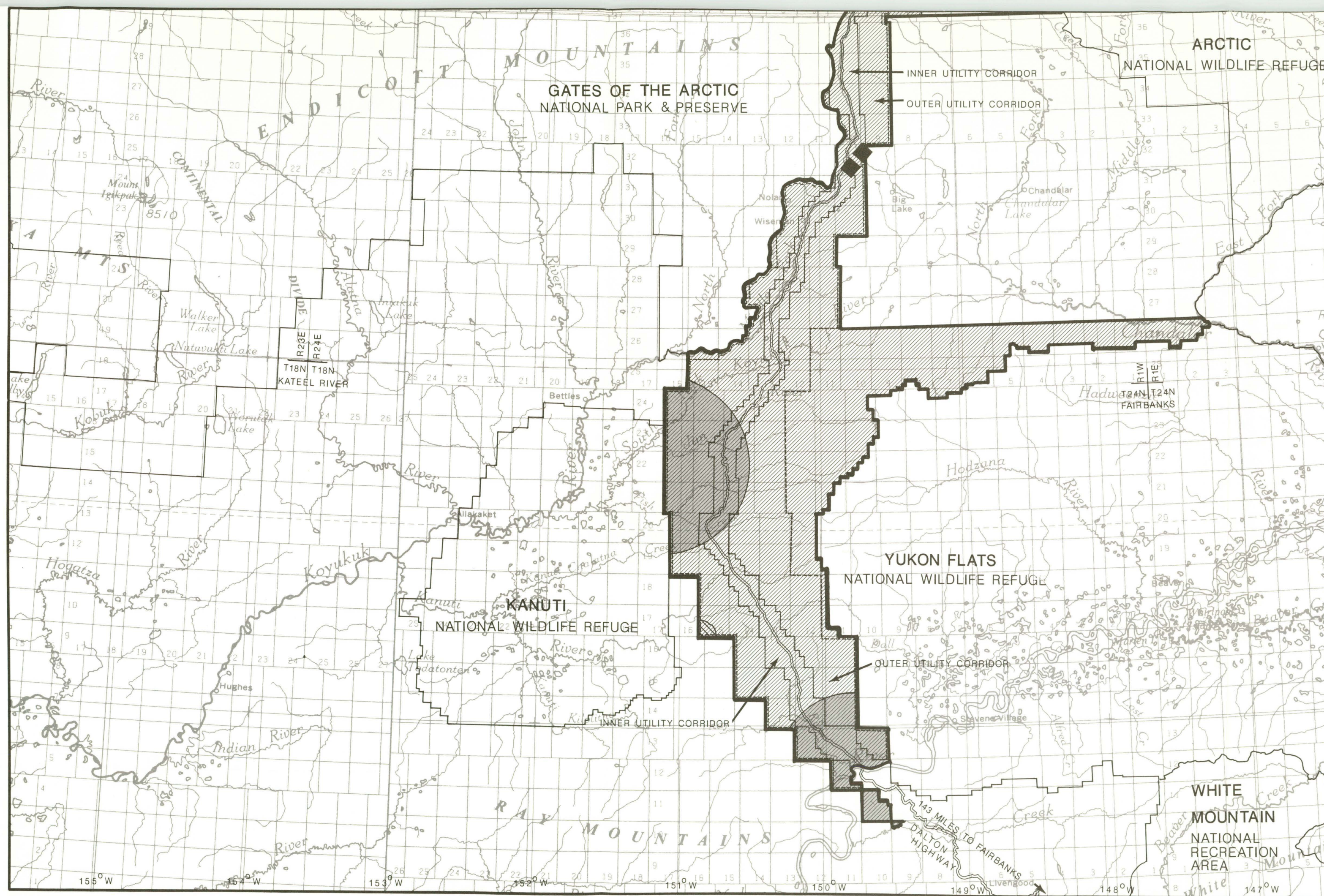
1 of 2

#### LEGEND

- Peregrine Falcon Nesting and Foraging Habitat
- Known Locations for Sensitive and Rare Plants
- Potential Habitat for Sensitive and Rare Plants
- BLM Administered Public Lands







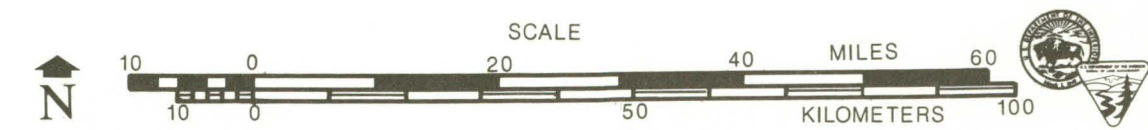
*Threatened/Endangered  
Animals Habitat*

*Rare/Sensitive Plants Locations*

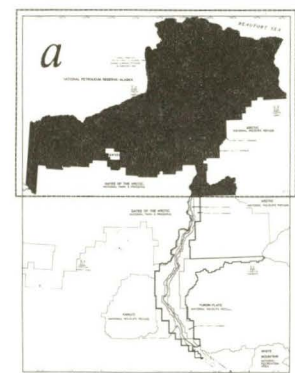
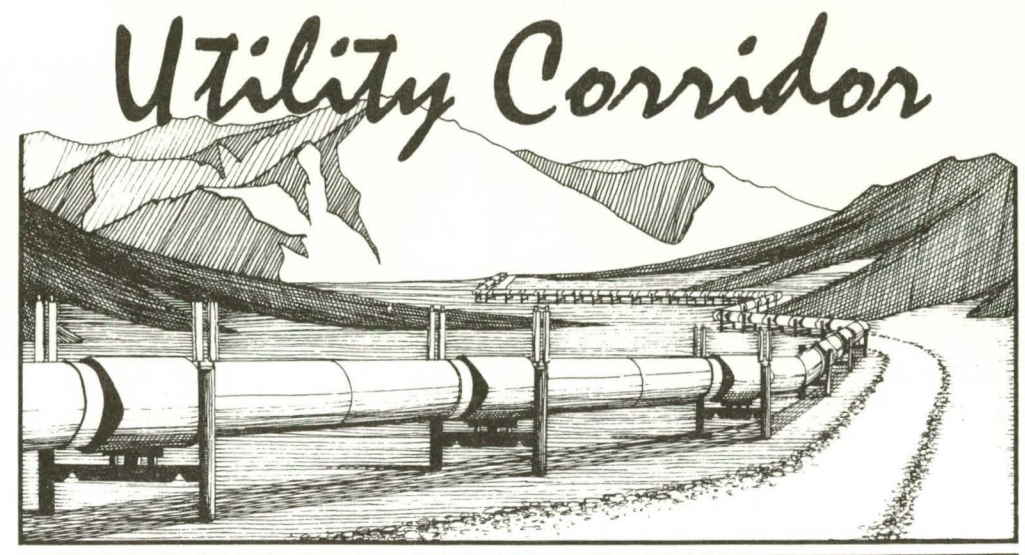
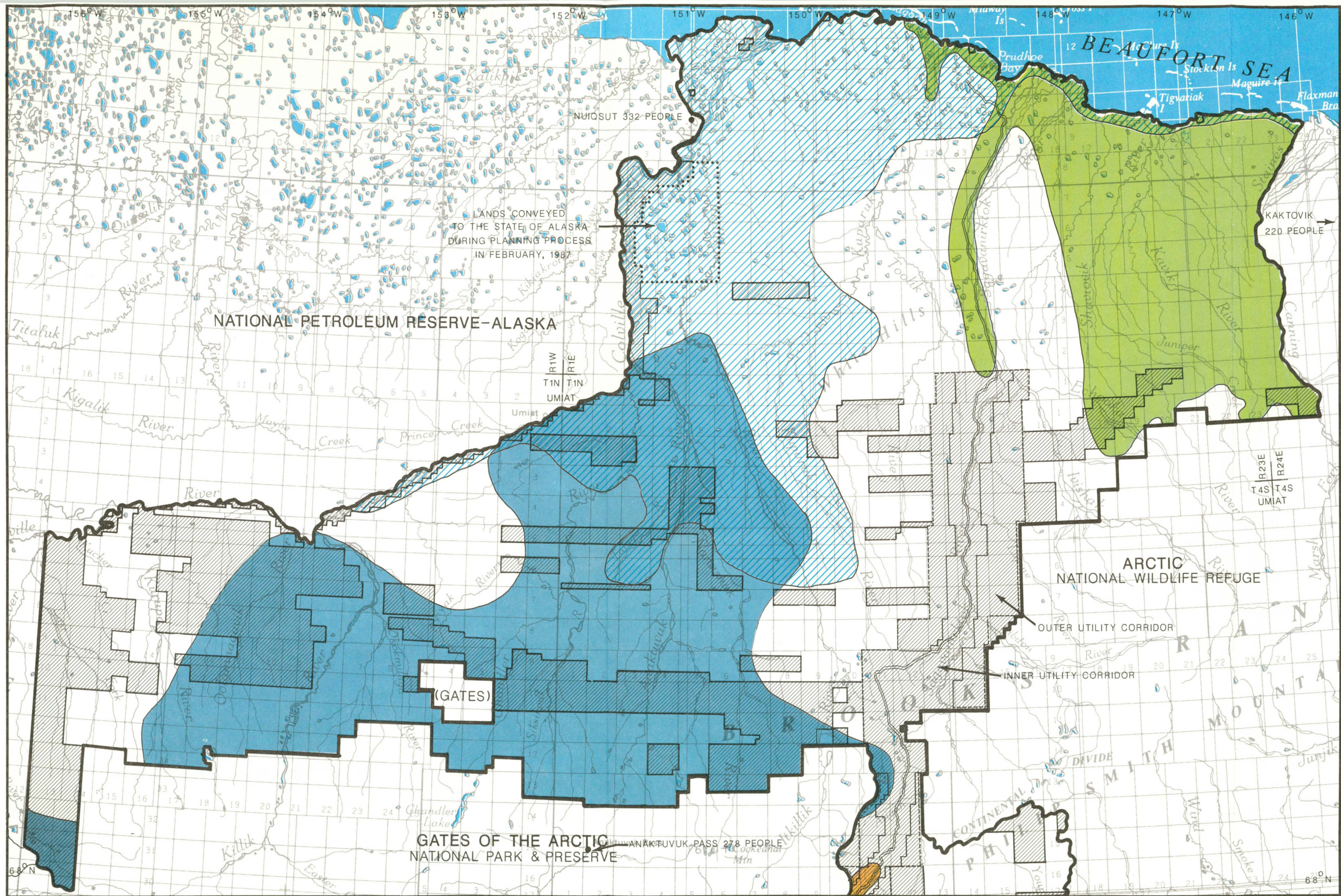
2 of 2

## LEGEND

- Peregrine Falcon Nesting and Foraging Habitat
- Known Locations for Sensitive and Rare Plants
- Potential Habitat for Sensitive and Rare Plants
- BLM Administered Public Lands







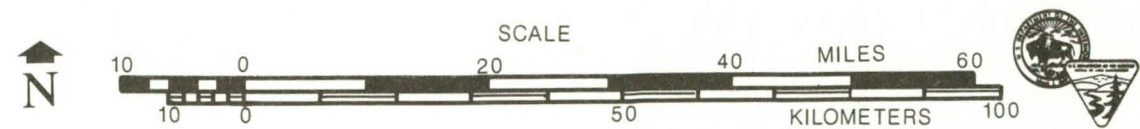
## Subsistence Use Areas

1 of 2

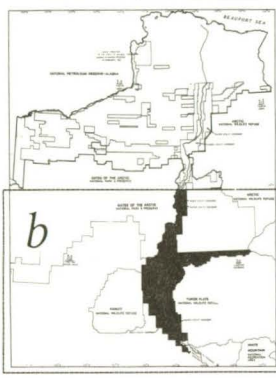
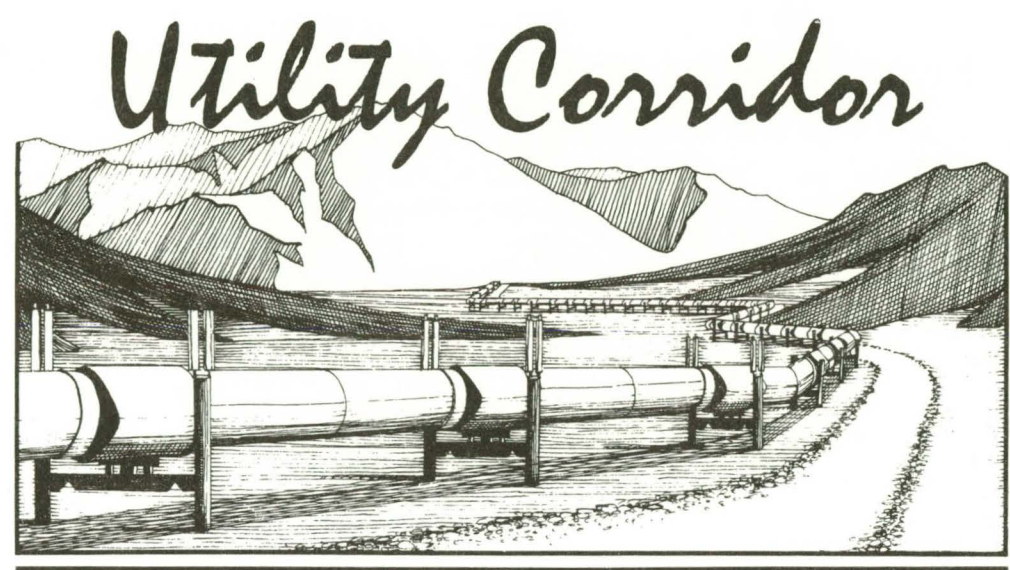
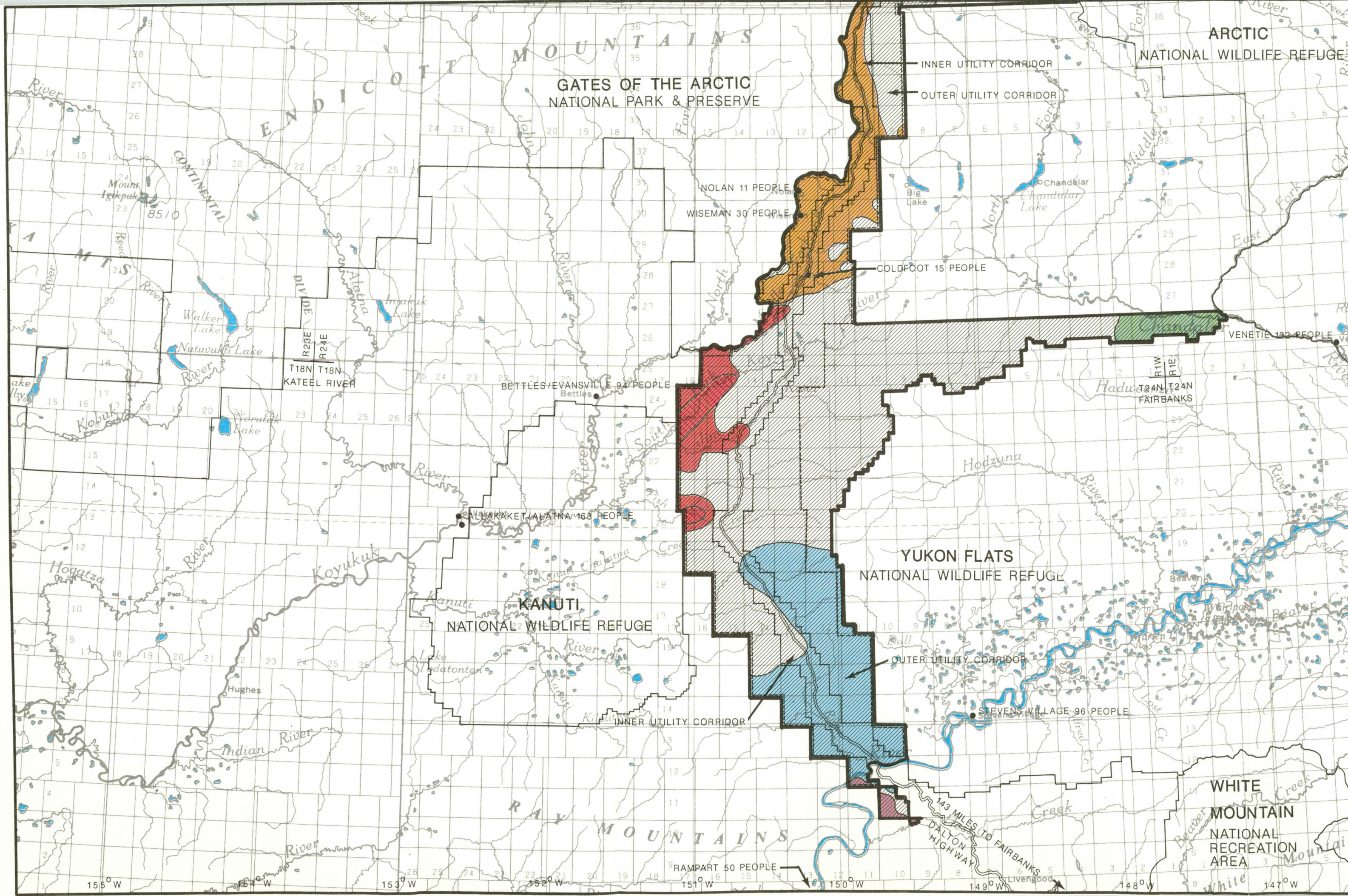
### LEGEND

- Anaktuvuk Pass (Pedersen, 1979; Nelson et al, 1982)
- Nuiqsut (Pedersen & Shishido, 1986; Pedersen 1979)
- Kaktovik (Pedersen et al, 1985)
- Nolan/Wiseman/Coldfoot/and vicinity (BLM, 1986)
- BLM Administered Public Lands

**NOTE ON MAP SOURCES AND ACCURACY:** See bibliography for complete references to sources used in constructing this map. Data for most of the communities came from the Alaska Department of Fish and Game, Division of Subsistence, which qualifies such maps by stating: 1) subsistence use areas depicted are based on information obtained from a sample of community households; 2) subsistence patterns of household resource use may change from year to year while data are collected for specific periods; 3) therefore, all maps can be considered potentially only a partial representation of areas important to local village residents.







## Subsistence Use Areas

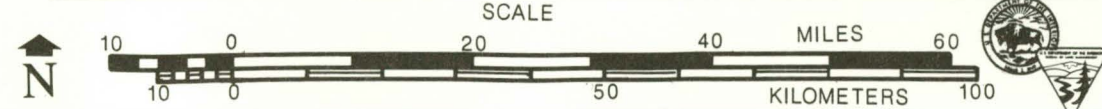
2 of 2

### LEGEND

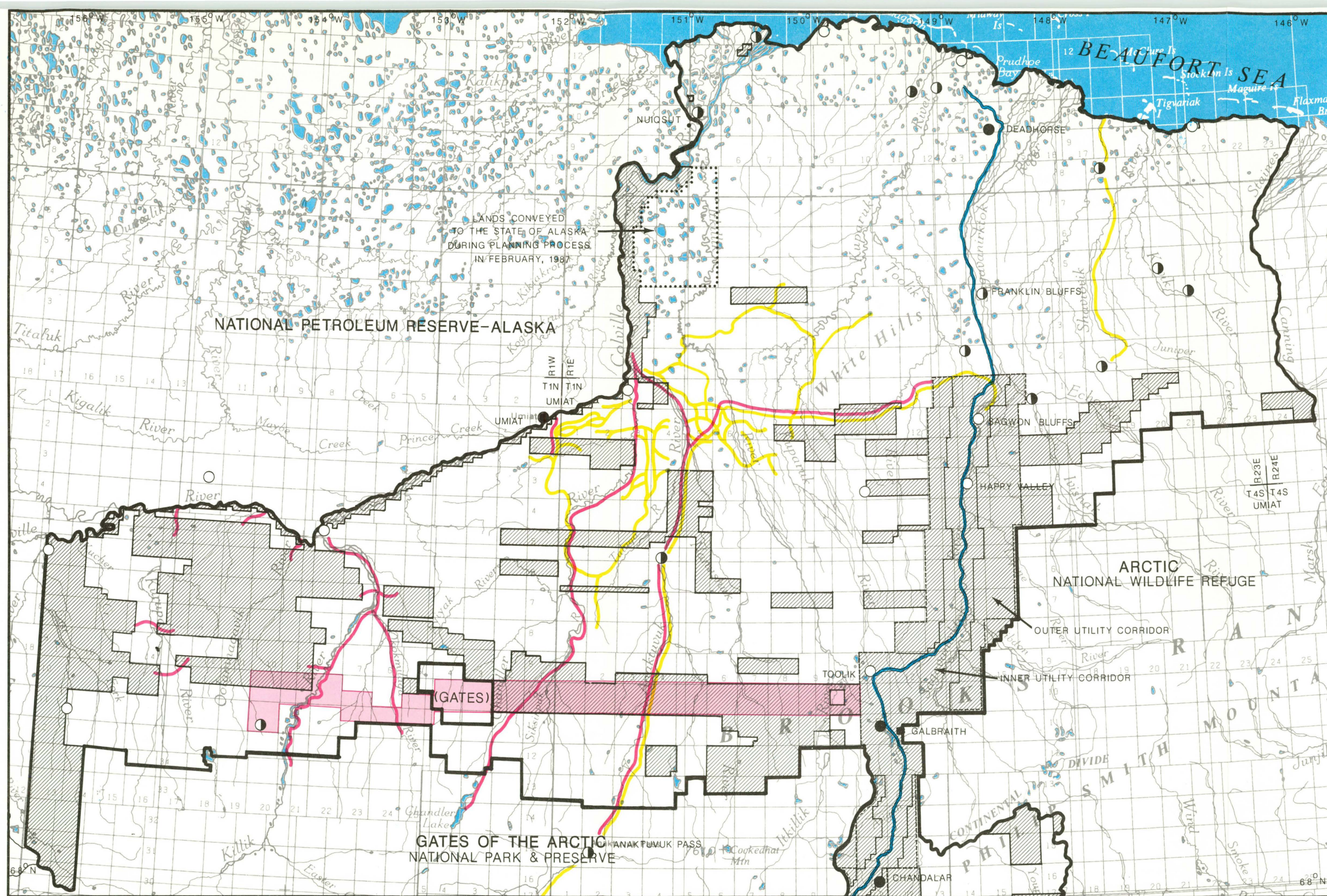
- Stevens Village (Sumida & Alexander, 1986; BLM, 1986)
- Venetie (Caulfield, 1983; USFWS, 1985)
- Bettles/Evensville (Marcotte & Haynes, 1985; McGee et al, 1985; BLM, 1986)
- Nolan/Wiseman/Coldfoot/and vicinity (BLM, 1986)
- Allakaket/Alatna (Marcotte & Haynes, 1985; BLM, 1986)
- Rampart (BLM, 1983 & 1986)
- BLM Administered Public Lands

**NOTE ON MAP SOURCES AND ACCURACY:** See bibliography for complete references to sources used in constructing this map. Data for most of the communities came from the Alaska Department of Fish and Game, Division of Subsistence, which qualifies such maps by stating: 1) subsistence use areas depicted are based on information obtained from a sample of community households; 2) subsistence patterns of household resource use may change from year to year while data are collected for specific periods; 3) therefore, all maps can be considered potentially only a partial representation of areas important to local village residents.

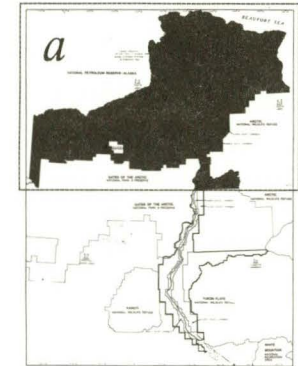
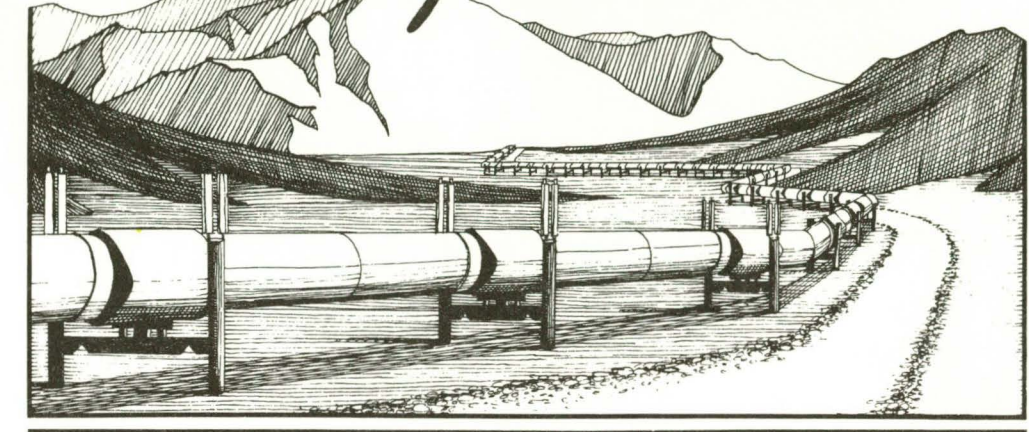
**Errata:** The reference above for Sumida & Alexander should read 1985 instead of 1986.







# Utility Corridor



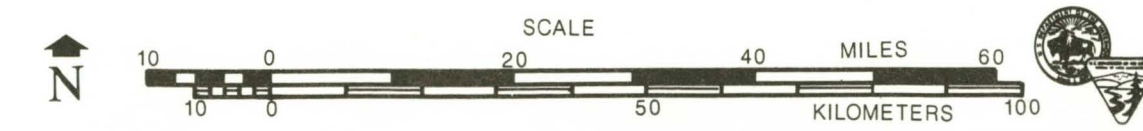
## Existing Access

1 of 2

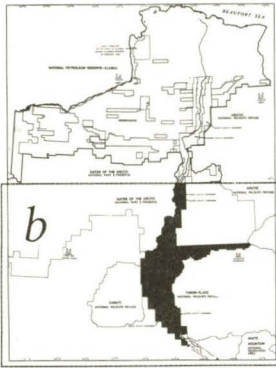
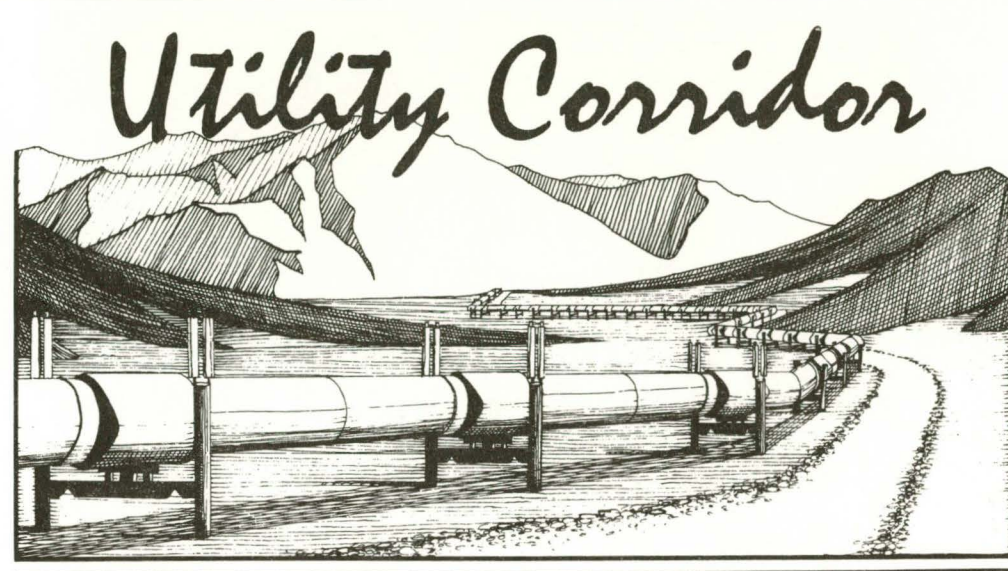
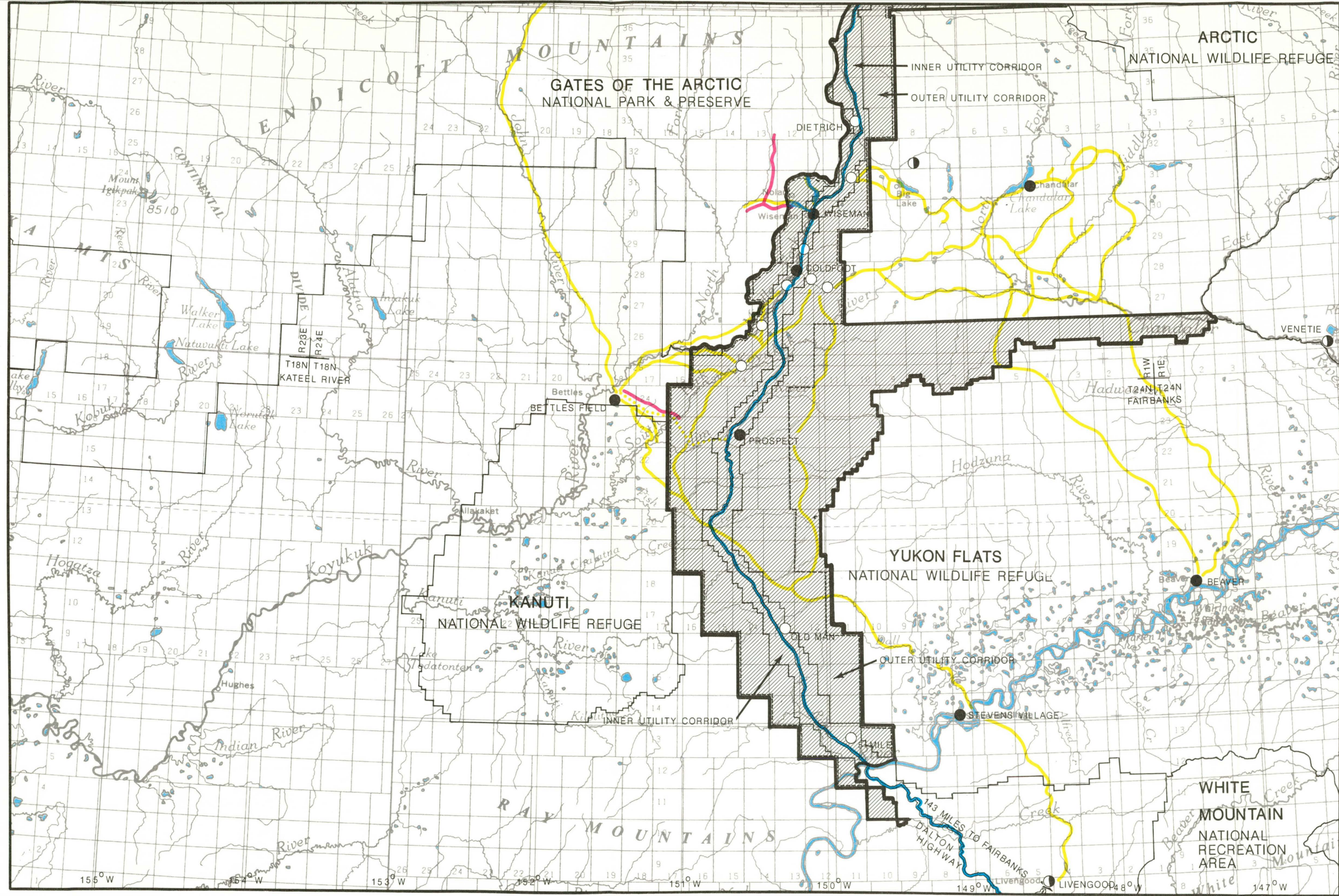
### LEGEND

- State Highway
- State 1974 Trails Inventory The majority of these trails are winter use only, current condition and use (if any) is unknown.
- ANCSA 17 (b) Easement
- ANILCA 1431 (j) Corridor
- BLM Administered Public Lands
- Airstrips
- State maintained public
- Others located on Federal Land
- Others located on State and private land

Landing areas are shown on this map for the purpose of identifying existing access opportunities, which is based on limited available data.  
No representation of physical conditions or proprietorship is intended.  
Users should consult the current aeronautical charts.





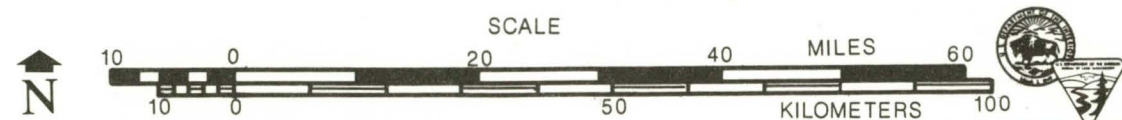


*Existing Access*  
2 of 2

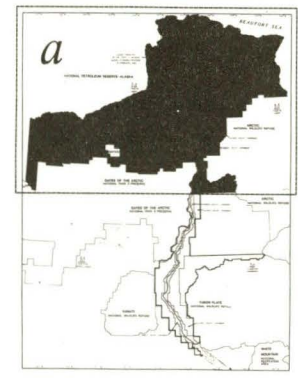
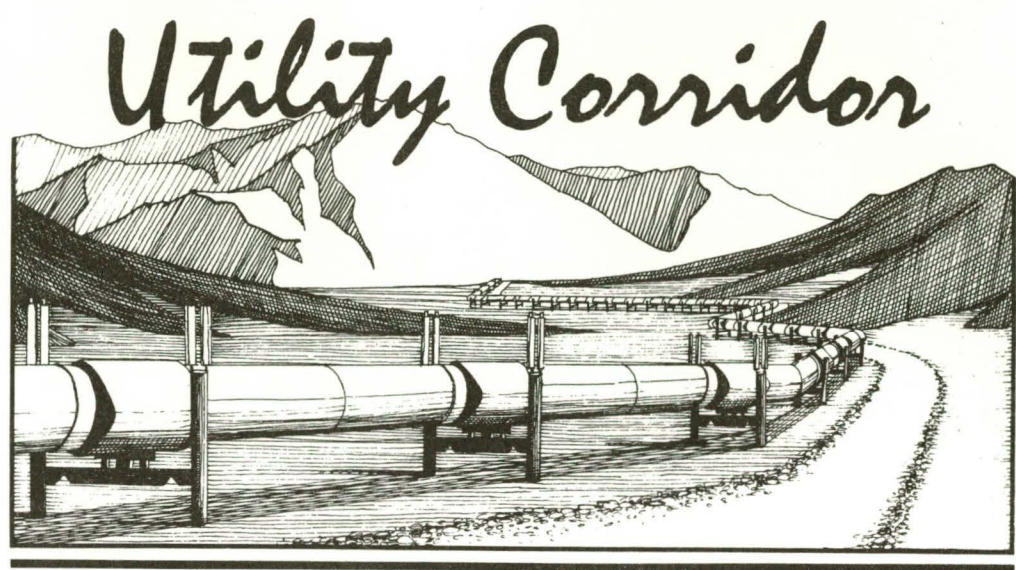
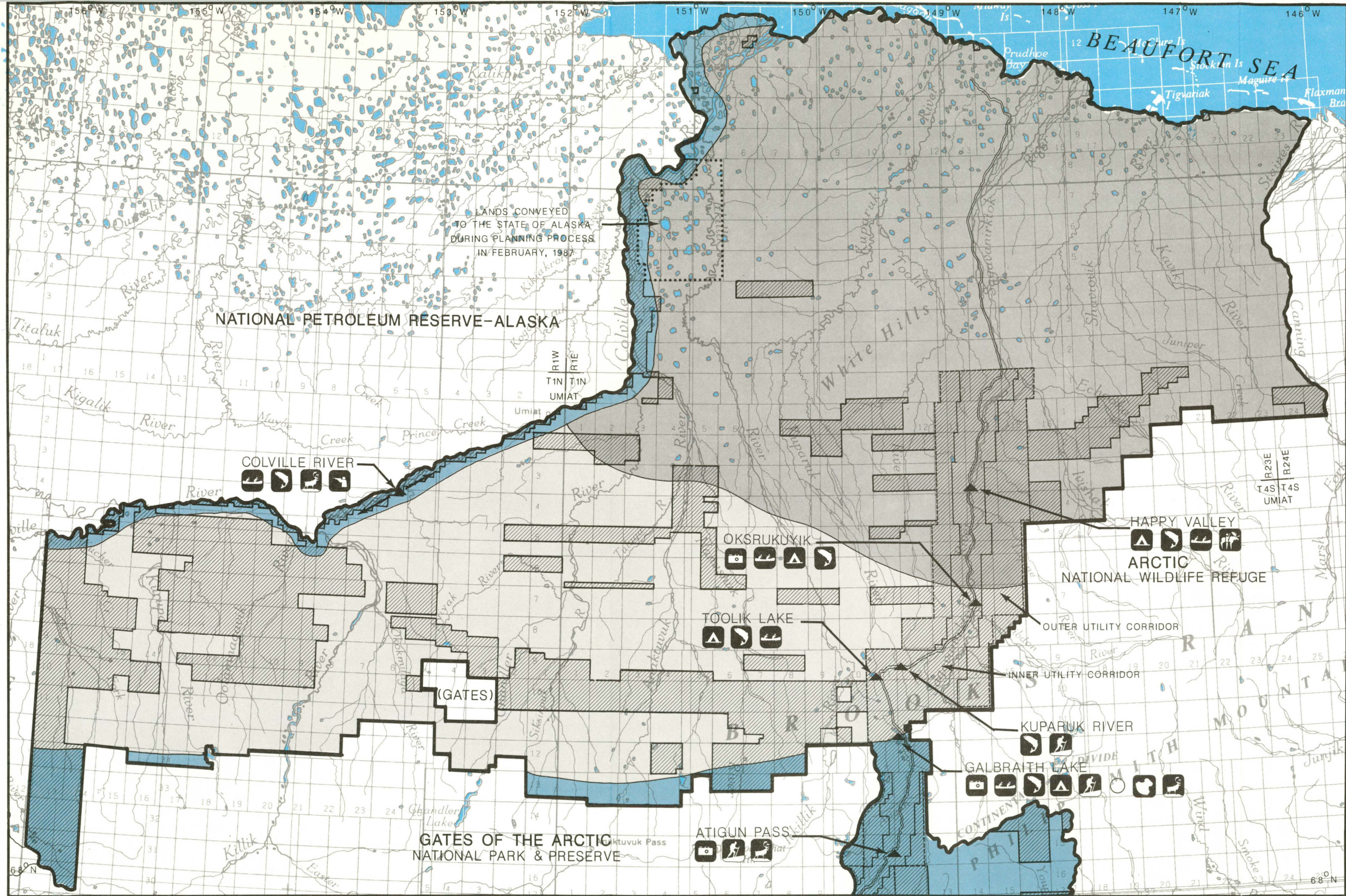
**LEGEND**

- State Highway
- State 1974 Trails Inventory
- ANCSA 17 (b) Easement
- Bettles Trail
- BLM Administered Public Lands
- Airstrips
- State maintained public
- Others located on Federal Land
- Others located on State and private land

Landing areas are shown on this map for the purpose of identifying existing access opportunities, which is based on limited available data. No representation of physical conditions or proprietorship is intended. Users should consult the current aeronautical charts.







## Recreation Opportunities

### Scenery Quality Classes

1 of 2

#### LEGEND

- |                    |                        |
|--------------------|------------------------|
| Unimproved Camping | Wildlife Viewing       |
| Fishing            | Scenic View            |
| Boating            | Guide Services         |
| Unimproved Hiking  | Cultural/Historic Site |
| Access to Hunting  | Airstrip               |

Scenic quality is a measure of the appeal of an area of land. Through the scenic quality rating process, lands are given a rating based on seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and the affect (whether positive or adverse) of man caused modifications to a landscape. The ratings can be generally summarized as follows:

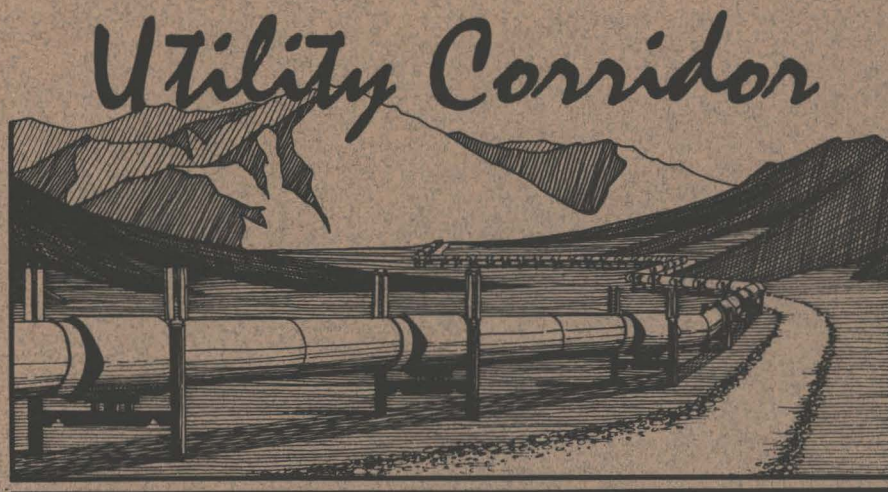
- SCENIC QUALITY CLASS A - Distinctive landscapes of outstanding visual quality.
- SCENIC QUALITY CLASS B - Areas that, although pleasing to the eye, tend to be common throughout a landscape.
- SCENIC QUALITY CLASS C - Areas whose features offer only minimal variety and lacking in visual quality. Includes all areas not included in Classes A and B.
- BLM Administered Public Lands









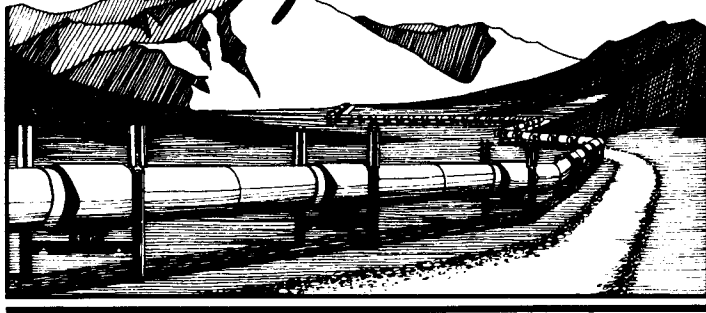


## Chapter 4: The Proposed Plan - Environmental Consequences

Introduction .....	4-1
Wildlife .....	4-1
Fisheries .....	4-6
Soil, Water, Air, and Vegetation .....	4-10
Visual Resources .....	4-14
Cultural Resource .....	4-15
Socioeconomic Impacts .....	4-17
Subsistence .....	4-18
Unavoidable Adverse Effects of the Proposed Action .....	4-20
Irreversible and Irretrievable Commitment of Resources .....	4-21
Short-term Uses Versus Long-term Productivity .....	4-21
Cumulative Impacts .....	4-22



# Utility Corridor



## Chapter 4:

# THE PROPOSED PLAN - ENVIRONMENTAL CONSEQUENCES

---

## Introduction

This chapter considers the management actions and activity scenarios presented in Chapter 2 and assesses environmental impacts anticipated as a result of those actions and activities. This chapter is organized by "impact topics." Impact topics are environmental or social concerns identified by the public at meetings and through mailings, by other agency personnel through interagency workshops, and by BLM staff during development of this Proposed Plan and the associated *Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement* (CAMA Wilderness EIS; USDO, BLM; 1988). Under each impact topic is a brief summary of the potentially impacting activities described in Chapter 2 followed by a discussion of anticipated consequences.

Unlike the *Draft Utility Corridor Resource Management Plan and Environmental Impact Statement* (USDO, BLM, 1987), which discussed in detail impacts of several alternatives, including a preferred alternative, this, the final plan and EIS, discusses in detail only the impacts of the proposed plan. This assessment is similar to that which appeared in the draft document for the preferred alternative but considers those changes that have been made to the preferred alternative in development of the proposed plan. Also, activity scenarios (in Chapter 2) and impact assessments have been developed and refined as a result of public comment, new information, and development of the associated CAMA Wilderness EIS (USDO, BLM; 1988). Table 4.2 at the end of this chapter summarizes the impacts of the various alternatives as presented in the draft RMP/EIS. The reader should refer to the draft document if more detailed information is desired.

## Wildlife

### IMPACTING ACTIVITIES

In the planning area as a result of the proposed plan, activities associated with exploration and development of leasable (oil and gas) and locatable (gold) minerals have the greatest potential for significant impacts on wildlife populations and/or their habitats. Within the planning area, surface disturbance from gravel pits, placer mining, and the construction of roads, airstrips, and drilling pads would remove or alter habitats for many wildlife species. If development takes place, any newly constructed facilities and associated human activities could displace caribou, moose, sheep, denning bears (grizzly and polar), furbearers, waterfowl, and raptors, including peregrine falcons.

The designation of the proposed upper Nigu River area (approximately 41,000 acres) as wilderness would provide protection for the wildlife species within the designated area, especially caribou, grizzly bear, and Dall's sheep. By designating this area as wilderness, the lands would continue undisturbed, eliminating the possibility of habitats being altered through mineral extraction and/or oil and gas exploration and development.

On the 3,639,000 acres within the planning area north of the Brooks Range (CAMA) not proposed as wilderness, the greatest potential impacts to terrestrial wildlife populations and their habitats would

result from oil and gas development activities on the approximately 3,300,000 acres with high potential for oil and gas occurrence. During the life of this plan no actual oil and gas development is expected to occur; however, development could occur in the future as a direct result of leasing under this proposed plan. Wildlife populations and their habitats could be impacted by construction of production facilities, roads, and pipelines, traffic, human habitation and use, noise, and pollution (both air and water). The significance of effects on wildlife and their habitat would depend on the location, timing and size of the development field and required facilities. Because of the area's remoteness and restrictions on the use of the Dalton Highway, impacts resulting from recreation and commercial development are not expected to be significant in this portion of the planning area.

On the approximately 2,400,000 acres within the planning area south of the Brooks Range, the greatest potential for disturbance to terrestrial wildlife populations and their habitats would be locatable mineral extraction. Mineral extraction operations would disturb wildlife habitat as a result of the construction of buildings, stripping, processing, and tailings disposal. Impacts resulting from recreation and commercial development are also possible in this portion of the planning area.

## ANTICIPATED CONSEQUENCES

In analyzing impacts of oil and gas development, mineral extraction, recreation, commercial development, and other human activities on wildlife populations and their habitats, it is impossible to give precise demographic or population change predictions based on generalized development scenarios. The significance of effects on wildlife and their habitat would depend on many very specific factors, including, but not limited to, exact location, duration, and the scheduling and extent of the development activities. In permitting development activities, the protection of crucial and limited habitat (e.g., riparian areas, mineral licks, lambing and denning areas, etc.) is very important to maintaining healthy wildlife populations.

### Big Game

#### *Impacts from Oil and Gas Activities*

Geophysical (seismic) operations within CAMA will almost certainly occur in the future. Although these operations would be episodic in nature, it is predicted that on the average approximately 500 miles of seismic line would be run across CAMA lands annually. Geophysical operations would be authorized and conducted only during the winter months (November through May) when conditions allow for ground vehicles to cross the tundra with minimal impact to the vegetative mat (12 inches of frozen ground and 6 inches of snow). In addition only vibroseis techniques would be used, which eliminates surface disturbance caused by explosives used in earlier operations (pre-1980).

The effects of geophysical activities on wildlife species would be the disturbance of animals within the immediate vicinity of the operation. However, this disturbance is temporary in nature (1 to 2 days in most locations), and most animals will move away from the area until the operation moves on, then return to their normal activities.

It is projected that over the next 30 years, beginning in about 10 years, approximately 30 exploratory wells would be drilled (winter only) on federal CAMA lands. Disturbance would occur to the animals in the immediate vicinity of any exploratory well operation. However, this disturbance is localized in nature, and most animals will move away from the area until the operation is completed, then return to their normal activities.

Exploratory drilling would result in 10 acres of direct habitat loss (e.g., gravel pads, roads) per well for a maximum total of 300 acres of disturbance over the period of exploratory drilling operations. The most recent drilling operation within the Arctic District was successful in using ice pad construction instead of gravel, eliminating any permanent gravel pad remaining after the operation. If this method proves to be effective for future wells, then the direct loss of 10 acres of wildlife habitat per well would be reduced or eliminated. In addition to the direct loss of habitat, an additional 640 acres (1/2 mile from well) would be indirectly affected by human activities (e.g., noise, lights, smoke). However, because of the localized impact and timing of exploratory



drilling, it is not anticipated that exploratory wells will cause any long-term effects to the overall vegetation cover or wildlife populations within CAMA.

The likelihood of discovering economically recoverable oil resources in CAMA is considered to be less than that of the nearby ANWR 1002 area, or less than 19%. Should it occur, actual oil and gas development and production activities, pose the greatest potential threat to big game populations and habitat within CAMA. It is impossible at this time to predict exactly where development fields, pipelines, or other oil and gas activities might occur; consequently, no precise estimate of impacts to crucial wildlife habitats or animal populations resulting from these activities can be made. However, by using the activity scenarios developed in Chapter 2 a generalized assessment of potential impacts has been developed. The primary effect on big game (e.g., caribou, moose, Dall's sheep and grizzly bear) would be the direct loss of 2,420 acres of habitat for production facilities, roads, gravel pits, and 870 acres for pipelines (Table 2.6). In addition, there would be an indirect habitat loss of approximately 6,400 acres (1/2 mile from anticipated facilities) associated with disturbance from camp facilities (e.g., noise, lights), and approximately 55,000 acres (1/4 mile from pipelines) along 174 miles of pipeline routes, primarily due to disturbance from vehicular traffic. Direct and indirect loss of habitat would cause a disruption of the levels and distribution of resident and migratory populations within the immediate vicinity of the development facility or pipeline. Some of the animals that remain within the immediate development area or along the pipeline routes (within 1-2 miles) may be lost to vehicle collisions or hunting/poaching, or could become nuisance animals (e.g., bears) and have to be destroyed. In addition, east-west pipelines could potentially hinder migratory patterns of big game animals (particularly caribou) within CAMA.

Within CAMA, riparian zones (crucial habitat for moose and grizzly bear) generally run in a north-south direction, while Dall's sheep crucial habitat (mineral licks, lambing areas) is generally located in mountainous regions. The anticipated production facilities and human habitation areas are not likely to be located to any great extent on these crucial wildlife habitats. Furthermore, the anticipated east-west roads and pipelines to the Trans-Alaska Pipeline (TAPS) would cross crucial riparian habitats perpendicularly, minimizing impacts on these areas. Therefore, because of the amount of available habitat and the anticipated location of the development activities in relationship to crucial habitat, the direct loss of 3,290 acres (0.09% of federal CAMA lands and 0.026% of all CAMA lands) and the indirect loss of 61,400 acres (1.7% of federal CAMA lands and 0.49% of all CAMA lands) within CAMA to wildlife populations and their habitats would be a minimal impact. If the development activities and/or pipelines change to other locations and the 3,290 acres of direct loss and 61,400 acres of indirect loss were to occur within crucial wildlife use areas (e.g., riparian zones, mineral licks, denning sites) impacts could become more significant.

Perhaps a greater threat to big game animals (particularly caribou) would be the potential disruption of migratory patterns from east-west pipelines, roads, and associated human activities. Approximately 30,000 caribou (12% of the Western Arctic Herd) migrate through CAMA each year and interaction with the proposed pipelines and would be expected. It is uncertain what impacts this might have, studies relating to impacts on caribou migration resulting from the existing TAPS are inconclusive.

Within CAMA the greatest threat to bears would be human induced mortality. Chance encounters between bears and people will increase as more people use the planning area. Bears may become nuisance animals near development nodes and in field camps, where garbage is not properly disposed of, and may have to be destroyed. Sport and subsistence hunting of grizzly bears would increase as new access routes are developed.

#### *Impacts from Locatable Mineral Development*

Although the proposed plan opens most of CAMA to locatable mineral development, no mining operations are anticipated in the near future due to the areas remoteness, limited access, lack of infrastructure and lack of known resource values.

Within the planning area south of the Brooks Range, mining operations, primarily placer gold mining, are anticipated to disturb wildlife habitats as a result of building construction, stripping, processing, and tailing disposal. During the life of this plan, three or four new mining operations

are anticipated to begin. This would bring the number of mining operations in the planning area to a total of 36 or 37. Direct disturbance from placer mining operations would generally be limited to five to ten acres per operation per year, with reclamation being accomplished on an annual basis. Reclamation efforts to recontour the land and revegetate the surface would not completely restore the land to its natural state. During the life of this plan, it is anticipated that for all placer mining operations approximately 1,800 acres of onsite surface disturbance (in various stages of recovery) and 360 acres of access roads would result. In addition, indirect disturbances to wildlife populations from human activities (e.g., noise, aircraft, lights, traffic, smoke) would occur on an additional approximately 600 acres around each operation (1/2 mile from disturbance site). This would result in an additional 2,400 acres of disturbance above current levels or as much as approximately 22,000 acres for all operations. These indirect impacts would be very short-term, confined primarily to periods of actual activity.

Dall's sheep and moose populations and their habitats would be most affected by these direct and indirect disturbances. Given the available habitat and the limited area of disturbance at any point in time it is not anticipated that any significant impacts from these operations would occur. If the development activity were to occur within crucial habitat areas (e.g., lambing areas, mineral licks) impacts could become significant. However, the designation of ACECs and closing of mineral licks to surface disturbing activities will provide a measure of protection for these crucial habitats.

#### *Impacts from Recreational Activities*

Development of recreational facilities under the proposed plan would encourage additional hunters to travel the Dalton Highway at least as far as the road closure at Disaster Creek. This would result in a greater number of big game animals being harvested within the planning area. Sport and subsistence hunting of big game animals in remote areas of CAMA would also increase if pipelines are constructed into areas where access is currently limited and the roads were opened to the public or if use restrictions were not properly enforced. Traffic accidents and poaching would also result in additional animals being killed. Aggressive management of the harvest by the Alaska Department of Fish and Game would help minimize this impact, especially since firearm discharge 5 miles on either side of the Dalton Highway is prohibited. The greatest threat to moose and Dall's sheep throughout the planning area would be human induced mortality through increases in sport hunting.

ORV use of the Utility Corridor and CAMA lands is currently minimal, largely because of the state restrictions, and does not cause any appreciable impact to wildlife populations or their habitats. ORV use is not expected to change to any significant degree as a result of the proposed plan.

#### *Impacts From New Access to Ambler Mining District (Bettles)*

BLM is directed to allow for access from the Ambler Mining District to the Dalton Highway by Sec. 201 (4)(b-e) of ANILCA. Although not anticipated to occur during the life of this plan, it is anticipated that at some point in the future, an all-season access route to the Ambler Mining District and Bettles will be constructed. The most likely route for such access is anticipated to be within the area identified in the Draft RMP/EIS as the "Ambler Mining District Transportation Corridor." Under the proposed plan, this land would be opened to state selection as part of the "Prospect Unit" and will likely be transferred to the State of Alaska. If a road is built at Prospect, and if anticipated increased use by recreational or subsistence hunters occurs, the state could restrict access, increase enforcement presence, or impose additional hunting regulations in the area. The state already manages the Dalton Highway right-of-way, and would manage the anticipated right-of-way to the Ambler Mining District (and Bettles) even if the lands remained in federal ownership. Further, the state provides the law enforcement presence on the Dalton Highway, and would continue to do so on any additional state route built in the planning area regardless of ownership.

#### *Impacts under State Management*

The Alaska Department of Fish and Game manages animal populations and sets and enforces hunting regulations and bag limits even on federal lands. Anticipated activities and management under state ownership, as discussed in Chapter 2, would not vary significantly from that anticipated



under federal management. Thus, if the identified four areas within the Utility Corridor are transferred to the state, impacts from state authorized activities on those lands and resources would not significantly change from those expected under federal management. If a road is built at Prospect, and if as anticipated increased use by recreational or subsistence hunters occurs the state could restrict access, increase enforcement presence, or impose additional hunting regulations in the area. No long-term or permanent effects to wildlife are expected.

### **Furbearers**

Increased human presence along the Dalton Highway and in new oil fields would displace lynx, wolves, and wolverines as it has between Nenana and Healy, and in Goldstream Valley near Fairbanks. Wolves abandon dens that are within 0.6 miles of human disturbance, but continue to use dens within 1.4 miles of roads and campgrounds in some areas, e.g., Denali National Park. Wolves and wolverines would be particularly threatened by human pursuit with snowmobile and aircraft. It has been assumed that human harvest of the wolverine populations on the North Slope has only minor or local impacts, but this may not be accurate since improved transportation, increased human population, and growing affluence on the North Slope could reduce populations in or near developed areas.

The ACEC designation for some riparian areas, such as the Nigu-Iteriak ACEC is likely to provide additional protection to habitat and have beneficial effects on furbearers. Restrictions or closures of the Jim and the Kanuti river streambeds west of the inner Corridor would also result in prevention of habitat destruction resulting from mining operations and mineral material extraction. However, the net effects of these protective measures may not be great since much of the Jim River drainage has valid existing mining claims in place.

### **Waterfowl, Shorebirds, and Seabirds**

Within CAMA, construction of oil field camps and associated transportation systems, would cause impacts to waterfowl, shorebirds, and seabirds resulting from a loss of wetland habitats. Due to the limited acres of disturbance over the lifetime of the proposed plan, it is not anticipated that any significant impacts from these operations would occur, based on the overall habitat available to bird populations. However, if the development activity were to occur within crucial use areas (e.g., nesting, staging, and feeding areas) the impacts could become more significant due to the limited acres of crucial habitat available.

Aircraft activity associated with exploration and development of leasable minerals near remote nest sites will increase. This can greatly disturb waterfowl and shorebirds during nesting and increase their chances of reproductive failure.

Within the Utility Corridor, impacts from valid existing mining claims and active gravel material sites would be minimal. The projections for increases in mining activity is low, an additional three to four operations, and the resulting removal of riparian habitat should not be significant. Closing mineral licks to locatable minerals would ensure protection of these sites from future modification.

### **Threatened and Endangered Species**

The arctic peregrine falcon (*Falco peregrinus tundrius*) is classified as "threatened," and is found throughout the planning area north of the Brooks Range but primarily along the Colville and Sagavanirktok Rivers. The American peregrine falcon (*Falco peregrinus anatum*) is classified as "endangered" and is found along the Yukon River within the planning area.

Development activities such as construction of roads, material sites, airstrips, and drilling pads, could cause a direct loss of habitat for the peregrine falcon in nesting or foraging areas. A further indirect loss of critical habitat could occur if an oil and gas field, pipeline transportation system, or active mineral extraction operation were developed immediately adjacent to these nesting and foraging habitats. Aircraft operations associated with development activities near nest sites can significantly disturb nesting peregrine falcons, causing the loss of eggs or young, depending on the particular weather conditions and duration of disturbance. Activities that affect habitats or

populations of waterfowl, shorebirds, and passerine birds can indirectly affect peregrine falcons through a reduction of prey species.

The peregrine falcon is protected by the Endangered Species Act, which is binding on all federal agencies. Stipulations as outlined in the *Peregrine Falcon Recovery Plan - Alaskan Population* are currently being used to protect the peregrine falcon population. Additionally, under the proposed plan, Sagwon Bluffs is designated as an ACEC for the protection of peregrine falcon. Consequently, under federal management it is not expected that any significant impacts to the peregrine falcon population would occur within the planning area.

However, under the proposed plan, certain lands within the Utility Corridor would be opened to state selection through revocation of the existing withdrawal, and conveyance of these lands to the State of Alaska would be anticipated. One of these areas, the "Sagavanirktok unit" (approximately 600,000 acres) includes the Utility Corridor from Slope Mountain north to Alyeska Pump Station #2 and encompasses prime nesting habitat for the arctic peregrine falcon.

In evaluating impacts resulting from state management of the area, it is assumed that potentially impacting activities under state management would be the same as those anticipated under federal management, i.e., oil and gas activities and gravel extraction would be the principal impacting activities. It is impossible to predict with any certainty precise population or habitat changes occurring as a result of differences between federal and state management of these activities. Therefore, an assessment of potential impacts is limited to how the State of Alaska policy on endangered species compares with BLM policy.

Evaluation of the State of Alaska's policy and actions on endangered species supports a conclusion that the state would provide a degree of protection to endangered species comparable to that provided by the BLM. Current state policy calls for the protection of endangered species, and the State of Alaska is applying the stipulations outlined in the *Peregrine Falcon Recovery Plan - Alaskan Population* as developed by BLM and the U.S. Fish & Wildlife Service. In consideration of actions to date, and the State of Alaska's current policies concerning endangered species, it is not anticipated that any significant impacts to the peregrine falcon population would occur as a result of conveyance of these lands to the State of Alaska.

## CONCLUSION

There would be no additional impacts to wildlife populations or their habitats within the proposed 41,000 acre wilderness area (the upper Nigu River). Impacts to wildlife habitat on the areas not designated as wilderness would occur. Considering both current and anticipated mining operations and foreseeable oil and gas activities, approximately 5,500 acres of direct loss of habitat as well as 83,000 acres of indirect disturbance would occur within the planning area. Most indirect disturbance would be of a short-term nature. Because of the overall size of the area and expected location of the development activities in relationship to crucial wildlife habitat, impacts to wildlife populations and their habitats would be minimal.

## Fisheries

### IMPACTING ACTIVITIES

Within the planning area north of the Brooks Range (CAMA), the activities with the greatest potential for impacts to fisheries resources would be a result of oil and gas exploration and development on the approximately 3,300,000 acres with high potential for oil and gas occurrence, and gravel extraction operations for pipeline and highway maintenance and construction. During the life of this plan no actual oil and gas development is expected to occur; however, development could occur in the future as a direct result of leasing under this proposed plan. Oil and gas activities could include geological and geophysical (principally seismic) exploration, exploratory drilling, development drilling, construction of all-season roads, oil transmission pipelines and production facilities, and eventual abandonment and reclamation. Because of the area's remoteness and restrictions on the use of the Dalton Highway,



impacts resulting from recreation and commercial development are not expected to be significant in this portion of the planning area.

On the approximately 2,400,000 acres within the planning area south of the Brooks Range, the activities with the greatest potential for impacts to fisheries resources would be associated with locatable mineral development and gravel extraction operations for highway and pipeline maintenance and construction. Recreation and commercial development activities would also have a potential for impacts on fisheries resources in this portion of the planning area. However, activity levels are not anticipated to reach levels significant to fisheries resources during the life of this plan. Furthermore, recreational fishing is regulated and enforced by the Alaska Department of Fish and Game and impacts can be controlled through appropriate state regulations and enforcement.

## ANTICIPATED CONSEQUENCES

### *Impacts from Mineral Material Extraction*

The greatest potential for impacts to fisheries resources from mineral material (gravel) extraction within the planning area would be in the inner Corridor where gravel is needed for maintenance and future construction of roads and energy transportation systems. Under the proposed plan use of existing material sites throughout the inner Corridor would be encouraged. No new sites would be permitted in environmentally sensitive areas, such as the Jim and Ivishak river and Prospect Creek floodplains, unless no economically feasible alternatives are available. As a result of these protective measures, impacts to fisheries within the planning area are not expected to occur because of mineral materials extraction.

### *Impacts from Locatable Mineral Development*

Currently there are 33 placer mines operating in the planning area south of the Brooks Range. No placer operations occur north of the Brooks Range, and no lode deposit mines occur in the planning area. During the life of this plan it is anticipated that an additional three placer mines and one lode mine would begin operation in the planning area south of the Brooks Range. Impacts resulting from these additional operations are not expected to increase significantly from the current situation. Current mining operations impact 17 streams located primarily in the watersheds of the South Fork Koyukuk, the Middle Fork Koyukuk, and the Jim rivers (Table 4.1).

Generally, impacts resulting from placer mining activities are highly turbid water, siltation of stream bottoms, physical disturbance and damage to streambed and riparian areas, and the introduction of toxic metals and chemicals into streams. These changes in habitat can cause direct loss of fish and other aquatic life. In some cases impacts to certain stream areas may occur over such an extended period of time, and recovery to natural conditions may take so long that mining can be an irretrievable commitment of resources. This occurs in certain areas of Alaska where mining has been ongoing for almost 100 years with the same ground being disturbed several times. Individual mines often may not have a significant impact but cumulative impacts of many mines within the same drainage system may have significant, long-term impacts through the destruction of stream productivity. Recent baseline water studies in the Koyukuk Mining District (see "Impacts to Soil, Water, Air and Vegetation" below) do not indicate a significant cumulative impact on sampled streams; however, data have been collected for only the last two years.

### *Impacts from Oil and Gas Activities*

Impacts associated with oil and gas exploration activities can generally be avoided or mitigated using appropriate seasonal and location stipulations (Appendix L). Exploration activities usually do not require road building. In some cases, ice drilling pads have been used instead of conventional gravel pads. Where these methods are employed, effects on fisheries resources are minimized. The potential for contaminating a watershed with spilled fuel, drilling muds, crude oil and various other chemicals still exists, but impacts associated with gravel removal from streambeds or soils disturbances is significantly reduced or eliminated.

In situations where gravel sources are necessary to construct drilling pads, major alterations or loss of crucial habitat can result, particularly because crucial habitat is not well defined throughout

most of the study area. Alterations, loss, and contamination of aquatic habitat and direct mortality are major effects associated with oil and gas development, production, and transportation. The degree of impact will depend on the extent of development and the care with which it is executed. The larger the development project, the greater the risk to aquatic resources.

**Table 4.1**  
Locations of Known Impacts to Fish Habitat

Stream Name	Tributary of:	Activity	Specific Impact
1. Prospect Creek	Jim River	Placer Mining	Turbid effluent
2. Hungarian Creek	S. Fork Koyukuk River	"	Turbidity/in-stream vehicle use
3. Hidden Creek	"	"	"
4. Wilson Creek	"	"	"
5. Frizby Creek	"	"	"
6. Bear Creek	"	"	"
7. Davis Creek	"	"	"
8. John River Creek	"	"	"
9. S. Fork Koyukuk River	Koyukuk River	"	Effluent/tailings in river/in-stream equipment use
10. Middle Fork Koyukuk River	"	"	Turbid effluent
11. Twelve-Mile Creek	Middle Fork Koyukuk River	"	"
12. Slate Creek	"	"	Effluent
13. Clara Creek	"	"	Effluent/streambed destruction
14. Wiseman Creek	"	"	"
15. Sheep Creek	"	"	Streambed destruction
16. Gold Creek	"	"	Effluent
17. Vermont Creek	Hammond River	"	"
18. S. Fork/West Fork Dall River	Dall River	Road Maintenance	Collapsed culvert
19. Douglas Creek	Jim River	Pipeline Pad	Excessive aufeis
20. Stout Creek	Sagavanirktok River	Road Maintenance	Improper culverts
21. Milke Creek	"	"	"
22. Dan Creek	"	"	Improper bridge location

Source: Alaska Department of Fish and Game.

Activities associated with oil and gas development, production, and transportation will reduce or alter aquatic habitat within the planning area to some extent, depending on the degree of development. Due to limited fisheries inventories within the planning area, crucial aquatic habitat used for migration, spawning, rearing, and overwintering has not been specifically identified in most of the planning area, nor are exact areas of oil and gas development known at this time. Therefore, reliable estimates of fisheries habitat impacts can not be determined. However, information is available on the types of effects associated with certain development activities.

The most obvious impacts to fisheries from oil and gas development would result when extensive gravel is removed from streambeds. Gravel is required for construction of roads, drilling pads, and airstrips within an oil field. Stream crossings of roads and pipelines cause stream flow and channel modifications. These activities will have both direct and indirect effects on fishery habitat, possibly crucial spawning and overwintering habitat, and migration routes (USDOI, BLM and US Army Corps of Engineers 1987). Expected effects from gravel removal from streambeds include:

1. direct alteration and loss of crucial habitat where crucial habitat has not been identified before removal of gravel from streambeds;



2. blockage and rerouting of stream channels resulting in changes of flow regimes, dewatering of crucial habitat areas, and creation of possible migration barriers such as improperly placed culverts;
3. high silt concentrations resulting in reduced primary production, reduced numbers and diversity of benthic organisms, mortality of fish eggs and larvae, and disruption of fish dependent on sight feeding; and,
4. heavy sediment deposition resulting in barriers to migrating fish and the filling in of crucial overwintering habitat (deep holes) in streams.

In addition to alteration or loss, habitat contamination can result from oil and gas activities particularly during construction periods. Contamination of any type can be a significant problem for fisheries, particularly when fish are concentrated in limited areas for spawning or overwintering. Contamination of a hydrologic system within the planning area by oil, drilling mud additives, fuels, hazardous chemicals or heavy metals could be significant, depending on the degree and location of the spill (USDOI, USFWS 1987). Contamination of isolated small lakes with no outlets could result in a localized reduction in population, but the effect would not be significant to the study area as a whole (USDOI 1985). However, contamination of the Colville or Sagavanirktok Rivers, one of their tributaries, or any major stream could cause significant effects to the overall fishery population within the planning area.

Spills are usually small and controlled in a relatively short time, but impacts still occur, including reduced numbers and diversity of benthic organisms, mortality of fish in sensitive life stages, reduced water quality, and the potential for contaminating terrestrial organisms. Animals using the spill area can suffer from a variety of physical, physiological, and ecological problems as the result of contamination (USDOI 1985). Natural recovery usually occurs fairly quickly; human assistance can speed the process. Most impacts are short-term.

Large spills are more environmentally devastating and resulting impacts require extended periods of recovery in the arctic. Because of extremely slow rates of productivity in both terrestrial and aquatic arctic ecosystems, recovery can require decades. Aquatic impacts may include elimination throughout the watershed of all but the most tolerant aquatic life forms, degraded water quality, and mortality of terrestrial organisms, especially vegetation and waterfowl. Cleanup would require extensive human involvement and funding; natural recovery is generally not possible in the short-term.

Activities such as seismic surveys, drilling, and water withdrawal from lakes and rivers during the winter months have the potential for direct mortality of fish. Although explosives used in seismic activities can significantly reduce a localized fishery population, most seismic exploration since the early 1980s has been by vibroseis (USDOI, USFWS 1987). Drilling operations require large amounts of water that is relatively scarce during the winter months. Because of limited water quantities during the winter, potential for impacts from pollution and possible dewatering of lakes and streams is increased dramatically (USDOI, USFWS, 1987).

Complete removal of water beneath ice-covered lakes would eradicate a fishery population. Fish kills can also result from only partial water removal, due to the build up of waste products and the decreased dissolved oxygen content caused by crowding fish into a confined volume of water. Dewatering of gravels along lake shores and river bottoms could cause further fishery reductions due to the loss of incubating fish eggs deposited in the fall of the year (USDOI, USFWS 1987).

Moreover, the simple presence of people and improved access will impact fishery resources as fishing pressure is exerted where none previously existed. This impact will result from additional subsistence and sport fishing within the study area, and it should increase proportionally to the extent of oil and gas development. In arctic habitats where fish are very slow growing and have reduced reproductive capacity rates, a significant impact could result in reduced fishery resources in the absence of proper management.

In summary, the more oil and gas development undertaken the greater the opportunity for major aquatic impacts. Generally, longer pipelines cross more streams and therefore present more

opportunities for contamination of a watershed. For example, the hypothetical pipelines described in Section 2 of Chapter 2 under the activity scenarios for "Leasable Mineral Exploration and Development" vary in length and the number of streams and rivers that will be crossed:

- Route A: Approximately eight high value fishery streams would be crossed including the Colville River. A high potential exists for disruption of fish migration, stream flow and degradation of water quality without the application of mitigating measures;
- Route B: Approximately 15 high value fishery streams would be crossed by this route. A very high potential exists for disruption of fish migration, stream flow and degradation of water quality without the application of mitigating measures;
- Route C: One high value fishery stream would be crossed by this route. A moderate potential exists for disruption of fish migration, stream flow and degradation of water quality without the application of mitigating measures.

Gravel requirements would also have proportional potential impacts, since the more gravel taken from streambeds, the greater the aquatic effects. When individual streams are affected by gravel removal, similar impacts may be significant for the entire watershed. If more than one stream in a watershed is used as a gravel source (likely within the Colville River watershed) synergistic impacts could occur.

## CONCLUSION

Potential contamination, alteration, or loss of habitat and a reduced fish population could occur from placer mining, oil and gas development, and mineral materials (gravel) extraction. Restrictions on gravel extraction from the floodplains of Prospect Creek and the Jim and Ivishak rivers should alleviate impacts to those streams. Mitigation of impacts through water quality and reclamation stipulations would help manage fisheries in areas of mining claims. Effects to fisheries from oil and gas development could be managed through appropriate stipulations. It would appear that most potential impacts can be mitigated without causing serious, long-term effects.

## Soil, Water, Air and Vegetation

### IMPACTING ACTIVITIES

The proposed plan allows for 5.8 million acres within the planning area to be available for oil and gas leasing and 4.7 million acres to be open to locatable mineral development. Also, transportation of energy resources remains the primary function of the Utility Corridor. Within the Utility Corridor is located the existing TAPS and Dalton Highway as well as two issued rights-of-way for future gas pipelines. A total of 36 placer mining operations and one lode deposit mine are anticipated in the planning area south of the Brooks Range. Increased use of the Dalton Highway and Corridor lands for recreation would be expected as a result of the proposed plan. Soil, water, air, and vegetation resources would be affected to some extent by these activities.

### ANTICIPATED CONSEQUENCES

#### *Impacts from Road Construction and Use*

Road construction provides a long-term, direct effect on soils and vegetation. Depending on the width, roads necessary for anticipated oil and gas development would occupy 3 to 5 acres per lineal mile and impact soil and vegetation productivity on those acres. Because of this, roads are frequently a direct, long-term source of water pollution, from water that runs off the surface as well as from materials that are spilled on or along roadsides. The greatest effects from silt occur during the first few years following construction of a road, but continue in varying levels as long as the road exists.



In areas adjacent to roads there is an amount of dust, depending in part on the type of road surface material, frequency of precipitation, and the speed and number of vehicles using the road. Products of combustion from various types of engines and fires add to the particulate load and alter the chemical makeup of the otherwise clean air. Significant impacts can also result from fire suppression activities such as fire lines cut by heavy equipment which can expose soil to erosive forces and encourage permafrost degradation. The dust from roads has long-term effects on the soils and plant life adjacent to the road. Effects of dust have been known to occur up to 320 feet (100 meters) on either side of frequently used roads. The effects may ultimately reach twice that far. Two types of effects have been observed. First, the leaves of plants collect a coating of dust which can interfere with the photosynthetic process. Wind and rain usually cleans the surfaces of trees, shrubs and herbaceous plants. However, low growing mosses and lichens are rarely cleaned by rain, so the dust continually collects on the photosynthetic tissues, reducing the plant's ability to maintain itself.

Second, a change in the plant chemistry occurs when soluble calcium in the dust that settles on the plants is immediately available to the plant. The impact is potentially negative to the mosses, especially the acidophilic *Sphagnum* species. Plant communities growing in alkaline areas are not as strongly affected by dust since they are already adapted to the alkaline conditions. Studies (U.S. Army Corps of Engineers, 1980) indicate that four-angled cassiope (*Cassiope tetragona*), and sphagnum mosses and lichens, especially those in the family *Cladoniaceae*, appear to be particularly sensitive to road dust. In the Prudhoe Bay area, where road dust has occurred for approximately 15 years, many plants have been eliminated from road side communities within several hundred yards of the roads. We can assume similar results will occur along new development roads. The long-term effects of the changes in the plant community on other organisms is unknown.

Road dust also causes snow to melt along roadsides 2 to 3 weeks earlier than isolated areas. The effects vary from 100 to 330 feet on either side of the road. This exposure of the vegetation attracts animals in search of early greens. Continued early spring grazing usually weakens, and can eventually result in the death of, these plants, contributing to a further change in plant species composition.

#### *Impacts from Oil and Gas Activities*

Under the proposed plan, the entire planning area, with the exception of the southern portion of the proposed Nigu-Iteriak ACEC (the proposed Nigu Wilderness Area), would be open to oil and gas development. Due to the lack of resource values, no oil and gas development would be expected in the planning area south of 68° N latitude. Oil and gas exploration and development activities north of 68° could include the construction of two pipelines from the National Petroleum Reserve-Alaska (NPR-A) to the Trans-Alaska Pipeline System (TAPS), one pipeline within the existing Utility Corridor, and development of two or three oil/gas fields. Assuming that the same or greater care would be used in construction and reclamation as was used in the construction of the TAPS line, there would be relatively few long-term impacts other than the actual loss of soil and natural vegetation for the area covered by the material sites, access roads, and work/facility pads. The directly impacted areas could comprise up to 3,290 acres (Table 2.6) within the development fields and along routes of newly constructed pipelines/roads to TAPS. In addition, if development were to occur there would be impacts resulting from dust generation and gravel spray along the required access/service roads. Assuming that larger dust particles and gravel would settle within 100 feet of these roads, an additional surface disturbance of approximately 7,890 acres (see Table 2.6) would occur adjacent to the roadways. Smaller dust particles would not settle out as quickly and could impact a considerably larger area, perhaps affecting vegetation and soils on about 200 acres per mile along the access/service roads. In total, fugitive dust could affect 35,000 acres of vegetation and soils. Construction sites can also contribute to water quality problems due to runoff from pads and access roads, chemical and petroleum spills. It is not possible to pinpoint the location of lands and resources likely to be affected because discovery locations cannot be predicted.

The effects of (vibroseis) geophysical activities on vegetation would include: green trails caused by the compaction of snow on the tundra, pollution (small fuel leaks from equipment), and occasional surface disturbance from blades or tracks of vehicles breaking through the snow layer. Green trails, generally visible from 1 to 2 years after an operation, are caused by compacted snow providing

additional moisture, and resulting in vegetation growing slightly more vigorously than on surrounding areas. However, because BLM monitors these operations closely and allows operations to proceed only when the conditions provide adequate protection to the vegetative surface, such disturbance is short-term and sporadic.

#### *Impacts from Locatable Mineral Development*

There would be an estimated 36 placer mines in the planning area, directly disturbing approximately 1,800 acres (onsite) over the 10 year life of this plan. Most of this acreage would have been reclaimed within ten years and would be in various stages of recovery. At any one time, unreclaimed onsite disturbance is expected to be no more than 280 acres. In addition to onsite disturbance, there would be about 360 acres directly impacted as a result of about 180 miles of access road construction. Lands disturbed as a result of road construction would not be reclaimed until operations ceased and access to the area was no longer required. It is also anticipated that one lode mining operation would occur within the planning area, directly disturbing about 14 acres including access roads. In total, locatable mineral mining operations (lode and placer) would result in direct loss or disturbance to approximately 2,170 acres of vegetation and soil resources. Most would be reclaimed in time, but perhaps never to a completely natural state.

In addition to vegetation and soil disturbance there would be adverse effects on water quality in some areas as a result of mining activities. The mining operations would affect at least the following drainages: Middle Fork and South Fork of the Koyukuk River, Nolan Creek, Sheep Creek, Prospect Creek, Jim River, Slate Creek, Hammond River, and Nugget Creek. Confining mineral material extraction to existing sites when possible, and prescribing nonoccupancy stipulations along streams and in sensitive areas would reduce impacts from exploration and mining. The requirement that a mining plan of operations be approved for work in ACECs before activity begins should also serve to reduce these impacts. An unknown amount of silt and clay fractions will flow into the natural waterways as a result of runoff from denuded ground and from mine operations. However, because various state and federal agencies have recently initiated programs to improve this situation, the impacts to waterways should not be as great as they have been in the past.

As part of the effort to reduce impacts to waterways in the region, BLM Arctic District began base line water studies in the Koyukuk Mining District. The purpose of the study was to assess the cumulative impacts caused by mining activities on the overall water quality of the South Fork and Middle Fork Koyukuk Rivers. Water samples were collected from the waters above current mining operations on Prospect Creek, South Fork Koyukuk River, Middle Fork Koyukuk River and Slate Creek. Samples were collected below the mining operations in the South Fork and Middle Fork Koyukuk Rivers near the boundary of the Kanuti National Wildlife Refuge. Additional samples were collected along the Middle Fork Koyukuk at Tramway Bar, Wiseman, Slate Creek, the mouth of the Hammond River, and above the canyon of the Hammond River in Gates of the Arctic National Park. Results of the sampling from 1987 and 1988 indicate the water quality is very good and consistent from year to year. The turbidity levels are all less than 25 NTUs except during flood events and spring break-up. Total suspended solids measured during 1987 were all less than the Alaska Department of Environmental Conservation standard of 0.1 mg/l. The samples from the same locations in 1988 were mostly above 0.1 mg/l, perhaps due to extremely low water flow and precipitation rates. More data must be collected to determine water quality trends.

#### *Impacts from Recreational Activities*

Managing the Utility Corridor with an emphasis on recreation would result in an increase in recreational use, perhaps doubling in 10 years. If the Dalton Highway is opened to public use to the Arctic Ocean, use could double within 5 years, contributing to the degradation of vegetation, soil erosion, and water quality in concentrated use areas and campgrounds (10 to 15 acres per campground). Dust generated along the Dalton Highway would result from increases in traffic. Providing adequate facilities such as solid and human waste disposal facilities, campsites with level pads and parking areas, trails, interpretive displays, and boat launching ramps for travelers and campers at concentration areas would help ease these problems.



Current BLM policy limiting ORV use to frozen ground with adequate snow cover and controlling the use of ORVs through a permit system would have a long-term, beneficial effect by reducing potential impacts to soil, water and vegetation. Completion of the proposed ORV use study and identifying trails for use with all terrain vehicles would also have direct, long-term beneficial effects by reducing future disturbance of soil and vegetation and water pollution.

#### *Impacts from Development Node Activity*

Detrimental effects on soil, water, air and vegetation would occur in the vicinity of each node and human population area as suspended particulates and airborne gases continued to increase. These effects would be most noticeable at the proposed Yukon Crossing and Coldfoot nodes (and Wiseman), and is manifested by increased dust suspended in the air and ice fog in the winter. Generally, impacts from nodal development would be direct, long-term, and irreversible (over the next 10 years). However, the concentrated impacts at node sites would be less damaging overall than the impacts which would occur if development were to be allowed to spread out along the road.

#### *Impacts from Other Activities*

The wilderness status proposed for the Nigu River lands would have little effect on soil, water, air and vegetation because there would be little or no human caused disturbance of these resources.

The reduced fire suppression effort permitted under the Alaska Interagency Fire Management Plan will reduce the number of suppression actions and result in a greater number of acres burned. The result will be a more natural fire regime which would allow rapid nutrient cycling in affected areas. The burning will result in a changed vegetation cover as a result of the deeper thaw layers and greater availability of nutrients for plant growth. Another benefit would be a greater variety of plant life and a different mosaic of vegetation types in these areas. The productivity of the ecosystems should be at peak levels more frequently and would provide more usable products for animal and subsistence users.

There are some fire dependent ecosystems in the planning unit which are in the fire plan's full suppression option. Beginning to show signs of decadence, vegetation types in these ecosystems will continue to show modification if the lack of fire continues. The vegetation mat will continue to thicken, and permafrost will occur closer to the surface. More and more of the available nutrients will be in frozen organics; productivity of forage plants will drop off, and these plants will become a minor part of the vegetation composition. If allowed to go to the extreme, this vegetation will be uniform ground cover. This trend could be reversed with the use of prescribed fire.

## CONCLUSION

The high percentage of fine grained materials in the soils of the planning area and the presence of shallow permafrost makes it highly probable that the disturbance or removal of vegetation resulting from activities such as mining, road building, and recreational facility development would result in some soil erosion. If the eroding material is transported into a water body there will be sedimentation and water quality degradation. Once bladed, eroded, and carried away, the soil can only be replaced by long years of development. Generally, such impacts would be long-term (at least 10 years), and there would be an irretrievable commitment of the affected soil resource. The extent of impacts would depend on the steepness of slope, aspect, amount of ice, the severity of the disturbance to the vegetative cover, and the type of mitigation applied. Overall the proposed plan would provide for an acceptable level of protection and enhancement of the soil, water, air and vegetation resources without unduly restricting impacting activities.

## Visual Resources

### IMPACTING ACTIVITIES

Because most visitors to the planning area remain within the Dalton Highway right-of-way, the area of greatest visual sensitivity within the planning area is the viewshed of the Dalton Highway (approximately 800,000 acres). Within this area, new pipeline construction, road related commercial development and recreational facility development are the activities with the greatest potential to impact natural visual quality. Within the remaining portions of the planning area, activities associated with locatable and leasable mineral development have the greatest potential to impact visual quality.

### ANTICIPATED CONSEQUENCES

#### *Impacts from Mineral Development Activities*

Under the proposed plan, certain proposals would lessen impacts to visual quality in the Dalton Highway viewshed resulting from mineral development. The inner Corridor would remain closed to mineral entry, and oil and gas development would be permitted only with nonsurface occupancy stipulations. Also, mining operations within the Jim River ACEC (and other ACECs) would require plans of operation. This would provide BLM the opportunity to closely review planned operations and to impose appropriate stipulations prior to commencement of on-the-ground activities. Gravel extraction within the Sukakpak Mountain ACEC would be prohibited. These actions reduce the potential for impacting activities to occur in the Dalton Highway viewshed. However, along the entire length of the inner Corridor new pipeline construction is a possibility. To the extent feasible every attempt would be made to minimize resulting impacts to scenic quality, however, the primary purpose of the Utility Corridor is transportation of energy resources.

Impacts to visual resources outside of the Dalton Highway viewshed north of the Brooks Range, in CAMA, would probably be a result of oil and gas development (should it occur). Because of the relatively flat terrain found on the North Slope, visual impacts would be assumed to occur from four to five miles in any direction of pipelines and development field facilities. Based on the oil and gas development scenario presented in Chapter 2, visual quality could be affected on up to 1.1 million acres. These impacts would be greatest from roads and above ground pipelines since linear disturbances on the viewshed traverse large expanses of the landscape and are more difficult to mitigate than site development. Lands most likely impacted by roads and pipelines are primarily scenic class C and are remote and relatively inaccessible. Recreational use of the area is expected to remain light and widely dispersed. Until Congress acts on the wilderness recommendation no permanently impacting activities would be allowed. Areas ultimately designated wilderness (the upper Nigu River area has been recommended) would be permanently protected from activities impairing scenic quality.

South of the Brooks Range, impacts to visual resources would primarily be a result of locatable mineral development. Under the proposed plan three new operations, for a total of 36 operations, are anticipated. Over the life of this plan, it is expected that each of these operations would include three claims extending about three-quarters of a mile along a stream. Depending on the terrain, visual impacts would extend about 1.5 miles on either side of the stream. Thus visual quality may be affected on approximately 1,440 acres per operation or an additional 4,320 acres from the current situation. Annual reclamation efforts conducted on disturbed areas would mitigate the long-term impacts from these operations. Within the inner Corridor (i.e., roughly the Dalton Highway viewshed) new operations could occur only on valid existing claims as this area remains closed to mineral location.

#### *Impacts from Recreational Activities*

Visual impacts resulting from ORV use results from the creation of new trails in an otherwise natural landscape. Use of established trails is generally acceptable except when this results in additional surface disturbance. As a result, established trails may need to be relocated, rehabilitated, or closed to prevent further damage. Impacts from use of ORVs should be minimal given state and BLM restrictions on use of ORVs, especially along the Dalton Highway, and the remoteness of other planning area lands.



Recreation may impact scenic quality through development of recreational facilities and trails. Even well located and well designed recreational facilities may impact scenic quality in some primitive areas. Long-term commitments of the existing visual and wilderness values may result. Under the proposed plan, recreational facility development would be confined to the lands within the Dalton Highway Recreation Management Area (i.e., roughly the inner Corridor) and would probably occur on previously disturbed sites, minimizing impacts to visual resources.

#### *Impacts from Authorized Land Uses*

Visual impacts resulting from a variety of authorized land uses are expected to occur primarily within the inner Corridor. Communication sites, utility lines, or temporary and permanent commercial facilities would cause visual degradation. Impacts from these site developments are generally mitigated by proper location, design, and construction. Impacts from utility lines and other linear disturbances are far more difficult to mitigate since they affect large areas of the viewshed. Site specific impacts from construction and mining camps, pump stations, and production facilities would be lessened through proper site design and rehabilitation. Linear disturbances on the viewshed from roads and pipelines would be more difficult to mitigate since they would traverse large expanses of the current landscape.

#### *Other Considerations*

Fire is generally considered to have a long-term positive effect on scenic quality as it ultimately adds to the diversity of the overall landscape. Short term negative effects would result from areas blackened by fire, especially with a large, multi-thousand acre burn.

Indirect effects on scenic quality are most likely to occur as cumulative impacts. An individual project may be satisfactorily mitigated through project planning and site rehabilitation, but several similar activities occurring in a given area could have cumulative effects with long-term consequences for visual resources. Cumulative impacts are most likely to occur in the inner Corridor.

## CONCLUSION

Under the proposed plan, the greatest foreseeable negative impact to visual resources would occur within the inner Corridor as a result of new pipeline construction and development of new roads and/or pipelines from the Dalton Highway and TAPS to outlying areas. The degree of impacts from other activities would be minimal. The inner Corridor and selected areas of the outer Corridor would be closed to mineral entry and location, reducing the potential for impacts from mineral development. Also nonsurface occupancy stipulations would be applied to oil and gas activities. Additional recreational facility development (after completion of the recreation activity management plan) would increase under the plan, but impacts would be minimized through proper location and design. In some situations, by locating facilities on previously disturbed sites, scenic quality could actually be enhanced through the rehabilitation of these areas.

## Cultural Resources

### IMPACTING ACTIVITIES

As presented in the activity scenarios in Chapter 2, a variety of activities including those associated with mineral, recreational, and commercial development, are anticipated to increase during the life of this plan. Consequently, there may be serious impacts upon cultural resources, particularly along the Dalton Highway. Even for scientific research projects, the road will prove to be extremely inviting in the light of declining academic budgets and the need to minimize logistic costs. The impact could be particularly strong on those sites that are considered to be of high scientific value.

## ANTICIPATED CONSEQUENCES

### *Impacts from Recreational Activities*

The proposed emphasis on enhancement of recreational opportunities will have a direct impact on any cultural resources. Camping areas or RV parking at scenic overlooks are frequently placed at archeological sites for the same reason that the sites are there - a good camp location, a game lookout, or a combination of both. Consequently, there may be conflict with any cultural resources present. One solution may be in selecting those locations where the archeological site has already been excavated. On the positive side, archeological sites have an added attraction in that some cultural interpretive material is available, and could perhaps enhance the recreation experience and would certainly contribute to the understanding of cultural resources.

Other forms of recreation away from the road, such as hunting, floating and hiking, may also have an impact on cultural resources when someone sees and picks up an artifact, or builds a firepit for a camp. These impacts, obviously, cannot be controlled unless recreation is restricted to a narrow range of opportunities, contrary to the kind of recreation desired in the planning area. The only realistic way to reduce this kind of impact on cultural resources is through public education discouraging "pothunting" or even actively recruiting people to report any such sites or artifacts located. Where recreation is on an organized basis, such as guided float trips, hunts, or bird watching forays, the organizer or guide may be held responsible for protecting the resources through stipulations on permits.

### *Impacts from Mineral Development*

Gravel extraction, placer mining, and related temporary use permitting may be in conflict with cultural resources through surface disturbing activities. The greatest potential for this type of impact is the development of a mining claim. However, BLM has worked closely with mining operators in the past to minimize these impacts. In fact, placer mining has contributed to a wider location of site by removing overburden.

Oil and gas exploration in the CAMA lands north of 68° N latitude can be expected in the next ten years as a result of leasing action proposed under this plan; actual development would probably not take place during the life of this plan. Extraction of gravel from streambeds and construction of gravel pads could potentially damage or destroy cultural resources; however, this impact would be lessened if winter drilling on ice pads occurred. Current laws protecting cultural resources would require mitigation of adverse impacts to those resources prior to disturbance.

### *Other Considerations*

Those lands opened for state selection under the proposed plan contain a number of cultural resources, some of which are significant. In March, 1989, BLM and the Alaska State Historic Preservation Officer (SHPO) began consultation pursuant to 36 CFR 800, on significant cultural resources that may be transferred to the State of Alaska following the revocation of PLO 5150, selection of an area, and conveyance. This agreement is under development and will be presented to the Advisory Council on Historic Preservation upon completion of a draft agreement. The draft agreement anticipates recognizing existing state laws, regulations, and policies which substantially parallel those required under federal laws for cultural resources. The effect of such an agreement would be that no adverse impact would occur to cultural resources transferred from federal to state ownership under state selection procedures.

## CONCLUSION

Due to the emphasis on recreational and mineral development there may be considerable impact to cultural resources, particularly along the highway. However, use of any cultural resources that occur in the same locations as recreational facilities could enhance interpretive efforts, adding to the recreational experience and the public appreciation of cultural resources. Stipulations would be applied to authorized ground disturbing activities prior to disturbance to protect cultural resources. Consideration for cultural resources on lands selected by the state under the proposed action would be managed substantively like cultural resource remaining under Federal ownership



is an agreement between BLM, the Alaska SHPO, the State of Alaska, and the Advisory Council on Historic Preservation is adopted.

## Socioeconomic Impacts

### IMPACTING ACTIVITIES

Oil and gas exploration and development are the most likely activities to affect socioeconomic conditions in the planning area. Anticipated oil and gas exploration and development would occur only in CAMA, i.e., lands north of 68° N latitude; lands south of 68° have a very low to moderate potential for oil and gas resources and development is not expected. Only a minor increase is expected in placer mining during the life of this plan, all of this occurring south of CAMA. Little or no socioeconomic effect is expected within the planning area as a result of mining as most of the population connected with mining is present in the area only during the summer with most of the benefits accruing in Fairbanks or Anchorage, not in the planning area. Some additional socioeconomic benefit may be expected from increased tourism along the Dalton Highway. Effects from more visitors would likely be confined to the development nodes at Yukon Crossing and Coldfoot.

### ANTICIPATED CONSEQUENCES

Under the proposed plan the majority of the planning area is to be opened to oil and gas leasing. With increases in exploration additional employment could potentially reach 50 to 60 workers in a 3 year exploration phase. A development phase is possible, but is highly dependent on the price of oil and the quantities discovered. A development phase could employ between 1,500 to 2,000 workers for a period of 4 to 8 years. Additionally, should a pipeline(s) be constructed from NPR-A 600 to 750 people could be employed over one to three winters. On-line operation of production facilities etc., could require 150 - 300 workers for 8 to 30 years.

Although it is anticipated that approximately 2,300 to 3,100 oil development related jobs could occur under the proposed plan, most of this employment would not directly affect local rural residents. In 1982 for example, a special census conducted by the Alaska Department of Labor found only 178 resident workers (Native and non-Native) out of 6,306 oil industry workers (Minerals Management Service, 1986). If this proportion of resident to nonresident hire holds for future development, it is anticipated that only 2.8% of new employment, or 65 to 88 jobs created under a development scenario would accrue to local rural resident workers.

The reasons for limited rural resident involvement in the oil related work force are:

1. Current oil production activities call for proportionally more specialized labor.
2. Much of the labor demand is met by unions with hiring halls in Fairbanks and Anchorage.
3. The number of people required is large enough to guarantee that rural resident workers will be a small minority of the labor force.
4. Existing work schedules provide for time off, but only according to a rigid pattern that does not fit well with Inupiat desires to mix wage employment with hunting, fishing, and village social activities (Kruse 1984). It is anticipated that employment opportunities within the villages will decline making oil industry employment more important. At the same time, nonresident competition for oil related jobs will also increase.

The largest economic impact of oil development would be on North Slope Borough revenues. Current revenue grew from \$6.2 million in 1974 to \$328.6 million in 1986. Most of this current revenue (\$199 million) is restricted to debt service. It is the oil industry property tax base that has provided most of this revenue increase. Assessed property values rose from \$203 million in 1974 to \$12.3 billion in 1985 and they are anticipated to peak at about \$16 billion in 1990. After 1990 property values will fall to \$3.7 billion by 2010. (This may be an optimistic scenario because current low oil prices may curtail projected development leading to lower projected property values.) Additional development in CAMA would mean a continuing growth trend in these local revenue sources.

Any increases in development work in CAMA would affect the size of the nodes and the types of services they provide. Increases in exploration and development activities would necessitate year-round trucking support. Increased truck traffic would place greater pressures on the Yukon Crossing and Coldfoot nodes and would increase year round employment numbers at these nodes. Plans to emphasize development of recreational facilities would draw more visitors to the area and would also place additional pressures on the nodes at Yukon Crossing and Coldfoot. If the highway is opened all the way to Prudhoe Bay a dramatic increase in visitation could occur. If this should occur there would be additional pressure for visitor services at the Chandalar Shelf and Happy Valley nodes generating at least some seasonal employment.

## CONCLUSION

The proposed plan would not prevent potential future employment, income, population, and public revenues associated with mineral development.

## Subsistence

### IMPACTING ACTIVITIES

Subsistence uses and needs are affected by many changes in land use. Generally, any action which disturbs the number or location of animals, surface cover, quality and quantity of water resources, the location or number of plant species, access routes, or the distribution of human population would have an effect on subsistence uses, resources, and needs. Thus, any of the activities anticipated under the proposed plan could have an effect on subsistence.

### ANTICIPATED CONSEQUENCES

#### *Impacts from Recreational Activities*

The emphasis on recreation in the proposed plan, including the establishment of campgrounds, waysides, trails, and interpretive displays, would increase the number of people using the entire Corridor, including areas which previously had little or no use. Some of the impacts could be:

1. displacement of some animal species in affected areas, thus interrupting prior subsistence harvest patterns;
2. degradation of certain plant and animal habitat, depending upon the locations of facilities and access routes; and
3. displacement of subsistence users as a consequence of ORV noise or competition for resources by nonlocal users on new access routes. However, new access routes might also allow current local subsistence users better access into more remote areas.

Prior to the construction of any recreational facilities, an ANILCA Section 810(a) evaluation of the effects on the subsistence resources, uses, and access would occur. The effects of any actions that could cause significant restrictions to subsistence will either be mitigated or be modified accordingly.

#### *Impacts from Placer Mining*

Placer mining could potentially impact subsistence uses, needs, and resources in two major ways: 1) through a reduction in the potable water quality of a stream used as a source of drinking water; and 2) through disturbance of fisheries habitats which support subsistence fishing. It is anticipated that there would be 36 active placer mines in the planning area; each of these mines has had or will have an ANILCA Section 810 (a) subsistence evaluation performed prior to commencement of operations. Section 810 (a) evaluations are repeated whenever changes in area mined or mining methods occur. Since the Alaska Department of Fish and Game issues permits to those mines affecting anadromous fish habitat, and applies stipulations to protect that habitat, potential damage to subsistence fisheries is minimized.



Because of protective stipulations, individual mines seldom have even the potential to restrict subsistence uses and needs significantly. However, cumulative impacts can occur downstream when a number of mines exist in one drainage. In the planning area, there has been no indication of cumulative impacts from placer mining, and none are expected during the life of this plan.

#### *Impacts from Mineral Material (Gravel) Extraction*

BLM has discretionary control over the locations of gravel extraction on public lands. The required permits undergo an environmental evaluation under NEPA and Section 810. As a result, any potential impacts to subsistence uses or resources, such as gravel extraction from spawning beds, can be mitigated or the permit denied. Under the proposed plan, gravel extraction will be limited to existing sites where possible, but it would be prohibited in the eight identified mineral lick areas, the Kanuti Hot Springs, Nigu-Iteriak, and Sukapak Mountain ACECs, and in designated wilderness areas. Extraction would be allowed in the Jim River and Prospect Creek floodplains and streambeds, and the Ivishak River ACEC only if no other economically feasible locations for material minerals can be found.

#### *Impacts from Oil and Gas Activities*

Any oil and gas development in the planning area is expected to occur in the CAMA lands north of 68° N latitude. Effects on subsistence by these actions has been covered in detail in the CAMA Wilderness Recommendations and Final EIS (USDOI, BLM, 1988). There is no oil and gas activity expected to occur in the planning area south of 68° during the life of this plan and due to a lack of resource values no development is anticipated in the foreseeable future. In neither area would significant restrictions to subsistence be expected from oil and gas activity during the life of this plan. The Bureau leasing laws allow examination of plans of operation and designation of mitigation measures prior to any activity beginning on the ground. In cases of significant restrictions to subsistence, the proposed activity could be denied.

#### *Impacts from Nodal Activities*

The four areas proposed as development nodes (Yukon Crossing, Coldfoot, Chandalar Shelf, and Happy Valley) would cause impacts to subsistence uses and needs similar to those described for recreation above. Additionally, node developments have the potential to increase the permanent populations of areas thus increasing the pressures on subsistence resources. However, development activities on these nodes require a Section 810 evaluation prior to approval, and appropriate mitigation can be stipulated.

#### *Impacts from Access to Ambler Mining District Corridor*

BLM is directed to allow for access from the Ambler Mining District to the Dalton Highway by Sec. 201 (4)(b-e) of ANILCA. Although not anticipated to occur during the life of this plan, it is anticipated that at some point in the future, an all-season access route to the Ambler Mining District and Bettles will be constructed. The most likely route for such access was identified in the Draft RMP/EIS as the "Ambler Mining District Transportation Corridor." Under the proposed plan, this land would be opened to state selection as part of the "Prospect unit" and will likely be transferred to the State of Alaska. If a road is built at Prospect, and if anticipated increased use by recreational or subsistence hunters occurs, the state could restrict access, increase enforcement presence, or impose additional hunting regulations in the area. While Section 810 requirements will no longer apply to lands selected by the state within the Ambler Mining District Corridor, subsistence users will continue to influence state subsistence management policies. The existing system of local advisory committees and Regional Councils present views that are considered by the State Boards of Fisheries and Game in establishing local fish and game regulations. Thus, revocation of the withdrawal, and the subsequent anticipated activities should cause no significant restrictions to subsistence uses, needs, or resources in the planning area.

#### *Other Considerations*

ANILCA Section 810 evaluation requirements apply only to federal lands. Thus, after transfer of those lands in Utility Corridor to be opened to state selection through revocation of the existing withdrawal (PLO 5150), ANILCA Section 810 requirements would no longer apply. However,

the state too is sensitive to subsistence issues and is bound by its own statutes protecting subsistence resources, e.g., the prohibition of recreational ORV use within five miles of the Dalton Highway. Furthermore, management of many resources directly affecting subsistence resources is already a state responsibility. The state already manages the Dalton Highway right-of-way, and would manage the anticipated right-of-way to the Ambler Mining District (and Bettles) even if the lands remained in federal ownership. Further, the state provides the law enforcement presence on the Dalton Highway, and would continue to do so on any additional state route built in the planning area regardless of ownership. The Alaska Department of Fish and Game manages animal populations and sets and enforces hunting regulations and bag limits even on federal lands. Furthermore, anticipated activities and management under state ownership, as discussed in Chapter 2, would not vary significantly from that anticipated under federal management. Thus, if the identified four areas within the Utility Corridor are transferred to the state, impacts from state authorized activities on those lands and resources would not significantly change from that expected under federal management.

Furthermore, Section 802 (3) of ANILCA states:

except as otherwise provided by this Act or other Federal laws, Federal land managing agencies, in managing subsistence activities on the public lands and in protecting the continued viability of all wild renewable resources in Alaska, shall cooperate with adjacent landowners and land managers, including Native Corporations, appropriate State and Federal agencies, and other nations.

In addition, Section 810 (c) provides:

“(c) Nothing herein shall be construed to prohibit or impair the ability of the State or any Native Corporation to make land selections and receive land conveyances pursuant to the Alaska Statehood Act or the Alaska Native Claims Settlement Act.” This statutory provision clearly demonstrates Congressional intent to provide for unimpeded selection of land pursuant to the Alaska Statehood Act. (*Dinyee [Dinyea] Corporation, 90 IBLA 167, 1986*).

## CONCLUSION

The proposed plan would cause no significant restriction to subsistence uses, needs, resources, or access.

### Section 810(a) Finding for the Proposed Action.

The proposed action could cause some effects to subsistence uses, needs, and resources. However, it is assumed that appropriate mitigation of those effects would reduce their impact. Under no conditions would such impacts appear to cause a significant restriction to subsistence uses or resources in the planning area.

## Unavoidable Adverse Effects of the Proposed Action

*Soil and Vegetation Resources.* Since traffic will increase under the proposed action, there will be an unavoidable impact from increases in fugitive dust which affects vegetation nearest the roadway, and which could cause an imbalance in the thermal regime, species diversity and health, and photosynthetic processes. Soil disturbance from ORV use when frozen ground and snow cover are not adequate would also cause an unavoidable impact to soils and vegetation.

Continual placer mining, primarily in the area south of the Brooks Range, would cause unavoidable adverse impacts to soil and vegetation resources at mine sites because of overburden being removed to reach mineral ores. Reshaping the terrain results in unavoidable, short-term erosion.

*Water.* Suspended sediments resulting from mining, road building, and some oil and gas development will produce an unavoidable impact on the water resources in the planning area. The drainages most affected are shown in Table 4.1.



**Air Quality.** Air quality would be unavoidably affected by increased traffic on the Dalton Highway, in areas of oil and gas development north of 68° N latitude, increased recreation use, and by various activities in the development nodes. However, air quality would be minimally affected in the majority of the planning area.

**Wildlife.** Opening new areas to exploration and development of leasable minerals would cause several unavoidable impacts. New gravel material sites and the construction of roads, airstrips, and drilling pads would remove or alter habitats for caribou, moose, sheep, grizzly bear, some furbearers, waterfowl, and peregrine falcon. Pipeline construction in CAMA could affect migration routes of caribou, and could increase hunting pressures.

**Fisheries.** In-stream placer mining unavoidably results in loss of habitat for fish and other aquatic life within the active mine site. Downstream increases of sediment loads could affect fish breeding, spawning, and rearing habitat. Gravel extraction from streambeds could disturb or destroy spawning habitat. Stream barriers from mining or road and pipeline construction could affect migration routes. Affected drainages are under the Fisheries Section in this chapter.

The assumed increase in recreation use of the planning area would produce unavoidable impacts to sport fishing along the Dalton Highway. Overharvest in localized areas is a concern, but the Alaska Department of Fish and Game regulations of sport and commercial fishing should provide a level of control.

**Cultural Resources.** The only unavoidable impact to cultural resources would result from increases in the recreational use of the Corridor. More visitors could result in casual collection of artifacts from archaeological sites.

**Visual Resources.** The major unavoidable impact to visual resources is a result of the primary energy transportation function of the Corridor. New pipeline construction would unavoidably impact visual resources in areas where existing and new rights-of-way occur within the 800,000 acre viewshed of the highway. An additional 4,320 acres would be affected by placer mining, primarily south of the Brooks Range.

**Subsistence.** Increased recreational use of the Corridor and leasable mineral development will provide unavoidable increases in the need for public and commercial services, resulting in more employment in the development nodes. Localized unavoidable impacts to subsistence resources would result from any activity which increases local populations utilizing those resources. No significant restriction would occur as a result of opening lands to state selection or as a result of any development proposed in this plan.

## **Irreversible and Irretrievable Commitment of Resources**

Placer mining would cause wilderness values to be degraded or lost on up to 2,160 acres; of this unreclaimed mining areas and roads would be about 640 acres. Total direct disturbance from oil and gas development could occur on 11,180 acres. However, total wilderness values affected could reach 1.1 million acres of federal and over 500,000 acres of state and ASRC lands.

## **Short-term Uses Versus Long-term Productivity**

Wilderness designation of the Nigu Block would provide long-term protection of the natural environment and solitude on 41,000 acres. Potential oil and gas or mining development and production within the planning area (CAMA) would not be affected. Wilderness values would be lost or degraded by anticipated oil and gas development, mining, increased recreation, and development nodes on 1.1 million acres.

Wildlife habitat would be a long-term loss from oil and gas development, pipeline construction, and placer mining on approximately 15,000 acres.

Anticipated oil and gas development would involve the long-term production of at least 675 million barrels of economically recoverable oil. If exploration did not locate economically recoverable resources, no impacts would occur.

Development of the nodes would result in long-term modification of those areas, including increased employment opportunities and available services. Other long-term effects would be an increase in suspended gases, dust, and other particulates in the air, and perhaps ice fog in the winter.

Increased recreational facilities and access routes, including the Ambler Mining District Transportation Corridor, would result in increased traffic, greater ease of access from the Bettles area, and more recreational use of the planning area.

## Cumulative Impacts

Cumulative impacts result from the incremental addition of past, present, and reasonably foreseeable actions. Each action may be individually minor by itself, but when added to others becomes significant over a period of time (40 CFR 1508.7). In the foreseeable future (the next 10 years), cumulative impacts in the Utility Corridor would probably be the result of oil and gas exploration and development, mining activities, gravel extraction, recreational use (including hunting), and related facility development. The cumulative impacts from these events, or a combination of them, would likely cause changes in air and water quality, plant and animal communities (vitality, population, and distribution), wilderness resources, socioeconomic conditions, and visual resources. In turn, to the degree these resources are related to subsistence resources, those resources, uses, and users would be affected.

Assessment of cumulative impacts must consider all actions on federal and adjacent lands. A significant difference exists in the planning area north or south of 68° N latitude. The two portions differ ecologically, in patterns of land ownership and administration, and in existing resources, especially minerals. The potential for cumulative impacts resulting from the proposed plan is discussed separately for the planning area north and south. Potential cumulative impacts from other alternatives were discussed in the draft plan (USDOI, BLM, 1987).

### CAMA

North of 68° in CAMA, the study area encompasses 12,850,000 acres, 3,680,000 acres of which are federal. Of the federal land the subsurface estate of 274,000 acres has been conveyed to the Arctic Slope Regional Corporation (ASRC). The majority of the remaining nonfederal CAMA lands (9,170,000 acres) are either State of Alaska or ASRC lands. Adjacent to the CAMA region is the National Petroleum Reserve - Alaska (NPR-A) and the Arctic National Wildlife Refuge.

Most of CAMA and portions of both the NPR-A and ANWR have a high potential for oil and gas resources. Oil and gas exploration throughout CAMA and on adjacent lands is sure to take place. Recreational activity north of 68° would primarily be limited to use of the Dalton Highway, and then, only if the highway is opened to the general public. Any recreational facility development would be limited to that portion of CAMA adjacent to the highway. Recreational activity away from the highway would most likely be low impact and sporadic. Locatable mineral development north of 68° is not likely to occur in the foreseeable future because of low mineral potential and inaccessible lands. The 19 existing mining claims in CAMA are not in production at present, nor is any future production expected. Thus, under the proposed plan, any cumulative impacts within CAMA would most likely occur only as a result of the cumulative effects of oil and gas activities in CAMA and on adjacent lands.

On federal lands oil and gas exploration activities would be closely controlled through lease stipulations. Most adverse impacts would be short-term and localized. Well sites, gravel and reserve pits, and road construction would result in long-term but localized loss of wildlife habitat and wilderness values. Exploration on adjacent state or ASRC lands would be assumed to be similar in nature and impacts. Given protective stipulations, the large size of the CAMA, and the localized nature of exploratory activities, cumulative impacts would be expected to be low.



**Summary Table of the Estimation of Effects  
of the Proposed Plan and Each Alternative**

More serious, long-term cumulative impacts could result from actual oil and gas development and production; additional development outside the Prudhoe Bay area is dependent on the discovery of economically recoverable resources. Hypothetical scenarios for such development in CAMA or on adjacent lands are discussed in Chapter 2 of this plan. If a field is developed in either CAMA or NPR-A, a high potential for impacts could result from increased human activity and from pipelines and roads between the field and the Trans-Alaska Pipeline System and the Dalton Highway. Such an east-west transportation system could disrupt caribou migration and/or daily movements, but proper design and construction could alleviate these impacts. The need for large quantities of gravel, found primarily in streambeds, could affect water quality and fisheries; plans would be developed to mitigate these impacts. It should be noted, however, that the potential for oil and gas development in CAMA is highly speculative, and since the potential for the greatest impacts could be mitigated, the actual potential for significant cumulative impacts from oil and gas development should be considered low to moderate.

### South of CAMA

South of 68°, the planning area is a contiguous block of 2,400,000 acres of federal land bounded by federal conservation units, i.e., parks and wildlife refuges. Locatable mineral potential is high in the southern portion, but oil and gas potential is generally low. Foreseeable actions do not appear to create serious cumulative impacts in this portion of the planning area or in downstream areas.

The main potentially impacting activities occurring in the southern portion of the planning area are recreation use and locatable mineral development. The Dalton Highway is open to the public to Disaster Creek, and recreation use is increasing annually. Most recreational activity is in the inner Corridor, nearest the highway, and occurs primarily during the summer. ORV use is prohibited within 5 miles of either side of the Dalton Highway; this plan proposes an additional ORV use study for other portions of the planning area. Once the ORV study is complete, appropriate limitations would prevent significant cumulative impacts from occurring.

South of the Arctic Circle, recreational activity is primarily sightseeing, or use of the Yukon River at Yukon Crossing. Because of the development node at Yukon Crossing, activity would be confined to the node, and cumulative impacts would be low. From Yukon Crossing north to Disaster Creek, a number of recreation activities do occur. The Jim River is a focal point for camping, fishing, and hiking. This plan proposes recreational facilities such as campgrounds, waysides, and trailheads that would increase visitor use. However, each facility will be designed to minimize potential impacts, and once in place, will be monitored and appropriate action taken if necessary.

Under the proposed plan, the inner Corridor is closed to placer mining or other locatable mineral development. There are currently 33 placer claims operating between the Arctic Circle and Disaster Creek. These mines occur in the South and Middle Fork Koyukuk River and the Jim River drainage systems. The number of mines is expected to increase by 3 to 4 over the life of the plan. State and EPA water quality regulations allow for no degradation of water quality, and for the protection of resident fisheries and anadromous fish spawning, rearing, and migration habitat. BLM requires compliance with water quality standards on all permitted activities. No evidence of cumulative impacts is apparent in any of the drainages in the area; ongoing water monitoring studies would be conducted under this plan.

Additional protection to the Jim River, an anadromous fish stream, would occur under designation of 200,000 acres as an ACEC (see Chapter 2). Under ACEC management, plans of operation would be required on all mining claims prior to any activity. Both the Jim River and Prospect Creek have been closed to new mining claims as far upstream as salmon spawning occurs. Gravel extraction will be limited to existing sites where possible, and it would be prohibited in identified mineral licks, the Kanuti Hot Springs and Sukapak Mountain ACECs. Gravel extraction would be allowed in the Jim River and Prospect Creek streambeds and floodplains only if no other economically feasible locations can be found. The combination of these measures and the enforcement of compliance with existing regulations should prevent significant cumulative impacts from occurring in the planning area as well as downstream.

Opening the Prospect and Coldfoot areas to state selection is not expected to create any additional cumulative impacts that cannot be mitigated. If the Ambler Mining District Corridor road is built



through the Prospect area, impacts created by the road itself, and increased transportation can be alleviated by appropriate construction methods and by state regulation.

Activities in the Venetie Block are expected to be widely dispersed and of low impact, due to the lack of access. No potential for cumulative impacts is expected in this portion of the planning area.

**Table 4.2:**  
**Summary of the Estimation of Effects of the Proposed Plan and Each Alternative**

<b>Environmental Issues</b>	<b>Proposed Plan</b>	<b>Alternative A</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Soil Resources</b>	Increases in road traffic, mining and oil and gas development would result in increases in fugitive dust, soil disturbance and soil erosion. Impacts would occur to a greater extent than under alternatives A and B, but less than under Alternative D. The actual level of impacts would be dependent on many site specific factors such as slope, presence of ice, mitigation, etc.	Gradual increases in road traffic and mining would result in increases in fugitive dust, soil disturbance and soil erosion near access routes and mining activities. Anticipated impacts would be less than under Proposed Plan, and greater than under alternative B.	Impacts would be less than those described for Alternative A since a large portion of the planning area (i.e., most of CAMA) would be designated wilderness and mineral development south of CAMA would be more restrictive than under other alternatives.	The greatest potential for adverse impacts to soil resources exists under this alternative since the greatest amount of planning area lands are open to surface disturbing activities; these activities are primarily associated with mineral development.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. Management is anticipated to be similar to the Proposed Plan.
<b>Water Resources</b>	Some increase in impacts to water quality are anticipated due to additional areas being opened to mineral location and oil and gas development. Proposed Jim River ACEC and restrictions on mineral development or extraction activities on Jim, Kanuti and Ivishak rivers would reduce potential for impacts on water quality. Also, compliance with EPA, AKDEC standards are required in all alternatives.	Continuation of the current impacts to water quality from increased road use and construction activity and from mining in areas currently open to mineral location.	Most protective of water resources due to mineral closures, wilderness recommendations.	Greatest potential for impacts to water resources since most of the planning area, including inner Corridor, would be opened to mineral development.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.



**Table 4.2 cont.:**

Summary of the Estimation of Effects of the Proposed Plan and Each Alternative

	Proposed Plan	Alternative A (Current Management)	Alternative B	Alternative C	Alternative D
Air Quality	Reduction in the number of development nodes could have a positive affect on air quality but oil and gas activities and resulting increases in road traffic may offset these effects. Nevertheless, overall air quality within the planning area will remain pristine. Fugitive dust will be a concern near the Dalton Highway.	Potential impacts to air quality would be less than under the Proposed Plan. Only along the Dalton Highway due to slight increases in traffic over the next few years would any impacts to air quality be expected. Overall air quality within the planning area will remain pristine.	Potential impacts to air quality are minimized under this alternative. Developmental activity within the planning area south of CAMA is restricted in important habitat areas and most of CAMA is recommended for wilderness designation.	The greatest potential for impacts to air quality exist under this alternative since most of the planning area, including the inner Corridor, would be opened to mineral development. This could result in additional traffic and support facilities along the road and elsewhere.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.
Vegetation	Increased recreational use and development is expected to have a greater impact on vegetative resources relative to the current situation. Increases in road traffic, mining and oil and gas development will also result in increases in fugitive dust, soil disturbance and soil erosion impacting nearby vegetation. Overall impacts would be greater than under alternatives A and B, but less than under Alternative C. Establishment of ACECs and appropriate mitigation would reduce impacts.	Current levels of impact to vegetative resources would continue and largely be confined to lands immediately adjacent to the Dalton Highway. These impacts are largely a result of fugitive dust from road traffic, and from activities near nodes. Also, lands south of the Brooks Range are impacted by the approximately 30 mining operations.	Current levels of impact to vegetative resources could diminish since locatable mineral development is expected to drop under this alternative. Establishment of ACECs also will serve to lessen impacts to these resources.	Under this alternative most planning area lands, including the inner Corridor are open to mineral leasing and location. Also this alternative allows for commercial development outside of nodes and maintains the existing 5 nodes. Therefore, an increase in impacts to vegetation above current levels and greater than under the Proposed plan would be expected	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.

**Table 4.2 cont.:**

Summary of the Estimation of Effects of the Proposed Plan and Each Alternative

	<b>Proposed Plan</b>	<b>Alternative A (Current Management)</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Direct Surface Disturbance from Projected Development Activities</b>	<p>1) Approximately 2,200 acres of direct surface disturbance from mining operations and 180 miles of access roads.</p> <p>2) Approximately 11,180 acres of direct surface disturbance from oil and gas development activities resulting from approximately 174 miles of improved gravel roads and associated gravel spray, oil drilling pads, production facilities pipelines, etc.</p>	<p>1) Approximately 2,000 acres of direct surface disturbance from mining operations with 165 miles of access roads.</p> <p>2) No impacts from mineral leasing.</p>	<p>1) Approximately 1,800 acres of direct surface disturbance from mining operations with 150 miles of access roads.</p> <p>2) No impacts from mineral leasing.</p>	<p>1) Approximately 2,500 acres of direct surface disturbance from mining operations with 200 miles of access roads.</p> <p>2) Impacts from mineral leasing expected to be similar to that described for the Proposed Plan..</p>	<p>Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.</p>
<b>Cultural Resources</b>	<p>Direct impact to cultural resources is anticipated due to increases in recreational activity. "Pothunting" may increase due to greater number of recreationists in the area. Also direct impact to sites from placement of recreational development facilities.</p>	<p>Only a slight increase in recreational use of the Corridor is expected. No significant increase in impacts would be anticipated.</p>	<p>Impacts similar to those described for Alternative A.</p>	<p>Impacts both negative and positive due to the expected increase in mining activity. Mining may, in some cases, destroy resources but miners can help to inventory newly discovered sites to increase data base for this resource.</p>	<p>Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.</p>



**Table 4.2 cont.:**

Summary of the Estimation of Effects of the Proposed Plan and Each Alternative

	<b>Proposed Plan</b>	<b>Alternative A (Current Management)</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Terrestrial Wildlife</b>	The greatest potential impact to terrestrial wildlife would be possible displacement of caribou from future pipeline construction. The greatest threat to moose, Dall's sheep and bears would be from increases in human and animal interaction due to increased recreation and development activities. Establishment of several ACECs to protect lambing areas, and other important habitat will mitigate overall impacts to wildlife and habitat.	No ACECs are currently designated. However, CAMA is now managed under interim wilderness guidance and no activities permanently impacting wilderness values are allowed. Oil and gas leasing is not possible anywhere in the planning area. Impacts from human and animal interaction would be less under this alternative than under the Proposed Plan since recreational development is not emphasized. Greatest impact to wildlife populations under this alternative would be from hunting pressures. The greatest potential impact to wildlife habitat would be from mining activities south of 68° north latitude (i.e., south of CAMA) and gravel extraction within the inner Corridor.	Under this alternative, relative to the the current situation and the Proposed Plan, there would be a decrease in potential adverse impacts on terrestrial wildlife and an overall reduction in impacts to riparian habitat. Most of CAMA would be designated as wilderness and south of CAMA crucial habitats for moose, caribou and Dall's sheep are closed to mineral development. The greatest potential impacts would continue to be from hunting pressure.	Impacts to wildlife populations and habitat would be similar to that anticipated under the Proposed Plan. However, because the inner Corridor is opened to leasing under this alternative somewhat greater impacts than that expected under the Proposed Plan could occur.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.

**Table 4.2 cont.:**

Summary of the Estimation of Effects of the Proposed Plan and Each Alternative

	<b>Proposed Plan</b>	<b>Alternative A (Current Management)</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Fisheries Resources</b>	Increase in sport fishing expected but no significant impacts to fisheries expected as a result of this activity. Anticipated impacts to Jim River fishery low due to the restrictions on gravel extraction and establishment of Jim River ACEC. Also closure of portions of Kanuti River and inner Corridor to mineral location and restrictions on gravel extraction within the Ivishak River ACEC reduce potential impacts on fisheries.	Continuation of current management will see a slight increase in sport fishing but no significant impacts to fisheries are expected. Jim and Ivishak river areas are more vulnerable to negative impacts than under the Proposed Plan due to the greater possibility of mineral extraction within these floodplains.	Under this alternative, the greatest protection of planning area fisheries resources exists. The northern portion of the planning area i.e., CAMA, would be designated wilderness and south of CAMA extensive drainage areas are closed to mineral location. No significant impact from sport fishing is expected.	Under this alternative, because the inner Corridor would be opened to mineral leasing and location, the greatest potential for adverse impacts to planning area fisheries exists.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.
<b>Visual Resources</b>	Slight increase in potential impacts to visual resources when compared with current management. This would be due primarily to increases in oil and gas activity in CAMA. Along the Dalton Highway NSO stipulations on oil and gas activities and protection of specific areas e.g., Sukakpak Mountain, should help limit potential impacts.	Given the current management situation (e.g., interim wilderness management of CAMA, no oil and gas leasing), potential impacts to visual resources are minimized under this alternative. Impacts to visual qualities of the planning area would be limited to the inner Corridor and mining operations south of CAMA.	Expected impacts would be similar to those described for Alternative A.	The greatest potential for impacts to visual resources exists under this alternative. Opening the inner Corridor to mineral location and leasing (without NSO stipulations) could significantly impact the visual resources of the area.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.



**Table 4.2 cont.:**

Summary of the Estimation of Effects of the Proposed Plan and Each Alternative

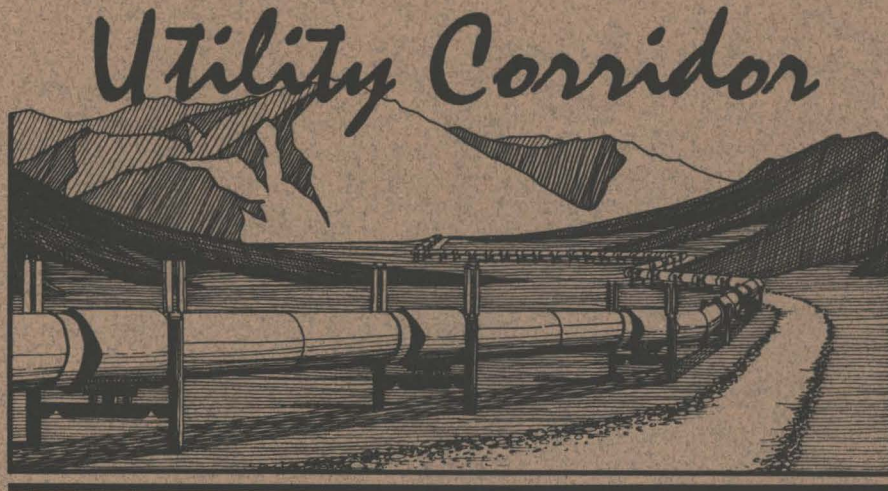
	Proposed Plan	Alternative A (Current Management)	Alternative B	Alternative C	Alternative D
Wilderness	See <i>Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement</i> (USDOI, BLM, 1988)	See <i>Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement</i> (USDOI, BLM, 1988)	See <i>Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement</i> (USDOI, BLM, 1988)	See <i>Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement</i> (USDOI, BLM, 1988)	See <i>Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement</i> (USDOI, BLM, 1988)
Socioeconomic Resources	The potential exists for substantial increases in employment opportunities due to possible increases in oil and gas exploration and development on the North Slope. However, local rural resident employment is expected to be only about 2.8% of total increase. Total increase in employment could reach 50-60 jobs during a three year exploration phase, 1,500 to 3,000 jobs during development phase. Also, an increase in seasonal employment from small increases in mining activity south of the Brooks Range could occur.	Current socioeconomic conditions within the planning area would be maintained for the near future with few or no increases in employment opportunities.	Closure of additional lands to mineral entry could result in a loss of some employment opportunities in the local area, perhaps 25 jobs, over the next few years.	Opening inner and outer Corridor to mineral development could result in a gain of about 150 seasonal job opportunities south of CAMA over the next 10 years and potential additional employment in nodal areas in support of new minerals development.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan.

**Table 4.2 cont.:**

Summary of the Estimation of Effects of the Proposed Plan and Each Alternative

	<b>Proposed Plan</b>	<b>Alternative A (Current Management)</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>
<b>Subsistence</b>	Additional population in the area, particularly in CAMA, is expected as oil and gas development occurs, increasing hunting pressure on subsistence resources. If state selection of the Prospect Unit occurs, and the road is built to Bettles, additional access could increase pressure on subsistence resources in that area. ANILCA 810(a) evaluations would no longer occur on lands transferred to the state. However, it is assumed that protection of subsistence uses and resources by the state would occur, and no significant restriction to subsistence would result.	No significant restriction to subsistence use and needs occurring under the current management.	No significant restriction to subsistence use and needs due to the protective measures for wildlife habitat.	Same as Proposed Plan.	Impacts would depend largely on the land use priorities established through State of Alaska planning efforts. But management is anticipated to be similar to the Proposed Plan. ANILCA 810 subsistence evaluations on discretionary actions would no longer apply on lands transferred to the state.

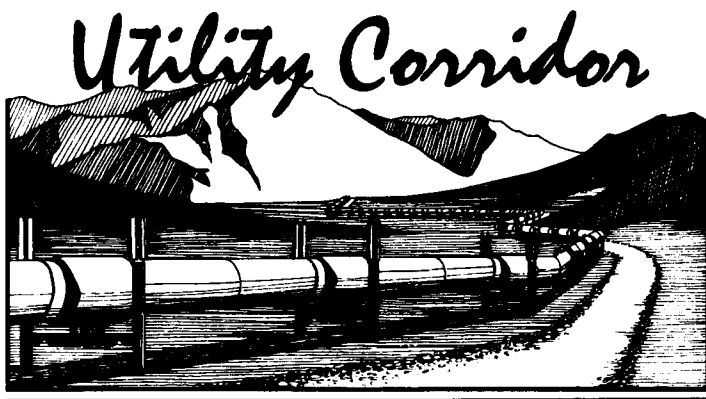




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## Chapter 5:

# CONSULTATION AND COORDINATION

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### Introduction

Consultation, coordination and public involvement have occurred throughout the planning process. This has been achieved through meetings with various interest groups, state and other federal agencies; workshops with local, state, and federal agency representatives; and, public meetings in Fairbanks, Anchorage, Barrow, and rural villages in and near the planning area. Additionally, Utility Corridor planning issues have been discussed at meetings of the Northern Alaska Advisory Council and the Alaska Land Use Council.

### Opportunities for Public Participation

A public participation plan was prepared at the outset of the project to ensure that the public would have numerous opportunities to become actively involved in the planning process. Both formal and informal comments have been encouraged and considered.

A Federal Register notice of intent to prepare a plan was published in January, 1986. News releases in Anchorage and Fairbanks announced the beginning of the planning process as well as the time and place of public "scoping" meetings. Newsletters were issued by the Arctic District Office to encourage additional public comments and to keep the public informed of the plan's progress. A mailing list of over 500 organizations and individuals was compiled and used to distribute these newsletters.

### SCOPING

Public "scoping" meetings to discuss and define planning issues and criteria, and to explain the planning process were held at several locations. Most of the public scoping meetings were relatively well attended, see Table 5.1. In addition to the public meetings, workshops were held with other federal, state and local government agency representatives to define issues, criteria and plan alternatives.

**Table 5.1**  
Public Scoping Meetings

Place	Attendance
Fairbanks	44
Stevens Village	22
Allakaket	13
Barrow	3
Bettles/Evansville	12
<b>Total</b>	<b>94</b>



## THE DRAFT RMP/EIS

On August 18, 1987, the Utility Corridor Draft Resource Management Plan and Environmental Impact Statement and the attached Central Arctic Management Area Draft Wilderness Recommendations and Environmental Impact Statement (WEIS) were made available for public review and comment. More than 450 copies of the draft RMP/EIS and associated draft WEIS were mailed. Copies were sent to federal, state, and local agencies; to conservation organizations, Native Alaskan organizations, the oil and gas industry, selected libraries, the media, and others who expressed interest. The BLM published a notice of availability for the draft RMP/EIS and WEIS and a schedule for wilderness hearings in the Federal Register on August 27, 1987. The Environmental Protection Agency published a notice of availability on August 28, 1987.

A 90 day public comment period officially ended November 30, 1987. Comments were accepted through December 18, 1987. During this period, 97 letters commenting on the draft RMP/EIS and/or the draft Wilderness EIS [see *Central Arctic Management Area Wilderness Recommendations and Final Environmental Statement* (USDOI, BLM, 1988)] were received. Some individuals wrote more than once, and some letters were signed by more than one individual or represented the position of more than one organization. Of the letters received, thirty (30) were from private or public organizations, state/local government agencies, or from individuals serving a larger constituency. The other letters were from individuals with no claimed constituency although thirty-two (32) of these appeared to be the result of mail-in campaigns inspired by conservation groups. Also, resolutions concerning RMP issues were reported from three federal advisory councils.

A number of public meetings, wilderness hearings, and subsistence hearings were also held during the public comment period. The meetings focused on all the resource management issues addressed in the draft RMP/EIS and draft WEIS. A total of 134 people attended these meetings, see Table 5.2. Formal subsistence hearings were held in conjunction with all the public meetings and wilderness hearings were held at three locations: Barrow, Fairbanks, and Anchorage. A total of 34 individuals gave testimony at the subsistence hearings and ten during the wilderness hearings. Individuals giving testimony during the formal subsistence and wilderness hearings are listed in Table 5.3. For more information on public participation and comments specific to the wilderness recommendation see the *CAMA Wilderness Recommendations and Final EIS* (USDOI, BLM, 1988).

**Table 5.2**  
Public Meetings on Draft RMP/EIS and Subsistence Hearings

Place	Date	Attendance
Barrow*	September 29, 1987	9
Nuiqsut	September 30, 1987	19
Fairbanks*	October 7, 1987	31
Anchorage*	October 9, 1987	15
Coldfoot	October 13, 1987	29
Bettles/Evansville	October 14, 1987	9
Anaktuvuk Pass	October 14, 1987	8
Stevens Village	October 15, 1987	14
<b>Total</b>		<b>134</b>

\* Also site of wilderness hearing

Table 5.3

## Individuals Making Comments at Hearings

- Indicates testimony given at subsistence hearing.
- Indicates testimony given at wilderness hearing.
- Indicates testimony given at both subsistence and wilderness hearing.

Individual	Location	Representing
•• Billy Adams	Barrow	NSB, Dept. of Wildlife Management
••• Tom Albert	Barrow	NSB, Dept. of Wildlife Management
• Tom Barnes	Barrow	NSB, Planning Dept
••• Ben Nayeak	Barrow	NSB, Dept. of Wildlife Management
• Frank Long	Nuiqsut	Self
• Bernice Pausanna	Nuiqsut	Self
• Isaac ? (last name unknown)	Nuiqsut	Self
• Joseph ? (last name unknown)	Nuiqsut	Self
• Phillip ? (last name unknown)	Nuiqsut	Self
•• Don Ellingson	Fairbanks	Self
• Oscar Frank	Fairbanks	Alfred Stevens
• Oscar Frank	Fairbanks	Self
• Harold Gillam	Fairbanks	Self
• Kenneth Housley	Fairbanks	Self
•• Pat Isaacson	Fairbanks	Self
••• Dave Lacey	Fairbanks	Self
••• Mick Manns	Fairbanks	Self
• Cheryl Mayo	Fairbanks	Self
• Marjorie Mayo	Fairbanks	Self
••• Vern Miller	Fairbanks	Self
••• Rick Reakoff	Fairbanks	Self
• Don Stevens	Fairbanks	Self
• Mike Walleri	Fairbanks	Self
•• Susan Alexander	Anchorage	Wilderness Society
• Paul Dionne	Coldfoot	Self
• Dick Mackey	Coldfoot	Self
• Jack Reakoff	Coldfoot	Self
• Myrtle Beham	Evansville	Self
• Oscar Frank	Evansville	Evansville Village Council
• Wallace Nictune	Evansville	Self
• Doris Hugo	Anaktuvuk Pass	Self
• Raymond Paneak	Anaktuvuk Pass	Self
• Rachel Riley	Anaktuvuk Pass	Self
• Lazarus Rolland	Anaktuvuk Pass	Self
• Oscar Frank	Stevens Village	Dinyee
• Robert Joseph	Stevens Village	Self
• Harold Simon	Stevens Village	Self
• Horace Smoke, Sr.	Stevens Village	Self



Table 5.5 at the end of the Comments and Responses section of this chapter contains a list of the specific agencies, organizations, businesses, and individuals who submitted written comments on the Draft RMP/EIS and the Supplement to the Draft RMP (see discussion below). Behind each name appearing in that table is a list of topics addressed by the respondent. Those who made oral comments at the public meetings have not been listed because individual speakers seldom identified themselves. Their comments, however, were considered.

All letters and transcripts of oral comments are available for public review at the BLM Arctic District Office in Fairbanks, Alaska. A copy of the letters and transcripts can be obtained by writing to:

M. Thomas Dean, District Manager,  
Arctic District Office, AK 060,  
1150 University Avenue,  
Fairbanks, Alaska 99709-3844.

## THE SUPPLEMENT TO THE DRAFT RMP/EIS

After publication of the Draft RMP/EIS the State of Alaska requested that the BLM reconsider the state selection opportunities outlined in the preferred alternative. In early 1988, personnel from the State of Alaska Department of Natural Resources and the BLM met to consider new options which would allow the state to select lands within the Utility Corridor. As a result of those meetings an option was chosen which proposed a modification of the preferred alternative to allow partial revocation of PLO 5150 (the public land order which prevents state selection within the Corridor). Since the proposed change to the previously published preferred alternative would allow an additional 1.1 million acres of land within the Utility Corridor to be opened to state selection, it was decided to publish a supplement to the draft plan to allow public comment. No other issues were addressed in the Supplement.

In April of 1988 the supplement and addendum to the Draft RMP/EIS (Appendix J) were made available for public review and comment. More than 550 copies of the Supplement and Addendum to the draft RMP/EIS were mailed. Copies were sent to federal, state, and local agencies; to conservation organizations, Native Alaskan organizations, the oil and gas industry, selected libraries, the media, and others who expressed interest during the development of the draft. The BLM published a notice of availability for the Supplement in the Federal Register on April 18, 1988. The Environmental Protection Agency published a notice of availability for the Supplement and Addendum on May 6, 1988.

The official public comment period on the proposed change to the preferred alternative presented in the Supplement and Addendum was originally scheduled to end June 8, 1988; it was extended to June 20. Ultimately, comments were accepted for consideration through July 1988. In response to the proposed change to the preferred alternative, 46 written comments (including telegrams) were received. Of the comments received, 23 were from private or public organizations, or state/local government agencies. The remaining written comments were from individuals with no claimed constituency. Also, see Comments and Responses section and Table 5.5 in this chapter.

During the public comment period four public meetings were also held to discuss the state selection proposal. The meetings were held in Barrow, Stevens Village, Fairbanks and Anchorage. A total of 37 people attended these meetings (Table 5.4).

**Table 5.4**  
Public Meetings on Supplement to Draft RMP/EIS

Place	Date	Attendance
Stevens Village	May 16, 1988	14
Fairbanks	May 18, 1988	12
Barrow	May 19, 1988	3
Anchorage	May 20, 1988	8
<b>Total</b>		<b>37</b>

## Consultation with the U.S. Fish and Wildlife Service on Threatened and Endangered Species

On April 24, 1989, the BLM wrote to the U.S. Fish and Wildlife Service (F&WS) concerning potential impacts to arctic and American peregrine falcons as a result of certain lands in northern and interior Alaska being made available for state selection. Response to that letter was received June 21, 1989. The F&WS response stated "...although we can assume that the [state] Department of Fish and Game will recommend the same protection measures now in use by federal agencies in Alaska, we cannot be sure that all state agencies will abide by those recommendations unless federal funds or permits are involved.... In order to insure that protection measures for arctic and American peregrine falcons are incorporated in management of lands transferred to the State, the Bureau of Land Management should consider including the protection measures as a condition of the land transfer.... These protection measures need only remain in effect while the species is listed as endangered or threatened, and both the arctic and American peregrine falcon will probably be proposed for delisting in the next five years."

## Comments and Responses

Contained in the written and oral statements received during the two draft public comment periods are over 300 individual comments. Approximately 40 percent of the comments are considered to be substantive comments on the content of the Draft RMP/EIS, i.e., they 1) address the adequacy, inaccuracies, and discrepancies in the analysis, 2) identify what are considered to be either new impacts, alternatives, and mitigation measures, or 3) disagree with significant determinations. The remainder of the comments are considered to be expressions of personal preference or opinion.

Comments received on the Draft RMP/EIS and the Supplement to the Draft have been grouped below by major topic or issue. Some comments could have been placed under more than one issue; however, they were placed only under the issue considered to be most appropriate, and not listed under more than one issue. For example, the comment that campgrounds, waysides, and trails draw too many people and would interfere with subsistence and wilderness values is only listed under the recreation issue, but could have been listed under either subsistence or wilderness.

Those comments considered to be substantive appear first under each issue topic heading. Appropriate discussion or responses to substantive comments appears next under each issue topic. Often text revisions to the final RMP were considered to be the appropriate response; this is noted where appropriate. Expressions of personal preference and opinions are listed following the responses to the substantive comments. Behind nonsubstantive comments which were received more than once a number appears to indicate how many respondents made the comment. Although no specific response is made to these statements of personal preference and opinion, they have been considered in the RMP



development and have been carefully considered along with the environmental analysis in the decision making process.

## ACCESS

### *Substantive Comments:*

1. Page 3-3 should mention the Wiseman-Nolan and Wiseman-Hammond River road rights-of-way.
2. Preferred Action 15 should direct that access plans from the haul road to NPS and US F&WS land be done in conjunction with DOT/PF and Native interests, since access will thereby be provided to or near to state and Native lands.
3. Additional access to park lands adjacent to the corridor would alter the current use of the parks and significantly complicate management and visitor protection.

### *Responses:*

Since additional access to park land adjacent to the corridor could alter current use of the parks and complicate management and visitor protection, development of access trails to adjacent federal land will involve consultation with both the other managing agency and the state.

Text revisions were made in the Final RMP to answer questions or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments concerning:

- the Wiseman-Nolan and Wiseman-Hammond River road rights-of-way connecting with the Dalton Highway, and
- access to NPS and US Fish and Wildlife land.

### *Preferences and Opinions:*

1. Preferred Action 15 to work cooperatively with the NPS and the F&WS to identify access corridors to CSUs was endorsed.
2. The BLM should not accept the state's position on RS2477s as portrayed in the *Alaska Existing Trail System, 1973*, unless they are determined valid by a court of competent jurisdiction.
3. There should be no all-season road to Evansville; a winter road would be appropriate.
4. BLM should delay planning for other transportation corridors until they are necessary.
5. No transportation corridor to Bettles should be designated until the state establishes a need and commits to upgrade the existing road to an all-weather road.
6. The plan should designate a transportation corridor to access Bettles, Evansville, and the Ambler Mining District.
7. The BLM should consider alternatives to the Ambler transportation corridor.
8. The plan should establish an access corridor to Ambler mining district
9. There should be more analysis of impacts to all resources resulting from increased access
10. Transportation should be the primary purpose of the Utility Corridor.

## ACECS

### *Substantive Comments:*

1. Despite assurances in the plan, development and energy transportation could be administratively blocked; the excessive number of ACECs should be reexamined to assure that they do not block future development.
2. ACEC designations are an unnecessary administrative burden for BLM and may hinder the primary function of the corridor as a transportation route.
3. There is inadequate documentation of need for ACECs at mineral licks. The plan needs to establish that the timing of sheep visitation to the licks would conflict with other activities.
4. The draft plan does not document that mining in the Jim River area affects salmon spawning; in fact, salmon do not spawn in the upper reaches of the drainage.
5. The boundaries for the Jim River ACEC far exceed the area in which salmon spawn.
6. The plan does not justify closure of the Galbraith Lake ACEC to guiding and outfitting. These activities are not normally considered "surface disturbing," and adequate stipulations can be imposed to prevent damage to resources.
7. The boundary should be adjusted for Toolik Lake ACEC to include important portions of Toolik Lake watershed.

8. The plan should consider ways to protect experiments currently underway at Toolik Lake.
9. The plan should expand the boundary of the Nugget Creek ACEC along the west side of the Middle Fork to the mouth of the Dietrich River to protect a lambing area; this area is more crucial than that now slated as part of the ACEC.
10. There is inadequate justification for the Kanuti ACEC; there are no wildlife values and the hot springs can be protected without ACEC status.
11. The plan supplement does not address the impacts of state conveyance of lands containing the Sagwon Bluffs, Ivishak River, Slope Mountain, and Kanuti Hot Springs ACECs.
12. ORV access was requested to support research in Toolik Lake (ACEC) area.
13. Protect the stream draining Toolik and Itigaknit lakes by routing any future pipeline from the west to a point downstream from where it drains into the Kuparuk River.

#### *Responses:*

Many comments revealed a misunderstanding about the reasons for designating an area an ACEC. Among the criteria for determining whether an area should be managed as an ACEC is consideration of whether it contains unique resources and values that, singly or in combination with other resources or values, make this area special. ACEC designation alone does not indicate a particular type of management for an area; rather the designation results in management emphasis and in priority for the funding of management requirements of the ACEC. The management practices for a particular ACEC usually are prescribed in detail in a site-specific activity plan for the ACEC which is prepared following the RMP.

An overriding assumption throughout the RMP is the primacy of the energy transportation function of the Utility Corridor. No action or alternatives should be interpreted as preventing the construction of new or continued operation of existing transportation in such a way as to prevent the primary transportation function. Within this context, ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to, important historic, cultural, and scenic values, fish or wildlife resources, or other natural systems or processes; or to protect human life and safety from natural hazards. The ACEC designation indicates BLM recognizes that an area has significant values and has established special management measures to protect those values. For example, the ACECs surrounding withdrawn mineral lick sites would not arbitrarily preclude energy transportation activities or other activities from occurring. These other activities would be evaluated during the normal permitting process, and seasonal restrictions would be placed on activities only during those times that are critical to the wildlife species being protected by the ACEC (See Chapter 2).

The management, size, boundaries, and configuration of some of the proposed ACECs have been modified in response to comments. For example, Toolik Lake ACEC increased in size from about 10,000 acres at the Draft RMP stage to about 80,000 acres in the Final RMP stage, and use limitations have been clarified. The size of other ACECs has decreased. The combined total area considered for ACEC designation increased from about 441,000 acres at the draft RMP stage to the present approximately 505,000 acres.

In some cases comments were considered but no change resulted in ACEC use limitations or boundaries; e.g., we considered it inappropriate to expand boundaries of the Nugget Creek ACEC to include the mouth of the Dietrich River because of the distance involved. However, this potential lambing area will be investigated and an additional ACEC may be designated if appropriate.

Designation of ACECs also serves as a reminder that significant values or resources exist which must be accommodated when future management actions and land use proposals are considered near or within the ACEC.

Designation of the Jim River ACEC, to protect important downstream fishery fish spawning is an example of where impact analysis suggests that activities such as mining could have offsite impacts downstream even though actual spawning does not occur in that portion of the ACEC where mining is located.

Further, the justification for designating an ACEC is not limited to protecting cultural or wildlife resources. Another example is the ACEC designation that has been applied to the Kanuti Hot



Springs to protect the hot springs and vegetation that are determined to be special natural systems or processes.

Text revisions were made in the Final RMP to answer questions or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments concerning:

- closure of the Galbraith Lake ACEC to guiding and outfitting;
- Toolik Lake ACEC boundaries;
- impacts of state management of Sagwon Bluffs, Ivishak River, and Slope Mountain ACECs; and
- ORV access in the Toolik Lake ACEC.

*Preferences and Opinions:*

Comments expressing personal preferences concerning ACECs are listed below. A number appears behind the comment if more than one individual expressed essentially the same opinion. This number indicates how many people expressed that particular opinion. These opinions will be considered when making land use decisions but no response is necessary.

1. Instead of being established as an ACEC, the Kanuti Hot Springs should be promoted as an area to enjoy a hot spring in its natural state.
2. The plan should consider several areas for designation as Areas of Critical Environmental Concern. Areas mentioned include the Colville River, the Sagavanirktok River, and the South Fork Koyukuk River system.
3. All ACECs should be managed as wilderness.
4. The Dall River watershed should be designated an ACEC. (2)
5. The BLM should identify additional fish and wildlife habitat areas deserving special management or protection.
6. The Toolik Lake area should be established as an ACEC.
7. The Toolik Lake area should be established as an ACEC and Research Natural Area.
8. Recreational activities at the Toolik ACEC were opposed because they are not compatible with the research being conducted there. (4)
9. There should be more Research Natural Areas. (2)
10. The draft plan fails to document that the Jim River ACEC has peregrine falcon.
11. The plan should not place an ACEC at Jim River.
12. ACECs should not be established in the utility corridor.
13. The management philosophy behind the ACECs should be clarified to preclude them from interfering with the overall utility purpose of the corridor.
14. All ACECs should be closed to development. (5)
15. Kanuti Hot Springs should not be developed until further study has been completed.
16. ACECs are only appropriate at Galbraith Lake, Kanuti Hot Springs, Toolik Lake, and 40 to 160 acres around mineral licks.
17. The size of the Galbraith Lake and Sagwon Bluffs ACECs should be reduced to allow a corridor for the existing pipeline and road and for the proposed gas line.
18. In order to protect ongoing research, the Galbraith Lake ACEC should be enlarged to include as much of the Kuparuk River headwaters as possible. (3)
19. Mining should be allowed in the Sukakpak Mountain ACEC and the boundary of the ACEC adjusted to allow the needed space to develop low grade ore.
20. ACECs should be closed to mineral, gas and oil development, and sand and gravel extraction. (5)
21. The ACECs at Sukakpak Mountain, Nugget Creek, and Jim River should not be limited to recreation use alone.
22. The Colville River should obtain the protection afforded ACECs.
23. All ACECs over five thousand acres should be designated wilderness.
24. There should be no commercial leases at the Kanuti Hot Springs ACEC.
25. Except for those engaged in research, there should be no overnight camping at Toolik Lake, and no facilities or trails should be developed. (5)
26. The plan places too much emphasis on recreation. For example, Preferred Action 3 gives recreational facilities a higher priority than maintenance of the Dalton Highway for use of gravel in ACECs.
27. The BLM should retain the Sagwon Bluffs, Ivishak River, Slope Mountain, and Kanuti Hot Springs ACECs.
28. The Sagwon Bluffs and Ivishak River ACECs should be removed from the opening to state selection proposed in the supplement to the Draft RMP. These lands hold valuable biological and archeological values which would not be guaranteed the same protection under state management as under federal management.

29. The plan should consider establishing an interpretive site near Toolik Lake or Galbraith Lake to explain research.

## ALTERNATIVES AND OTHER MANAGEMENT CONSIDERATIONS

### *Substantive Comments:*

1. The plan has not adequately addressed multiple use as an alternative.
2. The entire range of potential resource development scenarios judged to be economically feasible should be addressed in the plan, including mineral development of the inner corridor.
3. The plan fails to explain why there is no consideration of designating the corridor as a Conservation System Unit in any of the alternatives.
4. Management of the Killik drainage under multiple-use guidelines is contrary to BLM's wild river study, which found the Killik qualified for inclusion in the National Wild and Scenic Rivers System, and Congress's action of placing the upper part of the river in the Gates of the Arctic NP.

### *Responses:*

The preferred alternative represented the BLM's attempt to protect or allow prudent use of important resources without unnecessarily prohibiting or excessively constraining other land or resource uses. As much as possible the BLM tried to facilitate the coexistence of potentially conflicting land and resource uses.

Each alternative discussed in Chapter 2 of the draft RMP represents a different combination of multiple use management prescriptions and restrictions.

Although numerous comments suggested that the Utility Corridor should be established as a Conservation System Unit, such a designation would require an act of Congress and is beyond the authority of the BLM. This was an alternative element considered but not analyzed in detail.

Should the Killik River lands be acquired, multiple-use management would take into account the unique opportunities afforded by the region for primitive recreation and the status of adjacent lands.

### *Preferences and Opinions:*

1. The entire Utility Corridor should be established as a federal Conservation System Unit. (19)
2. The land in the Killik River area should be consolidated and protected as a Conservation System Unit.
3. The Dalton Highway should be designated a National Scenic Highway. (15)
4. Preferences were express for the Preferred Alternative. (2)
5. Preferences were expressed supporting adoption of a mix of the Preferred Alternative and Alternative B. (7)
6. Preferred Actions 22 and 24 should be replaced with Actions B-22 and B-25, respectively.
7. The amended Preferred Alternative should be adopted provided that surface access to the transport corridor remains with BLM or the state.
8. All recommendations for changing the plan proposed by the Northern Alaska Environmental Center should be adopted
9. Alternative A should be adopted (2)
10. Alternative B should be adopted (11)
11. The wilderness section of Alternative B should be adopted. (2)
12. The minerals policies of Alternative B should be adopted. (4)
13. Alternative C should be adopted. (5)
14. The plan should maintain the wilderness nature of the corridor. (9)
15. It is inappropriate to justify Alternative B on protection of adjacent CSUs. The corridor's values are worthy of being made a Conservation System Unit independent of adjacent land ownership.
16. Given the changes in the supplement, the rationale for the Preferred Alternative on page 4-47 should be modified.



## LANDS: ACQUISITION, DISPOSAL, STATE SELECTION

### *Substantive Comments:*

1. If land is open to selection by the state, as proposed in the supplement, there should be a stipulation to the selection with provisions protecting threatened and endangered species.
2. The supplement does not identify which historic sites are in the lands proposed for opening to state selection. Moreover, such a proposal requires Section 106 compliance and because the state does not have an approved historic preservation plan, the 106 review will have to result in a finding of an "adverse effect." Such a transfer of land is probably illegal under 36CFR61 and 36CFR800.3.
3. Supplement should have discussed how state will manage lands should they be transferred.
4. The plan fails to address the appropriate management should the state remove its prohibition of land sales within five miles of the Dalton Highway.

### *Responses:*

State land sales within five miles of the Dalton Highway were not analyzed in detail because we have no reason to believe that the state would change its current management policies for those lands.

Text revisions were made in the Final RMP to answer questions and provide additional information or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments concerning:

- consequences of state selection;
- protecting threatened or endangered species on parcels of state selection;
- Section 106 cultural review and compliance; and
- management of lands after transfer to the state.

### *Preferences and Opinions:*

1. Eliminate split estate and trade high oil potential lands to obtain inholdings in CSUs and to consolidate the Oolamnagavik Block.
2. The Arctic Gas Line Corridor should be transferred from BLM to the Fish and Wildlife Service.
3. The plan should acknowledge that the best way to provide access to adjacent state lands is to allow conveyance of adjoining corridor lands to the state.
4. The plan should not allow development or land exchanges. (2)
5. The state should only be allowed land in the corridor through exchanges. (4)
6. There should not be homesite disposals at the Yukon Crossing.
7. There should be no homesite disposals. (3)
8. Opposes state land disposals or sales at the Yukon Crossing.
9. Eliminate homesite disposals at the nodes because these cause a significant restriction of subsistence opportunities for current rural residents. (16)
10. Leasing or permitting at Yukon Crossing and Coldfoot was endorsed but land sales in these areas was opposed.
11. The Coldfoot node should remain in federal ownership since federal law allows for preferential sale to area residents
12. The plan should not advocate resolution to split estates by disposal of subsurface estate, particularly because, absent mineral or sand and gravel deposits, there is little reason that split estate would prove an obstacle to sound management of the surface estate.
13. Lands should only be disposed of by exchange for lands which will further conservation and wise land management.
14. The plan should not allow the federal government to have fewer acres in the corridor than it currently has.
15. State selections in the corridor were endorsed. (9)
16. State selection in the Venetie block and in the northern part of the corridor were endorsed.
17. No lands should be made available for state selection. (56)
18. State selection of lands north of the Yukon River, referred to as the Stevens Village block, was opposed. (17)
19. Action B-10 which provides for consolidation of land ownership patterns in CAMA was endorsed. (14)
20. Lands within the haul road corridor and the ANILCA Sec. 1431(j) corridor should be available for state selection.

21. If any lands within the planning area do not contain sufficient "national interest" to merit federal retention, they should be made available for state selection, rather than held for exchange for lands furthering the federal interest.
22. The state should be allowed to select lands at all development nodes.
23. BLM lands should not be transferred to the NPS or F&WS, except as part of an exchange, preferably for lands with mineral potential.
24. Efforts to resolve trespass in Wiseman through land sales are inappropriate. (2)
25. Trespass problems should not be solved by granting title to the trespassers.
26. State selections should not be referred to as "land disposals" since the former are a sovereign right of the state, while the latter are discretionary actions.
27. The conveyance of corridor lands, as proposed in the supplement, could have damaging effects on adjacent federal lands, including parks and refuges. (2)
28. Elements of Preferred Actions 9 and 10 were opposed; BLM should retain lands adjacent to ANWR and manage them similarly to those lands in ANWR.
29. BLM should end split estate problems by acquiring Arctic Slope Regional Corporation subsurface estates, not by disposing of federal surface estate.
30. Approximately 325,000 acres of BLM land adjacent to ANWR should be added to ANWR.
31. State selection is significantly more efficient than exchanges in transferring ownership of lands no longer necessary to the federal interest.
32. The opening of corridor lands to state selection proposed in the supplement was stated at a meeting to be tied to BLM retention of the Denali block, but the Denali block is not mentioned in the supplement.
33. The supplement's rationale that state ownership of lands will ease management rings hollow, since the large tracts adjoining the lands proposed for opening to state selection are in federal ownership.
34. The BLM should find lands other than those immediately north of the Yukon River to exchange for state selected lands along the Denali Highway.
35. The plan incorrectly states that there are no environmental effects of state land selections. (5)
36. Contrary to what is purported on page 1-1, the conditions applying to the corridor lands between the Yukon River and Washington Creek before they were opened to selection by the state were not very different from the current status of corridor lands north of the Yukon.
37. Contrary to what is stated on page 4-40, it is not necessary to conduct a Sec. 106 review for Alternative D.
38. The Preferred Alternative is not consistent with state plans and policies to acquire lands in the corridor. (2).
39. The plan fails to show how conveyance of lands to the state would harm the national interest; the state has greater incentive to maintain the energy transportation system than the nation and the state has more expertise in maintaining recreational facilities than does BLM.
40. Opening the corridor to state selection may lead to conveyance of the land to the North Slope Borough which might develop commercial operations and lead to opening the entire Dalton Highway.

## NODES

### *Substantive Comments:*

1. The supplement fails to address the consequences of state selection on the need for and constitution of development nodes.

### *Response:*

Text revisions were made in the Final RMP to answer questions and provide additional information in response to comments concerning the consequences of state selection on nodes.

### *Preferences and Opinions:*

1. All land conveyances should be concentrated at nodes.
2. All development should be in the nodes and under restricted federal leases. (5)
3. Development in nodes should only be allowed under federal leases.
4. Eliminate development nodes at Pump Station 3, Prospect Creek, and Chandalar Shelf. (17)
5. Development should be limited to nodes
6. The nodes should not be developed.
7. The Yukon Crossing and Coldfoot nodes should not be expanded.
8. There should not be a school at 7-Mile.
9. Further development of nodes will hurt tourism and recreation.
10. The Coldfoot node in the Preferred Alternative is too large. (2)
11. There should be a development node at Prospect.



12. Eliminate development nodes at Pump Station 3 and Prospect Creek. (3)
13. Development at the Chandalar node was opposed. (5)
14. Development at the Coldfoot node was opposed.
15. Development at the Happy Valley node was opposed. (3)
16. Development at the Yukon Crossing node was opposed. (4)
17. The Chandalar Shelf node should be eliminated and the Yukon Crossing and Coldfoot nodes should only be large enough to provide necessary road services.
18. The Coldfoot node should be larger to accommodate greater flexibility in size and location of homesites.

## MINERALS

### *Substantive Comments:*

1. There should be separate descriptions of the extent of oil and gas activities for each alternative.
2. The plan should present realistic mineral scenarios and address developing technologies and changing mineral needs.
3. The impacts of mining and mineral material extraction on bears need to be qualified by analyzing the impacts of existing mines and material sites and using the data in Table 4-1.
4. While forbidding mineral material extraction from the Jim River is justified, prohibiting its extraction from the floodplain poses a serious problem for maintaining the Dalton Highway, which is essential to the corridor's primary transportation function. The BLM should work cooperatively with DOT/PF and ADF&G to develop measures to allow adequate gravel supplies for the road while ensuring fisheries protection.
5. The Environmental Consequences chapter seems to ignore the oil and gas regulatory framework and standard industry engineering and environmental mitigating measures; the document should discuss these, qualify the magnitude of potential impacts, and cite the literature for the basis of the plan's estimated impacts.
6. The plan should contemplate mineral leasing of locatable minerals in areas near mineral licks.
7. It is improper to evaluate mining impacts without taking into account mitigating actions.
8. The plan needs to clarify the extent of nonoccupancy zones proposed for mineral leasing activities in mineral lick areas.

### *Responses:*

The Draft RMP analyzes impacts from oil and gas development under two scenarios. Alternatives A and B project no leasing and no oil and gas development. Analysis of impacts from oil and gas development under Alternative C is based on a development scenario similar to the Proposed Alternative; i.e., the Proposed Alternative and Alternative C have essentially the same oil and gas leasing prescription. Under these two alternatives all high and moderate potential areas are open to oil and gas development, and the development scenarios are the same. Alternative A calls for current management to continue on lands not transferred to the state.

Although the Draft RMP addressed mineral development to be allowed under each alternative, text revisions were made in the Final RMP to clarify the analysis and to incorporate more complete and accurate minerals data. Among these revisions is a scenario projecting the extent of anticipated minerals development. The mineral development scenarios in Chapter 2 and impact analysis in Chapter 4, have been modified where appropriate to reflect more careful consideration of oil and gas regulatory framework and standard industry engineering and operation.

In keeping with the original intent of the Utility Corridor, mineral materials would be made available for the development of new as well as the maintenance and repair of existing, energy transportation systems. However, multiple use management must also consider protection of other valued resources and provide for other land uses to the extent possible without restricting energy transportation.

It is beyond the authority of the BLM to make locatable mineral development available through a leasing system. This would require congressional action and is a minerals management alternative considered but not analyzed in detail.

Lands within the "inner" corridor have been withdrawn from locatable mineral development by PLO 5150 to ensure continued federal ownership. If mining claims were allowed within the inner corridor

and these were patented, it is reasonable to expect that continued use of existing energy transportation systems and development of new systems could be impeded.

Text revisions were made in the Final RMP to clarify what areas would be opened to oil and gas leasing only with nonsurface occupancy stipulations.

*Preferences and Opinions:*

1. The Colville River valley should be closed to mineral development.
2. Mineral policies which do not have any adverse affects on wildlife, their habitat, and areas of unique scenic value should be adopted.
3. Mineral development policies defined in actions B-1 and B-2 were endorsed. (15)
4. Oil and gas and mineral exploration should be limited.
5. The entire area should be open to mineral development. (2)
6. There should be no mineral development in watersheds that drain into CSUs.
7. The plan should provide that medium and high potential areas of CAMA be open to oil and gas leasing and that east-west corridors available for pipelines to the TAPS.
8. There should be mineral closures for crucial wildlife habitat, rivers draining into CSUs, and areas recommended for wilderness.
9. There should be no withdrawals within the corridor.
10. Because the right-of-way needs are known, the inner corridor should be reduced to about one-quarter mile in width.
11. The lands should be withdrawn from mineral location; minerals should be developed through leasing.
12. Each alternative should be revised to incorporate assurance that mineral materials for transportation systems for petroleum will be given primary consideration as merited by the corridor's primary transportation purpose.
13. The plan fails to recognize that mineral development activities may enhance, rather than detract, from recreation.
14. Because most mineral terranes cross the inner and outer corridors, closing the inner, but not the outer corridor, to mineral development may increase, rather than decrease disruption of other resource values. Under such a policy, miners would have to go to the outer corridor to develop the mine and work their way back to the inner corridor. This would disturb more land and be more costly.
15. The plan should open the inner corridor to mineral location and leasing.
16. The minerals data is good but incomplete, surficial, and, in some cases, misleading.
17. Mineral entry should not be allowed within three hundred feet of either shore of the Chandalar River in the eastern part of the Venetie block.
18. The corridor should be open to mineral location and leasing to within one half mile of the pipeline, as is the case on where the pipeline passes through state lands.
19. Page 4-2 erroneously leaves the impression that all turbidity is bad, techniques are not effective in eliminating discharges, and the impacts of turbidity cannot be mitigated.

## OFF-ROAD VEHICLES (ORVs)

*Substantive Comments:*

1. The final RMP/EIS should discuss the methods of enforcing ORV use restrictions and their efficiency in minimizing adverse effects.
2. The plan fails to address the appropriate management should the state remove its prohibition of recreational ORV use within five miles of the Dalton Highway.

*Responses:*

The state prohibits both ORV use and hunting with firearms within five miles of the Dalton Highway. State enforcement of these restrictions, really minimizes the violations of BLM's ORV use restrictions.

At this time, BLM cannot predict that the state would remove its prohibition of recreational ORV use within five miles of the Dalton Highway. However, under the Proposed Plan (see Proposed Action 30 in Chapter 2) BLM proposes to allow recreational use of ORVs during the winter should the state's restrictions be removed. Additionally, BLM proposes to conduct an ORV use evaluation (see Proposed Action 31) to determine if further reclassification of lands to prohibit or allow (with or without restrictions) use of ORVs in specific areas is warranted. This reclassification, if necessary, would be through a plan amendment.



*Preferences and Opinions:*

1. Current ORV policy should be retained. (18)
2. Current ORV policy should be retained, except around Wiseman, where it may be modified for villagers' use.
3. All ORVs, except snowmobiles, should be prohibited. (3)
4. Subsistence snowmobile use and permitted commercial use of other ORVs should be allowed; recreational and noncommercial casual use should be prohibited.
5. Fewer restrictions should be placed on ORV use.

## RECREATION

*Substantive Comments:*

1. The basis for the estimates of recreational demand is unclear. The estimates may be very misleading.
2. The plan does not discuss the state's *Comprehensive Outdoor Recreation Plan*.
3. The final plan should analyze the effect of a 15 to 20 percent increase in traffic because of enhanced tourism and recreation.

*Responses:*

The Alaska State Comprehensive Outdoor Recreation Plan (*Outdoor Recreation: Alaska*) was reviewed and useful information was considered where appropriate. Text revisions were made in the Final RMP to answer questions and provide additional information or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments concerning:

- estimating recreation demand, and
- scenarios considering recreational activities.

*Preferences and Opinions:*

1. Recreational development, such as waysides, should be prohibited.
2. Other resource uses should have priority over recreation. (2)
3. Waysides and camping areas should be small.
4. Recreational developments, including signs and interpretive facilities, are appropriate in the inner corridor.
5. There should be no recreational development in the outer corridor.
6. The emphasis on recreation leads one to believe that it conflicts with the primary purpose of the Utility Corridor.
7. Campers should be permitted to limit the traffic on the Dalton Highway and the impact on wildlife.
8. Recreation development along the Dalton Highway was endorsed.
9. The Dall River should be closed to sport fishing because it is being overused.
10. The Recreation Activity Management Plan proposed in the plan should incorporate an educational and interpretive program to combat incidents of trespass and vandalism on the Dall River.
11. Increasing recreational use may make it more difficult for the state to enforce its ORV restrictions.
12. Recreational developments north of Coldfoot may be premature. The market may not yet be able to successfully support quality services.
13. Campgrounds, waysides, and trails draw too many people and will interfere with subsistence and wilderness values.
14. Increasing recreational use may make it more difficult for the state to enforce its ORV restrictions.
15. Campgrounds, waysides, and trails draw too many people and will interfere with subsistence and wilderness values.
16. Preferred Action 12 is too restrictive; some recreational development may be appropriate.
17. The plan should not designate recreation areas in the Utility Corridor. These could interfere with the corridor's primary transportation mission.
18. Recreational developments north of Coldfoot may be premature. The market may not yet be able to successfully handle quality services.
19. The VRM classification for the Dalton Highway Unit should be III and the Dalton Corridor and the Oolamagavik Block should be classified as II.

## SUBSISTENCE

### *Substantive Comments:*

1. Subsistence use patterns are not adequately defined; the plan should indicate the relative importance for subsistence of lands within and outside the planning area.
2. A Sec. 810(a) finding is not relevant for Alternative D.
3. The plan should compare subsistence use considerations under federal management of land pursuant to ANILCA Sec. 810 and under state management pursuant to state subsistence statutes.
4. The supplement should have discussed effects of state development of the corridor on subsistence.
5. The plan should specify how subsistence-related mitigation stipulations will be enforced and how the public can be involved.
6. The communities of Allakaket/Alatna, Evansville, and Stevens Village should be designated subsistence study areas. BLM should evaluate the impact of mineral activities and FLPMA sales or leases if any of these actions are to be allowed.
7. The subsistence impact of the Ambler transportation corridor requires careful consideration.
8. The plan inadequately addresses the impact development activity workers who hunt have on game necessary for subsistence.

### *Responses:*

The RMP does not indicate relative importance of lands for subsistence uses because doing so would not adequately reflect the changing and shifting nature of subsistence uses. This is consistent with the Alaska Department of Fish and Game, Division of Subsistence which consistently states that assigning relative importance to land for sale purposes would not adequately reflect the changing and shifting nature of subsistence uses.

A section 810(a) finding on subsistence was included for Alternative D because ANILCA 810 requires a finding on any federal action pursuant to Section 805(d) of ANILCA.

Public involvement in the development of subsistence related mitigation as well as the enforcement of that mitigation is an integral part of BLM's management responsibilities. When appropriate, BLM routinely solicits input about how to mitigate potential impacts and what level of monitoring may be appropriate. This applies to subsistence mitigation as readily as with any other issue. The level and intensity of monitoring varies according to the purpose being served. Monitoring may be intended to ensure compliance with decisions, to measure the effectiveness or success of decisions, or to evaluate the validity of decisions. In each case the purpose and procedures should be included in development of a monitoring plan which the public may also help develop.

It was suggested that Allakaket/Alatna, Evansville, and Stevens Village should be designated subsistence study areas to evaluate the impacts of mineral activities and FLPMA sales leases. During this RMP process the direct and indirect subsistence impacts have been analyzed.

Text revisions were made in the Final RMP to answer questions and provide additional information or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments concerning:

- subsistence impacts of the Ambler transportation corridor, and
- the effects of state ownership of identified Corridor lands on subsistence.

### *Preferences and Opinions:*

1. There should be no new access created which would stimulate additional hunting by other than local residents; doing so would impact subsistence economy.
2. The number of development nodes should be limited to minimize impacts on subsistence.
3. There should be no actions allowed within the Corridor which will have a significant restriction on subsistence uses. (4)
4. Wilderness designation could hinder subsistence activities.
5. Oil and gas development could have deleterious impacts on subsistence activities. (3)
6. Development and an influx of recreationists will have adverse effects on subsistence activities.
7. "Subsistence trapping" should be clarified as either "trapping for subsistence purposes" or "trapping by local rural residents."



5. Oil and gas development could have deleterious impacts on subsistence activities. (3)
6. Development and an influx of recreationists will have adverse effects on subsistence activities.
7. "Subsistence trapping" should be clarified as either "trapping for subsistence purposes" or "trapping by local rural residents."
8. The plan overstates the ability to mitigate impacts to subsistence.
9. BLM should have held an 810 subsistence hearing at Allakaket
10. Interpretive signs and materials should be developed to educate the public of the need to use the Dall River area responsibly; the drainage is an important subsistence area which is being degraded by recreationists. (3)
11. Develop interpretive signs and materials on subsistence economies. (10)
12. The plan is incorrect in stating that Alternatives A, B, and D will not cause significant restrictions of subsistence uses. Land sales in enlarged nodes, increased sport hunting and fishing, and increased mining activity will significantly restrict subsistence uses.
13. The Section 810 discussion is lacking. Development along the corridor may lead to the state classifying nearby communities as nonrural and ineligible for participation in subsistence activities. Moreover, there needs to be more thorough discussion of the impact of more residents and more activities in the corridor following development.
14. The Section 810 determination for the corridor is incomplete and inadequate.
15. The plan supplement fails to meet the subsistence requirements of ANILCA Section 810. (2)

## WILDLIFE AND FISHERIES

### *Substantive Comments:*

1. The Dall River should be added to the list of streams which contain regionally important fishery values.
2. BLM should assist ADF&G in developing a permit entry fishery for the Dall River.
3. The plan fails to assess the damage to fisheries by the introduction of heavy metals and chemicals from mining operations.
4. The plan should consider closing mineral lick areas to mineral materials sales.
5. Contrary to the implications of the section on Fisheries Resources on page 4-40, stream protection should be similar under either federal or state management.
6. The experience with the TAPS indicates that caribou habitat is not lost through the animals' avoidance of the pipeline.
7. The planning document exaggerates the adverse effects of mining on fishery resources, given compliance with government regulations.
8. Federal and state wildlife management differences should be detailed and assessed, and if no different, so state.
9. Wildlife resources and fisheries habitat should be inventoried before any uses are allowed which might impact them.
10. The plan should refer to "hares" rather than "rabbits" on page 3-33.

### *Responses:*

Although the Dall River may contain regionally important fishery values, it is outside the planning area. Therefore, it is not listed in this RMP as a stream with important fishery values, nor has BLM pursued developing a permit entry fishery for the Dall River.

There is no evidence that heavy metals and chemicals are being dumped into streams. BLM monitoring of water quality indicates that any occurrences of heavy metals are not caused by mines that are operating.

The management prescriptions and anticipated activities described in the RMP would result in loss of caribou habitat. The significance of such habitat loss on caribou populations depends on several factors including the location, quality and amount of habitat lost and the effectiveness of mitigation measures. These determinations were placed in Chapter 4 of both the draft and final RMPs entitled "Impacts Unique to Each Alternative" and "Cumulative Impacts." More specific statements on acreage disturbed and anticipated impacts have been included in Chapter 4 of the final RMP/EIS for the proposed action.

In the discussion of impacts to fisheries it is stated that potential long term impacts are more likely as the cumulative result of many mines within the same drainage and/or as a result of a long period of mining in the same area. Total compliance with and enforcement of existing laws and regulations is

not a reasonable position from which to estimate potential impacts. There are always the possibilities of illegal activities, accidents, and other inadvertent noncompliance.

There are no data available to conclude that mining has had long term effects on area fisheries. No one knows with certainty the species or numbers of fish that occurred in streams of the planning area prior to the mining operations of the 1900s. Furthermore, sufficient data do not exist to evaluate the impacts caused by historic mining, nor is the RMP the proper forum for such a study.

The difference between federal and state wildlife management is that, while the Bureau manages wildlife habitat, the State of Alaska manages the wildlife populations, i.e., the animals, birds, fish, etc. The federal responsibilities for management of wildlife includes those species covered by specific federal legislation (e.g., Endangered Species Act). The state is not mandated to comply with the Endangered Species Act; however, in practice state policy is to manage to meet the intent of the Act.

Prior to approving any disturbing activities, an environmental analysis which addresses, among other things, fish and wildlife impacts, is required by the BLM in compliance with NEPA. Significant impacts must either be mitigated or an Environmental Impact Statement prepared prior to approval.

Text revisions were made in the Final RMP to answer questions and provide additional information or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments concerning:

- closing mineral lick areas to mineral materials sales, and
- use of the word "hares" rather than "rabbits."

#### *Preferences and Opinions:*

1. Muskox should be transplanted in the Oolamnagavik Block.
2. An HMP for the Colville River should be prepared.
3. Kanuti Hot Springs should not be leased. It should be left in its natural condition. If recreational use conflicts with wildlife, recreational use should be curtailed. (2)
4. Closures of a square quarter mile encompassing mineral licks as indicated in the Preferred Alternative is appropriate.
5. It is premature to transplant muskox to the Oolamnagavik Block; BLM needs to consult with ADF&G.
6. The plan should reiterate ADF&G's and BLM respective responsibilities as outlined in the Master Memorandum of Understanding.
7. The BLM should retain a withdrawal on known crucial anadromous fish spawning areas.
8. Closure of a five miles diameter around peregrine falcon nests, as provided in Action B-24 was endorsed.
9. The plan should improve habitat to support self-sustaining populations of fish and wildlife.
10. Mining, using appropriate mitigation measures, can increase habitat for water-dependent species.
11. Stream protection should be similar under either federal or state management.
12. There is no documentation that mineral licks have a particular function in an animal's life cycle.
13. Mining, when followed by proper mitigative measures, can increase habitat for water-dependent species, contrary to the indications on page 4-14.
14. The statement concerning irretrievable commitments of resources is not correct; even intense and unregulated placer mining in the early part of this century did not result in long term effects on fisheries.

## WILDERNESS

Many comments were received relating to wilderness issues and resources within the planning area. However, as a result of existing legislation and departmental policy (see Wilderness Section in Chapter 1), review of wilderness resources was required only north of 68° N latitude, i.e., within CAMA. That review resulted in a separate wilderness EIS and report to Congress, completed by CLM in 1988. All comments relating to wilderness issues and responses to those comments are included in the *Central Arctic Management Area Wilderness Recommendations and Final Environmental Impact Statement* (USDOI, BLM 1988). A summary of these comments is below.



1. Appendix J (the Draft Wilderness EIS) should address the cumulative impacts of development in the corridor and CAMA on subsistence and wildlife migration patterns.
2. All the corridor lands should be designated wilderness. (16)
3. The "Partial Wilderness Alternative" and wilderness designation of Oolamnagavik Block were endorsed. (14)
4. The Venetie Block should be classified as wilderness. (2)
5. All Wilderness Alternative for the CAMA lands and the Utility Corridor was endorsed. (3)
6. Consolidate the Oolamnagavik Block and designate it a wilderness area.
7. Wilderness designation for the Oolamnagavik Block and for areas described in the CAMA Wilderness Study was endorsed.
8. All wilderness areas should be closed to mineral entry. (2)
9. The wilderness proposal is premature, since there is a proposal to add this area to the national park.
10. The plan should promote wilderness tourism with bus access.
11. The Nigu block should be wilderness, but managed under a park or preserve status.
12. The BLM should go beyond Action B-10 and acquire the Killik River watershed and propose that Congress designate it a wilderness area.
13. Wilderness designation for CAMA lands was endorsed. (3)
14. Wilderness designation was opposed.
15. It is realistic to allow a utility corridor through the Oolamnagavik Block. (3)
16. Land ownership should be consolidated and, wherever possible, the land designated as wilderness. This is particularly appropriate for the Oolamnagavik block and the Killik River.
17. The BLM should not only seek to acquire lands surrounding the Killik River as proposed in Preferred Action 10; it should also designate as nonmotorized wilderness.

## OTHER CONCERNS

### *Substantive Comments:*

1. Action B-5 needs to be clarified to indicate that its prohibition on guiding and outfitting camps does not extend to the state airport at Galbraith Lake.
2. Page 2-3 states that lands within the Arctic National Wildlife Refuge are presently withdrawn by PLO 6607, but Appendix F states that this PLO was "essentially terminated." This discrepancy needs to be addressed.
3. Dietrich airport should not be included in the list printed on page 3-2 of state-maintained airports in the corridor.
4. A more precise description of the location of Waldron Creek is between the Yukon River bridge and Stevens Village.
5. Appendix B (Appendix D in the Final) should be revised to indicate that PLOs 5561 and 5581 along with ANILCA Sec. 906(j)(1) cancelled PLOs 5169, 5179, 5180, and 5186 regarding state selection.
6. Subsistence maps need captions indicating that information depicted on them is derived from numerous studies with varying methodologies and that subsistence use patterns change over time.
7. The bibliography omits Sumida and Alexander 1986, which is cited on Subsistence Use Area map 2.
8. "Salt licks" should be referred to as "mineral licks" for the sake of uniformity throughout the document.
9. The maps of the northern portion of the study area should indicate that the Dalton Highway ends at the Deadhorse airport.
10. Existing Access maps should show the airports at Umiat, Allakaket, and Hughes to be state-maintained, and the Nuiqsut airport should be located on the west side of the Colville River channel.
11. Page 3-4 and the Preferred Alternative maps may mislead the public into believing all federal lands in the planning area will become open to mineral entry and oil and gas leasing as a result of this RMP. The plan should address the segregative effect of state and native selections and BLM's use authorization structure.
12. The plan provides too little information on project-specific environmental analyses and RMP monitoring to determine the potential for adverse impacts.

### *Responses:*

The appropriate use of a federally granted state airport lease is not an issue for consideration in this plan, however; under the terms of the lease, subleasing of airport properties at Galbraith Lake is to be done only with BLM concurrence and when the purposes are in harmony with its proper use as an airport. Proper use is usually defined as activities needed to support the airport, not activities which need the support of the airport. While such a definition is open to interpretation, under Alternative B, leasing to guides and outfitters is not considered consistent with stated management objectives.

Text revisions were made in the Final RMP to answer questions and provide additional information or correct misunderstandings, discrepancies, and inaccuracies. These revisions were made in response to comments 2 through 12.

*Preferences and Opinions:*

1. Monitoring of impacts is inadequate and should not be part of the management plan.
2. Commercial harvesting of timber should be prohibited.
3. Solid waste disposal sites should be developed.
4. The plan properly recognizes the need to accommodate research facilities within the corridor.
5. The plan should state how BLM will deal with projected impacts.
6. Development along the Dalton Highway is opposed.
7. Support preservation.
8. The state has laws against hunting and ORVs in the corridor, but has neither the will nor the resources to enforce these prohibitions.
9. Riparian zones should be better protected by measuring area to be protected from the water bodies' lower banks, rather than from the center of the streams.
10. Appendix B (Appendix D in the Final) should indicate that the state owns the beds of navigable rivers, even if they were withdrawn for a Wild and Scenic River study by ANILCA Sec. 604.
11. Land status maps in Chapter 3 do not illustrate the large blocks of state owned and state selected lands, nor do they indicate the state's top-filing on three military installations on the Arctic Coast. This fails to give the reader information to help assess the state's interest in corridor lands.
12. Current land status as indicated in the plan appears to be incorrect.
13. The plan has not critically examined the potential cumulative impacts to water quality that may result from development in the Utility Corridor.
14. There is inadequate discussion of mitigation measures in the plan.
15. Contrary to what is stated on page 4-40, it is not necessary to conduct a Sec. 106 review for Alternative D.
16. Impacts are adequately addressed.
17. The final plan should specify criteria for all FLPMA lease applications to protect scenic qualities.
18. The plan should provide visitors an opportunity to view and understand the mineralization of the Brooks Range.
19. The BLM should consider that changes in state law relating to resource management and development may be more rapid and receive less public review than under FLPMA.
20. The BLM should undertake cooperative planning with agencies with adjacent lands.(9)
21. The Clearwater Block was not part of the original scope of the plan; including it now is not in compliance with NEPA.
22. BLM should conduct meetings in Koyukon villages and notify local fish and game advisory committees.
23. The plan fails to address the appropriate management should the state open more of the Dalton Highway to general traffic.



**Table 5.5**

Respondents During First and Second Comment Periods

- Indicates written response during first comment period
- Indicates written response during second comment period
- Indicates written response during first and second comment periods

<b>Respondent</b>	<b>Issues Addressed *</b>
<b>Federal Advisory Groups</b>	
• National Public Lands Advisory Council	Acs, GD, SS, RD, O
••• Northern Alaska Advisory Council	Alt, SS, Ws
••• Southern Alaska Advisory Council	Alt, RD, SS
<b>State Offices, Agencies, Legislators, and Local Governments</b>	
• Alaska State Historic Preservation Officer (DNR)	O
••• Citizens Advisory Commission on Federal Areas	Acs, AC, Alt, MD, RD, SS, O
• Interior Regional Fish and Game Council (ADF&G)	Acs, DN, Sbs
••• Office of the Governor	Acs, AC, Alt, DN, RD, SS, Ws, O
•• Fairbanks North Star Borough	O
•• North Slope Borough Planning Dept.	SS, O
••• Allakaket Village Council	GD, RD, Sbs, SS
• Hughes Village Council	GD, RD, Sbs, SS
•• Rampart Village Council	SS
• Alaska State Senator Bettye Fahrenkamp	AC, Alt, SS, O
•• Alaska State Senator John Binkley	SS
•• Alaska State Representative F. Kay Wallis	Sbs, SS
•• Alaska State Representative Henry Springer	O
<b>Native Groups and Organizations</b>	
• Alaska Federation of Natives, Inc.	Alt, RD, SS
••• Dinyee	AC, Acs, Alt, DN, RD, Sbs, SS, Ws, O
••• Tanana Chiefs Conference, Inc.	Acs, DN, RD, Sbs, SS, O
•• K'oyitl'ots ina Limited	Sbs, SS
•• Indigenous Survival International	GD, SS
<b>Environmental Groups and Organizations</b>	
• Alaska Center for the Environment	AC, Acs, Alt, DN, MD, RD, Sbs, SS, Wl, Ws, O
••• Northern Alaska Environmental Center	AC, Acs, Alt, DN, MD, RD, Sbs, SS, Wl, Ws, O
••• Sierra Club	AC, Acs, Alt, DN, MD, RD, SS, Ws, O
••• Wilderness Society, The	Acs, Alt, DN, MD, RD, SS, Ws, O
•• Trustees for Alaska	AC, DN, SS, Sbs, O
<b>Research Organizations</b>	
• Marine Biological Laboratory (Woods Hole, MA)	AC, RD, O
• National Science Foundation	AC, RD, O
• University of Alaska Fairbanks, Institute of Arctic Biology	AC, DN, RD, O
• University of Illinois at Urbana-Champaign, Dept. of Ecology, Ethology, and Evolution	AC, RD
• University of Alaska, Institute of Marine Science	AC, RD
• University of Massachusetts at Amherst, Dept of Forestry and Wildlife Management	AC, RD

<b>Respondent</b>	<b>Issues Addressed *</b>
<b>Industry and/or Business Groups</b>	
• Alaska Miners Association, Inc.	AC, Acs, MD, RD, Ws, O
• Alyeska Pipeline Service Company	Alt, MD, RD
• Greater Fairbanks Chamber of Commerce	Alt, MD, SS
• Standard Alaska Production Company	Acs, MD, O
•• Resource Development Council for Alaska, Inc.	SS
•• Alaska Oil and Gas Association	Acs, SS
<b>Federal Agencies</b>	
• Bureau of Mines	O
••• National Park Service	Acs, MD, RD, Sbs, SS, O
••• Environmental Protection Agency	Alt, Ws, O
<b>Individuals</b>	
• Adler, James	AC, Alt, MD, SS
• Adler, Kerry	AC, Alt, MD, RD, SS
• Ames, Mark	O
• Beck, Ron	Alt, Acs, DN, GD, RD, Ws
• Becker, Jon	AC, RD, SS, WI, Ws, O
• Brookman, Gerald R.	RD, O
• Brown, Lawrence	AC, Alt, RD
••• Burns, Craig	AC, Alt, DN, MD, RD, SS, WI, O
• Chinn, Ronald E.	DN, MD, RD, SS, Ws
•• Classen, Thomas	SS
• Connery, Bruce	Acs, RD, SS, Ws, O
• Coutler, Alan	Acs, Alt, DN, MD, RD, SS, Ws
• Dalle-Molle, John	AC, Alt, DN, RD, Ws
• Dashevsky, Sam	AC, Acs, Alt, DN, GD, RD, SS
• Doudna, David	DN, MD, RD, Ws, O
• Drummond, Chuck	AC, Alt, MD, SS, Ws
••• Frank, Oscar	AC, Alt, DN, GD, RD, SS, Sbs, WI, Ws, O
• Fruge, Douglas J.	Acs, Alt, DN, MD, SS, Ws
• Funke, Michael	GD, MD, RD, SS, Ws
•• Holman, William	SS, O
• Hovik, Paul	GD, WS
• Hutton, Mr. Frank	Acs, Alt, DN, MD, RD, SS, Ws O
• Jettmar, Gladys	AC, MD, RD, SS, Ws
• Jettmar, Karen	Alt, DN, RD, SS, Ws
• John, Allen	Sbs
•• John, Donna	SS, O
• Kaye, Roger	Acs, Alt, MD, RD, SS, Ws, O
• Kemnitz, Richard	Acs, Alt, DN, GD, MD, RD, SS
••• Kent, Chris S.T.	AC, Alt, DN, MD, RD, SS, WI, Ws, O
• Kipphut, George W.	AC, RD
• Klein, Frank	AC, DN, GD, MD, RD, SS, Ws
• Korobko, John	Acs, GD, MD, RD
••• Lacey, Dave	AC, Alt, DN, GD, RD, Sbs, SS, Ws, O
• Lewis, Sherry	AC, RD, SS, WI, Ws, O
•• Long, Becky	Sbs, SS, Ws
•• Mackey, Dick	SS
• Maxwell, Kerry	Alt, GD, MD, RD, SS
•• McGuire, Sean	SS
•• Meacham, Tom	SS
• Meeks, Mark	Acs, DN, WI, Ws



Respondent	Issues Addressed *
• Miner, Todd	GD, MD, FD, Ws
• Mitchell, Gatlin	Acs, Alt, DN, MD, RD, SS, Ws
• Morris, Mrs. Kelly	AC, Acs, Alt, MD, SS
• Paragi, Thomas	GD, RD, SS
• Pausanna, Bernice	O
• Petty, Clarence	DN, MD, RD, SS, Ws, O
• Reynolds, Martha K.	Acs, Alt, DN, GD, MD, SS, Ws
• Reakoff, Jack	AC, Acs, DN, Sbs, SS Ws, O
• Reakoff, Rick	DN, RD, Sbs, SS
• Reed, Steve	AC, GD, RD, Ws
• Rees, Michael	AC, Acs, GD, RD, SS, Ws, O
• Reller, Carl	AC, SS, Ws, O
• Richards, Hugh	DN, MD, FD, SS, Ws
•• Robinson, Dr. E.B., Jr.	SS
• Rosenberg, Carl	AC, Acs, DN, GD, MD, RD, SS, WI
• Ruggles, Anne K.	AC, GD, RD, SS, Ws, O
• Sammis, Teresa	Acs, MD, RD, SS
• Schnorf, Craig	AC, RD, Ws
• Scranton, Chris and Pam	AC, GD, SS, Ws, O
• Sebastian, Joseph	AC, GD, SS, Ws, O
• Soileau, Don	Acs, Alt, DN, MD, RD, SS, Ws, O
• Spotts, Richard	Acs, Alt, DN, MD, RD, SS, Ws
• Standley, Chris Selin	DN, MD, RD, SS, Ws
••• Sterling, Mike	AC, Acs, Alt, DN, MD, RD, Sbs, SS Ws, O
• Stevens, Alfred P.	Acs, DN, GD, RD, Sbs, O
• Sturnick, Mark A.	Acs, Alt, DN, MD, RD, SS, Ws
• Sutton, Larry	Acs, Alt, DN, MD, RD, SS, Ws
•• Walleri, Michael J.	O
• Walters, William	GD, MD, RD, SS, Ws
•• Weinstock, June	SS, O
• Wheeler, Heather	MD, RD, Ws
• White, Alan	Acs, Alt, DN, MD, RD SS, Ws
• Wiedner, Dr. E.M.	SS
•• Yarnell, Ron	SS, O
• Zaccardi, Mike	AC, GD, MD, SS, Ws

\* Access / ORV use  
 ACECs  
 Alternatives or Special Designation of Corridor  
 Development Nodes (including homesite sales)  
 General Development  
 Mineral Development  
 Recreational Development  
 State Selection  
 Subsistence  
 Wilderness  
 Wildlife  
 Other

Acs  
 AC  
 Alt  
 DN  
 GD  
 MD  
 RD  
 SS  
 Sbs  
 Ws  
 WI  
 O

## List of Preparers

The following individuals served as planning team members and contributed to the production of this Final RMP/EIS or the associated *Central Arctic Management Area Wilderness Recommendations and Final Environmental Statement* (U.S. DOI, BLM, 1988)].

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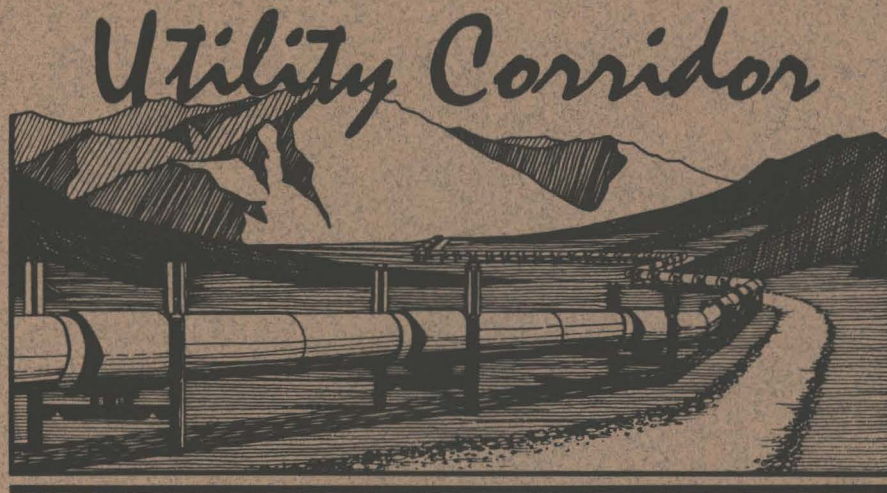
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# **Appendix A**

## **Glossary of Terms**

### **A**

#### **Activity Plan**

A more detailed and specific plan for management of a single resource program or plan element undertaken as necessary to implement the more general resource management plan (RMP) decisions. An activity plan is prepared for specific areas to reach specific resource management objectives within stated time frames. Detailed management actions, including such things as projects, treatments, and other on-the-ground activities and schedules are described in the document. Activity planning is the third tier in the Bureau planning system. Examples include: Allotment Management Plans, Habitat Management Plans, Recreation Area Management Plans, and Transportation Plans.

#### **Alternatives**

Different ways of addressing the planning issue(s) and management activities considered in the planning process. These serve to provide the decision maker and the public with a clear basis for choices among options. Every planning effort involves the development of several complete, reasonable alternatives for resolving the issue(s).

#### **Anadromous Fish Spawning Habitat**

That portion of a stream from the farthest downstream point of observed spawning to the farthest upstream point of observed spawning.

#### **Areas of Critical Environmental Concern or ACECs**

Areas where special management attention is required to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.

#### **Aufeis**

German term for sheets of ice formed by the freezing of overflow water.

### **B**

#### **Borrow pit**

An excavated area where material has been dug for use as fill at another location.

### **C**

#### **Category 2**

Taxa for which information now in possession of the U.S. Fish and Wildlife indicates the possible appropriateness of listing as endangered or threatened, but for which sufficient information is not presently available to biologically support a proposed rule. Further biological research and field study will usually be necessary to determine the status of the taxa in this category.

#### **Consistent or Consistency**

In the context of planning, consistency means that BLM plans will adhere to the terms, conditions and decisions of officially approved and adopted resource related plans, or in their absence, with

policies and programs of other federal agencies, State and local governments, and Indian tribes, subject to the qualifications of 43 CFR 1610.3-2. The term connotes a comparative state between two or more plans and is product oriented. [see 43 CFR 1601.0-4(c)].

**Critical Habitat**

Any air, land, or water area (exclusive of those existing man made structures or settlements which are not necessary to the survival and recovery of a listed species) and constituent elements thereof, the loss of which would appreciably decrease the likelihood of the survival and recovery of a listed species or a distinct segment of its population. The constituent elements of Critical Habitat include, but are not limited to physical structures and topography, biota, climate, human activity, and the quality and chemical content of land, water, and air. Critical Habitat may represent any portion of the present habitat of a listed species and may include additional areas for reasonable population expansion.

**Crucial Habitat**

Habitat which is absolutely basic to maintaining viable populations of fish, wildlife, or plants during certain seasons of the year or specific reproduction periods (BLM Manual 6780).

**D****Development nodes**

These are areas along the Dalton Highway which were designated through an earlier land use plan as centers for development activity. Confinement of development to these areas or nodes was determined to be necessary to avoid "strip development" along the Dalton Highway. See *Utility Corridor Management Framework Plan, 1979*.

**District Manager**

A district manager is the first level line official and resource manager in BLM Alaska and reports to a State Director.

**E****Ecological Reserve System**

A system of reserves including, but not limited to, Research Natural Areas. These systems have special qualities which make them particularly well-suited for scientific research and public education. The Ecological Reserve System for Alaska will ultimately include pristine environments for baseline study as well as impacted or intensively managed areas, such as experimental forests, that are of scientific interest.

**Endangered Species**

Any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary of Interior to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man (The Endangered Species Act - Amendments of 1982).

**F****Federal Land**

Lands the title to which is in the United States after the date of enactment of ANILCA (see Public Land).



**Federally Listed Species**

Those species of plants classified by the Secretary of the Interior or the Secretary of Commerce as threatened or endangered pursuant to Section 4 of the Endangered Species Act.

**H****Habitat Management Plan (HMP)**

A Habitat Management Plan is a wildlife oriented activity plan for a geographical area of public lands which identifies specific wildlife habitat management actions or prescriptions to be implemented in achieving specific objectives related to RMP document decisions. In short, an HMP is an Activity Plan specific to identified wildlife habitat.

**M****Mineral Leasing**

Leases which authorize the exploration for, and the development of all leasable mineral resources, such as oil, gas, coal, geothermal, etc.

**Mineral Location (or Mineral Entry)**

Mining claims for locatable minerals under the General Mining Law of 1872 and its amendments (including 43 CFR 3809).

**Mitigative Measures**

Action to replace, salvage or reduce impact to a resource value which may be damaged or destroyed by another action.

**Monitoring**

The orderly collection and analysis of data to evaluate progress in meeting resource management objectives. Monitoring may also include: (1) the collection of data to evaluate progress in complying with laws, regulations, policies, executive orders, and management decisions, and (2) the collection of data to assist in resource protection. Sampling of data and observation of progress toward plan objectives, the accuracy of impact analysis, and the effectiveness of mitigation measures are also of particular interest in terms of RMP monitoring activities.

**Multiple Use**

“...the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the lands for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some lands for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watersheds, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the lands and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.” [Section 103 (c) of FLPMA].

**Multiple Use Prescriptions**

A set of related management decisions and related terms and conditions which define the combination of allowable resource uses and levels of production or protection, program constraints, and general management practices to be followed in managing the various public land resources in specified portions of the management area.

**N****Nonwilderness Assessment**

Although the CAMA WSA covers all federal lands within the CAMA, a wilderness assessment of lands within the Utility Corridor was approved in 1980 (U.S. Department of Interior, BLM, 1980). This assessment, completed with full public participation, determined that approximately 316,000 acres of land within the Utility Corridor was unsuitable for wilderness designation. This designated nonwilderness area roughly corresponds to lands visible from the Dalton Highway.

**P****Pingo**

An Eskimo term for a perennial, conical shaped ice-cored mound as much as 65 meters high and 1,000 meters in diameter. Generally found on the arctic slope, but open-system pingos also occur south of the Brooks Range.

**Plan Approval**

The action in which the State Director signs and dates a public record of decision (ROD) which indicates his selection of the Plan from among the alternatives. Approval occurs after the protest period and after the governor of the state involved has had an opportunity for consistency review. Approval of any portion of a plan which is under protest is delayed pending resolution of the protest.

**Planning Area**

The geographic area covered by a plan or amendment.

**Planning Criteria**

The standards or rules and other factors developed by the manager and interdisciplinary teams for their use in forming judgments about decision-making, analysis and data collection during planning. They streamline and simplify the subsequent prescribed resource management planning actions by setting forth the standards for deciding and judging in each of the prescribed planning actions.

**Planning Issue**

A matter of controversy or dispute over resource management activities or land use that is well defined and/or topically discrete. Statement of the planning issue directs the resource management planning process and documentation toward resolving the planning issues during the preparation of an RMP.

**Preferred Alternative**

That plan alternative, in the draft environmental assessment or draft environmental impact statement, which management has initially selected as offering the most acceptable resolution of the planning issues and management concerns.



**Priority Species and Habitat**

Those fish, wildlife, and plant species or habitats that have been identified in the Management Framework Plan, the Resource Management Plan, or through special studies as having special significance for management.

**Priority Species**

Selected fish and wildlife species of special value, such as threatened and endangered species, or species with socioeconomic or subsistence values, to be considered in management decisions.

**Proposed Plan**

That plan alternative (or modification or combination of alternatives) in the final Environmental Assessment (EA) or final Environmental Impact Statement (EIS), which management has selected to be the Bureau's choice for the plan. The State Director announces and explains the choice of the proposed plan in a signed statement near the front of the plan and environmental document. This indication does not constitute approval (see Record of Decision).

**Public**

"Affected or interested individuals, including consumer organizations, public land resource users, corporations and other business entities, environmental organizations, other special interest groups and officials of State, local and Indian tribal governments." [43 CFR 1601.0-5 (h)].

**Public Lands**

- 1) FLPMA 103(e) defines public lands as "... any lands or interest in lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the Outer Continental Shelf and lands held for the benefit of Indians, Aleuts and Eskimos."
- 2) ANILCA (Section 102) defines public lands as land situated in Alaska which, after the date of enactment of this Act, are Federal lands (see Federal Land), except:
  - a. land selections of the State of Alaska which have been tentatively approved or validly selected under the Alaska Statehood Act and lands which have been confirmed to, validly selected by, or granted to the Territory of Alaska or the State under any other provision of Federal law;
  - b. land selections of a Native Corporation made under the Alaska Native Claims Settlement Act which have not been conveyed to a Native Corporation, unless any such selection is determined to be invalid or is relinquished; and
  - c. lands referred to in section 19(b) of the Alaska Native Claims Settlement Act.

**Public Land Order (PLO)**

An order, affecting, modifying, or cancelling a "withdrawal" or "reservation," which has been issued by the Secretary of the Interior pursuant to powers delegated to the Secretary by FLPMA 204(a).

**Public Involvement**

"...the opportunity for participation by affected citizens in rulemaking, decision-making and planning with respect to the public lands, including public meetings or hearings held at locations near the affected lands, or advisory mechanisms, or such other procedures as may be necessary to provide public comment in a particular instance" [FLPMA Section 103 (d)].

**R****Record of Decision (ROD)**

A brief statement which, when signed by the State Director and dated, approves a plan or amendment and completes the associated EIS. It indicates (1) which alternative, modification, or combination of alternatives has been approved as the plan; (2) which alternatives were considered in reaching this decision, specifying which alternative is considered environmentally preferable, and including a brief discussion of the relevant factors which contributed to the decision; and (3) whether all practicable means to avoid or minimize environmental harm from the plan have been adopted, and if not, why not. The record of decision also refers to the appropriate sections in the plan which describe standards and intervals for monitoring and evaluation. The requirements for the record of decision may be found in 40 CFR 1505.2.

**Research Natural Areas (RNA)**

Tracts of land which exhibit characteristics that are unique and/or representative of larger areas. The RNAs are usually managed to maintain their undisturbed condition for baseline observation and study (see also Ecological Reserve System).

**Resource and Resource Management**

Includes, in the broadest sense, all the public land values, renewable and nonrenewable resources of all types, supporting services such as fire control and cadastral survey, land use authorizations and control, and land disposition, exchange, or acquisition.

**Resource Management Plan**

A land use plan as prescribed by the Federal Land Policy and Management Act. The resource management plan generally establishes in a written document (1) land areas for limited, restricted, or exclusive use; designation, including ACEC designation; and transfer from Bureau of Land Management administration; (2) allowable resource uses (either singly or in combination) and related levels of production or use to be maintained; (3) resource condition goals and objectives to be attained; (4) program constraints and general management practices needed to achieve the above items; (5) need for an area to be covered by more detailed and specific plans; (6) support action, including such measures as resource protection, access development, realty action, cadastral survey, etc., as necessary to achieve the above; (7) general implementation sequences, where carrying out a planned action is dependent upon prior accomplishment of another planned action; and (8) intervals and standards for monitoring and evaluating the plan to determine the effectiveness of the plan and the need for amendment or revision. "It is not a final implementation decision on actions which require further specific plans, process steps, or decisions under specific provisions of law and regulations" (43 CFR 1601 and BLM Manual Section 1602.22).

**Resources**

All public land values, renewable and nonrenewable.

**Riparian Habitat**

A specialized form of wetland restricted to areas along, adjacent, or contiguous with perennially and intermittently flowing rivers, streams, and other bodies of water (BLM Manual 6602).

**S****Saleable Minerals**

Minerals including but not limited to pumice, cinders, sand, gravel, stone, clay and earth. (cf. P.L. 167)



## Section 810

This section within ANILCA mandates that subsistence uses and needs are to be considered in federal land use decisions.

### Sensitive Species

Candidate species not yet officially listed but which are undergoing a status review or are proposed for listing according to *Federal Register* notices published by the Secretary of the Interior or the Secretary of Commerce, or according to comparable State documents published by State officials.

Species whose populations are consistently small and widely dispersed, or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat availability, or habitat condition might lead toward extinction.

Species whose numbers are declining so rapidly that official listing may become necessary as a conservation measure. Declines may be the result of one or more of several factors including destruction, modification, or curtailment of the species or habitat; overuse for commercial, scientific, or educational purposes; disease; the inadequacy of existing regulatory mechanisms; and/or other natural or man made factors adversely affecting the species' continued existence (Inst. Memo WO 80-722).

### Significance

A high degree of importance as indicated by either quantitative measurements or qualitative judgments. Significant issues and impacts require explicit consideration in preparing a plan. Significance may be determined by evaluating characteristics pertaining to location, extent, consequences, and duration. As used in the National Environmental Policy Act, "significance" requires consideration of both context and intensity (see 40 CFR 1508.17)

### Significant Restriction to Subsistence Uses and Needs

BLM policy states that a "significant restriction to subsistence uses and needs" could occur if there is (1) a reduction in harvestable resources used for subsistence purposes; (2) there is a reduction in the availability of resources caused by an alteration in their distribution, migration, or location; or (3) a limitation on the access of subsistence users to harvestable resources. Generally, only the prediction of large or substantial effects as opposed to slight effects in one or more of these three categories would result in a section 810 evaluation of significant restriction to subsistence uses and needs.

### Subsistence Uses

Section 803 of ANILCA defines the term "subsistence uses" to mean "...the customary and traditional uses by rural Alaskan residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of inedible by-products of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade." For the purposes of this definition, the term (1) "family" means all persons related by blood, marriage, or adoption, or any person living within the household on a permanent basis; and (2) "barter" means the exchange of fish or wildlife or their parts, taken for subsistence uses - (a) for other fish or game or their parts; or (b) for other food or for inedible items other than money if the exchange is of a limited and noncommercial nature.

### Sustained Yield

The achievement and maintenance in perpetuity of high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use (Section 103 (h) FLPMA).

**T****Threatened Species**

Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (*The Endangered Species Act - Amendments of 1982*).

**Top-Filing**

A filing of an application for lands under Subsection 906(e) of ANILCA which allows the State of Alaska to file applications for future selections on lands which are not, on the date of filing such applications, available within the meaning of the Alaska Statehood Act, other than lands within any Conservation System Unit or the National Petroleum Reserve-Alaska. Each such selection application, if otherwise valid, shall become an effective selection without further action by the State upon the date the lands included in such application become available, regardless of whether such date occurs before or after expiration of the State's land selection rights.

**Traditional Land Use Inventory (TLUI)**

Area or site of traditional subsistence use. Examples include fishing and hunting areas used year after year by the same family or village.

**W****Wetland Habitat**

Habitat (excluding riparian) confined to permanently wet or intermittently flooded areas where the water table is at, near, or above the soil surface for extended intervals, where hydric or wet soil conditions are normally exhibited, and where water depths normally do not exceed seven feet (BLM Manual 6602).

**Wilderness**

An area where the earth and its community of life are untrammelled by humans, where humans are visitors who do not remain. An area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation.

**Wilderness Study Area (WSA)**

Area under study for possible inclusion as a Wilderness Area in the National Wilderness Preservation System (NWPS).

**Wildlife**

All species of aquatic, avian, marine, and terrestrial animals, both native and exotic, normally found in a wild state (BLM Manual 6780).

**Wildlife/Plant Habitat**

All elements of a wild organism's environment which the organism needs to complete its life cycle normally and naturally (BLM Manual 6780).



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- Allakaket Meeting held May 13, 1986.
- Bettles/Evansville Meeting held May 14, 1986.
- Rampart Meeting (for Central Yukon Planning Area) held December, 1983.
- Stevens Village Meeting held May 13, 1986.

## Appendix C

### Acreages and Categories of Land Within the Planning Area

#### I. Total Study Area

<b>Area Covered by Plan</b>	<b>15,250,000</b>
<b>A. State Lands (TA'd or patented)</b>	<b>7,000,000</b>
<b>B. Private Lands (fee estate IC'd or patented under ANCSA)</b>	<b>2,170,000</b>
<b>C. Federal Lands (selected &amp; unselected)</b>	<b>6,080,000</b>

##### Categories of Federal Land (Categories Overlap)

Public Lands (unselected or unavailable; includes split-estate lands)	4,430,000
Split-Estate Lands (federal management of surface only)	274,000
State Selected Lands (valid selections)	1,115,000
State Top-Filed Lands (ANILCA 906-e)	1,625,000
Native Selected Lands (selected under ANCSA)	982,000
Dual Selected Lands (included in above figures; 93,000 acres are ANILCA 906-e top-filed)	535,000
<b>Utility Corridor-PLO 5150 (inner &amp; outer)</b>	<b>2,780,000</b>
Outer Corridor	1,740,000
Inner Corridor	1,040,000
<b>Federal Lands Outside PLO 5150</b>	<b>3,300,000</b>
Venetie Block (360 acres are native selected)	630,000
Other Unselected or Unavailable Public Lands	1,027,000
Selected Lands (outside PLO 5150 & Venetie Block)	1,643,000
<b>PLO 5150 Outside Planning Area North of Yukon</b>	<b>298,000</b>
Inside Gates of the Arctic NP	233,000
Inside Arctic NWR	58,500
Inside Yukon Flats NWR	6,000

#### II. Planning Area South of 68° N Latitude

<b>Area Covered by Plan</b>	<b>2,400,000</b>
<b>A. State Lands (TA'd or patented)</b>	<b>0</b>
<b>B. Private Lands (fee estate IC'd or patented under ANCSA)</b>	<b>0</b>
<b>C. Federal Lands (selected &amp; unselected)</b>	<b>2,400,000</b>

##### Categories of Federal Land (Categories Overlap)

Public Lands (unselected or unavailable for selection; includes split-estate lands)	2,378,000
Split-Estate Lands (Federal management of surface only)	0
State Selected Lands (valid selections)	15,000
State Top-Filed Lands (ANILCA 906-e)	1,225,000



Native Selected Lands (selected under ANCSA)	12,000
Dual Selected Lands (included in above figures)	0
<b>Utility Corridor-PLO 5150 (inner &amp; outer)</b>	<b>1,750,000</b>
Outer Corridor North of Yukon	1,225,000
Inner Corridor North of Yukon	500,000
Corridor South of Yukon (all is outer corridor)	25,000
<b>Federal Lands Outside PLO 5150</b>	<b>650,000</b>
Venetie Block (360 acres are native selected)	630,000
Isolated State Selected Tracts	15,000
Isolated Unselected Tracts	5,000

### III. Planning Area North of 68° N Latitude

<b>Area Covered by Plan</b>	<b>12,850,000</b>
<b>A. State Lands (TA'd or patented)</b>	<b>7,000,000</b>
<b>B. Private Lands (fee estate IC'd or patented under ANCSA)</b>	<b>2,170,000</b>
<b>C. Federal Lands (selected &amp; unselected)</b>	<b>3,680,000</b>
<b>Categories of Federal Land (Categories Overlap)</b>	
Public Lands (unselected or unavailable for selection; includes split-estate lands)	2,052,000
Split-Estate Lands (federal management of surface only)	274,000
State Selected Lands (valid selections)	1,100,000
State Top-Filed Lands (ANILCA 906-e)	400,000
Native Selected Lands (selected under ANCSA)	970,000
Dual Selected Lands (included in above figures; 93,000 acres are ANILCA 906-e)	535,000
<b>Utility Corridor-PLO 5150 (inner &amp; outer)</b>	<b>1,030,000</b>
Outer Corridor	490,000
Inner Corridor	540,000
Nonwilderness	316,000
<b>Utility Corridor-PLO 5182 (inner &amp; outer)</b>	<b>25,000</b>
Outer Corridor	18,500
Inner Corridor	6,500
<b>Federal Lands Outside PLO 5150</b>	<b>2,650,000</b>
Unselected or Unavailable Public Lands	1,022,000
Selected Lands	1,628,000
<b>Other Categories (included in above figures)</b>	
ANILCA-1431(j) Corridor (which are State top-filed)	220,000
ANILCA-1431(e) Block (to be transferred to NPS)	72,000
NPR-A Boundary Dispute Area (regardless of land status)	385,000

## **Appendix D**

### **Major Laws and Public Land Orders (PLOs) Affecting the Planning Area**

All lands administered by the BLM in Alaska are covered by one or more Public Land Order (PLO) or Executive Order (EO) which prescribe the management of these lands. Each PLO or EO, subject to valid existing rights, withdraws and/or classifies vacant, unappropriated lands for a specific purpose. They open or close lands to operation of the various land, mineral, or other laws, and restrict certain activities. There is one pending withdrawal application from BLM for lands covering approximately 41,000 acres in the upper Nigu River area. The following is a description of the withdrawals and classifications which affect certain portions of the Planning Area.

**EO 5389 (7/7/30)**, as amended by **PLO 399 (8/27/47)**, withdrew from settlement, location, sale, or entry under the public land laws, and reserved for lease every legal subdivision of all surveyed public land in Alaska containing a hot spring or curative spring, and all lands within one-quarter of a mile of every such spring located on all unsurveyed public land in Alaska. The only known qualified spring within the planning area is Kanuti Hot Springs in T. 18 N., R. 15 W., Fairbanks Meridian.

**PLO 3520 (1/8/65)** classified certain public lands as a power site in support of the Rampart Canyon Power Project. The classified lands are subject to Section 24 of the Federal Power Act of June 10, 1920, as amended. The classification does not preclude leasing under the mineral leasing laws or conveyance to Native corporations, but does prevent selection by the State of Alaska. This withdrawal is in the process of being revoked.

**PLO 3521 (1/8/65)** placed certain restrictions on all public lands within the Umiat Meridian regarding leasing of oil and gas under the mineral leasing laws.

**PLO 5150 (12/30/71)**, as amended by **PLO 5182 (3/16/72)**, **PLO 5190 (3/23/73)**, **PLO 5509 (6/25/75)**, and **PLO 6533 (5/10/84)** withdrew certain lands from all forms of appropriation under the public land laws, including prospecting, location, entry and purchase under the mining laws (except locations within an outer corridor for metalliferous minerals). This PLO also prohibits leasing under the mineral leasing laws, selection by the State of Alaska or any Native group or village or regional corporation, and reserved these lands as a utility and transportation corridor within the meaning of Section 17(c) of ANCSA in aid of programs for the U.S. Government and the State of Alaska.

**PLO 5169\* (3/15/72)**, as amended by **PLO 5191 (3/23/72)**, **PLO 5256 (9/15/72)**, **PLO 5396 (9/19/73)** and **PLO 5556 (12/12/75)**, withdrew certain lands from all forms of appropriation under the public land laws, including location and entry under the mining laws, leasing under the mineral leasing laws, and selection by the State of Alaska, and reserved these lands under Section 11(a)(3) of ANCSA for selection by the ASRC pursuant to Section 12 of ANCSA. These lands were also reserved under Section 17(d)(1) of ANCSA for study and review for classification or reclassification of any lands not conveyed out of federal ownership.

**PLO 5179\* (3/15/72)**, as amended by **PLO 5250 (9/15/72)** and **PLO 5396 (9/19/73)**, withdrew certain lands from all forms of appropriation under the public land laws, including location and entry under the mining laws and mineral leasing under the mineral leasing laws, and selection by the State of Alaska or Native regional corporations, and reserved these lands under Section 17(d)(2) of ANCSA for study and for possible recommendations to Congress as additions to or creation as units of the National Park system, the National Forests, the Wildlife Refuge system, and the Wild and Scenic Rivers System.

**PLO 5180\* (3/15/72)**, as amended by **PLO 5390 (9/19/73)** and **PLO 5418 (3/28/74)**, withdrew all unreserved public lands in Alaska, or those which may become unreserved unless specified by order at that time, from all forms of appropriation under the public land laws, including location and entry under the mining laws (except locations for metalliferous minerals), leasing under the mineral leasing laws, and selection by the State of Alaska. The PLO reserved these lands for study to determine the proper classification of the lands under Section 17(d)(1) of ANCSA, and to ascertain the public values in the lands which need protection. This order specifically included all those lands also withdrawn by PLO 5150, as amended.



**PLO 5186\* (3/15/72)** withdrew certain lands from all forms of appropriation under the public land laws, including location and entry under the mining laws (except locations for metalliferous minerals), and leasing under the mineral leasing laws, but not from selection by the State of Alaska, and reserved these lands for study and review to determine the proper classification of the lands under Section 17(d)(1) of ANCSA of lands not selected by the State, so that the public interest in the lands will be protected.

**PLO 5860 (5/7/81)** withdrew certain available lands along the disputed eastern boundary of the NPR-A from all forms of appropriation under the public land laws, including location and entry under the mining laws, leasing under the mineral leasing laws, and selection by the State of Alaska, and made these lands available for selection by ASRC pursuant to Section 14(h)(8) of ANCSA, excepting any portion of the lands that may lie within the boundaries of the NPR-A.

**PLO 5951 (6/3/81)** modified and amended a number of Public Land Orders and classified and opened certain available lands along the disputed eastern boundary of the NPR-A for selection by the State of Alaska, excepting any portion of the lands that may lie within the boundaries of the NPR-A.

**PLO 6092 (11/19/81)** modified and amended a number of Public Land Orders and classified and opened certain available lands for selection by the State of Alaska. This order affects most lands located outside Conservation System Units which were withdrawn from selection under the authorities of Sections 11(a)(3), 17(d)(1) and 17(d)(2) of ANCSA. It expressly did not open lands withdrawn by PLO 5150, as amended, or lands listed as a right-of-way corridor in Section 1431(j) of ANILCA, or certain lands around the Nigu and Etivluk rivers.

**PLO 6607 (7/8/85)** revoked all withdrawals, including PLO 5150 as amended by PLO 5182, affecting an isolated strip of BLM managed land containing approximately 325,000 acres which is surrounded by the Arctic National Wildlife Refuge (ANWR) next to the Canadian border. This order again withdrew the lands making them part of the refuge, subject to approval within one year by Congress pursuant to Section 1326 of ANILCA. Congress failed to pass a joint resolution of approval within one year of being notified of the withdrawal; therefore the withdrawal automatically terminated and management returned to BLM. The lands remain segregated from all forms of appropriation under the land laws, including the mining and mineral leasing laws, until an order is issued restoring the lands to the operation of these laws. *On August 18, 1988, Congress made these lands part of ANWR and placed them under management of the U.S. Fish and Wildlife Service (P.L. 100-395).*

**ANILCA-Section 604** designated the Yukon River (starting two miles downstream from the Yukon River Bridge), the Colville, Nigu, and Etivluk rivers for study to determine their suitability for inclusion into the National Wild and Scenic Rivers System. **ANILCA-Section 606** withdrew, subject to valid existing rights (including valid Native selection rights), all lands in the beds of, and two miles from, the banks of these rivers from entry, sale, state selection, or other disposition under the public land laws during the study and recommendation period. The recognition of the Wild and Scenic Study River status expired at the end of September, 1984, unless Congress took action by formally declaring them to be a part of the National Wild and Scenic Rivers System. *Congress had until September 1987 to act on the recommendation; these rivers were not so designated by Congress.*

**ANILCA-Section 1419(b)(4)** withdrew certain lands within the "Venetie Block" (T. 20 N., R. 12 W. FM, and T. 21 N., Rs. 11 and 12 W, FM.) from all forms of appropriation under the public land laws as if such lands had been withdrawn pursuant to Section 11(a) of ANCSA for selection by Doyon, Limited, under Sections 12(c) and 14(h)(8) of ANCSA. The segregative effect of this withdrawal (which prevents state selections) remains until the Secretary exercises his authority to terminate the withdrawal by notice in the Federal Register. Portions of these lands are also affected by ANILCA-Section 1420, which sets aside an area inside the Hodzana River watershed to be managed as a study area by the U.S. Fish and Wildlife Service in cooperation with Doyon. The study related to the protection and maintenance of the water quality and quantity of the Hodzana River should lands in its watershed be selected by Doyon and the minerals therein be developed. The lands were not selected by Doyon, Inc. However, the segregative effect remains in place.

\*The segregative effects of PLOs 5169, 5179, 5180, and 5186 were cancelled by Section 906(j)(1) of ANILCA and PLOs 5561 and 5581.

## Appendix E

### Wetland Classes

#### Wetland Habitat Classes

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Flooded Tundra (Class I):	Temporary wetlands formed by shallow water from spring thaw that overflows stream basins or is trapped in vegetated depressions.
Shallow-Carex (Class II):	Shallow ponds with gently sloping shore zones surrounded by and containing <i>Carex aquatilis</i> with a central open water zone.
Shallow-Arctophila (Class III):	Ponds containing <i>Arctophila fulva</i> in the central zone and shoreward stands of <i>A. fulva</i> or <i>Carex aquatilis</i> .
Deep-Arctophila (Class IV):	Ponds with no emergent vegetation in the central zone and <i>A. fulva</i> near shore.
Deep-Open (Class V):	Large deep lakes with abrupt shores and little, if any, emergent vegetation.
Basin-Complex (Class VI):	Large, partially drained basins which may contain nearly continuous water in spring, but as water levels recede, a mosaic of several other classes occurs.
Beaded Stream (Class VII):	Small streams consisting of channels that connect small pools formed at ice-wedge intersections.
Coastal Wetlands (Class VIII):	Aquatic habitats bordering the Beaufort Sea within a zone directly influenced by sea water.



## Appendix F

### BLM's Mineral Potential Classification System (BLM Manual 3031)

#### Mineral Potential Classification System

##### I. Level of Potential \*

- O. The geologic environment, the inferred geologic processes, and the lack of mineral occurrences do not indicate potential for accumulation of mineral resources.
- L. The geologic environment and the inferred geologic processes indicate low potential for accumulation of mineral resources.
- M. The geologic environment, the inferred geologic processes, and the reported mineral occurrences or valid geochemical/geophysical anomaly indicate moderate potential for accumulation of mineral resources.
- H. The geologic environment, the inferred geologic processes, the reported mineral occurrences and/or valid geochemical/geophysical anomaly, and the known mines or deposits indicate high potential for accumulation of mineral resources. The "known mines and deposits" do not have to be within the area that is being classified, but have to be within the same type of geologic environment.
- ND. Mineral(s) potential not determined due to lack of useful data. This notation does not require a level-of-certainty qualifier.

##### II. Level of Certainty

- A. The available data are insufficient and/or cannot be considered as direct or indirect evidence to support or refute the possible existence of mineral resources within the respective area.
- B. The available data provide indirect evidence to support or refute the possible existence of mineral resources.
- C. The available data provide direct evidence, but are quantitatively minimal to support or refute the possible existence of mineral resources.
- D. The available data provide abundant direct and indirect evidence to support or refute the possible existence of mineral resources.

For the determination of No Potential, use O/D. This class shall be seldom used, and when used, it should be for a specific commodity only. For example, if the available data show that the surface and subsurface types of rock in the respective area is batholithic (igneous intrusive), one can conclude with reasonable certainty that the area does not have potential for coal.

\*As used in this classification, potential refers to potential for the presence (occurrence) of a concentration of one or more energy and/or mineral resources. It does not refer to or imply potential for development and/or extraction of the mineral resource(s). It does not imply that the potential concentration is or may be economic, that is, could be extracted profitably.

## Appendix G

### Description of Recreation Opportunity Spectrum (ROS) Classes

ROS is a framework for integrating recreation values into the land use planning process, project plans, and management decisions. Recreation opportunity settings are defined as the combination of physical, biological, and managerial conditions that give value to a place, area or region. ROS is used as a tool for managers to analyze these existing opportunities and to determine potential changes in these opportunities through changes in management options. The following chart describes each of the eight ROS classes in terms of 1) Experience Opportunities, 2) Setting Opportunities, and 3) Activity Opportunities. The standard ROS classes have been modified to fit the Alaskan context better. These descriptions provide a general overview of the opportunities included in each class. These overview statements do not describe each class in detail, but rather provide a point of departure from which the planner or manager can develop more precise prescriptions for each class based on specific situations encountered in field operations. This list of activity opportunities is provided for illustrative purposes; it is not an inclusive list of activity opportunities on the public lands.

#### Recreation Class Opportunity Spectrum Classes

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Primitive (P)	Opportunity for isolation from the sights and sounds of man, to feel a part of the natural environment, to have a high degree of challenge and risk, and to use outdoor skills.	Area is characterized by essentially unmodified natural environment of fairly large size. Concentration of users is very low and evidence of other user is minimal. The area is managed essentially to be free from evidence of man-induced restrictions and controls. Only facilities essential for resource protection are used. No facilities for comfort or convenience of the user are provided. Spacing of groups is informal and dispersed to minimize contacts between user groups in the area. Motorized use within the area is not permitted.	Camping, hiking, climbing, enjoy-ing scenery or natural features, nature study, photography, spelunking, hunting (big game, small game, upland birds, waterfowl), ski touring and snowshoeing, dog mushing, swimming, diving (skin and scuba), fishing, and river running (non-motorized craft).



## Appendix G cont.

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Primitive-Traditional (PT)	Opportunity for isolation from the sights and sounds of man is extremely likely, but motorized vehicles and equipment, including aircraft are permitted. Opportunity to feel a part of the natural environment, to have a high degree of challenge and risk and to use out-door skills.	Same description as Primitive. Motorized use is permitted, but is very rare.	Camping, hiking, climbing, enjoying scenery or natural features, nature study, photography, hunting, ski-touring, snowshoeing, sled dog touring, fishing, river running, snowmobiling, aircraft landings.
Semi-Primitive Nonmotorized (SPNM)	Some opportunity for isolation from human sights and sounds, but not as important as for primitive opportunities. Opportunity to have high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills.	Area is characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. Onsite controls and restrictions may be present, but are subtle. Facilities are provided for the protection of resource values and the safety of users only. Spacing of groups may be formalized to dispense use and limit contacts between groups. Motorized use is not permitted.	Camping, hiking, climbing, enjoying scenery or natural features, nature study, photography, spelunking, hunting (big game, small game, upland birds and waterfowl), ski touring and snowshoeing, dog mushing, swimming, diving (skin and scuba), fishing, canoeing, sailing, and river running (nonmotorized craft).
Semi-Primitive Motorized (SPM)	Some opportunity for isolation from human sights and sounds, but not as important as for primitive opportunities. Opportunity to have high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills. Explicit opportunity to use motorized equipment while in the area.	Area is characterized by a predominantly unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. On-site controls and restrictions may be present, but they are subtle. Facilities are provided for the protection of resource values and safety of users only. Spacing of groups may be formalized to disperse use and limit contacts between groups. Motorized use is permitted.	Same as the above, plus the following: ORV use (4WD, ATV, snowmobile).

## Appendix G cont.

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Roaded Natural (RN)	About equal opportunities for affiliation with other user groups and for isolation from sights and sounds of man. Opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities are not very important except in specific challenging activities. Practice of outdoor skills may be important. Opportunities for both motorized and nonmotorized recreation are present.	Area is characterized by a generally natural environment with moderate evidence of the sights and sounds of man. Resource modification and utilization practices are evident but harmonize with the natural environment. Concentration of users is low to moderate with facilities sometimes provided for group activities. Onsite controls and restrictions offer a sense of security. Rustic facilities are provided for user convenience as well as for safety and resource protection.	All activities listed previously, plus the following: picnicking, rock collecting, wood gathering, auto touring, downhill skiing, ice skating, water skiing and other water sports, hang gliding, interpretive use, rustic resorts and organized camps.
Roaded-Modified (RM)	Little opportunity to be isolated from the sights and sounds of man, due to the presence of a significant modification of the landscape. Though opportunity for affiliation with other users exists, there is the opportunity to have a high degree of interaction with the natural environment. Challenge and risk opportunities are not very important except in specific challenging activities. Practice of outdoor skills may be important. Opportunities for both motorized and nonmotorized recreation are present.	Area is characterized by a generally natural environment with significant evidence of the sights and sounds of people. Resource modification and utilization practices are evident, but the natural environment dominates the setting due to the scale and expanse of the landscape. Concentration of users is low to moderate with facilities present, but facilities may or may not be available for visitor services. Restrictions may prevent visitors from having access to certain areas.	All activities listed in Roaded-Natural. However, other modifications and use of the area may necessitate restriction of certain activities to prevent interruption of other management activities or to ensure visitor safety.



## Appendix G cont.

Opportunity Class	Experience Opportunity	Setting Opportunity	Activity Opportunity
Rural (R)	Opportunities to experience affiliation with individuals and groups are prevalent as is the convenience of sites and opportunities. These factors are generally more important than the natural setting. Opportunities for wild land challenges, risk taking, and testing of outdoor skills are unimportant, except in those activities involving a challenge and risk.	Area is characterized by substantially modified natural environment. Resource modification and utilization practices are obvious. Human sights and sounds are readily evident, and the concentrations of the users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for specific activities. Developed sites, roads and trails, are designed for moderate to high use. Moderate densities are provided far away from developed sites. Facilities for intensive motorized use are available.	All activities listed previously plus the following: competitive games, spectator sports, bicycling, jogging, outdoor concerts, and modern resorts.
Modern Urban (MU)	Opportunities to experience affiliation with individuals and groups are prevalent as is the convenience of sites and opportunities. Experiencing the natural environment, and the use of outdoor skills are largely unimportant.	Area is characterized by a highly modified environment, although the background may have natural elements. Vegetation is often exotic and manicured. Soil may be protected by surfacing. Onsite human sights and sounds predominate. Large numbers of users can be expected. Modern facilities are provided for the use and convenience of large numbers of people. Controls and restrictions are obvious and numerous. Facilities for high intensity motor use and parking are present with forms of mass transit often available.	All activities listed previously.

## **Appendix H**

### **Visual Resource Management (VRM) Classes**

Based on the visual resource inventory and balanced with other resource values, visual resource classes are assigned to the public lands. The classifications define different management objectives for a given area. The four management class objectives are:

**Class I Objective:** The objective of this class is to preserve the existing character of the landscape. It provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

**Class II Objective:** The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape would be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line color, and texture found in the predominant natural features of the characteristic landscape.

**Class III Objective:** The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

**Class IV Objective:** The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be a major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.



## **Appendix I**

### **Off-Road Vehicle (ORV) Classifications**

**Open** - Areas where all types of vehicle use are permitted at all times, anywhere in the area. Subject to the operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342.

**Closed** - Areas where ORV use is prohibited. Use of ORVs in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

**Limited** - Areas restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but for the purposes of this planning document, the following types are used:

**Limited Type 1:** Closed to all ORVs by State of Alaska Statute with the exception of ORVs used for oil and gas development and access to mining claims.

**Limited Type 2:** Opened without permit to noncommercial casual use less than 1500 lbs. Gross Vehicular Weight (GVW) during periods of frozen ground and adequate snow cover. All other times of year require a permit for casual use. Opened to Commercial use (all weights) by permit only. Crossing TAPS right-of-way at designated points only.

**Limited Type 3:** Open to snow machines less than 600 lbs GVW during posted period of frozen ground and adequate snow cover. Permit required for all commercial and noncommercial uses during summer, freeze-up, and breakup.

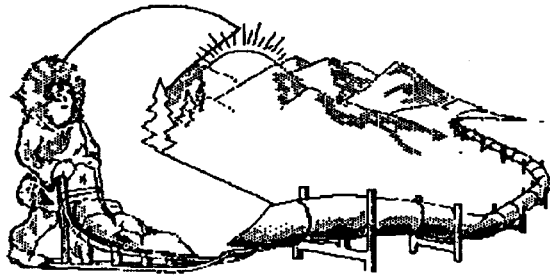
**Limited Type 4:** Closed to commercial and noncommercial ORVs, except for subsistence uses.

## **Appendix J**

### **Draft Utility Corridor RMP/EIS Supplement and Addendum**



# Draft Utility Corridor RMP/EIS Supplement



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Bureau of Land Management

April 11, 1988

Arctic District Office

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## Introduction

This document is a supplement to the draft *Utility Corridor Resource Management Plan and Environmental Impact Statement* published by the Bureau of Land Management on August 18, 1987. As provided for by federal regulations [40 CFR 1502.9(c)(2)], this supplement was prepared to address changes in the proposed management action identified as the *Preferred Alternative* in the draft plan. The changes discussed here are within the scope of the original plan, but they are of significant public interest and warrant the publication of this supplement.

### *Major Issue*

A major portion of the draft planning document concerned State of Alaska land selection opportunities within the Utility Corridor. Areas within the Corridor of primary interest to the State of Alaska are presently covered by a Public Land Order (PLO 5150) prohibiting land selections. The draft planning document presented five alternative land management scenarios for public review. Two of these alternatives allowed the state to select large tracts of land within the Corridor north of the Yukon River (see alternatives C and D in the draft RMP/EIS). However, BLM's preferred alternative proposed lifting the public land order to allow state selections only in a small area surrounding Coldfoot and lands in the planning area south of the Yukon River.

## Changes to the BLM's Preferred Alternative

The present proposal is to amend the preferred alternative to allow for greater state land selection opportunities amounting to approximately 1.1 million acres of land within the Utility Corridor. South of 68 degrees north latitude PLO 5150 would be lifted to allow for state land selections on the following lands:

**Table 1. PLO 5150 to be removed on approximately 0.5 million acres within the Fairbanks Meridian**

---

Townships	12 to 13 N.,	Range	10 W.
"	12 to 16 N.,	"	11 W.
"	13 to 18 N.,	"	12 W.
"	14 to 18 N.,	"	13 W.
"	15 to 18 N.,	"	14 W.

---

Lands previously identified within the planning area south of the Yukon River will also be opened for state selection. In addition, the PLO would be lifted to allow for state selections north of 68 degrees on the following lands:

**Table 2. PLO 5150 would be removed on approximately 0.6 million acres within the Umiat Meridian**

---

Townships	1 to 7 S.,	Ranges	15E.
"	1 to 8S.,	"	14E.
"	1 to 8S.,	"	13E.
"	8S.,	"	12E.
"	1N.,	"	13-15E.

---

The maps accompanying this document provide a graphic display of the location of these lands.

### **Rationale for the Proposed Change**

Consistent with the goals and objectives in the draft Utility Corridor RMP/EIS, public land consolidation continues to be viewed as beneficial to the general public interest. A reduction in the present fragmented state and federal land ownership patterns, coupled with an increase in the consolidation of public lands into larger contiguous blocks allows for more efficient and effective land and natural resource management. After the publication of the draft RMP/EIS, the State of



Alaska and BLM have met to consider the land consolidation issue on a state-wide basis. As a result of the consideration, the BLM is proposing to open portions of the Utility Corridor, described above, to allow for state land selections.

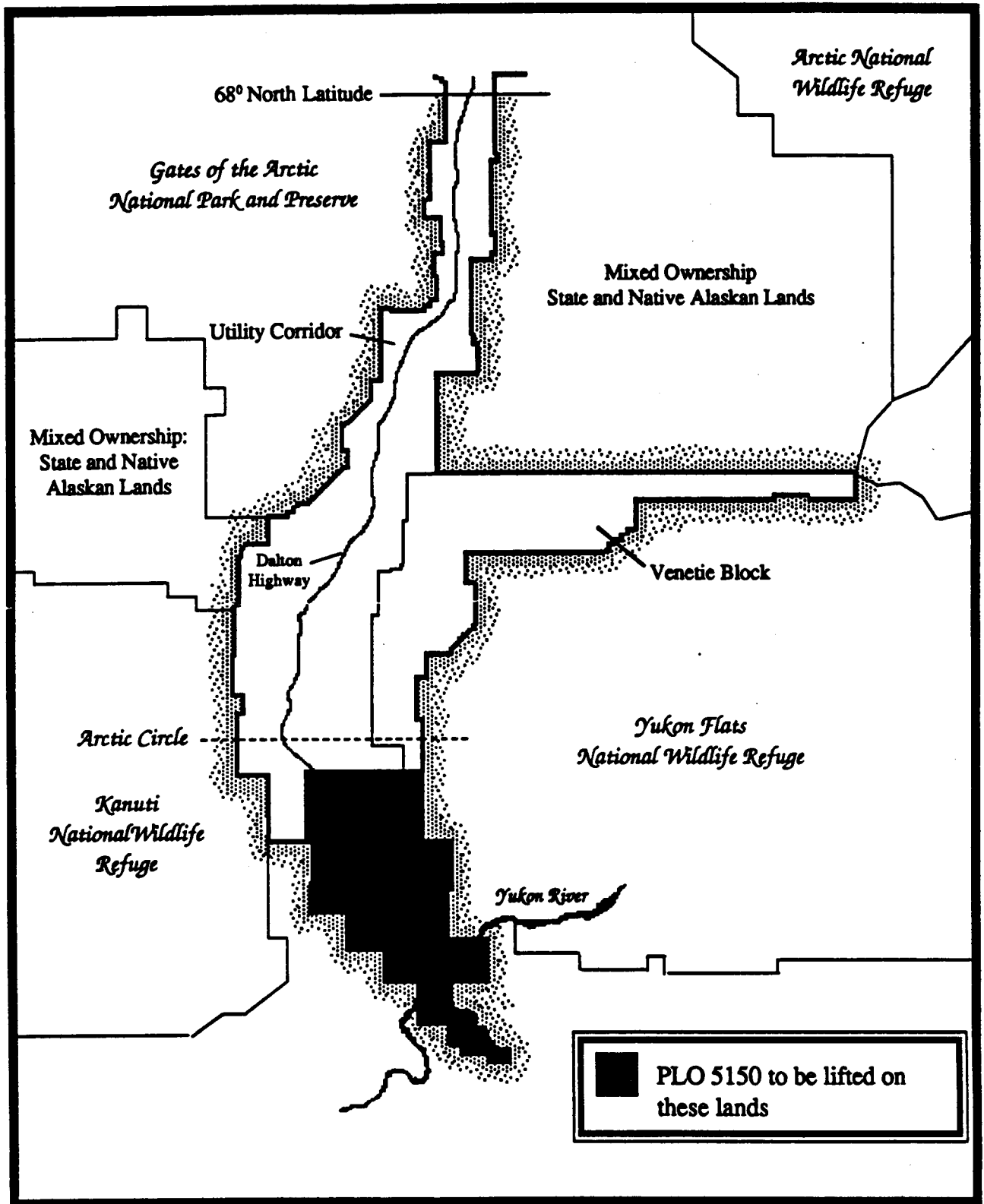
BLM anticipates no other significant changes to the draft RMP/EIS. Opening these portions of the Utility Corridor falls within the general scope of the original land use alternatives which ranged from allowing for no state land selections to lifting the entire PLO throughout the Corridor. In addition, no changes to the draft environmental impact analysis are proposed as a result of this selective opening of lands to state land selections.

### **The Public Comment Process**

BLM is reopening the public comment period to allow the public to address these proposed changes to the draft RMP/EIS. The public comment period opens April 11, 1988 and ends on June 8, 1988. Public meetings will be held in Anchorage, Fairbanks, Barrow and Stevens Village to address this proposed change to the draft plan. Specific times and dates for these public meetings will be announced soon. Although BLM will accept public comments on all aspects of the draft plan, the specific purpose of reopening the public comment period is to receive comments on the proposed change to the agency's preferred alternative. BLM will formally record, and officially respond only to comments which specifically address this proposed change in the draft RMP/EIS.

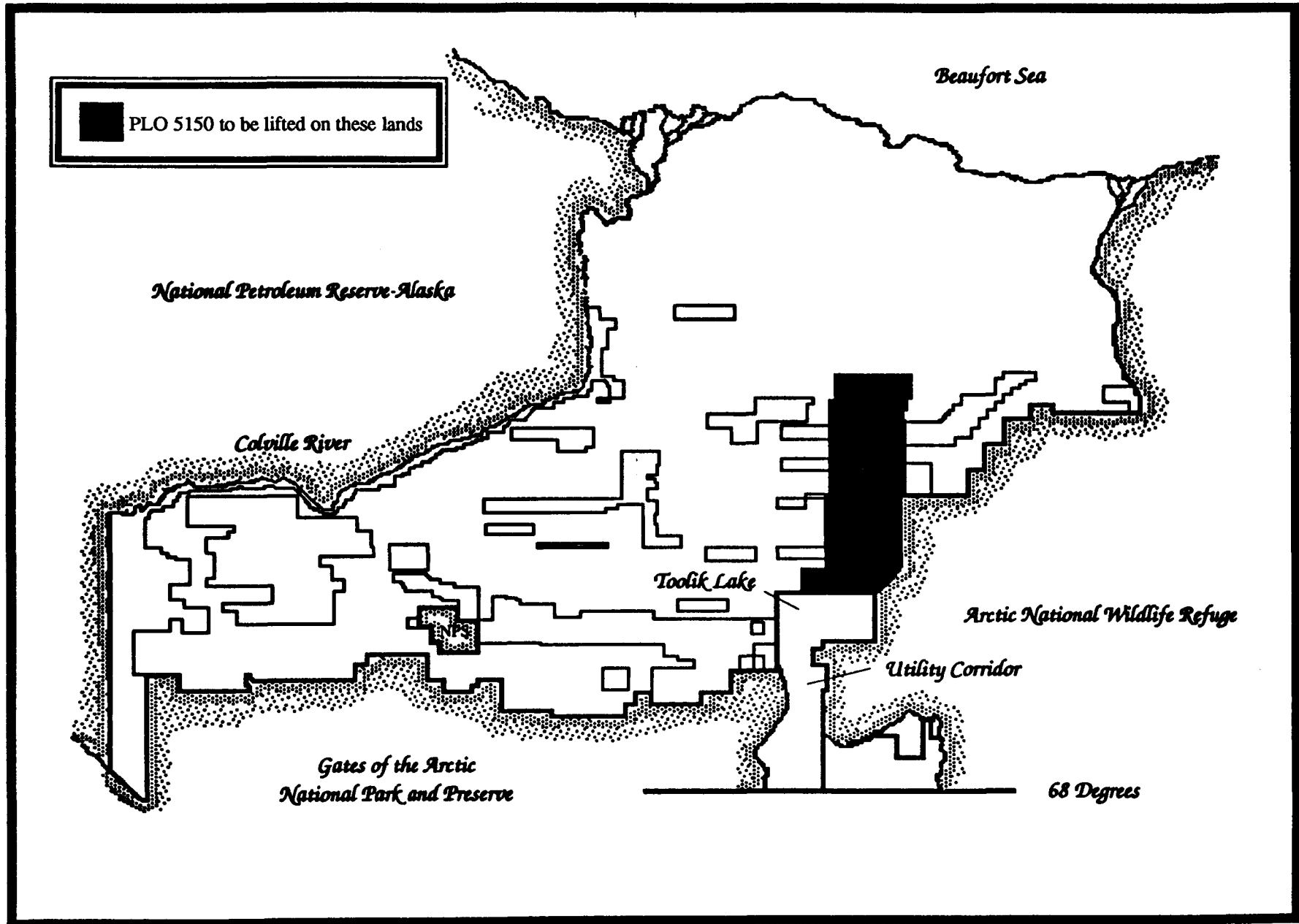
The general public is strongly encouraged to comment on this change in the draft plan. Public involvement in the land planning process is vital to a successful final land use plan.

**Proposed Lifting of PLO 5150 on  
Utility Corridor Lands South of 68 Degrees**





## Proposed Lifting of PLO 5150 North of 68 Degrees



**ADDENDUM**  
**to**  
**Draft Utility Corridor RMP/EIS Supplement**

**Proposed Action**

As described in the *Draft Utility Corridor Supplement*, the Preferred Alternative as presented in the *Draft Utility Corridor RMP/EIS* (item number one of Preferred Action 8) is being modified to allow additional state land selections within the Utility Corridor. The original proposal contained within the Preferred Alternative opened approximately 32,000 acres of land within the Corridor to state selection. The amendment presented in the *Supplement* makes approximately 1.1 million acres of land within the Corridor available to state selection. These lands are located in two blocks, one between the Yukon River and the Arctic Circle (approximately 0.5 million acres) and the other north of Toolik Lake (approximately 0.6 million acres). A better description of these lands is provided in the *Supplement*.

No other proposed action or alternative is being modified.

**Environmental Impacts**

No significant environmental impacts are foreseen as a result of the proposal to allow for state land selection opportunities on 1.1 million acres of land within the Utility Corridor. Environmental consequences resulting from implementation of the Preferred Alternative (as amended) are appropriately and adequately discussed under the "Impacts Common To All Alternatives" and under the "Preferred Alternative" sections of Chapter 4 of the Draft RMP/EIS published on August 18, 1987.

**Explanation**

Environmental impacts resulting from state management of the identified lands will depend largely on the management priorities established by the state through their own planning process. While these management priorities cannot be predicted with certainty, multiple-use management of these lands after a public planning process, will likely result in establishment of certain management priorities similar to those established by BLM under the Preferred Alternative i.e. that the transportation function of the Corridor is primary; that further recreational planning and development is important; and that protection of subsistence and other important resources must be provided while allowing important but potentially impacting activities to occur. The major impacting activities, as described in the Draft plan, will not change. They will be locatable mineral exploration and development, oil and gas exploration and development; and recreation development. Other points of concern will be impacts from recreational ORV use, hunting and potential land sales.

Impacts as described under the Preferred Alternative from these activities are not expected to change as a result of state ownership because:

- 1) While the state may open the inner Corridor within the identified areas to locatable mineral development (not a federal proposal), these lands are of only low to moderate potential; development is not likely to take place.
- 2) The identified lands are expected to be opened to oil and gas leasing by the state but this was also a federal proposal. State protective stipulations and required mitigation is expected to be similar to BLM's.
- 3) Recreational development is expected to take place only in the southern segment of the identified lands (unless the current road closure at Disaster Creek is lifted). Development is expected to take place slowly utilizing existing disturbed areas and take place only after appropriate planning. This is similar to the federal proposal although development may occur more rapidly under federal management.
- 4) Establishing hunting regulations as well as wildlife population management is already a state function.
- 5) State law prohibits recreational ORV use within five miles of the Dalton Highway.
- 6) State law prohibits land sales within five miles of the Dalton Highway.



*Appendix J - Supplement to Draft RMP/EIS*

While overall we expect no significant impacts as a result of these lands being opened to selection, we do recognize that there will be differences between BLM management and state management of the subject lands. Certain federal laws designed to protect identified resource values will not apply to the state, most notably as related to threatened and endangered species, ANILCA 810 evaluations, and cultural resources (see Alternative D in the Draft RMP/EIS). Lack of these protections may result in some measurable impacts on certain resources but as stated this will largely be dependent on state management priorities.

**The Public Comment Period**

As a result of these additions to the Supplement the public comment period is extended to June 20, 1988. Comments received during this period should be directed to the proposed changes described in the supplement and the issues addressed in this addendum. During this comment period BLM will formally record, and officially respond only to comments which specifically address the proposed change to the draft RMP/EIS.

## **Appendix K**

### **Recommended Protection Measures for Peregrine Falcons During the Nesting Period**

The following protection measures are intended as general guidelines and may not be appropriate in all situations. The level of protection needed may vary with topography, vegetation and the sensitivity of individual birds to human activity. When feasible, proposed activities should be examined on a case by case basis by a biologist knowledgeable of the habits and behavior of peregrine falcons.

#### **A. Within one mile of nest sites:**

1. Require aircraft to maintain minimum altitudes of 1,500 feet above nest level from April 15 through August 31.
2. Prohibit all ground level activity from April 15 through August 31 except on existing thoroughfares.
3. Prohibit habitat alterations or the construction of permanent facilities.

#### **B. Within two miles of nest sites:**

1. Prohibit activities having high noise levels from April 15 through August 31.
2. Prohibit permanent facilities have high noise levels, sustained human activity, or altering limited, high quality habitat (e.g. ponds, lakes, wetlands and riparian habitats).

#### **C. Within 15 miles of nest sites:**

1. Prohibit alteration of limited, high quality habitat which could detrimentally and significantly reduce prey availability. Of particular concern are ponds, lakes, wetlands and riparian habitats.
2. Prohibit use of pesticides. The only exception may be limited non-aerial application of approved non-persistent insecticides at supply bases.



# **Appendix L**

## **Summer and Winter Stipulations for Authorized Actions**

### **Introduction**

The following is a description of standard stipulations applied as appropriate on authorized activities within the study area. Application of these stipulations is part of the recommendations for the protection of the resource values as outlined in this Final RMP/EIS.

### **Summer Stipulations**

1. The Bureau of Land Management (BLM), Arctic District Manager, or his delegate, is the Authorized Officer (AO).
2. A letter of non-objection will be required from the State of Alaska and/or the appropriate Native Corporations before entry onto any state or Native selected land.
3. The Permittee must notify BLM immediately of any changes or modifications in plans covering field operations.
4. The Permittee will conduct an environmental briefing of all employees, contractors, and subcontractors, including pilots, which will cover these stipulations. A copy of these stipulations shall be posted in a conspicuous place in the crew quarters.
5. No historic site, archeological site or paleontological resource shall be disturbed in any manner, nor shall any item be removed. Any site discovered during the course of field operations will be reported promptly to the Authorized Officer (AO) and in the completion report (Stipulation #14).
6. All operations must not impede rural residents from pursuing their traditional subsistence activities (ANILCA, PL 96-487).
7. The Permittee will be financially responsible for any fire caused by field operations which get out of control.
8. Harassment of peregrine falcons, as defined in Section 17.3 of Part 17, Title 50, CFR of the Endangered Species Act, and harassment of eagles, as defined in Section 22.3, Part 22, Title 50 CFR, will not be permitted.

Certain activities will be restricted, as described below, within specific radii of peregrine falcon nest sites during the time period specified:

- a. Within one mile of nest sites:
  - i) Maintain a minimum aircraft altitude of 1,500 feet above nest level from April 15 to August 31.
  - ii) All ground level activity is prohibited from April 15 through August 31.
- b. Within two miles of nest sites activities having high noise levels are prohibited from April 15 through August 31.

If peregrine falcons are encountered in cliff areas during permitted activities, leave the area and follow the restrictions listed above. Any site discovered during the course of field operations will be reported promptly to the AO and in the completion report (Stipulation #14). If the field party needs to revisit an area with a potential nest site, please contact the Arctic District Wildlife Biologist at 474-2315 for more information.

9. No feeding, chasing or buzzing by aircraft of any wildlife.

10. The Permittee shall protect all survey monuments, witness corners, and reference monuments against destruction, obliteration, or damage. Any damaged, destroyed, or obliterated monuments and corners shall be reestablished to the original exact location at the permittee's expense. A record of the reestablishment shall be submitted to the AO.
11. The Permittee shall hold the United States harmless against and from all demands, claims, or liabilities of any nature arising directly or indirectly from any operation on the land.
12. The following data will be submitted to the Division of Minerals (985), Mineral Assessment Branch, Alaska State Office, 222 W. 7th Ave., #13, Anchorage, Alaska 99513-7599:
  - a. A location map of all field sampling sites at a scale of 1:250,000 or larger.
  - b. Quality legible copies of all original observations and recordings, including descriptions of rock and hydrocarbon samples taken, keyed to the location map required in (a).
  - c. Results of all analyses conducted on rock and hydrocarbon samples, including, but not limited to, geochemical techniques, reservoir and source rock property determinations, and paleontologic and palynologic information.

Data required in (a) and (b) will be submitted within 30 days after the last day of permitted use. Data required in (c) will be submitted within 30 days of completion of analyses or within one year of completion of the permitted activity, whichever comes first. All data submitted which is clearly marked as proprietary or confidential will be kept confidential according to the standards and conditions set forth in BLM Manual Section 1273 (copies available upon request). All third party requests for access to such data will be referred to the Permittee.

There will be no publication of or public access to the data or derived interpretations or conclusions without the express written consent of the Permittee.

The Permittee will be reimbursed for reproduction of data at a rate consistent with prevailing local commercial rates for such services.

13. The Bureau of Land Management, through the AO, reserves the right to impose closure of any area to operators in periods when fire danger or other dangers to natural resources are severe.
14. Upon program completion or within 30 days of cessation of operations or the program, a final summary report shall be submitted to the District Manager, Arctic District Office, 1150 University Avenue, Fairbanks, Alaska 99709.

The data shall include:

- a. A description of all work performed.
  - b. Charts, maps or plats depicting the areas and blocks in which the exploration was conducted and specifically identifying the lines of geophysical traverses.
  - c. The dates on which the actual exploration was conducted.
  - d. A statement that all terms and conditions have been complied with, or that corrective measures shall be taken to rehabilitate the lands or other resources.
15. All fuel containers must be marked with the operator's name, date purchased and contents. No fuel storage or refueling of equipment shall be allowed within the flood plain of a river or lake.
  16. All refuse, fuel, food tins, human wastes and debris must be recovered from the public lands to approved collection sites. Garbage and human wastes may not be buried.



17. The foregoing provisions do not relieve the contractor or his subcontractor of any responsibilities or provisions required by any applicable laws or regulations.

### **Winter - Seismic Stipulations**

In the performance of any operations under a Notice of Intent or Permit for geophysical exploration in the Arctic District Area, the applicant known here as the "Permittee" shall comply with the following stipulations:

#### **General**

1. The BLM Arctic District Manager or his delegate is the Authorized Officer (AO) for this permitted activity.
2. Communication regarding sections 1 through 5 of this attachment shall be addressed to:

Arctic District Manager  
1150 University Avenue  
Fairbanks, Alaska 99709  
(907) 474-2302.

3. The Authorized Officer or his designated Field Representative may issue temporary suspension orders for any activity if operations are in non-compliance with these stipulations.
4. Requests to resume suspended activities shall be made directly to the Authorized Officer when the non-compliance has been corrected.
5. In matters of disagreement between the Authorized Officer and the Permittee, appeals may be made directly to the BLM State Director.
6. This permit is not valid for seismic exploration until the Authorized Officer receives detailed descriptions and plats of proposed shot lines (scale at least 1:250,000) and principal contacts, including field representatives, are identified by both parties.
7. As a condition of this permit, the Government of the United States of America reserves access to all geophysical data, processed geophysical information, reprocessed geophysical information, and interpreted geophysical information collected by the Permittee pursuant to this permit. The Division of Minerals, Chief Branch of Mineral Assessment, shall act on the Government's behalf in accordance with Section 6.
8. The Permittee may be requested by the Authorized Officer to furnish quarters and transportation for designated field representatives or observers to inspect operations.

#### **Environmental**

1. Permittee will conduct an environmental briefing for all employees, contractors, and subcontractors which will cover the stipulations attached to the permit.
2. All operations will be conducted in such a manner as not to cause damage or disturbance to any fish or wildlife and subsistence resources. This includes, but is not limited to, the following:
  - a. No seismic vehicle operations within one-half mile of any denning barren ground grizzly (in the upland area) or any denning polar bear (near the sea coast or in the lower reaches of major rivers or estuaries).
  - b. No chasing by vehicles or buzzing by aircraft of any wildlife. Particular attention will be given to not disturbing caribou.
  - c. Operators shall prohibit their employees, agents, contractors, subcontractors and their employees, while on duty or living at any camp or mobile camp, from feeding wild animals or birds or from

leaving garbage or other potentially edible items which would attract wild animals or birds. Garbage will be kept in covered containers while waiting incineration.

- d. Aircraft shall maintain 1,000 foot altitude (except for take off and landings) over designated caribou concentration areas (i.e., winter and summer ranges, insect relief areas, etc.) during the specific time period designated unless doing so would endanger human life or be an unsafe flying practice.
3. All operations shall be conducted with due regard for good resource management and in such a manner as not to block any stream or drainage system, to change the character or course of a stream, or to cause the pollution or siltation of any stream or lake.
4. All activities shall be conducted so as to avoid or minimize disturbance to vegetation.
5. Seismic operations are to begin only after the seasonal frost in the tundra and underlying mineral soils has reached a depth of 12 inches, and the average snow cover is a depth of 6 inches.
6. Seismic operations will cease when the spring melt of snow begins; approximately May 5 in the foothill areas exceeding 300 feet in elevation; approximately 15 May in the northern coastal areas. The cut-off date will be determined by the Authorized Officer.
7. To prevent surface disturbance, tracked vehicles will not execute tight turns by locking one track.
8. Cultural Resources:
  - a. The Antiquities Act of June 8, 1906, (34 Stat. 225; 16 U.S.C. 431-433) prohibits the appropriation, excavation, injury or destruction of any historic or prehistoric ruin or monument, or any other object of antiquity, situated on lands owned or controlled by the United States.
  - b. No historic site, archeological site or camp, either active or abandoned, shall be disturbed in any manner nor shall any item be removed. Should such sites be discovered during the course of field operations, the Authorized Officer will be promptly notified.
9. All operations must not impede rural residents from pursuing their traditional subsistence activities (ANILCA, PL 96-487).

#### Operational

1. Exploration activities will employ low ground pressure vehicles of the rolligon, ARDCO, Trackmaster, Nodwell or of a similar type. The limited use of tractors, equipped with wide tracks or "shoes," will be allowed to pull the camp and fuel trailers. Any exceptions to this stipulation will require the written approval of the Authorized Officer.
2. Crossing of waterway courses shall be made using a low angle approach in order not to disrupt the naturally occurring stream or lake banks.
  - a. Alteration of the banks of a watercourse is prohibited.
  - b. If snow ramps or snow bridges are utilized at watercourse crossings for bank protection, shall be substantially free of soil and/or debris. Snow bridges shall be removed or breached immediately after use or before spring breakup.
  - c. Equipment shall not enter open-water areas of watercourses.
  - d. To avoid additional freezedown of deep water pools harboring overwintering fish, watercourses shall be crossed at shallow riffle areas from point bar to point bar whenever possible.

Compaction or removal of the insulating snow cover from the deep-water pool areas of rivers known to harbor overwintering fish shall be avoided.



3. No bulldozing of tundra areas, trails, or seismic lines will be allowed. This stipulation, however, does not prohibit the clearing of drifted snow along a trail or seismic line nor in a camp, to the extent that the tundra mat is not disturbed. Also, it does not prohibit the clearing of snow on a lake or river ice surface in order to prepare an aircraft runway.
4. Camps will be situated on gravel bars, sand, or other durable lands. Where leveling of trailers or modules is required and the surface has a vegetative mat, leveling will be accomplished with blocking rather than leveling with a bulldozer.
5. Camps will not be located on frozen lakes or on river ice. The location of camps on river sand or gravel bars is allowed and, where feasible, encouraged.
6. The contractor shall protect all survey monuments, witness corners and reference monuments against destruction, obliteration or damage. He shall, at his expense, re-establish damaged, destroyed or obliterated monuments and corners in their original exact position. A record of the re-establishment shall be submitted to the Authorized Officer.
7. Water Quality: all parties shall comply with applicable "Water Quality Standards" of the State of Alaska as approved by the Environmental Protection Agency.
  - a. Waste water shall receive treatment conforming to federal requirements for secondary treatment if Arctic-tested package treatment facilities are used.
  - b. If chemical recirculating sewage facilities are employed, they shall be kept separate from the gray wash and kitchen waste water. Gray wash water and kitchen waste water may be filtered to remove the solids and the liquid discharged to the land surface. All solids and sludges shall be incinerated.
8. Air Quality: emissions from equipment and burning materials shall be held within Federal and State air quality standards.
9. Solid Waste
  - a. A solid waste management plan must be approved by Alaska Department of Environmental Conservation (DEC) prior to initiating field work (Ref. PL 94-580). If approved by the DEC, all combustible solid waste, including cartons and used lubricating oils will be incinerated or returned to the base of operations for approved disposal. All non-combustible solid waste, including fuel drums, will be returned to the base of operations for approved disposal. There will be no burial of garbage or bulldozing of any area for the burial of anything.
  - b. Seismic lines shall be left clean of all foreign debris. This shall include, but is not limited to, wire, lathe, pin flags and reflectors.
10. Fuel Handling and Storage
  - a. A hazardous liquid spill control and contingency plan for each geophysical party will be submitted to the Authorized Officer prior to beginning operations (40 CFR 112).
  - b. Oil spills will be incinerated in approved receptacles but not on lake or river ice.
  - c. Although fuels may be off-loaded from aircraft on the ice, there will be no storage of fuels on lake or river ice, even on a temporary basis. This applies to any activity on any river or lake.
  - d. All fuel spills will be cleaned up immediately, taking precedence over all other matters, except the health and safety of personnel. Spills will be cleaned up utilizing absorbent pads or other approved methods. As soon as possible, but not later than 24 hours, notice of any such discharge as defined in Alaska Statute Title 18, Chapter 75, Article 2, will be given to:
    - i) The Authorized Officer in Fairbanks.
    - ii) Such other Federal and State officials as are required by law to be given such notice.

- e. Ample oil spill cleanup materials (absorbents) will be carried by each seismic crew and stored at all fueling points and vehicle maintenance areas.
- f. Storage and Handling
  - i) State and Federal safety standards for fuel handling will be followed.
  - ii) Drip basins or absorbent diapers will be placed under all non dry-disconnect-type fuel line couplings.
- 11. All fuel containers used, including barrels and propane tanks, must be marked with Permittee's name, fuel type, and purchase date (e.g., GSI, Hydraulic Fluid, 1983).
- 12. Field parties will keep daily records of seismic lines completed, fuel haul and camp move routes, and campsites utilized.
- 13. The foregoing provisions do not relieve the contractor or his subcontractors of any responsibilities or provisions required by any applicable laws or regulations.
- 14. A copy of these stipulations shall be posted in a conspicuous place in each camp site established for the purpose of geophysical exploration with NPR-A.
- 15. More than one Permittee may be approved to conduct geophysical activities in the same area within NPR-A or other public lands. In such a case, it is incumbent upon the Permittees to resolve any conflicts in their activities. The Authorized Officer will curtail all activities within certain areas if resolution cannot be achieved by the Permittees.

#### **Notice of Completion**

- 1. A final summary report shall be submitted to the Authorized Officer within 30 days of completion or cessation of operations. This report shall include:
  - a. Program completion date.
  - b. Field effort in crew weeks.
  - c. Line miles of surveys completed.
  - d. Summary of incidents or accidents (including reported oil spills).
  - e. Location map on 1:250,000 scale showing location of lines actually shot, campsites utilized, and routes used for fuel hauls and camp moves.
- 2. The Authorized Officer shall receive copies of Permittee's notification to the BLM Alaska Chief, Division of Minerals, in order to demonstrate satisfaction of permit stipulations 1.6 and Permit Attachment 1.

#### **Bonding**

Permittee must file with the Authorized Officer evidence of bonding. A rider to either a \$50,000 nation-wide or \$25,000 state-wide bond shall pertain to the NPR-A and Arctic Resource Area seismic activities. This bonding requirement shall apply separately to each seismic train.

#### **Geophysical Data**

- 1. Inspection, selection, and submission of geophysical information and data:



- a. The Permittee shall notify the BLM Alaska Chief, Division of Mineral Assessment (CDM), immediately, in writing, of the acquisition, processing, reprocessing, or interpretation of any geophysical information or data collected under this permit.
  - b. All such data and information collected by the Permittee shall be available for inspection by the CDM. At any time within five years after receiving a notice of the acquisition, processing, reprocessing, or interpretation of any geophysical information and data, the CDM may select all or part of the geophysical information.
  - c. If the CDM decides to keep all or a portion of the geophysical information and data, he shall notify the Permittee, in writing, of his decision.
  - d. In the event that geophysical data, processed geophysical information, reprocessed geophysical information, or interpreted geophysical information is transferred from the Permittee to a third party, or from a third party to another third party, the transferor shall, in writing, so notify the CDM and shall require the receiving third party, in writing, to abide by the obligations of the Permittee as specified in this section as a condition precedent to the transfer of information or data.
  - e. Each submission of geophysical data, processed geophysical information, reprocessed geophysical information, and interpreted geophysical information, shall contain, unless otherwise specified by the CDM, the following:
    - i) An accurate and complete record of each geophysical survey conducted under the permit, including digital location data and final location maps of all survey stations.
    - ii) All seismic data developed under a permit presented in a format and of a quality suitable for processing.
    - iii) Processed geophysical information derived from seismic data with extraneous signals and interference removed, presented in a format and of a quality suitable for interpretive evaluation, reflecting state-of-the-art processing techniques.
    - iv) Other geophysical data, processed geophysical information, reprocessed geophysical information, and interpreted geophysical information obtained from, but not limited to, vibroseis logs, gravity and magnetic surveys, and special studies such as refraction and velocity surveys.
2. Reimbursement to Permittees:
- a. After the delivery of geophysical data, processed geophysical information, and reprocessed geophysical information selected by the CDM, and upon receipt of a request for reimbursement and a determination that the requested reimbursement is proper, the Permittee or third party shall be reimbursed for the cost of reproducing the selected information and data at the Permittee's or third party's lowest rate or at the lowest commercial rate established in the area, whichever is less.
  - b. The Permittee shall not be reimbursed for the cost of any interpretations performed or reproductions thereof submitted.
3. Disclosure of information and data to the public:
- a. The CDM may only make information and data submitted by a Permittee available in accordance with the requirements of and subject to the limitations of the Freedom of Information Act (5 USC 552) and the implementing regulations (43 CFR Part 2).
  - b. No information or data, determined by the CDM to be exempt from public disclosure, shall be provided to any affected State, or be made available to the executive of any affected local government or to the public, unless the Permittee and all persons to whom such Permittee has sold the information or data under promise of confidentiality agree to such an action.
4. Disclosure to independent contractors

- a. The CDM reserves the right to disclose any information or data acquired from a Permittee to an independent contractor or agent for the purpose of reproducing, processing, reprocessing or interpreting such information or data. The CDM shall notify the Permittee who provided the information or data of intent to disclose the information or data to such independent contractor or agent.
- b. Prior to any such disclosure, the contractor or agent shall be required to execute a written commitment not to transfer or to otherwise disclose any information or data to anyone without the expressed consent of the CDM. The contractor or agent shall be liable for any unauthorized use by or disclosure of information or data to third parties.

5. Communication:

All correspondence regarding the data requirements of this section shall be addressed to:

Division of Minerals  
Chief, Branch of Mineral Assessment  
6881 Abbott Loop Road  
Anchorage, AK 99507



## **Appendix M**

### **COMPLIANCE WITH ANILCA SECTION 810(a) for the UTILITY CORRIDOR RESOURCE MANAGEMENT PLAN Evaluation and Findings**

#### **FISHERIES**

##### **Expected reduction, if any, in harvestable resources.**

Fishing for subsistence purposes occurs on planning area streams, including the Colville and Koyukuk. The proposed action would implement stipulations to protect fisheries from effects from placer mining, oil and gas development, or any other potentially disturbing activity. Especially sensitive areas, such as the Jim and Ivishak rivers, are protected from gravel extraction or other stream alterations. Any reduction in harvestable resources is expected to be temporary and insignificant.

##### **Expected reduction, if any, in availability of resources due to alterations in resource distribution, migration, or location.**

The distribution, migration, or location of fish would not be permanently affected by the proposed plan. Some temporary displacement may result if some oil and gas development occurs; no long-term effects could be expected. The proposed Jim River and Ivishak River ACECs would restrict disturbance of spawning and rearing beds. Protection of overwintering areas in streams and lakes would occur under any of the expected development. The wildlife biologist has determined that no significant impacts would occur to fisheries would result during any development scenario.

#### **WILDLIFE**

##### **Expected reduction, if any, in harvestable resources.**

Subsistence activities in the planning area include hunting and trapping. Some reduction in harvestable resources may occur if certain development is implemented. The wildlife biologist has determined that most of the reduction would be temporary. Lands in the planning area encompass only portions of any village's subsistence area, and even if reductions occurred under the proposed plan, subsistence would not be significantly restricted overall.

##### **Expected reduction, if any, in availability of resources due to alterations in resource distribution, migration, or location.**

Some development, particularly oil and gas fields and pipelines may alter wildlife distribution, migration, or location. Much of the disruption will be temporary, occurring only during construction. Migration routes could be changed permanently by construction of east-west pipelines, if appropriate mitigation is not applied. If migration routes did change, a significant restriction to subsistence could result. However, the required Environmental Impact Statement prior to construction would include mitigation measures that would make a significant restriction to subsistence unlikely.

#### **OTHER RESOURCES**

##### **Expected reduction, if any, in harvestable resources.**

The proposed plan contains no actions that would cause a significant reduction in any other harvestable resource. Any reduction would be temporary and limited. Lands in the planning area comprise a low percentage of the total area used for subsistence purposes by any one village; thus, there will be no significant restriction to subsistence.

**Expected reduction, if any, in availability of resources due to alterations in resource distribution or location.**

Resource distribution or location may be temporarily affected by some development proposed in the planning area. No permanent effects or significant restriction is expected to occur.

**ACCESS****Expected limitations, if any, in access of subsistence users resulting from the proposed action.**

Theoretically, there will be no limitations to access by subsistence users in the proposed plan. However, if there is oil and gas development in CAMA, with subsequent pipelines, roads, and fields, then access may be limited or rerouted to certain subsistence areas. There are other routes available, and the limitations of access will be small. Additionally, if the Ambler Mining District transportation route is built, access may be improved for subsistence users in that area. No significant restriction to subsistence because of access limitations will occur.

**AVAILABILITY OF OTHER LANDS, IF ANY, FOR THE PURPOSES TO BE ACHIEVED.**

No other lands exist for the purposes to be achieved. This plan covers all lands in the Utility Corridor area.

**OTHER ALTERNATIVES**

There are four other alternatives briefly mentioned in this plan, but discussed in full in the draft RMP (USDOI, BLM, 1987).

**OTHER COMMENTS**

This proposed plan will have no significant restriction upon subsistence uses, needs, or resources. There are potential limitations to subsistence users and resources under some of the development scenarios; however, mitigation addressing those limits will be implemented in project specific EISs. Opening certain lands, especially the Prospect area, to state selection will remove those lands from the protection of analysis of subsistence under ANILCA 810(a); however, it is assumed that, through state agencies (e.g., Alaska Department of Fish and Game) and planning efforts, subsistence uses and resources will not be significantly restricted in the area.

**Conclusion**

For reasons given above and in Chapter 4, the proposed plan will not cause a significant restriction to subsistence uses, resources, and needs in the Utility Corridor.



Appendix N  
Program Management Plan

# **Appendix N**

## **Program Management Plan**

### **Introduction**

The following proposed program management plan was developed by resource specialists assigned to the Utility Corridor Planning Team. Unlike the Proposed RMP, which was organized by land and resource issues identified through "scoping", the program management plan is organized by Bureau activity program. It is through these activity programs that the BLM accomplishes its work. Consequently, the program management plan recognizes that the Bureau is organized according to these activity programs and that the action statements and decisions in Chapter 2, which were developed to resolve the identified issues, often crosscut program activities. For example, implementation of the decision to open previously withdrawn lands to mineral location would involve activities not only in the minerals and 3809 programs, but in the realty program (e.g., preparing and publishing Public Land Orders), the wildlife program (e.g., to provide accurate legal descriptions of important habitat such as identified mineral licks), the cultural resource program (to begin an activity plan to provide necessary clearances or resource protection), and any other programs affected by the mineral opening. The program management plan identifies the responsibilities of each program and provides specific procedures, actions, monitoring and evaluation requirements to effectively implement the proposed management decisions presented in Chapter 2. By translating planning decisions into specific program actions for program leaders and resource specialists, plan implementation, work load analysis, and budgeting for each program is facilitated. This proposed program management plan will be finalized within a year of the Record of Decision.

It is important to note that until Congress acts on the CAMA Wilderness Study Area recommendations (USDOI, BLM, 1988), interim wilderness management guidelines (USDOI, BLM, 1979) apply to management actions in the CAMA WSA. Therefore, implementation of the proposed plan north of 68° N latitude, outside the nonwilderness assessment area (i.e., Dalton Highway viewshed; USDOI, BLM, 1980), must be consistent with interim wilderness management. Thus, implementation of planning proposals which could result in degradation of wilderness values will be held in abeyance until such time as Congress acts.

Program statements found below in Part 1 include a) an objective statement or statements which set the management direction for the program; b) for each stated objective a description of the general actions to be taken to meet said objective; c) specific steps to implement the general actions; d) identification of other programs which would support the program management (through on-the-ground work, funding, or information); and d) a brief description of monitoring and evaluation procedures to determine the overall success of implementation. Part 2 of the program management plan includes legal descriptions (if known) necessary to implement identified actions. Part 3 provides cost estimates and a tentative schedule for implementation. Part 4 identifies the activity plans that will be prepared and implemented based on this RMP.

## **Part 1: Activity Programs**

### **Cultural Resource Program**

#### **Cultural Program Objective**

To recognize the potential scientific, conservation, and public uses and values of cultural and paleontological resources on the public lands. To contribute to land use planning so that cultural resources may be appropriately managed within the principles of multiple use.



**General Actions**

1. Cultural resources (including paleontological resources) will be inventoried and evaluated as part of project or activity planning, with high priority given to those areas which may change ownership and to the inner Corridor.
2. Inventory and evaluation will be implemented on a cooperative basis with appropriate agencies, including the State Historic Preservation Officer, National Park Service, U.S. Fish and Wildlife Service, Trans-Alaska Gas System (TAGS), and others.
3. Stipulations will be attached, as appropriate, to assure compatibility of projects with management objectives for cultural resources.

**Implementing Actions**

1. Require appropriate clearance and stipulations for all actions.
2. Require a Class III inventory for all ground disturbing actions.
3. Conduct Class I and II inventories for those areas that have not been surveyed, with top priority to development nodes, ACECs, and the inner Corridor.
4. Establish and implement cooperative agreements for excavation and/or research. These have already been established with the University of Alaska and with TAGS.
5. Develop cultural resource activity plans for ACECs containing cultural resources.
  - a. Galbraith Lake, completed FY91
  - b. Ivishak River, completed FY91
  - c. Jim River, completed FY92
  - d. Nigu-Iteriak River, completed FY92
  - e. Slope Mountain, completed FY90
  - f. Toolik Lake, completed FY91
6. Prepare activity plans for those sites already determined eligible to the National Register.
  - a. Three sites adjacent to the Atigun River near Galbraith Lake, completed FY91.
  - b. Gallagher Flint Station, completed FY90.
7. In cooperation with the recreation program, develop an interpretive program for development nodes and waysides. Initiate in FY89.
8. Nominate significant sites to the National Register of Historic Places and develop activity plans for each. Potential sites include the following:
  - a. Grayling Lake, completed FY90.
  - b. The historic townsite of Coldfoot, completed FY91.
  - c. A site on the upper Jim River, within the inner Corridor, completed FY91.
  - d. Mesa Site in the Iteriak River ACEC, completed FY90.
9. Take lead in preparing Galbraith Lake ACEC management plan.

**Supporting Programs**

Lands, Recreation, Minerals, Wildlife

**Monitoring and Evaluation**

1. As properties are nominated to the National Register, they will require annual inspections. Permitted actions and cooperative agreements will be monitored on to assure compliance.

2. All cultural resources will require significance and use evaluations, the former to be done in consultation with the State Historic Preservation Officer.

## **Fire Management**

### **Fire Program Objective**

Level of fire suppression and dollars spent on fighting fires should be commensurate with the value of the resources being protected; prescribed fires should be used to maintain and/or improve the natural diversity of wildlife habitats where appropriate and consistent with the standards of the existing Fire Management Plans.

#### **General Actions**

1. Manage natural and prescribed fires according to the standards and procedures outlined in the Alaska Interagency Fire Management Plans. At present, Fire Management Plans for the RMP area include the Arctic, Kobuk, Upper Yukon-Tanana, Seward-Koyukuk, and Tanana-Minchumina plans (See Fire Management Map). Aggressive and continued fire suppression action will be taken on fires which threaten human life, private property, and man-made developments.
2. Use prescribed fires to maintain and/or improve the natural diversity of wildlife habitats where appropriate and according to the standards of the current Fire Management Plan.

#### **Implementing Actions**

1. Fight natural fires consistent with fire management plans as the need arises.
2. Develop an activity plan for the Utility Corridor by FY93, identifying areas where prescribed fires could benefit wildlife populations.

#### **Supporting Programs**

Wildlife, Lands, Soil, Air and Water.

#### **Monitoring and Evaluation**

1. Monitor wildfire suppression activities within the RMP planning unit to evaluate the appropriateness of suppression activities as identified in the Alaska Interagency Fire Plans.
2. Monitoring of prescribed fires to determine the benefits to wildlife, watershed, recreation, and other resources would be developed through the activity planning process and as outlined in each individual prescribed fire plan.

## **Forestry Management Program**

### **Forestry Program Objective**

Manage forest resources for sustained yield of forest products, watershed protection, wildlife habitat, and other uses consistent with this plan.

#### **General Actions**

1. BLM will allow subsistence harvest of timber for firewood and house-logs in rural areas where sufficient resources are present that such use will not conflict with other resource management objectives.



2. Commercial harvest of timber resources would be allowed, if judged appropriate, in areas after rights-of-way clearings or fires. Commercial use would also be allowed in areas where it is found to be the best use of the resource and not in conflict with other resource objectives.
3. Tree removal may be restricted where scenic vistas are adversely affected by types of cutting practices.
4. Cutting of trees is prohibited within 200 feet of either side of the center line of a road except for the removal of danger trees or for road construction.
5. Cutting of trees within 50 feet of either side of a stream will be prohibited unless the trees are a danger to human safety or are adversely affecting stream flow.

### **Implementing Actions**

1. Identify areas where harvest of timber resources for commercial, noncommercial, and subsistence purposes would be allowed, and areas where harvest of timber resources would not be allowed for reasons of habitat or watershed protection, to be completed in FY90.
2. Process forest products sale or permit applications on a case-by-case basis.

### **Supporting Programs**

Wildlife, Lands, Soil, Air and Water, Recreation, Subsistence.

### **Monitoring and Evaluation**

1. Determine intensive use areas through annual review of applications or as necessary.
2. Monitor intensive use areas through field examination, and restrict further harvest as appropriate.

## **Grazing Management Program**

### **Grazing Program Objective**

Under the plan, no grazing permits are allowed in the planning area. Grazing by recreational users, e.g., pack horses, would be allowed under a temporary use permit. Changes in this policy would be through a plan amendment.

## **Hazardous Materials Program**

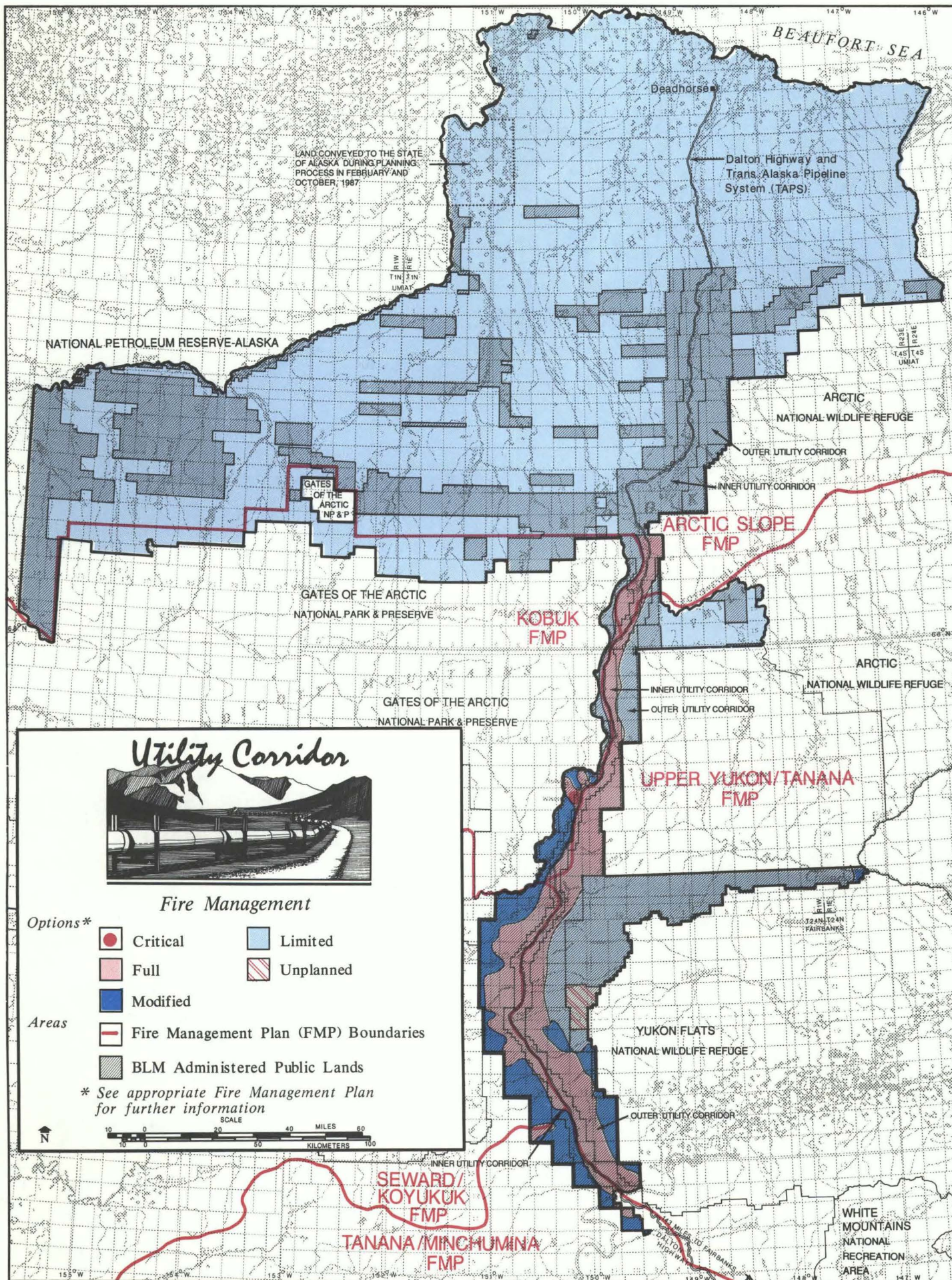
### **Hazardous Materials Program Objective**

Protection of public health and safety, natural resources, and the environment on public lands from hazardous materials. Minimize future hazardous material liabilities and costs.

### **General Actions**

1. Report release or threat of release of hazardous substances or the disposal of hazardous waste on public lands.
2. Conduct evaluations and emergency response or remediation for sites of hazardous substance release or threat of release.
3. Prevent future hazardous substance/waste risk liability for all use authorizations on public lands.







## **Implementing Actions**

1. Conduct inventories to discover any sites or suspected sites of presence or release of hazardous substances on public lands.
2. Develop and maintain emergency response and contingency plans, including provisions of the Emergency Planning and Community Right-to-Know Act (EPCRA).
3. Implement such plans to respond to imminent danger or threat of such danger to the public from hazardous materials on public lands.
4. Ensure proper coordination between hazardous materials management program and all other Bureau programs, including lands and mineral programs.
5. Avoid authorization of high hazardous material risk uses and control unavoidable risks through use conditions, activity plan approval processes, compliance inspections, required sampling by users, bonding, and other tools.
6. Ensure land is free from contamination before it is acquired or conveyed.

## **Supporting Programs**

Lands and Realty, Minerals

## **Monitoring and Evaluation**

1. Evaluate land use applications under State Emergency Response and Contingency Plan stipulations.
2. Conduct compliance checks as appropriate.

# **Lands and Realty Program**

## **Lands Program Objective 1**

Provide for, authorize, or restrict the use of public lands in compliance with existing laws, regulations, withdrawals, BLM policy, and consistent with the goals and objectives of this RMP.

## **General Actions**

1. Continue with and conclude Federal Land Policy and Management Act (FLPMA) sale in Wiseman.
2. In identified ACECs and other sensitive areas, restrict authorized uses in accordance with decisions contained in this plan or in subsequent activity plans.
  - a. Galbraith Lake (56,000 acres)
  - b. Ivishak River (3,800 acres)
  - c. Jim River (200,000 acres)
  - d. Kanuti Hot Springs (40 acres)
  - e. Nigu-Iteriak (64,000 acres)
  - f. Nugget Creek (3,300 acres)
  - g. Poss Mountain (8,000 acres)
  - h. Sagwon Bluffs (42,200 acres)
  - i. Slope Mountain (5,100 acres)
  - j. Snowden Mountain (28,000 acres)
  - k. Sukakpak Mountain (3,500 acres)
  - l. Toolik Lake/RNA (82,800 acres)
  - m. West Fork Atigun (8,500 acres)

3. In areas identified below for nodal development, authorize uses in accordance with decisions contained in this plan or in subsequent nodal development plans, developed if necessary.
  - a. Yukon Crossing (approximately 7,050 acres)
  - b. Coldfoot (approximately 7,000 acres)
  - c. Chandalar Shelf (approximately 1,700 acres)
  - d. Happy Valley (approximately 1,600 acres)
4. Make lands available for disposal under R&PP Act to accommodate future public needs in Wiseman, Coldfoot and the Yukon Crossing/7-Mile areas. Additional lands may be needed in these areas to accommodate public facilities such as schools, churches, or local governmental service facilities.
5. Make lands available for federal and state agencies and research organizations for needed administrative and support facilities, including the existing research site at Toolik Lake. Locate facility development to minimize environmental impacts with emphasis given to previously disturbed sites.
6. Make lands available to the State of Alaska for the development of solid waste disposal sites.
7. Process applications for land use authorizations from the general public, federal and state agencies, and research organizations on a case-by-case basis.
8. Handle unauthorized occupancies consistently with BLM policy and regulations as the need arises.

#### **Implementing Actions**

1. Modify PLO 5150 to allow Wiseman land sales (see PLO 6727, published 4-25-89; see legal description in Part 2).
2. Within one year of acceptance of this plan, for areas designated as ACECs, prepare legal descriptions from approved maps, prepare serialized case files, enter information into land status records, and plot on status plats.
3. For proposed activities in ACECs, refer to ACEC management plan to ensure that the proposed operation is consistent and allowable with the goals and objectives in that plan. For example, no FLPMA leases would be allowed in the immediate area of Kanuti Hot Springs.
4. Within one year after acceptance of this plan, for nodes designated by this plan (see Part 2 for legal descriptions), prepare serialized case files, enter information into land status records, and plot on status plats.
5. Review proposed commercial activities within the Utility Corridor to be placed in the appropriate node to prevent strip development along the Dalton Highway.
6. Locate suitable solid waste disposal sites for use by the State of Alaska. This action will require the following:
  - a. Initiate discussions with the State of Alaska and mutually agree on acceptable solid waste disposal sites through Memorandum of Understanding.
  - b. Prepare legal descriptions of the solid waste disposal sites.
  - c. Amend existing PLOs to allow for state selection.
7. Continue to process all discretionary applications. Approve use authorization applications with emphasis given to previously disturbed sites. Use authorizations include the following:
  - a. Rights-of-way for access roads, pipelines, power lines, utilities, railroads, etc.
  - b. Temporary use permits in conjunction with rights-of-way.
  - c. Leases, permits, and easements pursuant to Section 302 of FLPMA.
8. Continue to process uses and disposals under the R&PP Act to qualified applicants for public purpose needs, i.e., schools, churches, or local governmental service facilities.



9. Initiate nodal planning if determined necessary.
10. Effect transfer of lands of valid RS2477s to the State of Alaska.

#### **Supporting Programs**

Wildlife, Fisheries, Cultural, Subsistence, Recreation, Forestry, and Soil/Air/Water/Vegetation.

#### **Monitoring and Evaluation**

1. Review Federal Register Publication of new PLO to ensure correct descriptions are listed.
2. Ensure appropriate information from above activities is included in land status records and on master plats.
3. On an annual basis, evaluate demand for development in the designated nodes to determine need for further nodal planning.

### **Lands Program Objective 2**

Minimize conflicts between future pipeline rights-of-way and mining claims within the Utility Corridor, while maximizing lands available to mineral development.

#### **General Action**

Modify the boundary of the inner Corridor.

#### **Implementing Action**

Amend PLO 5150. A precise description of changes is provided in Part 2.

#### **Supporting Programs**

Wildlife, Fisheries, Cultural, Subsistence, Recreation, Forestry, and Soil/Air/Water/Vegetation.

#### **Monitoring and Evaluation**

1. Review Federal Register Publication of amendment of PLO 5150 to ensure correct descriptions are listed.
2. Ensure information included in land status records and on master plats.

### **Lands Program Objective 3**

Pursue exchanges, acquisitions, or land disposal through state selection or other means when in the national interest.

#### **General Actions**

1. Open the following lands (legal descriptions are in Part 2) to state selection:
  - a. Lands in the planning area south of the Yukon River, approximately 25,000 acres.
  - b. The Prospect unit, approximately 55,000 acres.
  - c. The Coldfoot unit, approximately 26,000 acres.
  - d. The Sagavanirktok unit, approximately 600,000 acres.
  - e. Lands in the east-west corridor adjacent to ANWR, withdrawn by PLO 5182.

2. Identify and reserve appropriate administrative sites at Coldfoot for BLM cabins and visitor center, and at Prospect for recreational facilities.
3. Encourage selection of the lands west of the upper reaches of the Chandalar River by the State of Alaska.
4. Request relinquishment of state selections of five small tracts of land (identified in Part 2) located between the Utility Corridor and adjacent CSUs.
5. Through exchange, acquire fee estate from ASRC lands within the Oolamnagavik area, described in Part 2.
6. Acquire selection rights from ASRC by relinquishment or exchange, on lands within the Oolamnagavik area, described in Part 2.
7. Pursue exchanges with state and Native land owners to provide for federal ownership of a corridor surrounding the Killik River, described in Part 2.
8. Pursue the acquisition of subsurface estate from ASRC (or disposal of surface estate to ASRC) to end split-estate conditions in CAMA, described in Part 2.

#### **Implementing Actions**

1. Prepare and issue PLO(s) to open the above lands to state selection, exchange, or sale.
2. Prepare necessary transfer documents, if lands are exchanged, bought, or sold.
3. Negotiate with state to select or relinquish identified lands.
4. Negotiate exchange of split-estate lands described in No. 7 above.
5. Negotiate with ASRC to exchange lands in the Killik and Oolamnagavik blocks.

#### **Supporting Programs:**

Wildlife, Fisheries, Cultural, Subsistence, Recreation, Forestry, and Soil/Air/Water.

#### **Monitoring and Evaluation**

1. Review Federal Register Publication of new PLO(s) to ensure correct descriptions are listed.
2. Annually review proposed actions to determine status of consolidation efforts.
3. Ensure that land status records are accurately noted.

### **Lands Program Objective 4**

Consistent with RMP decisions and other program objectives, open or close to mineral location lands identified in Minerals Objective 1. At this time there are approximately 1.7 million acres of public land open to locatable mineral development. Under the proposed RMP this figure would change to 4.7 million acres.

#### **General Actions**

1. Prepare and issue PLO(s) to open additional lands for locatable mineral development south of 68° N latitude. Recognizing the existing withdrawal under PLO 399 at Kanuti Hot Springs (and any other hot spring identified later), withdraw from mineral location the following identified areas:



- a. Boundaries of inner Corridor as amended (see Part 2) under this plan.
  - b. Floodplains of those portions of the Jim River and Prospect Creek west of the eastern boundary, and the Kanuti River west of the western boundary, of the inner Corridor (as amended).
  - c. The following identified mineral licks:
    - 1) Nugget Creek (see ACEC Map; 1 lick, 160 acres)
    - 2) Poss Mountain (see ACEC Map; 1 lick, 160 acres)
    - 3) Snowden Mountain (see ACEC Map; 2 licks, 320 acres)
2. North of 68° N latitude, i.e., the CAMA Wilderness Study Area, PLOs opening lands to mineral location will await Congressional action on wilderness recommendations. When appropriate, prepare and issue PLO(s) to open additional lands for locatable mineral development north of 68° N latitude, withdrawing from mineral location the following identified areas:
- a. Boundaries of inner Corridor as amended (see Part 2) under this plan.
  - b. Southern portion of the Nigu-Iteriak ACEC, which is also the recommended upper Nigu Wilderness Area (see Part 2). This area is closed to mineral location regardless of Congressional action. Also withdrawn would be Congressionally designated wilderness areas, if different from recommended upper Nigu Wilderness area, when such action occurs.
  - c. The following identified mineral licks:
    - 1) Slope Mountain (see ACEC Map; 1 lick, 160 acres)
    - 2) West Fork Atigun (see ACEC Map; 1 lick, 160 acres)
    - 3) Endicott Mountain 1 and 2 (2 licks, 320 acres)
  - d. Validly selected Native lands as appropriate (Native selection does not in itself segregate lands as is the case with state selection).

### Implementing Actions

1. Prepare legal description to include all planning area lands for publication in Public Land Orders (PLOs) necessary to revoke and or amend existing mineral withdrawals.
2. Prepare legal descriptions of eight identified mineral licks to be closed to mineral location.
3. Prepare legal descriptions of those portions of the floodplains of the Jim and Kanuti rivers and Prospect Creek to be withdrawn from mineral location.
4. Prepare legal descriptions of upper Nigu River area (see Part 2) to be withdrawn from mineral location.
5. Prepare legal descriptions of Congressionally designated wilderness area, if different from recommended upper Nigu Wilderness area, when such action occurs.
6. Prepare legal descriptions of inner Corridor as amended by this plan (see Part 2).
7. Prepare legal descriptions of validly selected Native lands.
8. Amend PLOs 3520, 5150, 5169, 5179, 5182, 5186, 5190, 5250, 5256, 5396, 5556, 5509, 5860, and 6533 to allow for locatable mineral development, to be completed by FY92. Exclude from mineral location those lands selected by Native Regional/Village Corporation. If lands are relinquished by Native Corporations, they may be opened to mineral location. Also exclude other lands to be closed to mineral location as described above.
9. Serialize mineral lick closures for Endicott Mountain Licks 1 & 2 under 2311.70 or as appropriate. Other mineral licks will be serialized under the appropriate ACEC.

### Supporting Programs

Wildlife, Fisheries, Cultural, Subsistence, Minerals, Recreation, Forestry, Soil/Air/Water.

## Monitoring and Evaluation

1. Review Federal Register Publication of PLO Amendment to ensure correct descriptions are listed.
2. Ensure land status records and appropriate casefiles are updated.

## Lands Program Objective 5

Consistent with decisions in this plan, 5.8 million acres would be open to the exploration and development of leasable minerals under federal law (see Minerals Objective 4).

### General Actions

1. Prepare and issue PLO(s) to open additional lands for oil and gas mineral development south of 68° N latitude. Identify the following lands as open with nonsurface occupancy constraints:
  - a. Lands within the inner Corridor as amended (see Part 2) under this plan.
  - b. Floodplains of those portions of the Jim and Prospect Creek downstream of the eastern boundary of the inner Corridor, and the Kanuti River downstream of the western boundary of the inner Corridor.
  - c. The following identified mineral licks:
    - 1) Nugget Creek (see ACEC Map; 1 lick, 160 acres)
    - 2) Poss Mountain (see ACEC Map; 1 lick, 160 acres)
    - 3) Snowden Mountain (see ACEC Map; 2 licks, 320 acres)
  - d. Kanuti Hot Springs ACEC.
2. North of 68° N latitude, i.e., within the CAMA Wilderness Study Area, PLOs opening lands to oil and gas leasing will await Congressional action on wilderness recommendations. When appropriate, the PLO(s) to open lands for oil and gas leasing north of 68° N latitude would be prepared and issued with the following constraints and exclusions:
  - a. The following identified lands would be open with nonsurface occupancy constraints:
    - 1) Lands within the inner Corridor as amended (see Part 2) under this plan.
    - 2) The following identified mineral licks:
      - a) Slope Mountain (see ACEC Map; 1 lick, 160 acres)
      - b) West Fork Atigun (see ACEC Map; 1 lick, 160 acres)
      - c) Endicott Mountain 1 and 2 (2 licks, 320 acres)
    - 3) The Ivishak River ACEC
  - b. To remain withdrawn from mineral leasing would be the Nigu-Iteriak ACEC (the recommended upper Nigu Wilderness Area). This area is to be closed to mineral leasing regardless of Congressional action. Also withdrawn would be Congressionally designated wilderness areas, if different from recommended upper Nigu Wilderness area, when such action occurs.

### Implementing Actions

1. Prepare legal description to include all planning area lands for publication in Public Land Orders (PLOs) necessary to revoke and or amend existing oil and gas leasing withdrawals.
2. Prepare legal descriptions of eight identified mineral licks to be closed to leasing.
3. Prepare legal descriptions of those portions of the floodplains of the Jim and Kanuti rivers and Prospect Creek to be withdrawn from leasing.
4. Prepare legal descriptions of upper Nigu River area (see Part 2) to be withdrawn from leasing.
5. Prepare legal descriptions of Congressionally designated wilderness area, if different from recommended upper Nigu Wilderness area, when such action occurs.
6. Prepare legal descriptions of inner Corridor as amended by this plan (see Part 2).



7. Prepare legal descriptions of validly selected State and Native lands. Actual leasing in these areas can occur only with concurrence of selecting entity.
8. In accordance with planning decisions and Congressional action on wilderness recommendations, amend PLOs 3521, 5150, 5179, 5180, 5182, 5186, 5190, 5191, 5250, 5256, 5390, 5396, 5418, 5556, 5509, 5860, 6533 to allow for mineral leasing, to be completed by FY92.
9. Serialize Endicott Mountain Licks 1 & 2 under 2311.70 or as appropriate. Other mineral licks will be serialized under the appropriate ACEC.

### **Supporting Programs**

Wildlife, Fisheries, Cultural, Subsistence, Recreation, Minerals, Forestry, Soil/Air/Water.

### **Monitoring and Evaluation**

1. Review Federal Register Publication of new PLO(s) to ensure correct descriptions are listed.
2. Ensure land status records and master plats have been updated.

## **Minerals Program**

### **Minerals Program Objective 1**

Within the principles of multiple use management and consistent with the stated goals and objectives of this plan, maximize the number of acres of federal estate open for locatable mineral resource development.

### **General Action**

Through Public Land Order open all lands to the operation of the federal mining laws except: the inner Corridor as amended in this plan, 160 acres surrounding Kanuti Hot Springs, the southern portion of the proposed Nigu-Iteriak ACEC (recommended Nigu wilderness area), and other areas of special management concern. Action on the Wilderness Study Area must be held in abeyance until Congress acts on wilderness recommendations.

### **Implementing Actions**

1. Prepare maps on permanent base of appropriate scale delineating areas open or closed to mineral location. Closed areas whose boundaries need to be delineated are:
  - a. Boundaries of inner Corridor as amended under this plan (discretionary closure).
  - b. 160 acres centering on Kanuti Hot Springs (nondiscretionary, PLO 399).
  - b. Southern portion of the proposed Nigu-Iteriak ACEC, which also is the recommended upper Nigu Wilderness Area. This area is closed to mineral location regardless of Congressional action. Also withdrawn would be Congressionally designated wilderness areas, if different from recommended upper Nigu Wilderness area, when such action occurs (nondiscretionary).
  - c. Floodplains of those portions of the Jim River and Prospect Creek west of the eastern boundary, and the Kanuti River west of the western boundary of the inner Corridor as amended (discretionary).
  - d. Identified mineral licks within the following ACECs (discretionary):
    - 1) Nugget Creek
    - 2) Poss Mountain
    - 3) Slope Mountain
    - 4) Snowden Mountain
    - 5) West Fork Atigun
  - e. Endicott Mountain Licks 1 & 2.

2. Withhold opening lands in the Wilderness Study Area to mineral location until Congress acts on wilderness recommendation (nondiscretionary).

### **Supporting programs**

Lands, Recreation, Wildlife, Wilderness, Cultural

### **Monitoring and Evaluation**

1. Once PLO is published, determine master title plats and historic index have been updated.
2. Monitor progress of Congressional action on wilderness recommendation and follow-up as appropriate within six months.
3. Review, on a three to five year cycle and in conjunction with other programs, the continuing validity of existing closures. Amend plan if appropriate.

## **Minerals Program Objective 2**

Manage locatable minerals program in accordance with multiple use principles and consistent with the stated goals and objectives of this plan.

### **General Action**

Ensure locatable minerals program complies with Bureau regulations and policies and is consistent with the stated goals and objectives of this plan.

### **Implementing Actions**

1. Continue implementing surface management program for mining activities on public lands in accordance with 43 CFR 3809 regulations and with interim wilderness management policy and guidelines.
2. On valid existing claims in areas closed to mineral entry, require Plans of Operation for new development.
3. Require Plans of Operation on mining claims within ACECs.
4. Process mining Notices of Intent and Plans of Operation with input from other resource programs, e.g., wildlife, subsistence, cultural.
5. Continue processing mineral patent applications.

### **Supporting Programs**

Lands, Recreation, Wildlife, Cultural, Subsistence

### **Monitoring and Evaluation**

1. Conduct field investigations of all permits at least once annually for compliance with permit stipulations to prevent undue and unnecessary degradation of the environment.
2. Conduct field visits to each active mining operation annually to determine compliance with 43 CFR 3809 regulations.
3. Consistent with approved ACEC management plans, monitor operations in ACECs.



### **Minerals Program Objective 3**

Coordinate locatable minerals program with the other multiple-use management goals stated in this plan.

#### **General Action**

Collect and establish databases for mineral resources in key areas.

#### **Implementing Actions**

1. Inventory all streams within the inner Corridor from Arctic Circle to Disaster Creek to determine their potential for recreational mining (begin 1989).
2. Prepare geologic map of mineral resources in special management areas to identify areas of potential conflict (begin 1989).
3. Collect water samples adjacent to and downstream from placer mining operations to gather data for long-term assessment of cumulative impacts from mining (begin 1989).

#### **Supporting Programs**

Lands, Recreation, Wildlife, Wilderness, Cultural

#### **Monitoring and Evaluation**

1. Prepare report assessing potential streams available for recreation mining when the inventory is complete.
2. Complete informational brochure showing areas appropriate for recreational mining for the public.
3. Publish report of mineral resources of each special management area, identifying areas of potential conflict and possible mitigation measures.
4. Report findings from water quality testing, identifying areas of concern and long-term trends.

### **Minerals Program Objective 4**

Within the principles of multiple use management and consistent with the stated goals and objectives of this plan, maximize the number of acres of the planning area open for leasable mineral resource development.

#### **General Actions**

1. Through Public Land Order open all lands to the operation of the federal leasing laws except for the southern portion of the proposed Nigu-Iteriak ACEC, which also is the recommended upper Nigu Wilderness Area. This area is closed to mineral leasing regardless of Congressional action. Also withdrawn would be Congressionally designated wilderness areas, if different from recommended upper Nigu Wilderness area, when such action occurs.
2. Specify areas of major and minor constraints, such as no surface occupancy and seasonal restrictions.

#### **Implementing Actions**

1. Prepare maps on permanent base of appropriate scale delineating areas open to mineral leasing, identifying appropriate constraints.
  - a. Areas open with major constraints, i.e., no surface occupancy:

- 1) Inner Corridor
  - 2) Mineral licks within ACECs, and Endicott Mt. Licks 1 and 2 (Map 2.9 in Chapter 2 of Proposed Plan).
  - 3) Portions of Prospect Creek, Jim River, and Kanuti River floodplains
  - 4) Ivishak and Kanuti Hot Springs ACECs
  - b. Areas open with minor constraints, e.g., seasonal restrictions, or small areas:
    - 1) Winter only surface travel in CAMA, including seismic exploration
    - 2) Within one mile of peregrine falcon nests as identified on a case-by-case basis
    - 3) Sensitive plant habitat in the Sagwon Bluffs and Toolik Lake ACECs, or other areas when defined.
  - c. Closed areas, i.e., the southern portion of the Nigu-Iteriak ACEC (the recommended Nigu Wilderness Area) and any wilderness areas designated by Congress.
  - d. Remaining area - open with no constraints.
2. Withhold opening lands in the Wilderness Study Area to mineral leasing until Congress acts on wilderness recommendation.

### **Supporting programs**

Lands, Recreation, Wildlife, Wilderness, Cultural

### **Monitoring and Evaluation**

1. Once PLO is published, determine master title plats and historic index have been updated.
2. Monitor progress of Congressional action on wilderness recommendation and follow-up as appropriate within six months.
3. Review, on a three to five year cycle and in conjunction with other programs, the continuing validity of existing closures. Amend plan if appropriate.

## **Minerals Program Objective 5**

Manage leasable minerals program in accordance with multiple use principles and consistent with the stated goals and objectives of this plan.

### **General Action**

Ensure leasable minerals program complies with Bureau regulations and policies and is consistent with the stated goals and objectives of this plan.

### **Implementing Actions**

1. Process applications for permitted geophysical activities as received; issue permits with appropriate stipulations (Appendices K and L).
2. Initiate interest announcement requesting lease tract nominations. Conduct appropriate NEPA analysis. Hold lease sale as interest dictates, and issue leases with appropriate constraints and stipulations (Appendices K and L).
3. Process exploration and development plans for leasable minerals as received.
4. Manage permitted activities in accordance with interim wilderness policy and guidelines until such time as Congress acts on wilderness recommendations.

### **Supporting Programs**

Lands, Wilderness, Wildlife, Cultural, Subsistence



### **Monitoring and Evaluation**

1. Conduct field investigations of all permits at least once annually for compliance with stipulations to prevent undue and unnecessary degradation of the environment.
2. Conduct field investigations of all leases at least once annually for compliance with lease agreement.
3. Consistent with approved ACEC management plans, monitor operations in ACECs.
4. Monitor reclamation of permitted activities to assure compliance with stipulations and with interim wilderness management.

### **Minerals Program Objective 6**

Administer the minerals program to allow the extraction of mineral materials with a minimum of impacts on other resources

#### **General Action**

Specify areas restricted or closed to mineral materials extraction.

#### **Implementing actions**

1. Prepare maps on permanent base of appropriate scale delineating areas closed to mineral materials extraction:
  - a. Mineral licks within ACECs, Endicott Mt. Licks 1 and 2;
  - b. The Nigu-Iteriak ACEC;
  - c. Kanuti Hot Springs and Sukapak Mountain ACECs;
  - d. Areas designated wilderness by Congress
2. Prepare maps on permanent base of appropriate scale delineating areas closed to mineral materials extraction, unless no economically feasible alternate sites are available.
  - a. Prospect Creek and Jim River streambeds and floodplains
  - b. Ivishak River ACEC.
3. In conjunction with soil/water/air/vegetation program, determine floodplains of the Jim River and Prospect Creek.
4. Identify and prepare maps locating potential mineral material sites to replace existing sites within the Jim River floodplain.
5. Inventory areas along the existing and proposed pipeline routes to locate areas suitable for gravel extraction and alternate sources for sites currently located within the Jim River floodplain (begin 1990).
6. Process sale and permit application for mineral materials extraction. Before permits are issued, consultation with specialists concerning location of threatened, endangered, or sensitive plants and animals would be necessary to ensure protection of those species, specifically in the Sagwon Bluffs, Kanuti Hot Springs, Galbraith Lake, Sukapak Mountain, and Toolik Lake ACECs.

#### **Supporting programs**

Lands, Recreation, Wildlife, Cultural, Soils/Water/Air/Vegetation

## **Monitoring and Evaluation**

1. Review, on a three to five year cycle and in conjunction with other programs, the continuing validity of existing closures. Amend plan if appropriate.
2. Conduct field visits to monitor each active operation at least once per year to determine compliance with permit stipulations.

## **Recreation Program**

### **Recreation Program Objective 1**

Initiate implementation of recreation management decisions determined in this RMP.

#### **General Actions**

1. Initiate, as the top priority, Recreation Area Management Planning (RAMP) for areas with road access, i.e., the Dalton Highway Recreation Management Area.
2. Initiate recreation management planning for remaining lands within the planning area within ten years or as determined necessary.
  - a. Dalton Corridor Recreation Management Area
  - b. Colville-Oolamnagavik Extensive Recreation Management Area
  - c. Nigu Wilderness and Iteriak ACEC Extensive Recreation Management Area
  - d. CAMA Extensive Recreation Management Area
3. Provide ORV management consistent with RMP decisions.
4. Conduct an Off-Road Vehicle (ORV) use evaluation in cooperation with appropriate federal and state agencies, and redesignate trails or areas as appropriate.

#### **Implementing Actions**

1. Seek cooperative study with the State of Alaska in the development of the Dalton Highway RAMP.
2. Complete RAMP process for the Dalton Highway Recreation Management Area in one to two years in accordance with BLM policy, regulations, and guidelines and consistent with RMP decisions including the ACEC management plans.
3. Consistent with state law, BLM recreation regulations, and RMP decisions prepare maps delineating ORV use areas. Provide public notice of the following ORV designations through notice as required by 43CFR1610.5-1(b):

#### **DALTON HIGHWAY RECREATION MANAGEMENT AREA (RMA):**

Closed to all ORVs within five miles of the Dalton Highway by state statute, except for use in conjunction with oil and gas development and access to mining claims. Outside the state closure use is:

- a. Restricted to non-commercial casual use less than 1500 lbs GVW during periods of frozen ground and adequate snow cover.
- b. Restricted to permitted use only for non-commercial casual use less than 1500 lbs GVW during all other periods.
- c. Restricted to permitted use only for commercial use of all GVW.
- d. Restricted to designated and marked crossing points of the Trans-Alaska Pipeline System.



**DALTON CORRIDOR RMA, OOLAMNAGAVIK-COLVILLE RMA, and CAMA RMA:**

- a. Restricted to non-commercial casual use less than 1500 lbs GVW during periods of frozen ground and adequate snow cover.
- b. Restricted to permitted use only for non-commercial casual use less than 1500 lbs GVW during all other periods.
- c. Restricted to permitted use only for commercial use of all GVW.
- d. Restricted to designated and marked crossing points of the Trans-Alaska Pipeline System.

**NIGU-ITERIAK RMA:**

Closed to commercial and noncommercial ORVs, except for subsistence uses.

- 4. Beginning with the Dalton Highway RMA, implement ORV designations by marking and other appropriate measures to identify designated areas and trails so the public will be aware of locations and limitations
- 5. As a result of ORV evaluation, develop designations for ORV use within recreation management areas as determined appropriate. Publish regulations in Federal Register, and amend plan if necessary.

**Supporting Programs**

Cultural, Lands, Subsistence, Wildlife, Minerals

**Monitoring and Evaluation**

- 1. Submit progress reports on Dalton Highway RAMP to state office semiannually.
- 2. Annually monitor use of other recreation management areas to determine need for RAMPs.
- 3. Submit progress reports on ORV use evaluation annually.

**Recreation Program Objective 2**

Protect, maintain and provide recreation opportunities on public lands in the planning area.

**General Actions**

- 1. Until completion of the appropriate RAMPs, provide interim recreation management.
- 2. Administer recreation program throughout the planning area within the principles of multiple use management and consistent with the goals and purposes stated in this plan and in the RAMPs.

**Implementing Actions**

- 1. Process Special Recreational Permit applications for all commercial and competitive events on a case-by-case basis.
- 2. Pending completion of RAMP, implement interim visitor services program along the Dalton Highway to provide current users basic services and information.
  - a. Maintain a cooperative multi-agency visitor center and interpretive program at Coldfoot.
  - b. Place necessary public facilities (i.e. toilets, trash receptacles, information) to facilitate the public health and safety.
- 3. Coordinate interim recreation management with the State of Alaska.
- 4. Implement Dalton Highway and other RAMPs as completed.

## **Supporting Programs**

Cultural, Lands, Subsistence, Wildlife, Minerals

## **Monitoring and Evaluation**

1. Monitor interim visitor facilities, i.e., toilets, trash receptacles, and uses on a weekly basis during the summer.
2. When completed, follow monitoring and evaluation programs developed in the RAMPs.
3. Follow monitoring and evaluation guidance developed in ORV use study and in conjunction with the state regulations.

## **Soil, Water, Air, and Vegetation Resources**

### **Soil, Water, Air, and Vegetation Program Objective**

Assure the maintenance of water and air quality to meet federal and state standards. Consistent with multiple use objectives, RMP decisions, and program objectives, protect developed soils from erosion; assure that adequate vegetation cover is maintained to prevent erosion, maintain vegetative diversity, and protect priority plant species.

### **General Actions**

1. Assure authorized activities comply with state and federal water quality standards.
2. Restrict ORV use to minimize impacts to soil, water, and vegetation.
3. Manage floodplains and wetlands in accordance with Executive Orders (EO) 11988 and 11990 to assure preservation of the hydrologic capabilities.
4. Determine the floodplains for the Jim and Kanuti rivers and Prospect Creek within the planning area.
5. Designate as ACECs areas with known or subsequently identified threatened, endangered, rare, or sensitive plant locations (*Erigeron muirii* and *Montia bostockii*). Develop appropriate species management plans.

### **Implementing Actions**

1. Review all land use applications for actions which may require special stipulations to protect soil, water, vegetation, and air resources.
2. Require runoff control and erosion mitigation stipulations on all authorized activities.
3. Provide soil, water, air, and vegetation management input to resource activity management plans.
4. Monitor water quality downstream from authorized activities.
5. In cooperation with other agencies, initiate a water monitoring program on streams with adjacent developmental activity, completed by FY93.
6. Designate Sagwon Bluffs and Toolik Lake as ACECs for protection of sensitive plants (and other resource values). Rare plants are present in the Sukakpak Mountain ACEC, and might be present in the Galbraith Lake ACEC. The Kanuti Hot Springs ACEC contains range extensions of plants in the area of the springs, and no FLPMA leases or surface occupancy would be allowed in the immediate area of the springs.



7. Implement species management plans for *Erigeron muirii* in the Sagwon Bluffs ACEC and *Montia bostockii* in the Toolik Lake ACEC. If additional populations of these plants or of other rare and sensitive plants are found in other areas, prepare species management plans for each.
8. Take lead in preparing Kanuti Hot Springs ACEC management plan.
9. If additional threatened, endangered, rare, or sensitive plant species are located, pursue nomination of ACECs to designation.
10. Maintain 300 foot zones of undisturbed vegetation on either side of the Jim River and Prospect Creek downstream from the eastern edge of the inner Corridor.
11. Confine ORV operations to soils with low erosion potential or to times of the year when the surface (30 cm) is frozen and has sufficient snow cover to protect the integrity of vegetation ground cover existent on site.
12. Prepare documents depicting floodplains of the Jim River, Prospect Creek, and the Kanuti River.

### **Supporting Programs**

Lands, Minerals, Wildlife, Recreation

### **Monitoring and Evaluation**

1. In cooperation with other agencies, conduct a long term water monitoring program on streams with adjacent developmental activity.
2. Conduct a monitoring program on vehicle trails within the corridor for erosion and water pollution activity, consistent with evaluation and monitoring plans developed in the ORV plans.

## **Visual Resource Management**

### **Visual Resource Program Objective**

Apply visual resource management classifications determined in this RMP.

### **General Actions**

1. Manage all public lands to protect scenic values, according to the following classifications:  
VRM Class I - Proposed Nigu Wilderness  
VRM Class III- Dalton Corridor RMA, Colville-Oolamnagavik RMA, Iteriak ACEC  
VRM Class IV- Dalton Highway RMA and the CAMA ERMA  
(see VRM Class definitions in Appendix)
2. To the extent feasible, given the primary purpose of the Utility Corridor, minimize the visual impacts of authorized activities, especially in Class A scenery areas, e.g., Galbraith Lake, Jim River, and Sukakpak Mountain ACECs.

### **Implementing Actions**

1. Identify visual design needs for all surface disturbing projects.
2. Assess the existing visual conditions along the Utility Corridor. Update VRM management classes as appropriate in activity plans.
3. Prepare a viewshed analysis of the Colville River.

4. Complete Visual Assessment Report of the Corridor, including:
  - a. Visible area from the Dalton Highway
  - b. Scenic attractions and critical views
  - c. Man-made modifications to the landscape
  - d. VRM mitigation measures.
5. Assess applicability of officially recognizing Dalton Highway as a Scenic Byway and, in cooperation with the State of Alaska, designate if appropriate.

### **Supporting Programs**

Recreation, Minerals, Wildlife, Soil/Water/Air/Vegetation.

### **Monitoring and Evaluation**

1. Monitor all new rights-of-way grants, transportation system construction plans for their impact on visual resources.
2. Review all new material sale site plans and design mitigation measures to lessen impact to visual resources.
3. Provide a yearly evaluation of visual resources in the planning area and include proposals for visual resource enhancement and/or mitigation measures where needed.
4. Include VRM in all surface disturbing project plans.

## **Wilderness**

### **Wilderness Program Objective**

Protect the wilderness values on federal lands in the Central Arctic Management Area (CAMA) until Congress acts on wilderness recommendations. If Congress designates any portion of the area as wilderness, manage that area in accordance with BLM's wilderness management policy.

### **General Actions**

1. Until such time as Congress acts, manage the CAMA Wilderness Study Area in accordance with interim wilderness policy and guidelines.
2. If Congress designates any portion of the area as wilderness, manage that area to protect its wilderness values in perpetuity.

### **Implementing Actions**

1. All applications for proposed activities would be reviewed to insure compliance with interim wilderness management policy.
2. Mitigate through stipulations or deny any surface disturbing action that might compromise wilderness values until Congress makes its decision.
3. Perform overflights of CAMA at a minimum of three per year to detect unauthorized activities.
4. If Congress designates any portion of CAMA as wilderness, prepare and implement a wilderness management plan.



## **Supporting Programs**

Wildlife, Cultural, Lands, Subsistence, Soil/Water/Air/Vegetation, Recreation, Visual Resources.

## **Monitoring and Evaluation**

1. Maintain a yearly log of all monitoring activities.
2. Prepare annual report on activities and monitoring in CAMA outside the nonwilderness assessment area.
3. Onsite inspections, including on-the-ground field checks as needed, of authorized activities to insure compliance with stipulations and mitigation plans.
4. Adhere to monitoring and evaluation plan developed in the wilderness management plan.

## **Wildlife Resource Program**

### **Wildlife Program Objective 1**

Ascertain, maintain, and enhance wildlife habitats for priority species on public lands within the planning area.

#### **General Actions**

1. Initiate baseline inventories on priority species habitats, including but not limited to: peregrine falcons, gyrfalcons, rough-legged hawks, golden eagles, Canada geese, moose, caribou, Dall's sheep, grizzly bears, char, whitefish, other anadromous fish, and grayling.
2. Upon completion of the necessary analyses of inventory data, appropriate planning will occur, which will provide specific management prescriptions for these resources, including those in the proposed ACECs where habitat considerations warrant special management (see Wildlife Objectives 3, 4, 5), or in areas of diverse species, such as the Nigu-Iteriak ACEC. The target for completion of this analysis is FY92.
3. Prepare Habitat Management Plans (HMPs), where the complexity of resource conflicts warrants, while allowing for appropriate multiple land use activities.
  - a. Prepare an HMP for the Colville River Special Area to protect habitat critical to nesting raptors (particularly peregrine falcons), big game, waterfowl and fisheries. The proposed completion date for the HMP is FY92.
  - b. Prepare an Aquatic HMP for the Utility Corridor, beginning inventory in FY89.
4. Identify opportunities to improve the quality and quantity of wildlife habitat through land acquisitions. Priority species include threatened, endangered, and candidate species of plants and wildlife, migratory species of significant concern, and big game.

#### **Implementing Actions**

1. Beginning in the Utility Corridor in FY 89 initiate baseline inventories. In addition, review of available literature will provide data on habitat where special management considerations are necessary.
2. Implement Colville River Special Area HMP. Priority wildlife species to be featured in the HMP are peregrine falcon (threatened species), gyrfalcons, rough-legged hawk, Canada geese, whitefish, char, moose, caribou, grizzly bear, and, potentially, muskox.
3. Implement Aquatic HMP for the Utility Corridor.

4. Use prescribed fires to maintain and/or improve the natural diversity of wildlife habitats where appropriate and according to the standards of the current Fire Management Plan, also see Fire Management Section.
5. Pursue opportunities for land acquisitions to improve wildlife habitat.

### **Supporting Programs**

Soil, Water and Air, Recreation, Subsistence, Wilderness.

### **Monitoring and Evaluation**

1. Monitoring and evaluation to determine population and habitat use trends will be based on data gathered from inventories and set forth in HMPs.
2. Monitoring for the Aquatic HMP, to be determined in the HMP, will generally consist of systematic recollection of data from previously inventoried streams. Priority streams will be reevaluated every five years, while non-priority streams will be placed on a ten year cycle.

## **Wildlife Program Objective 2**

Protect to the extent possible impacts to wildlife resources during and following authorized land use activities, including mineral extraction, oil and gas exploration and development, and construction of pipelines or roads.

### **General Actions**

Incorporate wildlife management considerations and stipulations in land use authorizations, NEPA documents, surface protection, and all associated planning documents.

### **Implementing Actions**

1. Develop and standardize mitigation for impacts likely to result from land use activities.
2. Consult with the appropriate local, state, and federal agencies, and the public to insure that public and agency concerns are considered in the planning and development process and to provide consistency in wildlife management.
3. Review on a case by case basis all proposals for potentially impacting activities and ensure that appropriate stipulations and wildlife considerations are incorporated. See Objective 3 for protections for threatened, endangered, or sensitive plants and animals.

### **Supporting Program**

Planning, Lands, Minerals, Subsistence

### **Monitoring and Evaluation**

1. Monitor all priority species to insure that authorized land use activities do not significantly affect any species or its habitat. Monitoring and evaluation of potential impacts will be accomplished as land use applications are processed on a case by case basis.
2. Annually review standardized wildlife stipulations to determine if they are adequate and necessary to current program goals.



### Wildlife Program Objective 3

Protect and enhance threatened and endangered (T&E) and candidate species populations (including plants) and their habitats as listed by U.S. Fish and Wildlife Service, and sensitive species as listed by the State of Alaska.

#### General Actions

1. Initiate or continue inventory efforts on T&E and candidate species and their habitats to determine trend in populations and habitat use.
2. Develop a cooperative agreement with the University of Alaska and other federal and state agencies by FY91 to identify and protect areas where federal T&E and sensitive plant species occur.
3. Prepare recovery plans, HMPs, or ACECs to delineate protective or recovery measures.
4. Adhere to existing recovery plans for T&E species, including plants.
5. Identify additional critical habitats for peregrine falcons and other listed and candidate species through inventory efforts outside of the known inhabited areas.

#### Implementing Actions

1. Continue implementing the 1982 *Peregrine Falcon Recovery Plan - Alaska Population*, which outlines the protective actions necessary for the recovery of this species.
2. Designate a portion of the Sagwon Bluffs HMP area as an ACEC for protection of peregrine falcons and a sensitive plant species, *Erigeron muirii*. Designate Toolik Lake ACEC, which contains the sensitive plant species, *Montia bostockii*. Also see to Minerals Objectives 4 and 6 and ACEC management statements in Chapter 2.
3. Two annual inventory trips are planned beginning in 1989, the first in mid-June to determine the number of nesting adult pairs, and the second in late July to determine productivity and nesting success. Rivers include the Sagavanirktok and Colville. Inventory species include gyrfalcons, rough-legged hawks, and golden eagles in addition to peregrine falcons.
4. Implement recovery plans, HMPs, or ACECs that delineate protective or recovery measures. Sensitive plant species occur in the Sagwon Bluffs and Toolik Lake ACECs.
5. Adhere to policy established through cooperative agreements to protect T&E species, including plants. Under BLM policy sensitive plants are accorded the same protection as threatened and endangered plants, until their status can be determined.

#### Supporting Programs

Soil/Water/Air/Vegetation, Planning

#### Monitoring and Evaluation

1. Monitor peregrine falcons along the Colville and Sagavanirktok Rivers under the *Peregrine Falcon Recovery Plan - Alaska Population*, which consists of two annual trips per river.
2. Annually report on all inventories.
3. Follow monitoring and evaluation plan for the Sagwon Bluffs ACEC.
4. Monitor progress and report annually on proposed recovery plans, HMPs, and ACECs to ensure designation and/or completion. Subsequent evaluation and monitoring concerning activity plan (HMP) implementation would be covered in each plan.

## Wildlife Program Objective 4

Ascertain, protect, and enhance crucial aquatic/wetland/riparian habitat to benefit anadromous and resident fisheries populations, and maintain the integrity of the aquatic/wetland environment while allowing for other potential uses as appropriate. Riparian resources will be integrated with those of the whole watershed for full resource protection.

### General Actions

1. Protect fisheries habitats through preparation and implementation of HMPs, designation of ACECs, and/or other protective measures.
  - a. Prepare an HMP for the Colville River Special Area to protect habitat critical to nesting raptors (particularly peregrine falcons), big game, waterfowl, and fisheries. The proposed completion date for the HMP is FY92.
  - b. Prepare an Aquatic HMP for the Utility Corridor, beginning inventory in FY89
2. Develop a database of aquatic and associated riparian habitat and fishery populations.
3. Develop projects to enhance riparian habitat to benefit fishery populations.

### Implementing Actions

1. Initiate fisheries inventory to provide information for multiple use planning efforts and resolution of conflicts within the Utility Corridor. An inventory will begin in FY89. Priority species include grayling, whitefish, and anadromous fish.
2. Initiate fisheries inventory to provide information for multiple use planning efforts and resolution of conflicts in the remainder of the planning area. This inventory will begin in FY95, following the completion of the Utility Corridor inventory as described above. Priority species include grayling, whitefish, and anadromous fish.
3. Initiate riparian resources inventory, including location, size, type, and condition, completed in FY91.
4. Develop enhancement program for riparian resources in less than good condition. Such enhancement would include previously disturbed (e.g., from mining, road construction, ORV impacts) resources.
5. Implement Colville River Special Area HMP. Priority wildlife species to be featured in the HMP are peregrine falcon (threatened species), gyrfalcons, rough-legged hawk, Canada geese, whitefish, char, moose, caribou, grizzly bear, and, potentially, muskox.
6. Implement Aquatic HMP for the Utility Corridor.
7. Upon completion of the initial inventories and the delineation of crucial habitats, enhancement projects to rehabilitate and improve deteriorated habitats will be developed. In areas where fish passage can be improved through the elimination or bypass of natural or man-made barriers, improvement of access will be analyzed.
8. Designate the Ivishak River and the Jim River as ACECs, and take lead in preparing ACEC management plans. In addition, other crucial anadromous fishery habitats when identified would be designated ACECs through plan amendment.
9. Determine and pursue closure of the floodplains of the following rivers within the Utility Corridor to mineral entry and location under the 1872 mining law: Kanuti River (downstream from the western boundary of the inner Corridor), Jim River and Prospect Creek (downstream from the eastern boundary of the inner Corridor), Ivishak River (within the ACEC) (Also see Lands Program Objective 4 and SWAV Objective).



10. Determine floodplains of the Jim River and Prospect Creek to delineate areas where gravel extraction would be discouraged.
11. Apply protective stipulations to crucial habitat in oil and gas development areas. No surface occupancy stipulations would apply on portions of the Prospect Creek, Jim River and Kanuti River floodplains, in the Ivishak River and Kanuti Hot Springs ACECs, in areas of sensitive plant habitat in the Toolik Lake ACEC, and for plant and peregrine falcon habitat in the Sagwon Bluffs ACEC.

### Supporting Programs

Soil/Water/Air/Vegetation, Minerals, Recreation, Wilderness

### Monitoring and Evaluation

1. Monitoring in the Utility Corridor will consist of systematic recollection of data from previously inventoried streams. Priority streams will be reevaluated every five years, non-priority streams every ten years. The initial inventory should be completed by FY94; monitoring will commence in FY95.
2. Monitoring in the remainder of the planning area will consist of systematic recollection of data from previously inventoried streams. Priority streams will be reevaluated every five years, non-priority streams every 10 years. The initial inventory should be completed by 2000 and monitoring will commence in 2001.
3. Evaluation of the effectiveness of habitat improvement projects will be conducted on a case by case basis following completion of each project.
4. Monitoring and evaluation of the Ivishak and Jim River ACECs will be discussed under the ACEC activity plans.
5. The Kanuti, Jim, and Ivishak rivers, and Prospect Creek will be monitored on an annual basis to determine any potentially impacting land use activity. If any disturbance is documented, intensive stream monitoring will be conducted to determine the extent of impacts to the aquatic environment. Baseline monitoring information will be updated every five years.

## Wildlife Program Objective 5

Protect crucial Dall's sheep habitats identified in this RMP.

### General Actions

1. Prepare HMPs and develop management plans for ACECs designated under this plan for the protection and enhancement of Dall's sheep habitat.
  - Galbraith Lake (56,000 acres)
  - Nugget Creek (3,300 acres)
  - Poss Mountain (8,000 acres)
  - Slope Mountain (5,100 acres)
  - Snowden Mountain (28,000 acres)
  - West Fork Atigun (8,500 acres)
2. Pursue the withdrawal of the following identified mineral licks from mineral location, and ensure nonsurface occupancy stipulations are applied for mineral leasing:
  - a. Nugget Creek (1 lick, 160 acres) within the Nugget Creek ACEC
  - b. Poss Mountain (1 lick, 160 acres) within the Poss Mountain ACEC
  - c. Slope Mountain (1 lick, 160 acres) within the Slope Mountain ACEC
  - d. Snowden Mountain (2 licks, 320 acres) within the Snowden Mountain ACEC
  - e. West Fork Atigun (1 lick, 160 acres) within the West Fork Atigun ACEC

f. Endicott Mountain 1 and 2 (2 licks, 320 acres)

**Implementing Actions**

1. Within one year of designation, review management plans (Section III) of the appropriate ACECs and amend as necessary for the protection of lambing areas. Review all plans of operation, and pursue implementation of ACEC management plans as appropriate.
2. Establish metes and bounds of the mineral licks, and within one year of plan approval, verify withdrawal of identified mineral licks (Item 2 above).
3. In coordination with the Alaska Department of Fish and Game, prepare and implement a Dall's Sheep HMP to manage and enhance crucial habitat within the ACECs and other Dall's sheep concentrations within the planning area.

**Supporting Programs**

Lands, Minerals, Recreation

**Monitoring and Evaluation**

1. All ACECs and other priority areas will be monitored on an annual basis initially until a database is developed to allow trend analysis. More specific monitoring objectives and methodologies will be provided in the discussion of each individual ACEC. After the establishment of a database, monitoring will be conducted on a two to three year cycle to confirm continued use by the species and to identify potential conflicting activities within priority areas.
2. Data for the Dall's sheep HMP will be collected in FY89 thru 91 with preparation of the HMP in FY92 and implementation in FY93. It is anticipated that the HMP will cover six ACECs for Dall's sheep critical habitat.
3. Monitoring and evaluation of any HMP will be developed along with the plan. It will include annual visits and data collection on a third of the sites annually, beginning in FY93.

**Wildlife Program Objective 6**

Reintroduce appropriate native species to historic ranges.

**General Action**

Identify habitats once inhabited by species that have been extirpated throughout the planning area or those areas where only remnant populations remain.

**Implementing Actions**

1. Develop a habitat evaluation, environmental assessment (EA), and necessary agreements with the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service, the North Slope Borough and local villages for the reintroduction of muskox to their historic range within the planning area. The reintroduction of muskox is anticipated to occur in FY90.
2. Develop plans for the reintroduction of other species as appropriate.

**Supporting Programs**

Wilderness, Recreation, Subsistence



**Monitoring and Evaluation:**

1. Monitoring will consist of tracking seasonal movements, determining productivity, mortality and population size of reintroduced species.
2. Evaluate opportunities for population enhancement or reestablishment of other appropriate reintroductions within the planning area (for example, tundra hares).

## Part 2: Legal Descriptions of Lands Actions

### Discussed in the Management Plan

#### Lands Program Objective 1

##### ACECs:

Refer to maps in Proposed RMP Chapter 2, Action 52.

##### Wiseman Land sale area:

U.S. Survey No. 5276, lots 1 to 17, inclusive and lots 19 to 26, inclusive, containing 25.86 acres.

##### Development Nodes:

Table N.1: Yukon Crossing Development Node

Township and Range	Sections	Description
Fairbanks Meridian		
T. 12 N., R. 10 W.	Sec. 6 Sec. 7	North of the right banks of the Yukon River, excluding valid existing rights
T. 12 N., R. 11 W.	Sec. 1 Sec. 2 Sec. 12	NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , N <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , those lands north of the right bank of the Yukon River.
T. 13 N., R. 10 W.	Sec. 29 Sec. 30 Secs. 31, 32	S <sup>1</sup> / <sub>2</sub> S <sup>1</sup> / <sub>2</sub>
T. 13 N., R. 11 W.	Sec. 22, 25, 26 Sec. 27 Sec. 34 Sec. 35 Sec. 36	E <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> N <sup>1</sup> / <sub>2</sub>

Table N.2: Coldfoot Development Node

Township and Range	Sections	Description
Fairbanks Meridian		
T. 28 N., R. 2 W.	Sec. 3 Sec. 4  Sec. 9  Secs. 10, 15 Sec. 16  Sec. 20  Secs. 21, 22	Those lands east of the left bank of the Middle Fork of the Koyukuk River Those lands east of the left bank of the Middle Fork of the Koyukuk River  Those lands east of the left bank of the Middle Fork of the Koyukuk River Those lands east of the left bank of the Middle Fork of the Koyukuk River  Those lands east of the left bank of the Middle Fork of the Koyukuk River
T. 29 N., R. 12 W.	Sec. 23  Sec. 24 Sec. 25	Those lands east of the left bank of the Middle Fork of the Koyukuk River  N <sup>1</sup> / <sub>2</sub>



**Table N.2: Coldfoot Development Node**

Township and Range	Sections	Description
T. 29 N., R. 12 W. cont.	Sec. 26	Those lands east of the left bank of the Middle Fork of the Koyukuk River
	Sec. 27	Those lands east of the left bank of the Middle Fork of the Koyukuk River
	Sec. 34	Those lands east of the left bank of the Middle Fork of the Koyukuk River
	Sec. 35	Those lands east of the left bank of the Middle Fork of the Koyukuk River

**Table N.3: Chandalar Shelf Development Node**

Township and Range	Sections	Description
Umiat Meridian		
T. 16 S., R. 11 E	Sec. 3	
	Sec. 4	SE <sup>1</sup> / <sub>4</sub>
	Sec. 9	
	Sec. 10	W <sup>1</sup> / <sub>2</sub>

**Table N.4: Happy Valley Development Node**

Township and Range	Sections	Description
Umiat Meridian		
T. 3 S., R. 14 E	Sec. 19	
	Sec. 20	Those lands west of the left bank of Sagavanirktok R.
	Sec. 29	Those lands west of the left bank of Sagavanirktok R.
	Sec. 30	Those lands west of the left bank of Sagavanirktok R.

## Lands Program Objective 2

**Table N.5: Legal Description of Inner Corridor**

Township and Range	Sections	Description
Umiat Meridian		
T. 1 N., R. 13 E.	Secs. 1,12,13,24,25,36	
T. 1 N., R. 14 E.	Secs. 1 to 36	All
T. 1 N., R. 15 E.	Secs. 3 to 10	Inclusive
	Secs. 16 to 21	Inclusive
T. 16 S., R. 10 E.	Sec. 13	
	Secs. 23 to 27	Inclusive
	Secs. 34 to 36	Inclusive
T. 17 S., R. 10 E.	Secs. 1,2,3	
T. 9 S., R. 11 E.	Secs. 1 to 36	All
T. 10 S., R. 11 E.	Secs. 1 to 36	All
T. 11 S., R. 11 E.	Secs. 1 to 36	All
T. 12 S., R. 11 E.	Secs. 1 to 36	All
T. 13 S., R. 11 E.	Secs. 25,35,36	
T. 14 S., R. 11 E.	Secs. 1 to 3	Inclusive
	Secs. 10 to 13	Inclusive
	Secs. 24, 25, 36	
T. 15 S., R. 11 E.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 22 to 28	Inclusive
	Secs. 33 to 36	Inclusive
T. 16 S., R. 11 E.	Secs. 2 to 11	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 38 to 32	Inclusive
T. 17 S., R. 11 E.	Secs. 5 and 6	
T. 9 S., R. 12 E.	Secs. 1 to 36	All

Table N.5 cont.: Legal Description of Inner Corridor

Township and Range	Sections	Description
T. 10 S., R. 12 E.	Secs. 1 to 36	All
T. 11 S., R. 12 E.	Secs. 1 to 36	All
T. 12 S., R. 12 E.	Secs. 1 to 36	All
T. 13 S., R. 12 E.	Secs. 2 to 11	Inclusive
	Secs. 14 to 23	Inclusive
	Secs. 26 to 35	Inclusive
T. 14 S., R. 12 E.	Secs. 3 to 10	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 27 to 34	Inclusive
T. 15 S., R. 12 E.	Secs. 4 to 9	Inclusive
	Secs. 16 to 21	Inclusive
	Secs. 29 to 32	Inclusive
T. 2 S., R. 13 E.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 3 S., R. 13 E.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 4 S., R. 13 E.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 6 S., R. 13 E.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 7 S., R. 13 E.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 8 S., R. 13 E.	Secs. 1 to 3	Inclusive
	Secs. 11 to 14	Inclusive
	Secs. 22 to 28	Inclusive
	Secs. 32 to 36	Inclusive
T. 9 S., R. 13 E.	Secs. 1 to 36	All
T. 10 S., R. 13 E.	Secs. 1 to 36	All
T. 11 S., R. 13 E.	Secs. 1 to 36	All
T. 1 S., R. 14 E.	Secs. 1 to 36	All
T. 2 S., R. 14 E.	Secs. 1 to 36	All
T. 3 S., R. 14 E.	Secs. 3 to 10	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 27 to 34	Inclusive
T. 4 S., R. 14 E.	Secs. 3 to 10	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 27 to 34	Inclusive
T. 5 S., R. 14 E.	Secs. 1 to 36	All
T. 6 S., R. 14 E.	Secs. 3 to 10	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 27 to 34	Inclusive
T. 7 S., R. 14 E.	Secs. 3 to 10	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 27 to 34	Inclusive
T. 8 S., R. 14 E.	Secs. 4 to 9	Inclusive
	Secs. 16 to 21	Inclusive
	Secs. 28 to 33	Inclusive
T. 9 S., R. 14 E.	Secs. 5 to 8	Inclusive
	Secs. 17 to 20	Inclusive
	Secs. 29 to 32	Inclusive



Table N.5 cont.: Legal Description of Inner Corridor

Township and Range	Sections	Description
T. 1 S., R. 15 E.	Secs. 6,7,18,19,30,31	
Fairbanks Meridian		
T. 12 N., R. 9 W.	Secs. 29 to 33	Inclusive
T. 33 N., R. 9 W.	Secs. 6,7,18,19,30,31	
T. 37 N., R. 9 W.	Secs. 30 and 31	
T. 12 N., R. 10 W.	Secs. 1 to 36	All
T. 13 N., R. 10 W.	Sec. 19	
	Secs. 29 to 33	Inclusive
T. 31 N., R. 10 W.	Secs. 3 to 10	Inclusive
	Secs. 16 to 21	Inclusive
	Secs. 29 to 31	Inclusive
T. 32 N., R. 10 W.	Secs. 2 to 5	Inclusive
	Secs. 8 to 11	Inclusive
	Secs. 14 to 17	Inclusive
	Secs. 19 to 23	Inclusive
	Secs. 27 to 33	Inclusive
T. 33 N., R. 10 W.	Secs. 1 to 3	Inclusive
	Secs. 10 to 15	Inclusive
	Secs. 22 to 27	Inclusive
	Secs. 33 to 36	Inclusive
T. 34 N., R. 10 W.	Secs. 1 to 36	All
T. 35 N., R. 10 W.	Secs. 1 to 36	All
T. 36 N., R. 10 W.	Secs. 1 to 36	All
T. 37 N., R. 10 W.	Secs. 25 to 27	Inclusive
	Secs. 34 to 36	Inclusive
T. 12 N., R. 11 W.	Secs. 1 to 36	All
T. 29 N., R. 11 W.	Secs. 6, 7, 18	
T. 30 N., R. 11 W.	Secs. 1 to 10	Inclusive
	Secs. 16 to 20	Inclusive
	Secs. 29 to 32	Inclusive
T. 31 N., R. 11 W.	Secs. 1, 12,13	
	Secs. 23 to 28	Inclusive
	Secs. 32 to 36	Inclusive
T. 32 N., R. 11 W.	Sec. 36	
T. 13 N., R. 12 W.	Secs. 1,2,3	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 25	Inclusive
T. 14 N., R. 12 W.	Secs. 1 to 36	All
T. 15 N., R. 12 W.	Secs. 3 to 10	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 27 to 34	Inclusive
T. 16 N., R. 12 W.	Sec. 19	
	Secs. 29 to 32	Inclusive
T. 25 N., R. 12 W.	Secs. 5,6,7,18,19	
T. 26 N., R. 12 W.	Secs. 30, 31	
T. 27 N., R. 12 W.	Secs. 5 to 8	Inclusive
	Secs. 17 to 20	Inclusive
T. 28 N., R. 12 W.	Secs. 2 to 5	Inclusive
	Secs. 8 to 11	Inclusive
	Secs. 15 to 22	Inclusive
	Secs. 34,35,36	
T. 29 N., R. 12 W.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 22 to 27	Inclusive
	Secs. 34,35,36	
T. 30 N., R. 12 W.	Secs. 13,24,25,36	
T. 14 N., R. 13 W.	Secs. 1,12,13,24	
T. 15 N., R. 13 W.	Secs. 1 and 2	
	Secs. 11,12,13	
	Secs. 24,25,36	

Table N.5 cont.: Legal Description of Inner Corridor

Township and Range	Section	Description
T. 16 N., R. 13 W.	Secs. 1 to 36	All
T. 17 N., R. 13 W.	Secs. 4 to 10 Secs. 15 to 22 Secs. 26 to 36	Inclusive Inclusive Inclusive
T. 18 N., R. 13 W.	Sec. 31	
T. 24 N., R. 13 W.	Secs. 4 to 9 Secs. 17,18,19,30	Inclusive
T. 25 N., R. 13 W.	Secs. 1 and 2 Secs. 11 to 14 Secs. 21 to 28 Secs. 32 to 35	Inclusive Inclusive Inclusive
T. 26 N., R. 13 W.	Secs. 1 to 3 Secs. 10 to 15 Secs. 22 to 27 Secs. 34 to 36	Inclusive Inclusive Inclusive Inclusive
T. 27 N., R. 13 W.	Secs. 1 and 2 Secs. 10 to 15 Secs. 22 to 27 Secs. 34 to 36	Inclusive Inclusive Inclusive Inclusive
T. 28 N., R. 13 W.	Secs. 13,24,25,26,35,36	
T. 17 N., R. 14 W.	Secs. 1,2,12	
T. 18 N., R. 14 W.	Secs. 1 to 17 Secs. 21 to 28 Secs. 33 to 36	Inclusive Inclusive Inclusive
T. 19 N., R. 14 W.	Secs. 18 to 20 Secs. 28 to 33	Inclusive Inclusive
T. 21 N., R. 14 W.	Secs. 4 to 9 Secs. 16 to 21 Secs. 28 to 33	Inclusive Inclusive Inclusive
T. 22 N., R. 14 W.	Secs. 5 to 8 Secs. 17 to 20 Secs. 29 to 33	Inclusive Inclusive Inclusive
T. 23 N., R. 14 W.	Secs. 2 to 5 Secs. 7 to 11 Secs. 15 to 21 Secs. 28 to 32	Inclusive Inclusive Inclusive Inclusive
T. 24 N., R. 14 W.	Secs. 12 to 14 Secs. 22 to 28 Secs. 33 to 36	Inclusive Inclusive Inclusive
T. 19 N., R. 15 W.	Secs. 1 to 5 Secs. 9 to 15 Secs. 23 to 25 Sec. 36	Inclusive Inclusive Inclusive
T. 20 N., R. 15 W.	Sec. 1 to 36	All
T. 21 N., R. 15 W.	Secs. 1 and 2 Secs. 11 to 14 Secs. 23 to 26 Secs. 35 and 36	Inclusive Inclusive
T. 22 N., R. 15 W.	Secs. 1 to 3 Secs. 11 to 14 Secs. 23 to 26 Secs. 35 and 36	Inclusive Inclusive Inclusive
T. 23 N., R. 15 W.	Sec. 13 Secs. 23 to 27 Secs. 34 to 36	Inclusive Inclusive

1. Modify the boundary of the inner Corridor through the amendment of PLO 5150, as described:
  - a. Coldfoot Area: Add Section 28, T. 28 N., R. 12 W., Fairbanks Meridian.



- b. Prospect Creek Area: Delete Sections 27 and 34, T. 23 N., R. 15 W., Fairbanks Meridian and Section 3, T. 22 N., R. 15 W., Fairbanks Meridian.
- c. Old Man Area: Add Sections 7, 17 and 21, T. 19 N., R. 14 W., Fairbanks Meridian.
- d. Olson Lakes: Delete Sections 1 and 33, T. 18 N., R. 14 W., Fairbanks Meridian.
- e. Finger Mountain: Add Section 30, T. 18 N., R. 14 W., Fairbanks Meridian.
- f. Material Site: Add Section 18, T. 16 N., R. 12 W., Fairbanks Meridian.
- g. Delete Sections 30., 31 and 32. T. 16 N., R. 13 W., Fairbanks Meridian.  
Fort Hamlin Hills: Delete Section 1, T. 14 N., R. 12 W., Fairbanks Meridian.
- i. 5-Mile Area: Delete Sections 1, 2 and 12, T. 13 N., R. 11 W., Fairbanks Meridian.  
Add Section 28, T. 13 N., R. 10 W., Fairbanks Meridian.

### Lands Program Objective 3

1. Open the following lands to state selection:

**Table N.6: Lands in the planning area south of the Yukon River:**

Township and Range	Sections	Description
Fairbanks Meridian		
T. 10 N., R. 9 W.	Secs. 4 to 8	Excluding lands south of the right bank of Hess Creek
T. 11 N., R. 10 W.	Secs. 5 to 8	Inclusive
	Secs. 15 to 23	Inclusive
	Secs. 26 to 35	Inclusive
T. 12 N., R. 11 W.	Secs. 19 to 22	Excluding lands north of the right bank of the Yukon River
	Secs. 27 to 36	Excluding lands north of the right bank of the Yukon River

**Table N.7: The Prospect Unit**

Township and Range	Sections	Description
Fairbanks Meridian		
T. 23 N., R. 14 W.	Sec. 17	NE <sup>1</sup> / <sub>4</sub> , E <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub>
	Sec. 18	W <sup>1</sup> / <sub>2</sub> SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub> N <sup>1</sup> / <sub>2</sub> SE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> , SE <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , N <sup>1</sup> / <sub>2</sub> SW <sup>1</sup> / <sub>4</sub> NW <sup>1</sup> / <sub>4</sub> SE <sup>1</sup> / <sub>4</sub> , those portions westerly of the Dalton Highway ROW
	Sec. 19	S <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub> NW <sup>1</sup> / <sub>4</sub> , S <sup>1</sup> / <sub>2</sub>
	Sec. 20	W <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> , W <sup>1</sup> / <sub>2</sub>
	Sec. 30	N <sup>1</sup> / <sub>2</sub> excluding BLM Recreational Withdrawal
	Secs. 18 through 23	Inclusive
T. 23 N., R. 15 W.	Sec. 25	N <sup>1</sup> / <sub>2</sub> excluding BLM Recreational Withdrawal
	Sec. 26	Excluding the BLM Recreational Withdrawal and those lands south of the left bank of the Jim River
	Secs. 27 through 31	Excluding those lands south of the left bank of the Jim River.
T. 23 N., R. 16 W.	Secs. 1 through 35	Inclusive
	Sec. 36	Excluding those lands south of the left bank of the Jim River.
T. 24 N., R. 16 W.	Secs. 1 through 36	Inclusive

**Table N.8: The Coldfoot Unit**

Township and Range	Sections	Description
Fairbanks Meridian		
T. 28 N., R. 11 W.	Sec. 13	
	Secs. 23 through 36	Inclusive
T. 28 N., R. 12 W.	Sec. 3	

Table N.8 cont.: The Coldfoot Unit

Township and Range	Sections	Description
T. 28 N., R. 12 W. cont.	Sec. 4	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Sec. 9	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Secs. 10,11,14,15	
	Secs. 16 and 17	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Secs. 19 and 20	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Secs. 21 through 23	Inclusive
	Secs. 25 through 29	Inclusive
	Secs. 30 and 31	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
T. 29 N., R. 12 W.	Secs. 32 through 36	Inclusive
	Sec. 23	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Sec. 24	
	Sec. 25	N <sup>1</sup> / <sub>2</sub>
	Sec. 26	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Sec. 27	Excluding those lands west of the left bank of the Middle Fork Koyukuk River
	Sec. 34 and 35	Excluding those lands west of the left bank of the Middle Fork Koyukuk River

Table N. 9: Lands in the Sagavanirktok Unit, north of 68° N latitude

Township and Range	Sections	Description
Umiat Meridian		
T. 1 - 7 S., R. 15 E.	Secs. 1 - 36	All
T. 1 - 8 S., R. 14 E.	Secs. 1 - 36	All
T. 1 - 8 S., R. 13 E.	Secs. 1 - 36	All
T. 8 S., R. 12 E.	Secs. 1 - 36	All
T. 1 N., R. 13 E.	Secs. 1 - 36	All
T. 1 N., R. 14 E.	Secs. 1 - 36	All
T. 1 N., R. 15 E.	Secs. 1 - 36	All

Table N.10: The east-west corridor withdrawn by PLO 5182 adjacent to ANWR

Township and Range	Sections	Description
Umiat Meridian		
T. 1 S., R. 24 E.	Secs. 1 - 18	Inclusive
T. 1 S., R. 25 E.	Sec. 4	Excluding lands within Arctic NWR
	Secs. 5 through 9	Inclusive
	Secs. 10 and 14	Excluding lands within Arctic NWR
	Secs. 15 through 21	Inclusive
	Secs. 22 and 23	Excluding lands within Arctic NWR
	Sec. 27	Excluding lands within Arctic NWR
	Secs. 28 through 34	Inclusive
	Sec. 35	Excluding lands within Arctic NWR

Table N.11: Encourage selection of the lands west of the upper reaches of the Chandalar River by the State of Alaska.

Township and Range	Sections	Description
Umiat Meridian		
T. 1 S., R. 25 E.	Secs. 3 and 11	Excluding lands within Arctic NWR
T. 14 S., R. 15 E.	Sec. 13	Excluding lands within Arctic NWR
	Sec. 28	Excluding lands within Arctic NWR



**Table N.11 cont.:** Encourage selection of the lands west of the upper reaches of the Chandalar River by the State of Alaska.

Township and Range	Sections	Description
T. 14 S., R. 15 E. cont.	Secs. 31 through 33	Excluding lands within Arctic NWR
T. 14 S., R. 16 E.	Secs. 3 through 5	Excluding lands within Arctic NWR
	Secs. 7 and 8	Excluding lands within Arctic NWR
	Sec. 9	
	Secs. 10 through 13	Excluding lands within Arctic NWR
	Secs. 14 through 16	Inclusive
	Secs. 17 and 18	Excluding lands within Arctic NWR
T. 14 S., R. 17 E.	Secs. 14 through 18	Excluding lands within Arctic NWR
	Sec. 22	
	Sec. 23	Excluding lands within Arctic NWR
	Sec. 26	Excluding lands within Arctic NWR
	Sec. 27	
	Sec. 34 and 35	Excluding lands within Arctic NWR

**Table N. 12:** Request relinquishment of state selections of five small tracts of land located between the Utility Corridor and adjacent CSUs.

Township and Range	Sections	Description
<b>Fairbanks Meridian</b>		
T. 17 N., R. 11 W	Secs. 6, 7, 18, 19 Secs. 29 - 32	
T. 18 N., R. 11 W.	Secs. 6, 7, 18, 19, 30, 31	
T. 29 N., R. 13 W.	Secs. 1, 11, 12	Excluding lands within Gates of the Arctic NP
	Sec. 13	
	Secs. 14, 23	Excluding lands within Gates of the Arctic NP
	Sec. 24	
	Secs. 25, 36	Excluding lands within Gates of the Arctic NP
T. 28 N., R. 18 W.	Secs. 13, 24, 25, 36	Excluding lands within Gates of the Arctic NP
<b>Umiat Meridian</b>		
T. 14 S., R. 10 E.	Sec. 1	Excluding lands within Gates of the Arctic NP
	Secs. 12 to 14	Excluding lands within Gates of the Arctic NP
	Secs. 23 to 26	Excluding lands within Gates of the Arctic NP
	Secs. 34 to 36	Excluding lands within Gates of the Arctic NP
	Secs. 1 to 4	Excluding lands within Gates of the Arctic NP
	Secs. 8 to 17	Excluding lands within Gates of the Arctic NP
	Secs. 20 to 36	Excluding lands within Gates of the Arctic NP
T. 8 S., R. 15 E	Secs. 2 to 10	Inclusive
(request relinquishment dependent upon state selection of Sagavanirktok Unit	Secs. 16 to 20 Sec. 30	Inclusive

**Table N. 13:** Acquire fee estate from ASRC by exchange lands within the Oolamnagavik area

Township and Range	Sections	Description
<b>Umiat Meridian</b>		
T. 6 S., R. 6 W.	Secs. 30, 31	Excluding lands east of the right bank of the Killik R.
T. 7 S., R. 6 W.	Secs. 6, 7, 18, 19, 30	Excluding lands east of the right bank of the Killik R.
T. 5 S., R. 7 W.	Secs. 27 to 35	Excluding lands northerly and easterly of the right bank of the Killik River.
T. 6 S., R. 7 W.	Secs. 2 to 11	Excluding lands east of the right bank of the Killik R.
	Secs. 13 to 18	Excluding lands east of the right bank of the Killik R.
	Secs. 22 to 27	Excluding lands east of the right bank of the Killik R.
	Secs. 34 to 36	Excluding lands east of the right bank of the Killik R.
T. 7 S., R. 7 W.	Secs. 1, 2	Excluding lands south and east of the right bank of the Killik R.
	Secs. 11 to 14	Excluding lands south and east of the right bank of the Killik R.

**Table N.13 cont.: Acquire fee estate from ASRC by exchange lands within the Oolamnagavik area**

Township and Range	Sections	Description
T. 7 S., R. 7 W. cont.	Secs. 19 to 35	Excluding lands south and east of the right bank of the Killik R.
T. 8 S., R. 7 W.	Secs. 3 to 9 Secs. 16 to 20 Secs. 30, 31	Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R.
T. 5 S., R. 8 W.	Sec. 7 Secs. 17 to 21 Secs. 25 to 36	Excluding lands north of the right bank of the Killik R. Excluding lands north of the right bank of the Killik R. Excluding lands north of the right bank of the Killik R.
T. 7 S., R. 8 W.	Secs. 1 to 18	
T. 8 S., R. 8 W.	Secs. 1 to 18 Secs. 22 to 27 Secs. 34 to 36	Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R.
T. 9 S., R. 8 W.	Secs. 2 to 11 Secs. 15 to 22 Secs. 28 to 33	Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R.
T. 10 S., R. 8 W.	Secs. 4 to 8 Secs. 17 and 18	Excluding lands east of the right bank of the Killik R. Excluding lands east of the right bank of the Killik R.
T. 5 S., R. 9 W.	Secs. 19, 20 Secs. 29 to 34	
T. 7 S., R. 9 W.	Secs. 22 to 27 Secs. 34 to 36	
T. 4 S., R. 10 W.	Secs. 30 to 33	
T. 5 S., R. 10 W.	Secs. 3 to 6 Sec. 10 Secs. 14 to 15 Secs. 22 to 27 Secs. 34 to 36	
T. 4 S., R. 11 W.	Sec. 29 Secs. 31 to 36	
T. 5 S., R. 11 W.	Secs. 1 to 6	
T. 4 S., R. 12 W.	Secs. 31 to 36	
T. 5 S., R. 12 W.	Secs. 1 to 6	
T. 4 S., R. 13 W.	Secs. 33 to 36	Excluding lands west of the east bank of Heather Creek
T. 5 S., R. 13 W.	Secs. 1 to 5	Excluding lands west of the east bank of Heather Creek
T. 6 S., R. 13 W.	Secs. 19 to 24 Secs. 26 to 35	Excluding lands west of the east bank of Heather Creek Excluding lands west of the east bank of Heather Creek
T. 6 S., R. 14 W.	Secs. 24 and 25 Sec. 36	Excluding lands west of the east bank of Heather Creek Excluding lands west of the east bank of Heather Creek

**Table N.14: Acquire selection rights from ASRC by relinquishment or exchange lands in the Oolamnagavik area**

Township and Range	Sections	Description
Umiat Meridian		
T. 6 S., R. 7 W.	Secs. 19 to 21 Secs. 28 to 33	Inclusive Inclusive
T. 7 S., R. 7 W.	Secs. 3 to 10 Secs. 15 to 18	Inclusive Inclusive
T. 6 S., R. 8 W.	Secs. 1 to 36	All
T. 5 S., R. 9 W.	Secs. 12 and 13 Secs. 15 to 18 Secs. 21 to 28 Secs. 35 and 36	Excluding lands within NPR-A Excluding lands within NPR-A Excluding lands within NPR-A Excluding lands within NPR-A
T. 7 S., R. 9 W.	Secs. 1 to 21 Secs. 28 to 33	Inclusive Inclusive
T. 8 S., R. 9 W.	Secs. 1 to 18	Inclusive
T. 4 S., R. 10 W.	Secs. 17 to 22 Secs. 26 to 29 Secs. 34 to 36	Excluding lands within NPR-A Excluding lands within NPR-A Excluding lands within NPR-A



**Table N.14 cont.: Acquire selection rights from ASRC by relinquishment or exchange lands in the Oolamnavik area**

Township and Range	Sections	Description
T. 5 S., R. 10 W.	Secs 1 and 2	Excluding lands within NPR-A
	Secs. 11 to 13	Excluding lands within NPR-A
T. 7 S., R. 10 W.	Secs 1 to 36	All
T. 8 S., R. 10 W.	Secs 1 to 6	Inclusive
	Sec. 12	
T. 4 S., R. 11 W.	Sec. 13	Excluding lands within NPR-A
	Secs. 15 to 28	Excluding lands within NPR-A
	Sec. 30	Excluding lands within NPR-A
T. 4 S., R. 12 W.	Secs. 13 and 14	Excluding lands within NPR-A
	Secs. 19 to 30	Excluding lands within NPR-A
T. 4 S., R. 13 W.	Secs 25 to 28	Excluding lands within NPR-A and west of the left bank of Heather Creek
	Sec. 33	Excluding lands within NPR-A and west of the left bank of Heather Creek

**Table N.15: Pursue exchanges with state and Native land owners to provide for federal ownership of a corridor surrounding the Killik River**

Township and Range	Sections	Description
Umiat Meridian		
T. 5 S., R. 6 W.	Secs 4 to 8	Inclusive
	Secs. 16 to 21	Inclusive
	Secs. 28 to 33	Inclusive
T. 6 S., R. 6 W.	Secs. 4 to 8	Inclusive
	Secs. 16 to 21	Inclusive
	Secs. 28 to 33	Inclusive
T. 7 S., R. 6 W.	Secs. 4 to 8	Inclusive
	Secs. 16 to 21	Inclusive
	Secs. 28 to 33	Inclusive
T. 8 S., R. 6 W.	Secs. 4 to 7	Inclusive
T. 5 S., R. 7 W.	Secs. 1 to 36	All
T. 6 S., R. 7 W.	Secs. 1 to 36	All
T. 7 S., R. 7 W.	Secs 1 to 36	All
T. 8 S., R. 7 W.	Secs. 1 to 23	Inclusive
	Secs. 27 to 34	Inclusive
T. 9 S., R. 7 W.	Secs. 5 to 8	Inclusive
	Secs. 17 to 19	Inclusive
	Secs. 30 to 31	Inclusive
T. 10 S., R. 7 W.	Sec. 6	
T. 5 S., R. 8 W.	Secs. 1 to 36	Excluding lands within NPR-A
T. 6 S., R. 8 W.	Secs 1 to 5	Inclusive
	Secs. 10 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 7 S., R. 8 W.	Secs. 1 and 2	
	Secs. 11 to 14	Inclusive
	Secs. 23 to 26	Inclusive
	Secs. 35 and 36	
T. 8 S., R. 8 W.	Secs 1 to 3	Inclusive
	Secs. 10 to 16	Inclusive
	Secs. 21 to 28	Inclusive
	Secs. 33 to 36	Inclusive
T. 9 S., R. 8 W.	Secs. 1 to 36	All
T. 10 S., R. 8 W.	Secs. 1 to 23	Inclusive
	Secs. 27 to 33	Inclusive
T. 11 S., R. 8 W.	Secs. 4 to 8	Inclusive
	Secs. 18 and 19	
	Secs. 30 and 31	
T. 12 S., R. 8 W.	Secs. 6 and 7	

**Table N.15 cont.:** Pursue exchanges with state and Native land owners to provide for federal ownership of a corridor surrounding the Killik River

Township and Range	Sections	Description
T. 12 S., R. 8 W. cont.	Secs. 18 and 19	
T. 5 S., R. 9 W.	Secs. 12 and 13 Secs. 24 and 25 Sec. 36	Excluding lands within NPR-A
T. 9 S., R. 9 W.	Sec. 36	
T. 10 S., R. 9 W.	Secs. 1 and 2 Secs. 10 to 15 Secs. 21 to 29 Secs. 31 to 36	Inclusive Inclusive Inclusive
T. 11 S., R. 9 W.	Secs. 1 to 36	All
T. 12 S., R. 9 W.	Secs. 1 to 24	Inclusive
T. 11 S., R. 11 W.	Sec. 1 Secs. 11 to 15 Secs. 22 to 27 Secs. 34 to 36	Inclusive Inclusive Inclusive
T. 12 S., R. 12	Secs. 1 to 3 Secs. 10 to 15 Secs. 22 to 24	Inclusive Inclusive Inclusive

**Table N.16:** Pursue the acquisition of subsurface estate from ASRC (or disposal of surface estate to ASRC) to end split-estate conditions in CAMA

Township and Range	Sections	Description
Umiat Meridian		
T. 9 S., R. 1 W	Secs. 7 to 9 Secs. 13 to 27	Inclusive Inclusive
T. 9 S., R. 2 W	Secs. 1 to 3 Secs. 10 to 15	Inclusive Inclusive
T. 8 S., R. 3 W.	Secs. 28 to 33	Inclusive
T. 9 S., R. 3 W.	Secs. 4 to 6	Inclusive
T. 8 S., R. 4 W.	Secs. 16 to 30 Secs. 34 to 36	Inclusive Inclusive
T. 9 S., R. 1 E.	Secs. 16 to 21 Secs. 26 to 30	Inclusive Inclusive
T. 9 S., R. 3 E.	Secs. 25 to 36	Inclusive
T. 10 S., R. 3 E.	Secs. 1 to 6	Inclusive
T. 9 S., R. 4 E.	Secs. 25 to 36	Inclusive
T. 10 S., R. 4 E.	Secs. 1 to 6	Inclusive
T. 9 S., R. 7 E.	Secs. 7 to 24	Inclusive
T. 10 S., R. 7 E.	Sec. 25 Secs. 33 to 36	Inclusive
T. 11 S., R. 11 E.	Secs. 1 to 18	Inclusive
T. 9 S., R. 8 E.	Secs. 7 to 24	Inclusive
T. 10 S., R. 8 E.	Sec. 13 Secs. 22 to 36	Inclusive
T. 11 S., R. 8 E.	Secs. 1 to 36	All
T. 10 S., R. 9 E.	Secs. 13 to 36	Inclusive
T. 11 S., R. 9 E.	Secs. 1 to 21 Secs. 28 to 33	Inclusive Inclusive
T. 10 S., R. 10 E.	Secs. 10 to 15	Inclusive
T. 11 S., R. 10 E.	Secs. 19 to 21 Secs. 28 to 33	Inclusive Inclusive
T. 1 S., R. 18 E.	Secs. 1 to 3 Secs. 10 to 36	Inclusive Inclusive
T. 2 S., R. 18 E.	Secs. 1 to 12 Secs. 15, 16, 18	Inclusive
T. 1 S., R. 19 E.	Secs. 1 to 12 Secs. 15 to 22 Secs. 29 to 32	Inclusive Inclusive Inclusive



**Table N.16 cont.:** Pursue the acquisition of subsurface estate from ASRC (or disposal of surface estate to ASRC) to end split-estate conditions in CAMA

Township and Range	Sections	Description
T. 1 N., R. 19 E.	Secs. 12 to 14	Inclusive
	Secs. 23 to 26	Inclusive
T. 1 N., R. 20 E.	Secs. 7 to 22	Inclusive

#### Lands Objective 4

**Table N.17: Proposed Nigu Wilderness Area**

Township and Range	Sections	Description
Kateel River Meridian (unsurveyed)		
T 30 N., R 13 E.	Secs. 1-2	That portion outside Gates of the Arctic National Park
	Sec. 3	That portion outside Gates of the Arctic National Park
	Sec. 12	That portion outside Gates of the Arctic National Park
T 31 N., R. 13 E.	Secs. 1-4 inclusive	That portion outside NPR-A
	Secs. 5 and 8	
	Secs. 9-16 inclusive	
	Sec. 17	That portion outside NPR-A
	Sec. 20	That portion outside the Noatak National Preserve and Wilderness and outside NPR-A
	Secs. 21-26 inclusive	Those portions outside the Noatak Preserve and Wilderness
	Secs. 27-29 and 34	
T. 30 N., R. 14 E.	Secs. 35-36 inclusive	
	Sec. 2	$W^{1/2}W^{1/2}$
	Secs. 3-6 inclusive	Those portions outside the Gates of the Arctic National Park and Wilderness
	Sec. 7	
	Secs. 8-10 inclusive	$W^{1/2}W^{1/2}$
	Sec. 11	
	Sec. 14	$W^{1/2}W^{1/2}$
	Secs. 15-17 inclusive	Those portions outside the Gates of the Arctic National Park and Wilderness
	Secs. 18-21	
	Sec. 22 inclusive	
T. 31 N., R. 14 E.	Sec. 23	$W^{1/2}W^{1/2}$
	Sec. 2	$W^{1/2}W^{1/2}$
	Secs. 3-10 inclusive	$W^{1/2}W^{1/2}$
	Sec. 11	
	Sec. 14	$W^{1/2}W^{1/2}$
	Secs. 15-22 inclusive	$W^{1/2}W^{1/2}$
	Sec. 23	
	Sec. 26	$W^{1/2}W^{1/2}$
	Sec. 27-34 inclusive	$W^{1/2}W^{1/2}$
	Sec. 35	
T. 32 N., R. 13 E	Sec. 32 inclusive	

## Part 3: Activity Plans

<b>Proposed Activity Plans - Phase 1</b>			
<b>Lead Subactivity</b>	<b>Supporting Subactivities</b>	<b>Description/Title of Proposed Activity Plan</b>	<b>Justification</b>
Cultural	Lands, Minerals	Activity plan for Gallagher Flint Station listed on the National Register of Historic Places as a National Historic Landmark	RMP
Cultural	Lands, Recreation	Cultural Resource Activity Plans for Cultural Resources within Slope Mountain ACEC	RMP
Forestry	SWAV, Subsistence	Forest Products Activity Plan - To determine areas south of Brooks Range where harvest of timber resources (primarily for fuel and houselogs) could occur or should be restricted; major concern is near nodes and in the Nolan/Wiseman area.	RMP
Recreation	VRM, Wildlife, Lands, Minerals, Cultural, Subsistence	Recreation Area Management Plan for the Dalton Highway Recreation Management Area; not to be completed until FY 90	RMP
Recreation/VRM		Visual resource assessment of the Utility Corridor	RMP
Vegetation	SWA, Wildlife	Species Management Plans for T&E candidate species, to be incorporated into appropriate ACEC management plans: <i>Erigeron muirii</i> (Sagwon Bluffs ACEC) <i>Montia bostockii</i> (Toolik Lake ACEC)	RMP
Vegetation	SWA, Wildlife	ACEC Mangement Plan for Kanuti Hot Springs ACEC	RMP
Wildlife	Recreation, Cultural	ACEC management plan for Jim River ACEC	RMP
Wildlife	Minerals, Lands	Habitat management plan for the protection and enhancement of Dall's sheep habitat, incorporated into management plans for the following ACECs: Galbraith Lake Nugget Creek Poss Mountain Slope Mountain Snowden Mountain West Fork Atigun	RMP



<b>Proposed Activity Plans - Phase 2</b>			
<b>Lead Subactivity</b>	<b>Supporting Subactivities</b>	<b>Description/Title of Proposed Activity Plan</b>	<b>Justification</b>
Cultural	Lands	Activity Plan(s) for 3 Atigun River sites near Galbraith Lake determined eligible for National Register of Historic Places	RMP
Cultural	Lands, Recreation	Cultural Resource Activity Plans for Cultural Resources within: Galbraith Lake ACEC Ivishak River ACEC Toolik Lake ACEC	RMP
Wildlife/Fisheries	SWAV, Recreation, Subsistence	Aquatic Habitat Management Plan for the Utility Corridor	RMP
Wildlife/Fisheries	Cultural	ACEC Management Plan for Ivishak River ACEC	RMP
Wildlife	Cultural, Minerals, SWAV	ACEC Management Plan for Galbraith Lake ACEC	RMP
Wildlife	Minerals, Lands	ACEC Management plans for the following ACECs: Nugget Creek Poss Mountain Slope Mountain Snowden Mountain West Fork Atigun	RMP
Vegetation	SWA, Wildlife Minerals	ACEC Management Plan for Toolik Lake RNA	RMP

<b>Proposed Activity Plans - Phase 3</b>			
<b>Lead Subactivity</b>	<b>Supporting Subactivities</b>	<b>Description/Title of Proposed Activity Plan</b>	<b>Justification</b>
Cultural	Lands, Recreation	Cultural Resource Activity Plans for Cultural Resources within: Jim River ACEC Nigu-Iteriak ACEC	RMP
Cultural	Recreation, VRM, SWAV, Wilderness, Subsistence, Wildlife	ACEC Management Plan for Nigu-Iteriak ACEC	RMP
Hazardous Materials	SWAV, Wildlife	Emergency Response Contingency Plan	RMP
Recreation	Subsistence, SWAV, Wildlife	ORV Use Evaluation	RMP
Wilderness	Recreation, VRM, SWAV, Cultural, Subsistence, Wildlife	Wilderness Management Plan for recommended Nigu wilderness area and/or any area so designated by Congress	ANILCA 1001 Report, Wilderness EIS, RMP, Congress
Wildlife/Fisheries	SWAV, Subsistence, Recreation	Prepare an HMP for the Colville River special area for the purpose of protecting critical habitat to nesting raptors (esp. peregrine falcon), big game, waterfowl, and fisheries	RMP
Wildlife/Fire	SWAV	Prepare activity plan for prescribed fires to enhance habitat within Utility Corridor	RMP