

Section II

Alternatives

Table of Contents

II. ALTERNATIVES.....	3
Preview of this Section.....	3
A. INTRODUCTION.....	3
B. ADDRESSING KEY ISSUES AND MANAGEMENT DECISIONS.....	4
1. Impacts on Estuarine Habitat from Oil and Gas Activity.....	4
2. Impacts on Deep-Water Lakes Habitat from Oil and Gas Activity.....	5
3. Impacts on Rivers and Riparian Habitat from Oil and Gas Activity.....	5
4. Impacts on Caribou Movement and Migration Patterns from Oil and Gas Activity.....	5
5. Loss of Raptor Nesting and Foraging Habitat from Oil and Gas Activity.....	6
6. Loss or Alteration of Nesting and Brood-Rearing Habitat of Yellow-Billed Loon, Red-Throated Loon, Brant, Spectacled Eider, Steller's Eider, Common Eider, and King Eider from Oil and Gas Activity.....	6
7. Loss of Paleontological and Cultural Resources from Oil and Gas Development.....	6
8. Impacts to Subsistence from Oil and Gas Activity.....	7
9. Leasing of Split Estate Lands.....	7
10. Wilderness and Special Area Designations.....	7
11. Wild and Scenic River Designations.....	8
12. Travel Management.....	9
13. Protection of Visual Resources.....	9
14. Wildland Fires.....	9
15. Wetlands and Floodplains Protection.....	10
16. Threatened and Endangered Species.....	10
C. ALTERNATIVES.....	10
1. No Action.....	11
2. Alternative A.....	11
3. Alternative B.....	11
4. Alternative C.....	12
5. Preferred Alternative.....	12
6. Stipulations and Required Operating Procedures.....	14
a. Definitions.....	15
b. Alternative A, Alternative B, and Alternative C Stipulations and Required Operating Procedures.....	15
c. Preferred Alternative Stipulations and Required Operating Procedures.....	15
D. COMPARISON OF ALTERNATIVES.....	16
E. NEED FOR FURTHER NEPA ANALYSIS.....	19

F. INTERRELATIONSHIPS	19
1. Introduction	19
2. Endangered Species Act, Magnuson-Stevens Fishery Management and Conservation Act, and National Historic Preservation Act Consultations and Coastal Zone Management	20
3. Wild and Scenic Rivers Act Compliance	20
4. Alaska National Interest Lands Conservation Act Section 810 Compliance	21
5. Alaska National Interest Lands Conservation Act Section 1320 Identification of Lands Suitable as Wilderness	21
6. Future Interrelationships	21
7. Subsistence Advisory Panel	22
8. North Slope Science Strategy	23
9. Rights-of-Way	23
G. ALTERNATIVES AND MANAGEMENT ACTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS	23
1. Planning for a Larger Portion of NPR-A	24
2. Recommending Wilderness Designation for All of the Planning Area	24
3. Recommending Additional Areas for Designation as Special Areas	25
4. Legislative Action to Open the Planning Area to Mineral Entry (Hardrock)	25
5. The Arctic Slope Regional Corporation Land Exchange Alternative	26
6. Audubon Society's Wildlife Habitat Alternative	26
7. North Slope Borough's Alternative	27
8. Designation of Transportation Corridors	27
9. Cleanup of Contaminated Sites	27
H. Major Differences Between the Draft IAP/EIS and Final IAP/EIS	27

II. ALTERNATIVES

Preview of this Section

Section I summarized the administrative events leading to this Integrated Activity Plan/Environmental Impact Statement. Section II provides detail on the alternatives and discusses key issues in depth. This section:

- describes the key issues and management decisions addressed in this IAP/EIS;
- describes five alternative strategies the BLM may use to manage its lands in the Northwest NPR-A Planning Area;
- lists stipulations that would apply to authorized oil and gas activities after leasing and required operating procedures that would apply to oil and gas activities and other land use authorizations;
- summarizes the conclusions of the environmental consequences analyses;
- discusses how Federal laws and regulations and Presidential Executive Orders apply to management decisions affecting the Planning Area; and
- reviews the issues and management strategies considered, but eliminated, from further discussion in the plan.

When you finish this section, you will understand the key issues that BLM considered in developing the management options, the differences in the management options BLM is considering, the ways that each option directs oil and gas activities to protect the area's natural resources, the potential impacts that may result under each alternative, and the relationships of laws, directives and advisory group recommendations to management of the Planning Area.

A. INTRODUCTION

This section presents the Bureau of Land Management's (BLM's) alternative management approaches to public land in the Northwest Planning Area of the National Petroleum Reserve-Alaska (NPR-A) or Northwest NPR-A Planning Area. These alternatives portray a range of actions that BLM could take to manage the Federal surface and subsurface resources of the Planning Area consistent with statutory direction for management of the NPR-A.

Before reviewing the various management strategies under consideration in these alternatives, readers should be aware that some management actions would occur under all alternatives. This plan does not alter management direction in the Northeast NPR-A Integrated Activity Plan/Environmental Impact Statement (IAP/EIS). So, actions authorized by that IAP/EIS for lands east of the Northwest NPR-A Planning Area may continue unaffected by this Northwest NPR-A IAP/EIS. In addition, BLM will continue with some activities that are already underway in the Northwest NPR-A Planning Area. These actions include the following:

- Conveying land to individual Alaska Natives and to Native corporations under the Native Allotment Act and

the Alaska Native Claims Settlement Act (ANCSA).

- Managing the Planning Area to maintain the opportunity for a semi-primitive motorized recreation (SPM) experience. The semi-primitive motorized classification is assigned to lands that offer some opportunity for isolation from human sights and sounds in a predominantly unmodified natural environment. Within an SPM area motorized equipment is allowed and the alternatives will consider a range of off highway vehicle (OHV) options. In all alternatives, the Planning Area will be an extensive recreation management area (ERMA). This designation recognizes that significant public recreation issues and management concerns are limited and that minimal management, consistent with BLM's stewardship responsibilities, is sufficient; detailed planning is not required.
- Conducting studies, such as inventory and monitoring of resource populations and conditions in cooperation with other Federal, State, and North Slope Borough (NSB) resource management agencies. The BLM will assess the health of biological resources, the location and significance of other resources, and the effectiveness of management policies in protecting those resources. The scope of these studies will reflect the level of impacting actions allowed and the protective measures imposed under the plan adopted through the Northwest NPR-A IAP/EIS. For a general description of the anticipated inventory and monitoring program see Appendix 1.
- Appendix 16 contains a proposed list of species that BLM plans to identify as sensitive pursuant to BLM Manual Section 6840. The BLM will manage all permitted activities to ensure that actions requiring authorization or approval by the BLM are consistent with the conservation needs of special status species and do not contribute to the need to "list" any of them, either under the provisions of the Endangered Species Act of 1973, as amended, or other provisions of this policy.

B. ADDRESSING KEY ISSUES AND MANAGEMENT DECISIONS

Each alternative includes management actions and mitigation measures that broadly apply to the Northwest NPR-A Planning Area. For example, there are stipulations and required operating procedures addressing waste prevention, handling, and disposal; spill prevention and response; potential impacts from oil and gas exploration and development; protection of subsistence activities; and protection of vegetation, raptors, and cultural and paleontological resources. This IAP/EIS also includes land allocation decisions and stipulations and required operating procedures specific to portions of the Planning Area. In part, these decisions, stipulations, and required operating procedures address some of the issues raised by the public during scoping as well as decisions BLM is directed to address in land management plans. These area-specific issues and management decisions are explained below.

1. Impacts on Estuarine Habitat from Oil and Gas Activity

Rich nutrients and abundant food sources make the coastal bays and lagoons within the NPR-A an important habitat for birds, fish, and marine mammals. These waterbodies are especially important for birds during molting, when they are unable to fly and particularly vulnerable to environmental disturbances and natural predators. In addition, tens of thousands of swans, loons, and other waterfowl reside on these waters in late August as they prepare for their long fall migration. Seals and marine fish feed in the rich waters of the lagoons and bays. Migratory fish (those spending part of their lives in saltwater but overwintering and spawning in freshwater) also use these waters during their seasonal migrations. Finally, subsistence users fish these waters and travel these waterways between home villages and hunting and fishing camps. Consequently, it is important to avoid contamination of these waters by fuel or crude oil or other activities that would affect bird habitat, marine or migratory fish, marine mammals, or the ability of subsistence users to fruitfully utilize these waters.

For purposes of this IAP/EIS, the estuarine area includes the waters and shores of six major bays and lagoons--Kasegaluk Lagoon, the lowest portion of the Kuk River system, Peard Bay, Elson Lagoon, Dease Inlet,

and Admiralty Bay--as well as those of smaller bays and lagoons east of Point Barrow that the U.S. Supreme Court in *U.S. v. Alaska* No. 84 confirmed on June 19, 1997 were within NPR-A (Map 10). This IAP/EIS considers a number of protective measures, including making Kasegaluk Lagoon unavailable for leasing, deferring leasing in Peard Bay for 10 years, providing setbacks from shoreline and seasonal restriction for exploratory drilling in all of the remaining waters, and prohibiting permanent oil and gas facilities within 3/4 mi seaward of the shorelines of all of these bays and lagoons.

2. Impacts on Deep-Water Lakes Habitat from Oil and Gas Activity

Deep-water lakes provide critical habitat for overwintering fish. During the arctic winter, fresh water may freeze to 7 feet (ft) deep, eliminating all free water in shallow lakes and ponds while greatly reducing the unfrozen areas of deeper lakes. The bacterial decomposition in the lake sediments outstrips the limited oxygen production of algae and other plants, so the dissolved oxygen may be depleted to the extent that fish are not able to survive. Consequently, it is important to protect the habitat that deeper lakes provide. Lakes on BLM-administered lands in the Planning Area that are at least 4 meters (m) (about 12 ft) deep are identified on Map 11. While it is known that deep lakes furnish overwintering fish habitat, it is not known whether all the lakes identified on this map actually contain fish in winter.

Alternatives in this plan strive to protect the deep-water lakes from fuel and crude oil spills and to preserve fish habitat. Some alternatives prohibit oil and gas leasing under these lakes, ban permanent oil and gas facilities on the surface or near the shore of the lakes, ban or limit winter water withdrawals, or indicate that such restrictions may be imposed following site-specific analysis.

3. Impacts on Rivers and Riparian Habitat from Oil and Gas Activity

The rivers of the Northwest NPR-A Planning Area and the associated riparian areas provide transportation corridors for both animals and humans. The rivers and riparian areas also provide seasonal or year-round habitat and homes for animals and humans, respectively (see Map 86 for key streams). The streams are vital migration routes and spawning, rearing, and overwintering habitat for the region's fish. The riparian vegetation along the banks of many rivers provides an important habitat for several terrestrial and avian species. In summer, the rivers are also the primary channels of transport for the local residents who boat to subsistence areas and camp along their banks. Consequently, this IAP/EIS identifies a range of alternatives protecting these waters, such as making identified rivers unavailable for oil and gas leasing and restricting development along their banks. In addition, some of these rivers would be proposed for designation as segments of the National Wild and Scenic River (WSR) System under some alternatives.

4. Impacts on Caribou Movement and Migration Patterns from Oil and Gas Activity

Lands between the Ikpikpuk River (on the Planning Area's eastern boundary) and Dease Inlet and Admiralty Bay provide important insect-relief areas for caribou from late June to mid-August. Harassment by insects reduces caribou foraging efficiency and increases physiological stress. The caribou coastal insect-relief area (Map 91) provides caribou with breezes that hinder insects from concentrating and alighting. To minimize restriction or disruption of caribou movement in this area during the critical summer months, this IAP/EIS considers a range of protective measures including making the insect-relief area unavailable for leasing, imposing restrictions on air traffic from late June to late July, and requiring that permanent oil field facilities be laid out to avoid impairing caribou movement.

5. Loss of Raptor Nesting and Foraging Habitat from Oil and Gas Activity

Raptors, including the arctic peregrine falcon, gyrfalcon, and rough-legged hawk, inhabit the cliffs rising above portions of the Colville and Ikpikpuk rivers. The arctic peregrine falcon was on the list of endangered species from 1970 to 1984 and on the list of threatened species from 1984 to its removal in 1994. Although some gyrfalcon remain year-round if sufficient prey is present, most raptors of the Northwest NPR-A visit the area only in the summer to hatch and raise young. To protect the nesting raptors, this IAP/EIS considers protective measures, including height restrictions for aircraft flying above nests, seasonal traffic and camping restrictions, and surface occupancy setbacks of 1/2 to 2 miles (mi) along portions of the Colville and Ikpikpuk rivers (Map 92).

6. Loss or Alteration of Nesting and Brood-Rearing Habitat of Yellow-Billed Loon, Red-Throated Loon, Brant, Spectacled Eider, Steller's Eider, Common Eider, and King Eider from Oil and Gas Activity

Seven species of waterbirds are of special concern within the Planning Area: the yellow-billed loon, red-throated loon, brant, spectacled eider, Steller's eider, common eider, and king eider. The Planning Area is also important for uncommon yellow-billed loons and red-throated loons. Both species nest at relatively high-density nesting areas between the northern Ikpikpuk River and Admiralty Bay (Map 37). Recent surveys have shown non-significant and significant declining trends for yellow-billed and red-throated loons, respectively. Brant declined in the 1960's and remain below the population objectives set by the Pacific Flyway Council. Brant nesting colonies are concentrated in the northern Planning Area surrounding Dease Inlet, with a few substantial colonies well to the east and west of this area (Map 40). Brood-rearing and/or molting occur in areas east of the inlet mouth, in western Smith Bay, and farther east. Spectacled and Steller's eiders are listed as threatened under the Endangered Species Act. Spectacled eiders nest at relatively high density south of Barrow and several areas to the southwest (Map 62); their coastal plain population is declining at a non-significant rate. Sightings of Steller's eiders generally are scattered widely over the coastal plain west of the Colville River (Map 63), although a recurrent nesting area is located south of Barrow. Common and king eiders experienced over 50 percent declines from 1976 to 1996. Recent surveys have shown a non-significant upward trend for the king eider. Common eiders nest on barrier islands along the northern boundary of the Planning Area (Map 44) while relatively high densities of king eiders are located in the central portion of the Planning Area (Map 43).

This IAP/EIS considers a range of protections that include making important habitat areas (Map 90) unavailable for oil and gas leasing and/or establishing setbacks around identified nest sites and brood-rearing areas.

7. Loss of Paleontological and Cultural Resources from Oil and Gas Development

The vast majority of the Planning Area has not had ground-disturbing activities that can endanger paleontological and cultural (pre-historic and historic archaeological) resources. It also has not had extensive investigations of its paleontological and cultural resources. However, the Planning Area may hold valuable evidence of natural and human history. Ocean Point in Northeast NPR-A has yielded fossils of the northernmost dinosaurs. Fossils of Ice Age camels, mammoths, and other extinct mammals have surfaced within the Planning Area. Ancient archaeological finds on the North Slope bear relevance to the earliest humans in North America. Paleontological and cultural resources are most likely to be exposed and discovered along the major rivers that cut their way

through the Planning Area (Map 87). Consequently, this IAP/EIS protects paleontological and cultural resources through a number of means, such as restricting development along the Meade and Chipp rivers and along the Kuk and Ikpiuk rivers and their major tributaries, or making these areas unavailable for leasing.

8. Impacts to Subsistence from Oil and Gas Activity

Subsistence hunting, fishing, and gathering is important to North Slope residents, both for the food these activities provide and for the cultural values they help maintain and transmit from generation to generation. While subsistence activities occur throughout the Planning Area, they are most intense along major rivers (Map 85), where many residents have established cabins and campsites. To continue their subsistence way of life, residents require continued use of these cabins and campsites. In addition to surface use restrictions on oil and gas activities around the most heavily utilized rivers as proposed by some alternatives, BLM would be able to protect these cabins and camps from oil and gas activities at the site-specific authorization stage. Alternatives in this IAP/EIS ensure that subsistence users' concerns are addressed by mandating a consultative process with North Slope communities, the NSB, and a Subsistence Advisory Panel.

9. Leasing of Split Estate Lands

More than 330,000 acres of Federal subsurface estate lies beneath lands conveyed to or selected by the ANCSA village corporations of Atkasuk, Barrow, and Wainwright (see Map 05). While the oil and gas resources under these lands belong to the Federal Government, extracting the resources may require access to Native corporation surface lands. This IAP/EIS includes an alternative that would make split-estate lands unavailable for leasing as well as alternatives that would make split-estate lands available. The Native corporation could negotiate specific use and resource-damage agreements with the lessee or operator; BLM would not enforce these agreements.

10. Wilderness and Special Area Designations

The BLM has identified three portions of the Planning Area for possible designation by Congress as Wilderness under the Wilderness Act - the Mountains, Foothills, and Kasegaluk Lagoon. The areas are depicted on Map 12. The three areas possess the values identified in the Act to qualify for Wilderness: they are primarily affected by the forces of nature; they comprise at least 5,000 acres of contiguous roadless public land; and they offer opportunities for solitude or primitive and unconfined recreation. The Mountains Assessment Unit features good hiking and scenic vistas in high terrain. The Foothills Assessment Unit offers fewer opportunities for primitive recreation than the Mountains unit, but furnishes better access to water. The Kasegaluk Lagoon Assessment Unit offers primitive recreation experience, including kayak and small boat paddling along the coast. To protect the Wilderness values of these lands, this IAP/EIS considers an alternative that recommends designating the three areas as Wilderness. If the Record of Decision (ROD) for this IAP/EIS were to name the areas as Wilderness Study Areas (WSA's), BLM would manage the lands to ensure that their Wilderness characteristics are not impaired. Congress would subsequently determine whether the areas would receive Wilderness designation. If such protection is extended to these lands, BLM would cease authorizing any activity that is not consistent with their Wilderness values. If Congress were to determine that the lands should not be designated as Wilderness, BLM would manage them according to their remaining determinations, as presented in this IAP/EIS.

The Naval Petroleum Reserves Production Act of 1976 (NPRPA) authorized the Secretary of the Interior to designate areas in NPR-A "containing any significant subsistence, recreational, fish and wildlife, historical, or scenic value." The government is to "assure the maximum protection of such surface values to the extent consistent with the requirements of this Act for exploration of the reserve." The western edge of the Teshekpuk

Lake Special Area is in the extreme northeast corner of the Northwest NPR-A Planning Area, and a portion of the Colville River Special Area is in the southernmost part of the Planning Area.

In addition to possessing Wilderness values, the Kasegaluk Lagoon also possesses values that make it worthy of consideration as a Special Area. In addition to the recreation opportunities described above, the Kasegaluk Lagoon area is also rich in wildlife, including migratory birds and marine mammals, and features marine tidal flats, which are rare on the North Slope. This IAP/EIS considers several protective strategies for the Kasegaluk Lagoon area including designation as a special area.

The alternatives in this IAP/EIS also recognize the significance of the resources in the existing Special Areas through a variety of potential protective measures, including making important habitats in these areas unavailable for oil and gas leasing. Under the alternatives that would make these areas available for leasing, the resources that were important in justifying the designation of the existing areas would receive protection through lease stipulations and other protective measures.

The BLM's 1983 EIS identified three Special Management Zones within the Planning Area. The alternatives below contain stipulations and required operating procedures (ROP's) designed to provide protection for the resources of these areas without having to reestablish another category of management area.

Neither Wilderness Study Area (WSA) designation nor Secretarial designation of a Special Area would preclude subsistence use or inter-village travel in a designated area.

11. Wild and Scenic River Designations

Section 5(d)(1) of the Wild and Scenic Rivers Act (WSRA) requires BLM to evaluate rivers for potential addition to the Nation's Wild and Scenic Rivers (WSR) System. Through comments received during scoping and examination of existing records, BLM has identified 22 streams (Table III-38 and Map 13) in the Planning Area as eligible, i.e., meeting the minimum requirement for designation as a "wild" or "scenic" river. These rivers are free flowing and have at least one "outstandingly remarkable value" (ORV). Subsistence resources and use, fisheries, wildlife, and cultural resources are the values that are found on some or all of the 22 rivers.

This IAP/EIS offers a range of means to protect these values. The alternatives include recommending the Colville River for "wild" status and the 21 other rivers for "scenic" WSR designation. The eligibility and suitability of potential additions to the National Wild and Scenic River System are based on values described in Section III.C.10. The BLM has identified the appropriate classification for all but the Colville as "scenic" because of the level of development (mainly subsistence cabins and camps), though this does not mean that scenery is an outstandingly remarkable value (ORV) of these rivers. In fact, none of the eligible rivers in the Planning Area has scenery as an ORV.

Both "wild" and "scenic" designations allow some activities and development in the river corridors if the activities do not directly and adversely impact the values for which the river was designated. Activities would be compatible within a specific "scenic" WSR if they would not impair the subsistence, fisheries, wildlife, or cultural resources associated with the river. The "scenic" designation is compatible with the existence of subsistence-use cabins and some oil and gas activities. Seismic work, ice roads and ice pads, pipelines, and roads may be found compatible with "scenic" river designation, provided they could be conducted while protecting the river's outstandingly remarkable values. Except for permanent roads, the same oil and gas activities may be designed to be compatible with "wild" river designation. Permanent structures, including subsistence-use cabins, would not be compatible with "wild" river designation. Activities authorized along the Colville River would have to be compatible with its subsistence, recreational, wildlife, fisheries, and cultural resource values and with the WSRA's

mandate that "wild" rivers be managed to preserve "vestiges of primitive America." If the ROD for the IAP/EIS were to recommend the designation of any WSR, BLM would complete a comprehensive river management plan that would further define the outstandingly remarkable values and the measures necessary to protect them. A determination of suitability is carried forward as a recommendation for WSR designation to the Secretary of the Interior. The Secretary can forward the recommendation to the President and Congress or change the recommendation. Congress designates which, if any, of the recommended rivers actually become part of the Nation's WSR System.

Consideration of the Colville River in this plan requires some explanation. The Colville River is not within the Planning Area; both the riverbed and its northern bank up to the highest high water mark have been conveyed from Federal ownership. However, a corridor of land bordering the Colville that is necessary for rivers designated under the WSRA would encompass public lands in the Planning Area. The positions of the non-Federal owners of lands in any future Colville WSR corridor regarding WSR designation of the Colville will be critical to BLM's decision on the Colville River's suitability as a WSR.

12. Travel Management

Travel across the roadless Northwest NPR-A Planning Area is important for subsistence hunting and fishing and intervillage communication and exchange. Other uses, such as recreational use, are currently very rare and are not anticipated to increase substantially in the near future. The Federal Land Policy and Management Act (FLPMA) requires BLM to prevent "unnecessary and undue degradation" of public lands (43 U.S.C. 1732). To protect resources, BLM is required to designate all public lands as "open," "limited," or "closed" to certain off-highway vehicle (OHV) use (E.O. 11644 and 43 CFR 8340). Limitations on OHV use do not apply to subsistence uses or to uses granted an authorization by BLM. The OHV designations for the alternatives offer a range of seasonal, type, and area limitations on OHV's. Alternatively, designations could also open the entire area with no restrictions. To offer additional summer protections to the wet and vulnerable lands in the northern part of the Planning Area, some alternatives also propose limitations on airboat use.

13. Protection of Visual Resources

To help guide its management of public lands, BLM identifies its visual resource management strategy as part of land use planning. The Visual Resource Management (VRM) classes, established to be consistent with other management objectives, provide general guidance on how much alteration of the existing view is permissible. The VRM classes I through IV allow for a range of levels of alteration. Class I provides for only ecological changes to the view. Classes II and III allow human changes that draw varying amounts of attention. Class IV allows human changes that can be a dominant feature of the landscape, though they should repeat the form, line, color, and texture of the landscape (for additional information on VRM classification see Appendix 3).

The VRM classifications considered in this IAP/EIS emphasize protection of lands that would be recommended to Congress for Wilderness designation (recommended as VRM I) and key travel routes along bays, lagoons, and rivers (typically classified as VRM II or III, though the Colville River is classified as VRM I in one alternative). The remainder of the Planning Area is classified as VRM III or IV in the alternatives. The alternatives also vary (from 1/2 to 5 mi) in how far the visual management objective would apply from the shores of the bays and lagoons or from the river banks. However, the management objective would not extend beyond the viewshed, which can be limited by land features. For depictions of VRM objectives by alternative see Map 21, Map 22, and Map 24.

14. Wildland Fires

Wildland fires are rare in NPR-A, but they are ecologically desirable throughout the Planning Area. While BLM may suppress wildland fires to protect site-specific values under all alternatives, the agency will otherwise not fight wildland fires. Lightning is the most likely cause of wildland fires. The BLM may use prescribed burns to improve vegetation conditions for specific resources. When fire suppression is necessary, BLM might allow fire retardant use after it has examined the situation through a Wildland Fire Situation Analysis. Appropriate fire management response is included under each alternative.

15. Wetlands and Floodplains Protection

Wetlands and floodplains are sensitive and biologically valuable habitats. Executive Orders 11988 and 11990 require BLM to consider and minimize impacts to these areas. The BLM evaluates the impacts to floodplains and wetlands in this IAP/EIS. Proposed BLM-permitted activities go through additional environmental review. Protective measures to minimize impacts to floodplains and wetlands are identified during the environmental review and may become requirements of the permit.

16. Threatened and Endangered Species

The bowhead whale, spectacled eider, and Steller's eider may occur near areas that could be affected by oil and gas development in Northwest NPR-A. The bowhead whale is listed as an endangered species under the Endangered Species Act, while the two eider species are listed as threatened. The BLM has informally consulted with NOAA Fisheries (formerly NMFS), who indicate that only negligible effects on bowhead whales will occur under any of the alternatives evaluated in this document (Appendix 10). Consultation with the Fish and Wildlife Service (FWS) continues.

C. ALTERNATIVES

The following descriptions of the alternatives provide a general picture of how BLM could manage its lands in the Northwest NPR-A Planning Area. The alternatives are composed of land allocation decisions summarized in Table II-01, and a set of oil- and gas-related stipulations and required operating procedures (ROP's) described in Section II.C.6 and Table II-02 and Table II-03. The stipulations and ROP's for each alternative indicate where, when, and under what conditions oil and gas activities may or may not occur in the Planning Area under that alternative. The stipulations adopted as part of this IAP/EIS will be included on any oil and gas leases authorized in the Record of Decision (ROD). Oil and gas activities authorized through this IAP/EIS would also be subject to additional protective measures. The BLM lease offer form (AK 3130-1, March 2002; Appendix 8) includes lease terms. The agency may also place additional conditions or stipulations on subsequent oil and gas authorizations based on the specifics of the applicant's proposal and the resources and uses of the lands potentially affected by the proposal as analyzed through a site-specific National Environmental Policy Act (NEPA) decision-making process. Any variance from these procedures would only be approved following appropriate NEPA analysis. The Information to Lessees (ITL) in Appendix 4 provides a list of laws and regulations that places additional requirements on oil and gas exploration and development activities in the NPR-A. The analyses assume that authorized activities in the Northwest NPR-A will comply with all applicable Federal, State, and local requirements.

The stipulations in this IAP/EIS are specifically intended to be lease stipulations related to oil and gas development. The ROP's developed in this IAP/EIS, while focused on oil- and gas-related activities, have broader

applicability and, where relevant, would be requirements of non-oil and gas activities as well. For information on the standardized stipulations that the BLM currently imposes on non-oil and gas authorizations in the Northwest NPR-A, see Appendix 13.

No Preferred Alternative was identified in the Draft IAP/EIS. Rather, the BLM decided to present a set of alternatives for public review and comment and to develop a Preferred Alternative after receiving comments from the public. The description of the Preferred Alternative is in Section II.C.5. The stipulations and ROP's for the Preferred Alternative are presented in Section II.C.6 and Table II-03. The analysis of the potential environmental consequences of activities under the Preferred Alternative is presented in Section V.B. How the Preferred Alternative was developed is summarized in Section VI.D.

Note that equally promising oil prospects are not evenly distributed through the Planning Area. However, for purposes of this IAP/EIS, oil potential is assumed to be uniformly distributed within the areas of high oil and gas potential. The projected oil reserves that might be leased under each alternative, as presented in Section IV.A., Table IV-04, and Table IV-08, do not change proportionately with the total acres that would be made available for leasing.

1. No Action

The No Action alternative (Map 14) reflects current BLM management of the Planning Area and a decision BLM has made that the 1983 EIS for leasing in NPR-A is inadequate for renewed oil and gas leasing in the Northwest NPR-A. Under this alternative, no new oil and gas leasing would occur; no new designations such as Special Areas, Wilderness Areas, or Wild and Scenic Rivers would be proposed; no VRM classifications or OHV designations would be made; and no rights-of-way would be designated. Stipulations listed in the 1983 oil and gas leasing EIS for the NPR-A apply to this No Action Alternative. However, because oil and gas leasing does not occur under this alternative, neither the stipulations from the 1983 EIS nor the three coastal Special Management Zones in that EIS has practical effect. The stipulations and ROP's relevant to waste prevention, handling and disposal, and spills, and overland moves and seismic work listed for Alternative C generally reflect the stipulations BLM commonly attaches to permits for seismic survey activities in the Northwest NPR-A Planning Area. The agency would generally continue to impose these restrictions if management chooses to adopt the No Action Alternative.

2. Alternative A

Alternative A would make all BLM-administered lands in the Planning Area available to oil and gas leasing (Map 15). Under this alternative, no Special Areas, Wilderness Study Areas, or Wild and Scenic Rivers would be proposed. The entire Planning Area would be open to recreational OHV use. Protective measures include applying stipulations listed in Section II.C.6 and identifying VRM management areas. Additional protection may be introduced following future additional NEPA analysis on specific activities.

3. Alternative B

Alternative B would make 96 percent of the BLM-administered lands in the Planning Area (100 percent of the area of high oil and gas potential) available for oil and gas leasing (Map 16). The proposed Kasegaluk Lagoon Special Area would not be available for leasing and no permanent oil and gas facilities would be allowed either in the Special Area or, excepting two rights-of-way to be designated near Peard Bay and near Wainwright (Map 17),

in and along the shores of the coastal bays and lagoons (including islands in those bays and lagoons) identified on Map 10. Stipulations and required operating procedures described in Section II.C.6 further restrict the placement of permanent oil and gas facilities around lakes, rivers, and important habitat. Offshore exploratory drilling would only be allowed in winter in the coastal bays and lagoons from bottom-fast ice pads, natural islands, and constructed gravel islands. Protective measures include applying relevant stipulations and required operating procedures listed in Section II.C.6 , recommending the Kasegaluk Lagoon area be designated a Special Area, limiting OHV and airboat use, and identifying VRM areas. Additional protection may be introduced following future additional NEPA analysis on specific activities.

4. Alternative C

Alternative C would make 47 percent of the BLM-administered lands in the Planning Area available for oil and gas leasing while emphasizing protection of specific surface resources through barring lease sales or excluding permanent oil and gas facilities, or both, in potentially sensitive areas (Map 19). Areas withheld from leasing would include those valued for their estuarine, deep-water lakes, and river and riparian habitat; caribou movement and migration habitat; raptor nesting and foraging habitat; and brant, loon, and eider nesting and brood rearing habitat. Additional areas to be withheld from leasing would include cultural and paleontological resource areas; subsistence cabin and camping areas; three proposed Wilderness Study Areas; and one proposed Wild River and 21 proposed Scenic River corridors. Further, under this alternative, Federal subsurface oil and gas that happens to be located below surface lands owned or selected by the ANCSA village corporations for Atkasuk, Barrow, and Wainwright would not be available for leasing.

Under Alternative C, less than 2 percent of the area considered as being high in oil and gas resource potential would be made available for leasing. Except for two rights-of-way to be designated on previously disturbed ground near Peard Bay and near Wainwright, permanent oil and gas facilities would be prohibited in and along the shores of major bays and lagoons (including islands in those bays and lagoons) west of Point Barrow and all bays and lagoons east of Point Barrow. Protective measures include applying relevant restrictions described in Section II.C.6 , recommending three areas for Wilderness designation under the Wilderness Act and 22 rivers under the Wild and Scenic Rivers Act, limiting OHV and airboat use, and identifying VRM management areas.

If Congress adopts recommendations in this alternative to create three Wilderness Areas, all oil- and gas-related structures, temporary or permanent, as well as ice roads, ice pads, and seismic studies would be prohibited in those areas. Before such Congressional designation however, ice roads, ice pads, and seismic studies could be allowed in the proposed Wilderness Study Areas, if they could be shown to not cause any permanent impact on wilderness values. Additional protection may be introduced following future additional NEPA analysis on specific activities.

5. Preferred Alternative

Under the Preferred Alternative, all BLM-administered lands within the Northwest NPR-A Planning Area would be made available for oil and gas leasing (Map 18); however, leasing would be deferred for 10 years on approximately 1,570,000 acres (about 17%) of the Planning Area in the vicinity of Wainwright. Within the deferral area, Kasegaluk Lagoon would be subject to a no-surface-occupancy stipulation. Outside the deferral area, additional no-surface-occupancy stipulations would be imposed along coastal areas, key rivers and deep water lakes. In total, these restrictions would apply to approximately 1,515,000 acres, which is about 16 percent of the total Planning Area. Stipulations and required operating procedures (ROP's) would provide clearly defined setbacks, restrictions (including seasonal restrictions) and guidance for all aspects of oil and gas and related operations (Section II.C.6 and Table II-03). Additional site-specific/activity-specific prohibitions and restrictions would be provided to protect important natural resources including water quality, vegetation, wetlands, fish and

wildlife habitat (including habitat for threatened and endangered species), cultural and paleontological resources, subsistence uses and access, and scenic and recreation values. Split estate lands where ANSCA villages own the surface and the Federal Government owns the subsurface will be available for leasing. If these lands are leased, the Native corporation could negotiate specific use and resource-damage agreements with the lessee or operator.

To protect water quality, spawning, rearing and over-wintering habitat for fish, and to minimize impacts to subsistence activities, the Preferred Alternative would impose restrictions on the establishment of permanent or temporary facilities on all deep waterlakes (lakes with depths greater than 7 ft) and prohibit permanent facilities within $\frac{1}{4}$ mi of such lakes. Similarly, no permanent facilities would be permitted in the streambeds of rivers. In addition, a no-permanent-surface-occupancy setback of $\frac{1}{2}$ mi would be imposed on all major rivers (measured from the centerline of the river as determined by current hydrology at the time of application). Along rivers or river segments where subsistence concerns have been raised, no-permanent-surface-occupancy setbacks increase to $\frac{3}{4}$ mi. Along the Colville and the upper Ikpikpuk rivers, a 1-mi setback for no surface occupancy would be imposed to protect important raptor habitat.

Along the entire coastal area of the Planning Area, permanent oil and gas facilities to support exploration and development activities would be located $\frac{3}{4}$ mi inland from the coastline to the extent practicable. When technological limitations, economics, logistics or other factors require that a facility be located within $\frac{3}{4}$ mi inland of the coast, the practicality of locating the facility at previously occupied sites such as the former Cape Simpson, Peard Bay, or Wainwright DEW-line sites would be considered. Use of existing sites within $\frac{3}{4}$ mi of the coastline would also be acceptable where it is demonstrated that use of such sites would reduce impacts to shorelines or otherwise be environmentally preferable. All lessees/permittees involved in activities in the immediate area would be required to coordinate the use of sites with all other prospective users.

On Dease Inlet, Admiralty Bay, Elson Lagoon, and associated Barrier Islands, the Preferred Alternative would allow oil and gas exploration activities to take place only between October 15 and May 15 of each year. Special stipulations would be imposed for exploration and development, including a setback $\frac{3}{4}$ mi from shoreline seaward and around natural islands (excluding the barrier islands) where no development could occur on or under the water. When permanent facilities are allowed, standards that would have to be met before authorization would be granted for permanent facilities within the setback area would be intentionally set high, with the burden of proof resting with the lessee to demonstrate that approval by BLM is warranted. These standards address specific concerns raised by the North Slope Borough, local communities and residents about: conflicts between oil and gas activities and seasonal concentrations of fish, wildlife, and waterfowl that frequent the area; associated subsistence uses and access on these important water bodies; navigation hazards; spill response capabilities; and special consultation procedures.

Multi-year surveys would also be required on a Planning Area-wide basis to prevent the taking of spectacled and Steller's eiders, which are listed as threatened species under the Endangered Species Act, and for yellow-billed loons, a BLM-designated sensitive species (Appendix 16). The Preferred Alternative would identify special study areas for brant and caribou where multi-year studies would be required before the authorization of development activities (Map 18). Within the brant study area, studies would be directed at preventing the loss or alteration of habitat or disturbance of nesting and brood-rearing areas as a result of oil and gas activities. Within the caribou study area, the focus would be on avoiding conflicts with caribou movement through insect-relief habitat. Special restrictions would also be imposed on oil- and gas-development activities within the Colville River Special Area to minimize loss of raptor foraging habitat.

Within the lease deferral area, the Preferred Alternative would recommend the establishment of a 102,000-acre Kasegaluk Lagoon Special Area (Map 18). The proposed special area includes the Lagoon and extends 1 mi inland; it would recognize this outstanding example of a barrier island/lagoon complex along with its wide variety of fish and wildlife resources. Authority to establish special areas within NPR-A is delegated to the Secretary of the Interior as provided in 43 CFR 2361.1 To protect the sensitive surface resources and traditional subsistence uses and access of the lagoon, no-surface-occupancy stipulations (when leasing decisions are implemented) would be imposed. Geophysical exploration within the special area would be allowed subject to applicable ROP's.

The Preferred Alternative would recognize the importance of overland travel across the Planning Area to: support subsistence hunting and fishing, inter-village communications and exchange; promote public health, safety and social-cultural ties; and facilitate economic development. In the absence of permanent roads, it is BLM policy not to allow recreational (see next paragraph) or commercial travel across the tundra outside the winter season. Overland travel and associated activities for permitted uses would be guided by specific ROP's. While no designated travel corridors or permanent roads would be recommended in the Preferred Alternative, specific language was added to the alternative to make it clear that restrictions on permanent roads to support oil and gas activities would not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes. The BLM, through existing management authorities for NPR-A, would evaluate and, as appropriate, approve needed transportation proposals. The Preferred Alternative would preserve the opportunity for the State of Alaska, the North Slope Borough and/or communities within NPR-A to plan, design, and construct public transportation systems to meet their economic, transportation, community, and public health and safety needs.

The Preferred Alternative would designate the Planning Area as "Limited" for recreational use of off-highway vehicles (OHV's). All OHV use would be limited to winter use of snow machines and other low-ground-pressure vehicles. Within NPR-A, no summer recreational use of OHV's would be permitted.

The summer use of OHV's--including all-terrain vehicles (ATV's) and airboats--to support traditional subsistence activities and access would be allowed. The use of airboats during the summer would be limited to streams, lakes, and estuaries that are seasonably accessible by motorboat. Airboat use in areas of seasonal flooding of tundra and temporary shallow waters adjacent to streams, lakes, and estuaries would be prohibited to prevent impacts to soils, water quality, vegetation, and wildlife (in particular nesting waterfowl).

Under the Preferred Alternative, the lands along the Colville River area would be designated Visual Resource Management (VRM) Class I (Map 23). Lands along the remaining 21 rivers identified as eligible for designations as WSR's and identified estuarine areas would be designated VRM Class III (Map 23). These VRM classes extend 3 mi from the banks of all identified water bodies. The remainder of the Planning Area would be designated VRM Class IV.

6. Stipulations and Required Operating Procedures

Proposed stipulations and required operating procedures for activities under Alternatives A, B, and C are listed in Table II-02 . Proposed stipulations and required operating procedures for activities under the Preferred Alternative are provided in Table II-03. For an explanation of how stipulations and required operating procedures direct future management and provide mitigation, see the introduction to Section II.C. For a comparison of the protections provided by the stipulations and required operating procedures under the different alternatives see Appendix 12 .

The stipulations and required operating procedures (ROP's) were developed through the IAP/EIS process. They are based on knowledge of the resources in the Planning Area and current industry practices and are consistent with existing policies and laws. In developing these stipulations and ROP's, BLM has tried not to include requirements that already exist in the form of regulation or law. Most requirements identified here as stipulations represent a legal "taking" in that they could take from the value of an oil and gas lease. For example, a stipulation that does not allow permanent facilities within one mile of a river could result in a well being located far enough from the (lessee's) optimum site to prevent an oil reservoir from being fully developed. Such restrictions must be attached to the lease. As part of a lease contract, lease stipulations are specific to the lessee. All oil and gas activity permits issued to a lessee will comply with the lease stipulations appropriate to the activity under review. The ROP's are pre-application requirements, procedures, management practices, or design features that

BLM, through the Record of Decision, will adopt as operational requirements. These requirements will be addressed through the permitting process. An oil and gas lease does not in itself authorize any on-the-ground activity. Seismic operations, drilling, ice road construction, pipeline construction, etc. require additional land use authorizations. Any applicant requesting such authorization will have to address the required operating procedures either before submitting the application (e.g., subsistence consultation, brant surveys) or as part of the application proposal (e.g., proposal states garbage will not be buried, or pipelines and roads will be separated by 500 ft or more). Requirements that are met prior to submission of the application, as well as procedures, practices, and design features that are an integral part of a proposal, do not need to be stipulated in a permit or lease. Because ROP's will be identified in the ROD as operational requirements, not as lease stipulations, their applicability goes beyond the oil and gas lease to any permitted activity where the requirement is relevant. The ROD may also adopt some of the ROP's identified here as stipulations to be included on leases. Alternatively, the ROD could adopt some of the stipulations identified here as ROP's.

The Authorized Officer (AO) may add additional site-specific stipulations as determined necessary by further NEPA analysis and as developed through consultation with other Federal, State, and NSB regulatory and resource agencies. Laws or regulations may require other Federal, State, and NSB permits (e.g., Clean Water Act [CWA] Section 404) for an oil and gas project to proceed. Specific State permits are required when the State has primary authority, under Federal or State law or regulation, to enforce the provision in question. Specific permits issued by Federal agencies other than BLM could include permit conditions that are more stringent than those presented below. Standardized stipulations that BLM commonly applies to authorized activities are listed in Appendix 13.

a. Definitions

The following definitions apply to stipulations and required operating procedures described in this section.

Active Floodplain: The lowland and relatively flat areas adjoining inland and coastal waters, including the flood-prone areas of offshore islands, composing, at a minimum, that area subject to a one percent or greater chance of flooding in any given year (also referred to as the 100-yr or base floodplain).

Body of Water or Waterbody: A lake, river, stream, creek, or pond that holds water throughout the summer and supports a minimum of aquatic life.

Permanent Oil and Gas Facilities: Production facilities, pipelines, roads, airstrips, production pads, docks and other bottom-founded structures, seawater-treatment plants, and other structures associated with an oil and gas operation that occupy land for more than one winter season. Material sites and seasonal facilities such as ice roads and ice pads are excluded, even when the pads are designed for use in successive winters.

b. Alternative A, Alternative B, and Alternative C Stipulations and Required Operating Procedures

The stipulations and required operating procedures for Alternatives A, B, and C are presented in Table II-02 .

c. Preferred Alternative Stipulations and Required Operating Procedures

(1) Exceptions to Lease Stipulations and Required Operating Procedures

As specified in Congressional legislation, exploration, development and production of the National Petroleum Reserve-Alaska (NPR-A) shall be conducted in a manner that prevents unnecessary surface damage, minimizes ecological disturbances, and avoids conflicts with subsistence activities. However, such protection efforts are not intended as a prohibition of petroleum and related activities. The BLM acknowledges that effective mitigation will come with some cost to oil and gas operations. However, a balance must be achieved to provide opportunities for successful oil and gas operations while providing maximum protection for the environment and local residents. While many prescriptive stipulations have been converted to performance-based lease stipulations and required operating procedures (ROP's) based on resource management objectives, there will remain a need to consider exceptions and modifications on a case-by-case basis. The following guidelines for considering and granting exceptions to stipulations or ROP's will be used.

In the event that an exception to a stipulation or ROP is requested and before an exception may be granted, the lessee/permittee shall demonstrate to the satisfaction of the AO that implementation of the stipulation or ROP:

- is technically not feasible, or
- is economically prohibitive, or
- an environmentally preferable alternative is available and the alternative proposed by the lessee/permittee fully satisfies the objective(s) of the Lease Stipulation or ROP.

The lessee/permittee shall notify the AO in a timely manner that an exception is going to be requested. In demonstrating to the AO that the alternative proposal meets the above criteria, the lessee/permittee shall provide sufficient documentation (technical reports, new/revised procedures, results of scientific research, etc.) to allow for a thorough review and evaluation of the proposal.

Before the consideration or granting of an exception to a ROP, consultation requirements must be met. Except in the case of an emergency, the AO shall consult with the appropriate Federal, State, and NSB regulatory and resource agencies before an exception may be granted. The AO's power to grant exceptions to a ROP is limited to those subjects, uses, and permits over which the BLM has authority. Exceptions may be granted in emergencies involving human health and safety.

The BLM may also initiate an exception to a ROP when information (technical reports, new/revised procedures, results of scientific research, etc.) becomes available that demonstrates the alternative proposal satisfies the objective of the ROP and meets the management objectives for the area in which the alternative is proposed. Before granting an exception (other than those granted for emergencies), whether proposed by the lessee/permittee or the BLM, the action shall undergo appropriate National Environmental Policy Act (NEPA) review.

(2) Lease Stipulations and Required Operating Procedures

The stipulations and required operating procedures for the Preferred Alternative are presented in Table II-03.

D. COMPARISON OF ALTERNATIVES

The analyses of the potential impacts of the alternatives (Sec.IV.B. through IV.E. and Section V.B) are based on the scenarios presented in Section IV.A. The analyses assume that the stipulations and required operating procedures (Section II.C.6, Table II-02 , and Table II-03) are adopted under each alternative. The analyses of the impacts of the alternatives assume compliance with existing laws and regulations (see Appendix 4). The alternatives are described in Section II.C. The cumulative analysis (Sec.IV.F.) discusses the effects that past, present, and reasonably foreseeable future actions might have on important resources in the Planning Area and the surrounding area. In addition to the potential effects of actions in the Northwest NPR-A Planning Area, the cumulative analysis includes the potential effects of activities elsewhere that may also affect the important resources of the Northwest NPR-A and surrounding areas. These activities are listed in Table IV-11 , Table IV-12, Table IV-13, Table IV-14, Table IV-15, and Table IV-16 . A comparison of the overall impacts of the first sale and multiple sales under each alternative is presented in Appendix 2. The overall impacts for each alternative are also summarized below. A summary of the conclusions of the cumulative analyses is also presented in Appendix 2.

Impacts are of several general types. Except for overland moves, non-oil and gas activities generally occur during the summer. They commonly are of short duration (e.g., aircraft flight or landing) and localized (e.g., a research or recreational camp). These are unlikely to have more than a short-term and localized impact.

Seismic activities, overland moves, and exploratory drilling occur during the winter when the ground is frozen and snow covered and many species have migrated out of the area. These activities can briefly impact the species that remain through the winter. Their effects can linger into the following summer and longer in the form of varied impacts to vegetation and soils, ranging from the compression of standing-dead vegetation to crushed tussocks and dead or broken shrubs.

The fall and winter harvest seasons are times when subsistence resources are available well beyond the coastal areas and rivers that are accessible during the summer. Winter allows access to an expanded harvest area for ungulates and furbearers, which could lead to greater frequency of potential industry/hunter contact and consequent disruption of harvest activities. Winter also is a time when wildlife is exposed to natural environmental stresses--limited forage, severe cold, high winds, and compacted snow cover. The effects produced by seismic surveying activities on subsistence resources already under environmental stresses--as well as on the harvest of these resources--may be more pronounced during winter.

While the greatest areal extent of impacts occurs during exploration activities--particularly seismic surveying operations--the greatest impacts in terms of intensity and duration of effects are associated with oil and gas development. Placement of gravel drilling pads, roads, airstrips, staging areas, and docks and the activities that take place on them, as well as construction of oil and gas pipelines will permanently disturb or destroy soil and vegetation; impound and disturb water; disturb, displace, or kill fish and wildlife; risk disturbing or destroying paleontological and cultural (archaeological and historical) resources; and potentially adversely affect subsistence (by affecting species or impeding user access) and recreation. The impacts from developing and using these facilities vary among resources. Because the land likely to be disturbed is a very small percentage of the 8.8 million surface acres BLM manages in the Planning Area, impacts to soil, vegetation, water, and paleontological and cultural resources will almost certainly be negligible to minor. Impacts to fish and wildlife and subsistence and recreation extend beyond the immediate vicinity of the disturbed ground and, depending on location and protective measures, can be more extensive than with a development's small footprint. If a development leads to a crude-oil or fuel spill, particularly one that extends beyond a pad, impacts could be more severe.

Alternative A would have the greatest impact primarily because it would likely lead to the most seismic surveys, exploratory drilling, and development. Impacts in most instances would be minor. The footprint would be unlikely to disturb more than 1,500 acres of soil or vegetation. Individual fish, mammals, and birds would probably die or be displaced, but it is likely that few or no populations would be measurably affected. Impacts to subsistence and recreation activities generally would not exceed minor levels. Three potential occurrences could increase the level of impact to some resources under Alternative A. One is oil-field development in the caribou insect-relief area. Development in this area could interfere with caribou movements and have adverse

reproductive consequences. This in turn could adversely impact subsistence hunters and those dependent on them. Secondly, an oil spill could also increase impacts above minor if it occurred in or entered a river delta or nearshore area occupied by waterbirds. Finally, if development activities were to have effects on a rare or vulnerable species, moderate or severe impacts could result. Certain vulnerable bird species--those with declining or with small or sensitive populations, including the threatened spectacled eider--could be moderately impacted if development occurred where the species was concentrated. Rare plants could be impacted severely if development overlapped the area in which such plants exist.

Alternative B would have slightly less impact than Alternative A.

Alternative C would have a significantly reduced impact primarily because development is considered unlikely under this alternative. If development did occur however, impacts for some species would still be significantly reduced from that anticipated under Alternatives A and B. Areas that would not be available for oil and gas leasing include important bird habitat and much of the caribou insect-relief area.

The Preferred Alternative would have less impact than either Alternative A or Alternative B. Although all BLM-administered lands would be made available for leasing under Alternative A and the level of projected activities would be comparable to that under Alternative B, the stipulations and ROP's under the Preferred Alternative would provide greater protection to resources of concern.

Impacts from the No Action Alternative would generally be negligible or minor, temporary, and localized.

The cumulative analysis (Sec. IV.F.) discusses the effects that past, present, and reasonably foreseeable future actions might have on important resources in the Planning Area and the surrounding area. In addition to the potential effects of actions in the Northwest NPR-A Planning Area, the cumulative analysis includes the potential effects of activities elsewhere that may affect the important resources of the Northwest NPR-A and surrounding areas. The conclusions of the cumulative analyses are summarized below.

Cumulative impacts to soils, paleontological resources, water resources, water quality, air quality, freshwater and marine fish, wild and scenic river values, and visual resources are expected to be minimal, short term, and/or localized. Long causeways with inadequate breeches could have measurable, long-term impacts on hydrologic conditions; no such causeways are projected for any of the alternatives. Global climate change could alter the composition of vegetation species, increasing deciduous shrubs and decreasing sedges and grasses. Activities in the Northwest NPR-A are not expected to contribute significantly to greenhouse gas emissions. Opportunities for primitive recreation will continue to be reduced by oil and gas activities on the North Slope. Oil and gas activities will continue to impact visual resources of the North Slope with long-term impacts related to the long-term presence of production pads, support facilities, roads, and pipelines. Over the next 20 to 30 years, the onshore and offshore oil industry in and near Prudhoe Bay is expected to decline with a parallel decline in the economic indicators within the North Slope region.

Normal oil and gas activities are expected to cause the loss of small numbers of seabirds through disturbance effects on survival and productivity and collisions with structures. However, cumulative effects of North Slope oil industry activities (primarily mortality in the unlikely event of a large oil spill) could be substantial for loon species, long-tailed ducks, and king and common eiders. Any substantial loss of long-tailed ducks or king or common eiders would represent a significant effect.

Routine oil and gas activities may result in small losses or declines in productivity of spectacled or Steller's eiders, but are not likely to cause a significant adverse population effect. However, cumulative effects, particularly any substantial losses resulting from an oil spill, could represent a significant effect, which would prevent the populations' recovery from threatened status.

North Slope oil and gas development could result in a long-term displacement and/or functional loss of habitat for Central Arctic herd (CAH), Teshekpuk Lake herd (TLH), and Western Arctic herd (WAH) of caribou. Oil development in the Prudhoe Bay-Kuparuk area may be a cause of an observed shift in CAH calving distribution away from calving range near the oil fields. Calving by TLH caribou may be reduced near the pipeline corridors--a potential long-term (several-generation) effect on the distribution of the TLH caribou. The No Action Alternative and Alternative C would not allow development in the TLH insect-relief habitat. The alteration of tundra habitat in the Prudhoe Bay area has not had any apparent effect on the distribution and abundance of other terrestrial mammals, with the possible exception of arctic foxes, which have apparently increased in numbers near the oil fields.

Access to subsistence-hunting areas and subsistence resources, and the use of subsistence resources, could change if oil development reduces the availability of subsistence resources or alters their distribution patterns. The communities of Point Lay, Wainwright, Barrow, Atkasuk, and Nuiqsut would be most affected. Should caribou become unavailable, undesirable for use, or experience long-term population and productivity effects for a period longer than five years, it could chronically disrupt sociocultural systems in the community that are reliant on caribou for subsistence, which would be a significant adverse effect. Effects would be expected to disrupt community activities and traditional practices for harvesting, sharing, and processing subsistence resources, but not displace sociocultural institutions, social organization, or sociocultural systems. Disproportionate, high adverse effects to the subsistence communities of the North Slope are expected as a result of cumulative impacts from oil and gas activities.

E. NEED FOR FURTHER NEPA ANALYSIS

Additional NEPA analysis would be required for any management decisions going beyond the scope of this document. Where possible, such analyses would tier from this IAP/EIS.

One important aspect of this IAP/EIS is possible oil and gas leasing. It is the subject of much of the analysis in Section IV and Section V. In compliance with current regulations of the Council on Environmental Quality (CEQ), part of this analysis relies on a hypothetical development scenario based on general information about where there is high potential for oil and gas in the Planning Area and current industry exploration and development practices. While this analysis is adequate for oil and gas leasing and includes analyses of potential impacts from projected exploration and development activities, future actions-- including a proposed exploratory drilling plan or proposed construction of the infrastructure for development of an oil discovery--would require further NEPA analysis based on specific and detailed information about where and what kind of activity would occur.

The analysis contained in this IAP/EIS addresses the direct, indirect, and cumulative impacts of making certain lands available for oil and gas leasing, exploration, and development, as well as other management actions by BLM. It also analyzes the impacts of a first sale and serves as NEPA documentation for that sale. Subsequent sales would be authorized under Alternatives A through C and the Preferred Alternative. Before each additional sale, BLM would conduct a NEPA analysis, tiering from the IAP/EIS. If the analysis in the IAP/EIS remains valid, second and subsequent sales may require only formal determination of NEPA adequacy.

F. INTERRELATIONSHIPS

1. Introduction

Many Federal laws and executive orders apply in one way or another to the planning and permitting process for any development in the NPR-A, including oil and gas leasing. Some of the major laws and executive orders include:

- Endangered Species Act (ESA)
- Magnuson-Stevens Fishery Management and Conservation Act (M-SFMCA)
- National Historic Preservation Act (NHPA)
- Coastal Zone Management Act (CZMA)
- Wild and Scenic Rivers Act (WSRA)
- Sections 810 and 1320 of the Alaska National Interest Lands Conservation Act (ANILCA)
- Naval Petroleum Reserves Production Act (NPRPA)
- Federal Land Policy and Management Act (FLPMA)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Rivers and Harbors Act of 1899
- Archaeological Resource Protection Act
- Native American Graves Protection and Repatriation Act
- Fish and Wildlife Coordination Act
- Executive Orders 11988 (Floodplain Management), 11990 (Protection of Wetlands), 12898 (Environmental Justice), 13007 (Indian Sacred Sites), and 13175 (Consultation and Coordination with Indian Tribal Governments)

These and other laws are cited in the "Information to Lessees" included in this IAP/EIS at Appendix 4.

2. Endangered Species Act, Magnuson-Stevens Fishery Management and Conservation Act, and National Historic Preservation Act Consultations and Coastal Zone Management

Section 7 of the Endangered Species Act (ESA) specifies consultation with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NOAA Fisheries, formerly NMFS). The Magnuson-Stevens Fishery Management Act (M-SFMCA) requires consultation with NOAA Fisheries on Essential Fish Habitat (EFH). The National Historic Preservation Act (NHPA) requires consultation with the Alaska State Historic Preservation Officer and--when there are effects on cultural resources listed on or eligible for inclusion in the National Register of Historic Places--with the President's Advisory Council on Historic Preservation. Consultations required by the M-SFMCA and the NHPA are completed. Consultation pursuant to the ESA is on-going and will be completed by the time the Record of Decision is published. The BLM is also working with the State of Alaska through the State's representative on the Northwest NPR-A IAP/EIS planning team to ensure the mandates of the CZMA are met. The required compliance documentation will be included in the final Northwest NPR-A IAP/EIS or ROD.

3. Wild and Scenic Rivers Act Compliance

The WSRA requires that BLM address wild and scenic river values in its planning efforts. In planning for this IAP/EIS, BLM reviewed previous studies completed pursuant to Section 105(c) of the Naval Petroleum Reserves

Production Act (NPRPA) and gathered information from current residents of the area. Based on its evaluations, BLM identified 22 rivers as meeting the minimum criteria for inclusion in the nation's WSR system. This IAP/EIS considers adding up to 22 rivers to the system.

4. Alaska National Interest Lands Conservation Act Section 810 Compliance

The evaluation and proposed finding of effects on subsistence required by Section 810 of ANILCA are contained in Appendix 5. This evaluation is also based, in part, on information contained elsewhere in this IAP/EIS. Public hearings seeking comment on the evaluation were held concurrently with the public meetings required on the draft IAP/EIS. In this final IAP/EIS, BLM has made the determinations that address additional requirements of Section 810 of ANILCA.

5. Alaska National Interest Lands Conservation Act Section 1320 Identification of Lands Suitable as Wilderness

Section 1320 of ANILCA authorizes the Secretary of the Interior to identify areas in Alaska that are suitable as Wilderness and to make recommendations to Congress for including them in the National Wilderness Preservation System. In this IAP/EIS, BLM has identified and analyzed the impacts of designating three areas as Wilderness Study Areas (WSA's).

6. Future Interrelationships

The following discussion focuses on some of the permits that would be required by various agencies during any exploration or development activities in the Planning Area. (A more inclusive list is provided in Appendix 4.) In developing additional NEPA documentation for any such future activities, it would be necessary to consider some of the data needs of other agencies with authority to issue necessary permits for these activities so they can either use or tier off the document for any additional required analysis.

The U.S. Army Corps of Engineers (COE) administers two permits relevant to proposed oil and gas activities in the Northwest NPR-A. The first permit is issued pursuant to Section 404 of the Clean Water Act (CWA), which addresses the discharge of dredged or fill material into U.S. waters, including wetlands. In addition, the ADEC must certify that the 404 permit meets State water-quality standards. To meet Section 404 requirements, any future NEPA document would describe the project's components, identify the type and amount of wetlands and other waters affected by each alternative, describe anticipated impacts, and discuss mitigation measures that could minimize impacts to these resources.

Section 10 of the Rivers and Harbors Act of 1899 is the source for the second COE-administered permit. To address the requirements of this section, as they pertain to construction of structures or work in or affecting navigable waters of the U.S., any future NEPA document must describe the navigable waters of the United States within the project area and how structures in, on, or over these waters would affect them during construction and operation. The NEPA document would describe the alternatives and compare possible impacts to coastal integrity and navigation for each alternative. It would also discuss mitigating measures to minimize these impacts.

The U.S. Environmental Protection Agency (EPA) issues National Pollution Discharge Elimination System (NPDES) permits required by the CWA. To provide information for these permits, any future NEPA document

would describe existing water quality and the quantity of water requirements for the proposed project, expected pollutants and their concentrations, and the quality and locations of wastewater-treatment facilities and discharges. The EPA administers and the ADEC issues other CWA-mandated permits for Waste Water Authorization, Oil Discharge Prevention and Contingency Plans, Storm Water Discharge, and Underground Injection Authorizations.

Under their State Implementation Plan, the ADEC issues Prevention of Significant Deterioration (PSD) air-quality permits as well as other air-quality permits. A future NEPA document would provide an analysis of meteorological factors and air-quality baseline conditions, and it would predict impacts to air-quality during construction and operations to provide information necessary to evaluate the issuance of these permits. The ADEC issues construction and operating air-quality permits. Construction permits include Prevention of Significant Deterioration (PSD) air-quality permits required by the Clean Air Act. A future NEPA evaluation would provide an analysis of meteorological factors and air-quality baseline conditions, and it would predict impacts to air quality during construction and operations to provide information necessary to evaluate the issuance of these permits.

The ADEC is responsible for issuing several permits and plan approvals for oil and gas exploration and development activities. These permits and plan approvals are listed in Appendix 4. The Alaska Oil and Gas Conservation Commission is responsible for issuing drilling permits and for production, injection, and disposal plans approvals for exploration and development activities in the State of Alaska. A list of relevant regulations is included in Appendix 4.

7. Subsistence Advisory Panel

To ensure local participation in the decision-making process as it relates to subsistence in the NPR-A, BLM established a local Subsistence Advisory Panel (SAP). The tribal governments of Anaktuvuk Pass, Atkasuk, Barrow, Nuiqsut, and Wainwright and the North Slope Borough are represented on the panel. The SAP's purview encompasses the Northwest NPR-A Planning Area. The responsibilities of this panel are and will continue to be to:

- provide recommendations to BLM concerning planning, research, monitoring, and assessment activities needed to facilitate responsible development and to protect subsistence resources and uses in the NPR-A;
- identify potential conflicts between subsistence use and other resource uses;
- inform local communities about agency actions affecting subsistence resources and uses in the Planning Area;
- inform agencies of panel activities;
- work with the NSB to maintain a repository of subsistence information concerning the Planning Area for local communities and agencies; and
- help BLM ensure continuity and consistency in the collection and use of subsistence information by the advisory panel and other groups.

The panel is responsible for the review of resource-related development plans within the Planning Area and issuance of recommendations to BLM regarding whether the plans adequately consider subsistence. The BLM will work with the panel and any permittees to resolve conflicts between subsistence use and resource development. The BLM will work closely with the panel to develop a plan to monitor the effects of development on subsistence resources and users. Should monitoring identify the existence of impacts on subsistence uses, the panel would make recommendations to BLM regarding: (a) additional mitigating measures, (b) potential relocation of operations or redesign of facilities, and (c) more effective mechanisms for enforcement of subsistence stipulations.

8. North Slope Science Strategy

The Northeast NPR-A IAP/EIS Record of Decision (ROD) authorized a Research and Monitoring Team (RMT), whose chartered mission was to determine the effectiveness of mitigation and stipulations outlined in the Northeast IAP/EIS. The RMT charter was signed by the Secretary of the Interior in November 2000, and the charter expired in November 2002. During the two years the RMT was in operation, a draft for the Northwest NPR-A IAP/EIS was published; the BLM announced it would revisit the Northeast IAP/EIS; a Notice of Intent was published and scoping efforts begun for a full-field development plan at the Alpine development in the Colville River Delta; and Congress considered reauthorizing oil and gas activities in the Arctic National Wildlife Refuge (ANWR). Clearly, these activities and other developments across the North Slope set the stage for a new, broader organization, with an expanded mission, to replace the RMT--whose charter was limited to the Northeast IAP/EIS.

Efforts are currently underway to develop a North Slope Science Strategy that would be comprehensive across the North Slope and provide a consistent approach to high caliber science (inventory, monitoring, and research). This initiative is envisioned to provide better understanding of the terrestrial, aquatic, and marine ecosystems of the North Slope. Science would be conducted through a comprehensive science plan, prioritization of pressing natural resource management and ecosystem information needs, coordination and cooperation among agencies and organizations, competitive selection of approved projects, enhanced information availability, and public involvement.

A North Slope Management Oversight Group (NSMOG) would be an executive level organization that develops and implements the science strategy. The NSMOG would include executive membership from federal, state and local government agencies that have land trust responsibilities across the North Slope. The group would emphasize coordination and cooperation in supporting inventory, monitoring and research activities. The group's goals would be to: (1) improve the understanding of North Slope terrestrial aquatic and marine ecosystem dynamics; (2) encourage conservation and wise use of natural resources; (3) manage and protect these ecosystems and components; and (4) develop the ability to forecast and respond to the effects of natural and human-induced change, through integration of various science activities.

A Science Technical Advisory Panel (STAP) would be an integral part of shaping this strategy by providing the NSMOG technical advice on proposed inventory, monitoring and research functions. The STAP would have a membership similar to the former RMT, but would be broader in both discipline and geographic scope.

9. Rights-of-Way

Under all alternatives, except the No Action Alternative, BLM would pursue creation of rights-of-way at two coastal sites (Map 17). One is at the eastern end of Peard Bay. This site contains a pad and a 1,660-ft-long airstrip. The other site is approximately 3 mi up the Kuk River from Wainwright. It has a pad and a 3,500-ft-long airstrip. Both are former Distant Early Warning stations. The site at Peard Bay has been remediated and is clear of structures. The Air Force plans to remediate the Wainwright site and remove nearly all of its structures in 2005. Use of these sites would require approval by the AO and a letter of non-objection from the Air Force.

G. ALTERNATIVES AND MANAGEMENT ACTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The following alternatives and management actions were identified and considered but eliminated from detailed analysis:

- Planning for a larger portion of NPR-A
- Recommending Wilderness designation for all of the Planning Area
- Recommending additional areas for designation as Special Areas
- Legislation action to open the Planning Area to hardrock mineral entry
- The Arctic Slope Regional Corporation land exchange alternative
- The Audubon Society's Wildlife Habitat Alternative
- The North Slope Borough's Alternative
- Designation of Transportation Corridors
- Cleanup of Contaminated Sites

1. Planning for a Larger Portion of NPR-A

The BLM considered planning for all portions of NPR-A not already addressed in the Northeast NPR-A IAP/EIS. This would have approximately doubled the size of the Planning Area. BLM decided not to adopt this approach because it would have diminished the focus in this IAP/EIS on the issues of highest concern. Limiting the size of the Planning Area enables BLM to do a more detailed study of the surface and subsurface resources of greatest immediate interest and to plan much more specifically for the protection of the outstanding surface resources the area encompasses. After the Northeast NPR-A Planning Area, the oil and gas resources are highest and most economically exploitable within the Northwest NPR-A Planning Area. The Planning Area also encompasses all of the communities within the National Petroleum Reserve except Nuiqsut, which is in the Northeast NPR-A. Thus, this IAP/EIS is able to address issues of greatest local importance to residents. In addition, the great majority of the lands in the Planning Area are part of the flat and wet lowlands of the arctic coastal area. The Planning Area does not extend into the vast, high mountains of the Brooks Range, which have a very different ecosystem and very different issues than the lands closer to the coast. The Planning Area excludes nearly all of the Colville drainage, whose upper basin should be addressed together in a separate plan. For this reason, the BLM deleted portions of the Awuna River basin from the Planning Area as originally presented to the public during scoping meetings. Finally, the Planning Area excludes uplands identified as the core calving area of the Western Arctic caribou Herd (WAH), which merits its own special focus in a future plan.

2. Recommending Wilderness Designation for All of the Planning Area

Much of the NPR-A bears little mark of human presence. This fact raises the possibility that most or all of the Northwest NPR-A might be designated as wilderness. The BLM does examine in detail adding three distinct areas, generally remote from current population centers, to the wilderness system. The remoteness of these areas has meant that they are less marked by human presence than most of the rest of the Planning Area. In addition, the foothills area and mountains area that are recommended in Alternative C for addition to the country's wilderness system, provide quality viewing and hiking opportunities--better than the flatter coastal wetland areas that dominate much of the rest of the Planning Area. The Kasegaluk Lagoon area provides one of the Arctic's best examples of a barrier island and lagoon environment, providing recreational boating, sightseeing, scientific, and educational opportunities. (For more on their value, see the discussion of these areas in Sec. III.) However, this IAP/EIS does not consider in detail recommending larger portions of the Planning Area for addition to the wilderness system because such an alternative would fail to meet the management purposes and objectives of this planning effort as described in Section I.A.

The BLM has discretion on how it addresses wilderness within the NPR-A. Section 1320 of ANILCA makes wilderness reviews discretionary on BLM-managed lands in Alaska. In exercising this discretion in this IAP/EIS and in properly balancing the requirements to encourage oil and gas leasing with the need to protect resources, BLM has decided not to consider a wilderness proposal for the entire Planning Area, which would eliminate all oil and gas leasing opportunities, and specifically to not consider such a proposal in lands deemed of high oil and gas potential.

3. Recommending Additional Areas for Designation as Special Areas

The Northwest NPR-A Planning Area contains portions of the existing Teshekpuk Lake and Colville River Special Areas. The BLM did not consider changing the designation of these areas through this planning process.

Designation of an area as a Special Area recognizes that significant surface resources are present and that during exploration, the areas should be managed to assure maximum protection of identified surface values to the extent consistent with the requirements of the Naval Petroleum Reserves Production Act. The BLM believes this protection is provided to these existing Special Areas through the comprehensive Stipulations and ROP's presented as part of the various alternatives. The BLM has established setbacks and other restrictions to provide protection for the species present and their habitats in and around rivers and lakes and along the shorelines of bays, inlets, and lagoons. In response to concerns expressed by the public, some of the setback distances have been increased in the Preferred Alternative from those presented in the alternatives in the Draft IAP/EIS. Also, the Preferred Alternative requires studies of threatened and other important species and their habitats prior to making final decisions about construction of permanent facilities. We think that these restrictions and others included in the Stipulations and ROP's for the Preferred Alternative provide the necessary level of protection to the resources that are present both within and outside of existing designated Special Areas. The Preferred Alternative also recommends the designation of the Kasegaluk Lagoon area for Special Area designation. This lagoon contains an ecosystem that is unique to the North Slope; the high biological values present and the excellent potential for primitive recreation there justify such a designation.

4. Legislative Action to Open the Planning Area to Mineral Entry (Hardrock)

The NPR-A has been closed to mining since its creation in 1923, a closure more recently reinforced in the legislation that transferred jurisdiction to the Department of the Interior in 1976 (42 U.S.C. § 6502). Reflecting the national interest in oil and gas and the potential for oil and gas, particularly in the northern portion of the Reserve, the NPR-A was kept closed to mining when it was opened to oil and gas leasing in 1980. Thus, opening the area to mining at this time would require Congressional action through legislation. Because opening the area to mineral entry would not meet the management purposes and objectives of this planning effort as described in Section I.A., it is beyond the scope of this IAP/EIS, and BLM decided not to consider recommending such an action for the Planning Area. The purpose of this planning effort is to balance management of oil and gas resources and management of important surface resources, consistent with existing statutory direction for the area. Any proposal for legislation to change the statutory management direction on hardrock minerals is outside of the scope of this IAP/EIS.

Similarly, other ideas for legislative actions were not considered in detail in the IAP/EIS because they would change the basic management direction of the NPR-A and, thus, are beyond the scope of this IAP/EIS. The BLM's objectives in preparing this IAP/EIS were to consider oil and gas leasing and other appropriate land

management actions consistent with the existing statutory direction for the NPR-A. Legislative proposals to change land status designations were not considered to be within the scope of the IAP/EIS, except to the extent that specific statutes (i.e., the WSRA and § 1320 of ANILCA regarding Wilderness), by their own terms, apply to the NPR-A.

5. The Arctic Slope Regional Corporation Land Exchange Alternative

During scoping for this IAP/EIS, the Arctic Slope Regional Corporation (ASRC) stated that allowing land exchanges through this plan would help to compensate the Inupiat of the North Slope for their inability to select lands within the NPR-A at the time that ANCSA was enacted. Alternatives involving land exchanges, which would remove public land from the NPR-A, are not being considered as part of this IAP/EIS because they are outside the scope of this IAP/EIS and they do not meet the purposes and objectives of this planning effort as set out in Section I.A. The purpose of this planning effort is to establish how BLM will administratively manage the important resources and values of the public lands in the northwest portion of the NPR-A consistent with existing statutory direction in the NPR-A authorizing statutes.

6. Audubon Society's Wildlife Habitat Alternative

During the comment period on the Draft IAP/EIS, BLM received a set of comments from the Audubon Society that the Society referred to as their Wildlife Habitat Alternative. The comments also contain a good summary of existing knowledge of the avian and other natural resources of the northwest part of the North Slope, including the Northwest NPR-A Planning Area. Rather than presenting a complete alternative, the comment letter presents a set of recommendations that the Audubon Society proposes to provide protection to these resources (see Comment Letter 213). Four new Special Areas are proposed by the Audubon Society: Dease Inlet-Meade River (1.8 million acres); Kasegaluk Lagoon (267 thousand acres); South Ikpikpuk (103 thousand acres); and Peard Bay (951 thousand acres). The Audubon Society also recommends No Lease Zones for 2.117 million acres, No Surface Activity Zones on 261 thousand acres, and spectacled eider/yellow-billed Loon Stipulation Zones on 368,000 acres. These zones are mostly within the high oil and gas potential area near the coast.

The BLM believes that there are many good ideas presented in the Audubon Society's comments and shares the Audubon Society's concern for protection of the resources in Northwest NPR-A. In response to these ideas and those from other organizations and individuals, BLM has developed a Preferred Alternative that we believe accomplishes a reasonable level of protection for the natural resources of the Planning Area through judicious use of Special Area designations, a leasing deferral, setbacks and seasonal restrictions, and required, species-specific studies. Exploratory activities would only occur in the winter when birds of concern are not in the Planning Area. Under the Preferred Alternative, the Kasegaluk Lagoon would be proposed as a Special Area within which there would be no permanent surface occupancy allowed. The proposed 10-year leasing deferral area in the western 18 percent of the Planning Area includes all of Kasegaluk Lagoon and the most important part of Peard Bay. During the 10-year deferral period, this area would provide a control area for scientific studies for comparison to impacts in developed areas—an idea proposed by Audubon. Under the Preferred Alternative, seasonal restrictions are proposed on Dease Inlet, as well as setbacks for development. The Preferred Alternative would provide setbacks for development on rivers and lakes and extend setbacks even farther in key subsistence areas. Multi-year studies would be required on brant, caribou, spectacled eider, Steller's eiders, and yellow-billed loons before final siting decisions for development. Every attempt has been made to develop protective measures that would minimize impacts from development on the caribou insect-relief area. The analysis of the effects of the Preferred Alternative (Section V.B) indicates that these protections are expected to be adequate to minimize the effects of oil and gas activities on the species of concern to the Audubon Society.

The Audubon proposal would make 35 percent of the high oil and gas potential area off-limits. The BLM

considers this level of restriction to be inconsistent with the purposes of the National Petroleum Reserve-Alaska and unnecessary for providing protection for the resources there. In addition, the Audubon proposal includes some features that are similar to those of Alternative C. The analysis of Alternative C (Section IV.E) indicates that such restrictions would do little to actually decrease the impacts to natural resources from development activities. For these reasons, BLM has not carried this proposed alternative forward for further detailed consideration.

7. North Slope Borough's Alternative

The North Slope Borough submitted a letter (Comment Letter 80065) containing a set of comments that it referred to as their alternative. Discussions with the Borough led to an agreement that, other than the land exchange issue discussed in Section II.G.5 above, BLM would address the issues raised by the Borough as individual comments. The Borough's comment letter with specific comments annotated and BLM's responses to those specific comments are presented in Section VII.

8. Designation of Transportation Corridors

There are no officially designated right-of-way corridors for transportation, pipelines, or power or communication lines within the Northwest NPR-A Planning Area. The BLM considered the need for designation of such corridors but decided there was not sufficient information to identify the appropriate location, width, or other specifications of such a corridor and eliminated this management action from further consideration in IAP/EIS. This decision does not preclude transportation corridors from being identified at a future time when more is known about resource distribution and possible transportation needs.

9. Cleanup of Contaminated Sites

Cleanup of contaminated sites is not addressed in this IAP/EIS because it is an independent program that must comply with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) rather than with land use planning decisions. Initiation of site characterization and removal/remedial activities at a potentially contaminated site occurs upon discovery and verification of a potential problem. Investigative and removal activities would occur under any of the alternatives considered under this plan. The BLM routinely exercises its CERCLA authorities when a potential hazardous material site is identified. Under BLM's inventory of wells in the NPR-A, no site visits, to date, have triggered CERCLA investigations or removal activities at a site.

H. Major Differences Between the Draft IAP/EIS and Final IAP/EIS

The following is a summary of some of the more important changes that have been made to the IAP/EIS as a result of the public review of the draft IAP/EIS.

- An Agency-Preferred Alternative was developed based on consideration of the alternatives presented and analyzed in the draft IAP/EIS, public comments on the draft IAP/EIS, and consultation with various stakeholders. The Preferred Alternative includes both land allocations and a set of lease stipulations and

required operating procedures. The Preferred Alternative is described in Section II.C.5 and depicted on Map 18, Map 20, and Map 23. The analysis of the potential consequences of activities under the Preferred Alternative is presented in Section V.B. A discussion of the development of the Preferred Alternative can be found in Section VI.E.

- Several of the comments warranted revisions to the text to complete the Final IAP/EIS. Revisions to the text included minor clarifications, additional discussion in the Description of the Affected Environmental (Section III) for several resources, and inclusion of updated and new information. New information included that provided by the Audubon Society and the U.S. Fish and Wildlife Service (FWS), and the National Research Council (NRC) report *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope* (NRC, 2003).
- An analysis of a potential permanent road between the Dalton Highway and Nuiqsut has been included in the cumulative evaluation as a reasonably foreseeable activity (Section IV.F.7.i.4). The scenario for this road was developed using information from the Alaska Department of Transportation and Public Facilities (ADOTPF).
- Section VII includes specific comments received on the Draft IAP/EIS and responses to those comments. Selected comment letters are reproduced in Appendix 15.
- Two additional alternatives were proposed by commenters (the Audubon Society, Comment Letter 213, and the North Slope Borough, Comment Letter 80065). A discussion of why these alternatives were considered but eliminated from further detailed analysis is presented in Section II.G.6 and Section II.G.7.
- The application of required operating procedures has been extended to cover permitted non-oil and gas activities, such as research camps and recreational float trips, as well as oil and gas activities that may be authorized under this plan.
- A summary of the effectiveness of the stipulations and required operating procedures under the Preferred Alternative has been added as a separate table in Appendix 12.

**Table II-01
Land Management Designations:
Potential Wilderness/Special Areas and Wild and Scenic River**

Issue/Action	No Action	Alternative A	Alternative B	Alternative C	Preferred Alternative
Potential Wilderness Study Area (WSA) or Special Area Designation	No WSA or Special Area designations proposed	No WSA or Special Area designations proposed	Kasegaluk Lagoon area proposed for Special Area designation	Kasegaluk Lagoon, Foothills, and Mountain areas proposed for WSA designation	Kasegaluk Lagoon area proposed for Special Area designation
Wild and Scenic Rivers (WSR)	No WSR's recommended	No WSR's recommended	No WSR's recommended	Colville River recommended for wild WSR designation; 21 streams recommended for scenic WSR designation: Alataktok, Alaktak, Avak, Avalik, Chipp, Inaru, Ivisaruk, Kaolak, Ketik, Kigalik, Kuk, Kungok, Meade, Nokotlek, Ongorakvik, Oumalik, Titaluk, Topagoruk, and Tunalik, Usuktuk Rivers, and Maybe Creek	No WSR's recommended

Note:

Portions of the existing Teshekpuk Lake and Colville River Special Areas are in the Planning Area. Their designations are not altered in any alternative.

WSA = Wilderness Study Area.

WSR = Wild and Scenic Rivers.

Table II-01
Land Management Designations (continued)
Visual Resource Management

Issue/Action	No Action	Alternative A	Alternative B	Alternative C	Preferred Alternative
Visual Resource Management (VRM) Designations (See Maps 21-24 for depictions of VRM units for Alternatives A through C)	None	For an area up to ½ mile from rivers and estuarine areas: <u>VRM II:</u> Colville River <u>VRM III:</u> estuarine and 21 rivers* <u>VRM IV:</u> rest of Planning Area	For an area up to 1 mile from rivers and estuarine areas: <u>VRM II:</u> Avak, Colville, Nokotkek, Ongoravik, and Tunalik Rivers, estuarine area, and Kasegaluk Lagoon Special Area <u>VRM III:</u> 17 Rivers* <u>VRM III-IV:</u> rest of Planning Area	For an area up to 5 miles from rivers and estuarine areas: <u>VRM I:</u> Colville River; and the 3 proposed wilderness areas <u>VRM II:</u> other WSR corridors and estuarine area <u>VRM III:</u> rest of Planning Area	For an area up to 3 miles from rivers and estuarine areas: <u>VRM I:</u> Colville River <u>VRM III:</u> estuarine and 21 rivers* <u>VRM IV:</u> rest of Planning Area

Notes:

Visual Resource Management classes are described in Appendix 3. The extent of VRM objective classes from the rivers and estuarine areas would be less than the above distances where land features limit the viewshed.

VRM = Visual Resource Management.

*Rivers are those recommended for scenic WSR status under Alternative C but not recommended for scenic status under Alternative B.

Table II-01
Land Management Designations (continued)
Travel Management

Issue/Action	No Action	Alternative A	Alternative B	Alternative C	Preferred Alternative
1. Off Highway Vehicle (OHV) Designations	The Planning Area would remain Undesignated.	Designated Open to all OHV use throughout the Planning Area.	Designated Limited: a. winter use by snowmachines and other low-ground-pressure vehicles; and b. summer use of OHV's with ground pressure ≤ 2.2 psi on designated trails only (none in the Kasegaluk Lagoon Special Area).	Designated Limited: a. winter use by snowmachines and other low-ground-pressure vehicles (closed to summer use); and b. no summer recreational use of motorized vehicles.	Designated Limited: a. winter use by snowmachines and other low-ground-pressure vehicles; and b. no summer recreational use of motorized vehicles.
2. Subsistence and Authorized Uses	No restrictions on subsistence use; specific authorizations may stipulate use.	No restrictions on subsistence use; specific authorizations may stipulate use.	Airboat use in summer would be limited to streams, lakes, and estuaries that are seasonally accessible by motorboats; airboat use would be prohibited in seasonally flooded tundra and shallow waters with vegetation adjacent to streams, lakes, and estuaries. Specific authorizations may further stipulate use of airboats and OHV's.	Airboat use in summer would be limited to streams, lakes, and estuaries that are seasonally accessible by motorboats; airboat use would be prohibited in seasonally flooded tundra and shallow waters with wetland vegetation adjacent to streams, lakes, and estuaries. Specific authorizations may further stipulate use of airboats and OHV's.	Airboat use in summer would be limited to streams, lakes, and estuaries that are seasonally accessible by motorboats; airboat use would be prohibited in seasonally flooded tundra and shallow waters with wetland vegetation adjacent to streams, lakes, and estuaries. Specific authorizations may further stipulate use of airboats and OHV's.

Note:

With the exception of airboats, the above restrictions do not apply to boats.

OHV = Off Highway Vehicle(s)

Table II-01
Land Management Designations (continued)
Lands Available for Oil and Gas Leasing; Fire Management

Issue/Action	No Action	Alternative A	Alternative B	Alternative C	Preferred Alternative
Lands Available for Oil & Gas (O&G) Leasing	None	All federal oil and gas resources in the Planning Area: 100% of BLM subsurface; 100% of high oil and gas potential BLM subsurface.	All federal oil and gas resources in the Planning Area except the Kasegaluk Lagoon Special Area: 96% of BLM subsurface; 100% of high oil and gas potential BLM subsurface.	All federal oil and gas resources in the Planning Area, except in areas associated with important surface resources or under non-federal surface lands: 47% of BLM subsurface <2% of high oil and gas potential BLM subsurface.	All federal oil and gas resources in the Planning Area: 100% of BLM subsurface; 100% of high oil and gas potential BLM subsurface. Leasing would be deferred for 10 years on the 17% of lands that are located in the western part of the Planning Area.
Fire Management (See Appendix 6 for Fire Management Constraints)	None	No constraints. BLM may use management-ignited fires to improve vegetation conditions for specific resources.	No constraints. BLM may use management-ignited fires to improve vegetation conditions for specific resources.	No constraints. BLM may use management-ignited fires to improve vegetation conditions for specific resources.	No constraints. BLM may use management-ignited fires to improve vegetation conditions for specific resources.

Note:
O&G = Oil and Gas

**Table II-02
Stipulations and Required Operating Procedures (ROP's)**

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>A. Waste Prevention, Handling, and Disposal and Spills</p>	<p>Stipulation A-1. For oil- and gas-related activities, a Hazardous-Materials Emergency-Contingency Plan shall be prepared and implemented before transportation, storage, or use of fuel. The plan shall include a set of procedures to ensure prompt response, notification, and cleanup in the event of a hazardous substance spill or threat of a release. Sufficient oil-spill-cleanup materials (absorbents, containment devices, etc.) shall be stored at all fueling points and vehicle-maintenance areas and shall be carried by field crews on all overland moves, seismic work trains, and similar overland moves by heavy equipment. Procedures applicable to fuel handling (associated with transportation vehicles) may consist of Best Management Practices if approved by the AO. The plan shall include a list of resources available for response (e.g., heavy-equipment operators, spill-cleanup materials or companies), and names and phone numbers of Federal, State, and NSB contacts. Other Federal and State regulations may apply and require additional planning requirements. All staff shall be instructed regarding these procedures.</p>			<p>A-3 A-4(a)</p>
	<p>Stipulation A-2. Except during overland moves and seismic operations, fuel, other petroleum products, and other liquid chemicals designated by the AO, whether in excess of 660 gallons in a single tank or in excess of 1,320 gallons in multiple containers, shall be stored within an impermeable lined and diked area capable of containing 110 percent of the stored volume. The liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period. Permanent fueling stations shall be lined or have impermeable protection to prevent fuel migration to the environment from overfills and spills. The storage area shall be located at least 100 ft from the active flood plain of any non-fish bearing waterbody and 500 ft from the active floodplain of any fish-bearing waterbody, with the exception of small caches (up to 210 gallons) for motor boats, float planes, ski planes and small equipment.</p>		<p>Stipulation A-2. Except during overland moves and seismic operations, fuel, other petroleum products, and other liquid chemicals designated by the AO—whether in excess of 660 gallons in a single tank or in excess of 1,320 gallons in multiple containers—shall be stored within an impermeable lined and diked area capable of containing 110 percent of the stored volume. The liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period. Permanent fueling stations shall be lined or have impermeable protection to prevent fuel migration to the environment from overfills and spills. The storage area shall be located at least 500 ft from the active flood plain of any waterbody, with the exception of small caches (up to 210 gallons) for motorboats, float planes, and ski planes.</p>	<p>A-4 (b) (c) (d) E-2</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
A. Waste Prevention, Handling, and Disposal and Spills (continued)	Stipulation A-3. Refueling of equipment within 500 ft of the active flood plain of any fish-bearing waterbody and 100 ft from non-fish-bearing waterbodies is prohibited. The BLM acknowledges that exceptions are commonly warranted for refueling motorboats, float planes, ski planes, small generators, water pumps, and other light equipment used in conjunction with temporary activities.		Stipulation A-3. Refueling of equipment within 500 ft of the active flood plain of any waterbody is prohibited, with the exception of refueling motorboats, float planes, ski planes, small generators, water pumps, and other light equipment used in conjunction with temporary activities.	A-5
	ROP A-1. Attracting wildlife to food and garbage is prohibited. All feasible precautions shall be taken to avoid attracting wildlife to food and garbage. A current list of approved precautions, specific to type of permitted use, can be obtained from the AO. Lessees and permitted users shall have a written procedure to ensure that the handling and disposal of putrescible waste will be accomplished in a manner to prevent the attraction of wildlife.			A-2 (a)
	ROP A-2. Burial of garbage is prohibited. All putrescible waste shall be incinerated or composted in a manner approved by the AO. All solid waste, including incinerator ash, shall be removed from BLM lands and disposed of in an approved waste-disposal facility in accordance with U.S. Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC) regulations and procedures. Burial of human waste is prohibited except as authorized by the AO.			A-2 (b)
	ROP A-3. Except as specifically provided, all pumpable solid, liquid, and sludge waste shall be disposed of by injection in accordance with EPA, ADEC, and the Alaska Oil and Gas Conservation Commission regulations and procedures. On-pad temporary muds and cuttings storage will be allowed as necessary to facilitate annular injection and/or backhaul operations.			A-2 (c)
	ROP A-4. Wastewater disposal: a. Unless authorized by the National Pollution Discharge Elimination System (NPDES) or State permit, disposal of domestic wastewater into bodies of fresh, estuarine, and marine water, including wetlands, is prohibited. b. Surface discharge of reserve-pit fluids is prohibited unless authorized by applicable NPDES, ADEC, and NSB permits and approved by the AO. c. Disposal of produced waters in upland areas, including wetlands, will be by subsurface-disposal techniques. The AO may permit alternate disposal methods if the lessee demonstrates that subsurface disposal is not feasible or prudent. d. Discharge of produced waters into open or ice-covered marine waters less than 33 ft (10 m) is prohibited. The AO may approve discharges into waters greater than 33 ft (10 m) deep based on a case-by-case review of environmental factors and consistency with the conditions of an NPDES permit. Alternate disposal methods will require an NPDES permit certified by the State.			A-2 (d) A-6 A-7

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
A. Waste Prevention, Handling, and Disposal and Spills (continued)	ROP A-5. Areas of operation shall be left clean of all debris.			A-1
	ROP A-6. Operators shall prevent migration of fuel or chemicals from storage areas to the environment. Notice of any reportable spill (as required by 40 CFR 300.125 and 18 AAC 75.300) shall be given to the AO as soon as possible, but no later than 24 hours after occurrence. Other Federal, State, and NSB entities shall be notified as required by law. All spills shall be cleaned up immediately and to the satisfaction of the AO and all agencies with regulatory authority over spills, including the EPA, ADEC, and the U.S. Coast Guard.			A-4(f)
	ROP A-7. Before production and as required by law, lessees shall develop spill prevention and response contingency plans.			A-4
	ROP A-8. All fuel containers, including barrels and propane tanks, shall be marked with the responsible party's name, product type, and year filled or purchased.			A-4(e)
B. Ice Roads and Water Use	Stipulation B-1. Water withdrawal is not allowed during winter from lakes less than 7 ft (2.1 m) deep unless the water body lacks a connection with, and is not subject to, seasonal flooding by a fish-bearing stream. The AO may authorize water withdrawals from any lakes, creeks, or rivers if the proponent demonstrates that the location and volume of water withdrawal does not endanger resident fish populations.		Stipulation B-1. Water withdrawal from rivers and streams during winter is prohibited. Water withdrawal is limited to 15% of the under-ice water volume in any fish-bearing lake. After consultation with the appropriate Federal, State, and NSB regulatory and resource agencies, the AO may authorize withdrawals from any lake if the proponent demonstrates that no fish exist in the lake.	B-1 B-2(a)-(f)

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
B. Ice Roads and Water Use (continued)			<p>A water-monitoring plan will be required to assess drawdown and water quality changes before, during, and after pumping any fish-bearing lakes.</p> <p>Ice chips may be removed from lakes and shallow rivers that the proponent demonstrates are not fish bearing and where the ice is grounded.</p>	
			<p>Stipulation B-2. Compaction of snow cover or snow removal from fish-bearing waterbodies shall be prohibited except at approved ice-road crossings and water pumping stations on lakes.</p>	B-2(h)
C. Overland Moves and Seismic Work	<p>Stipulation C-1. The following restrictions apply to overland moves, seismic work, and any similar use of heavy equipment (other than actual excavations as part of construction) on non-roaded surfaces during the winter season:</p> <p>a. Operators shall consult with the Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NOAA Fisheries, formerly NMFS) before initiating activities in coastal habitat between October 30 and April 15. Activities are prohibited within 1 mile of known or observed polar bear dens.</p> <p>b. Ground operations are to begin only after frost and snow cover have reached sufficient depths to meet the tundra protection objectives of minimizing compaction of soils and the breakage, abrasion, compaction, or displacement of vegetation. Ground operations shall cease when the spring melt of snow begins, approximately May 5 in the foothills area where elevations exceed 300 ft and approximately May 15 in the northern coastal areas. The exact dates will be determined by the AO.</p>			C-1(b) C-2(a)
	<p>ROP C-1. The following restrictions apply to overland moves, seismic work, and any similar use of heavy equipment (other than actual excavations as part of construction) on non-roaded surfaces during the winter season:</p> <p>a. Snow bridges shall be removed or breached immediately after use or before spring breakup. Ramps and bridges shall be substantially free of soil and/or debris.</p> <p>b. To avoid additional freeze down of deep-water pools harboring over-wintering fish, waterways shall be crossed at shallow riffles from point bar to point bar whenever possible.</p>			C-3 C-4

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>C. Overland Moves and Seismic Work (continued)</p>	<p>c. On-the-ground activities shall use low-ground-pressure vehicles such as Rolligons, ARDCO, Trackmaster, Nodwell, or similar types of vehicles. A current list of approved vehicles can be obtained from the AO. Limited use of tractors equipped with wide tracks or "shoes" will be allowed to pull trailers.</p> <p>d. To reduce the possibility of ruts, vehicles shall avoid using the same trails for multiple trips unless necessitated by serious safety or superseding environmental concern. This provision does not apply to ice roads or hardened snow trails for use by Rolligons.</p> <p>e. Bulldozing of tundra, trails, or seismic lines is prohibited. Clearing of drifted snow along a trail, seismic line, or in a camp is allowed to the extent that the tundra mat is not disturbed.</p>			<p>C-2(b)-(e)</p>
	<p>f. Motorized ground-vehicle use will be minimized within 1 mile of any raptor nest from April 15 through August 15, with the exception that use will be minimized near gyrfalcon nests beginning March 15. Such use may be prohibited within ½ mile of active raptor nests.</p> <p>g. Refueling of equipment, when practical, should occur at least 500 ft from fish bearing waterbodies and 100 ft from other waterbodies.</p>	<p>Stipulation C-2. The following restrictions apply to overland moves, seismic work, and any similar use of heavy equipment (other than actual excavations as part of construction) on non-roaded surfaces during the winter season:</p> <p>a. Motorized ground-vehicle use will be minimized within 1 mile of any raptor nest from April 15 through August 15, with the exception that use will be minimized near gyrfalcon nests beginning March 15. Such use will be prohibited within ½ mile of known raptor-nesting sites.</p> <p>b. Refueling of equipment is prohibited within the active floodplain of any waterbody.</p>	<p>(Note: C-2a removed from the Preferred Alternative--not relevant to winter operations)</p> <p>A-5</p>	

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>D. Oil and Gas Exploratory Drilling</p>	<p>Stipulation D-1. Exploratory drilling in shallow lakes, streams, lake beds and the active floodplain will only be approved if the applicant can demonstrate to the satisfaction of the AO that impacts to fish, wildlife, vegetation, and the hydrologic condition are minimal.</p>		<p>Stipulation D-1. Exploratory drilling in river, stream, and lakebeds, as determined by the active floodplain, is prohibited. In addition, exploratory drilling is not allowed within ¼ mile of any fish-bearing deep lake as determined to be in lake zone III, i.e., depth greater than 4 m (Mellor 1985) as shown in Map 20. If the fish-bearing status of the waterbody is unknown, the burden is on the lessee to demonstrate whether fish are absent.</p>	<p>D-1</p>
			<p>Stipulation D-2. Permanent facilities such as airstrips and roads shall not be constructed during the exploration phase of oil and gas development.</p>	<p>D-2</p>
<p>E. Facility Design and Construction</p>		<p>Stipulation E-1. The following subsistence, wildlife habitat, cultural/paleontological, and traditional/cultural land use areas are of significant concern to resource managers and local communities. (Resources of concern are listed in parentheses on the following pages.) Should significant resources occur within these land use areas based on site specific investigation, additional design features or mitigation developed through site/project specific NEPA analysis will be required to minimize impacts. As listed on the following pages, setbacks include the bed of waterbodies and are measured from the active floodplain.</p>	<p>Stipulation E-1. Permanent oil and gas facilities, including roads, airstrips, and pipelines are prohibited within and adjacent to the waterbodies and within the prescribed distances from other resources listed below (see Map 84) at the distances identified to protect fish and raptor habitat, cultural and paleontological resources, and subsistence and other resource values. (Resources of concern are listed in parentheses on the following pages.) Setbacks include the bed of the waterbody and are measured from the active floodplain. On a case-by-case basis, and in consultation with appropriate Federal, State, and NSB regulatory and</p>	<p>K-1 as noted below</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
E. Facility Design and Construction (continued)		Stipulation E-1. (continued) i. Meade River: up to ½-mile setbacks downstream from section 7, T2N., R23W.,UM (fish, subsistence, cultural and paleontological resources). j. Inaru River: up to ½-mile setbacks downstream from the confluence with Kucheak Creek (fish and subsistence resources). k. Kugrua River: up to ½-mile setbacks downstream from section 18, T15N., R27W.,UM (fish and subsistence resources). l. Kuk River: up to ½-mile setbacks (fish, subsistence, cultural and paleontological resources). m. Alataktok River: up to ½-mile setbacks downstream from section 3, T5N., R16W.,UM (fish and subsistence resources). n. Ivisaruk River: up to ½-mile setbacks downstream from section 24, T10N., R34W.,UM (fish and subsistence resources). o. Kaolak River: up to ½-mile setbacks downstream from section 35, T9N., R31W.,UM (fish and subsistence resources). p. Ketik River: up to ½-mile setbacks downstream from section 32, T9N., R31W.,UM (fish and subsistence resources).	Stipulation E-1. (continued) e. Titaluk River: a ½-mile setback from each bank of the Titaluk River downstream from section 30, T2N., R16W.,UM (fish and subsistence resources). f. Kigalik River: a ½-mile setback from each bank of the Kigalik River (riparian, cultural, and paleontological resources). g. Maybe Creek: a ½-mile setback from each bank of the Maybe (riparian, cultural and paleontological resources) h. Topagoruk River: a ½-mile setback from each bank of the Topagoruk River downstream from the confluence with Ishuktak Creek (fish and subsistence resources). i. Meade River: a ½-mile setback from each bank of the Meade River downstream from section 7, T2N., R23W.,UM (fish, subsistence, cultural and paleontological resources). j. Inaru River: a ½-mile setback from each bank of the Inaru River downstream from the confluence with Kucheak Creek (fish and subsistence resources).	K-1(f) K-1(g) K-1(h) K-1(i) K-1(k) K-1(o)

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>E. Facility Design and Construction (continued)</p>		<p>Stipulation E-1. (continued)</p> <p>q. Avalik River: up to ½-mile setbacks downstream from section 31, T9N., R28W.,UM (fish and subsistence resources).</p> <p>r. Kungok River: up to ½-mile setbacks downstream from section 35, T9N., R31W.,UM (fish and subsistence resources).</p> <p>s. Colville River: up to 2-mile setbacks from the northern bluff (or bank if there is no bluff) of the Colville River extending the length of that portion of the river within the Planning Area and identified as raptor nesting and foraging habitat. (raptor, fish, riparian, paleontological, subsistence, scenic, and recreational resources).</p> <p>t. Deep-water lakes: up to ½-mile setbacks around any fish-bearing deep lake as determined to be in lake zone III, i.e., depth > 4m (Mellor 1985). If the fish-bearing status of the waterbody is unknown, the burden would be on the lessee to demonstrate whether fish are present (fish and subsistence resources).</p> <p>u. Waterfowl nesting and brood-rearing areas: up to ½-mile setbacks from identified nesting colonies, nest sites, brood rearing areas, or molting areas (waterfowl habitat).</p>	<p>Stipulation E-1. (continued)</p> <p>k. Kugrua River: a ½-mile setback from each bank of the Kugrua River downstream from section 18, T15N., R27W.,UM (fish and subsistence resources).</p> <p>l. Kuk River: a ½-mile setback from each bank of the Kuk River (fish, subsistence, cultural and paleontological resources).</p> <p>m. Alataktok River: a ½-mile setback from each bank of the Alataktok River downstream from section 3, T5N., R16W.,UM (fish and subsistence resources).</p> <p>n. Ivisaruk River: a ½-mile setback from each bank of the Ivisaruk River downstream from section 24, T10N., R34W.,UM (fish and subsistence resources).</p> <p>o. Kaolak River: a ½-mile setback from each bank of the Kaolak River downstream from section 35, T9N., R31W.,UM (fish and subsistence resources).</p> <p>p. Ketik River: a ½-mile setback from each bank of the Ketik River downstream from section 32, T9N., R31W.,UM (fish and subsistence resources).</p> <p>q. Avalik River: a ½-mile setback from each bank of the Avalik River downstream from section 31, T9N., R28W.,UM (fish and subsistence resources) .</p>	<p>in deferral area (IDA)</p> <p>IDA</p> <p>IDA</p> <p>IDA</p> <p>IDA</p> <p>IDA</p> <p>K-1(q)</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>E. Facility Design and Construction (continued)</p>		<p>Stipulation E-1. (continued)</p> <p>v. Bays and Lagoons: up to ½-mile setbacks along Kasegaluk Lagoon, Kuk River, and Peard Bay, and coastal waters within Northwest NPR-A east of Barrow, including Elson Lagoon, Dease Inlet, and Admiralty Bay. (Note: Kasegaluk Lagoon is unavailable for leasing under this alternative).</p>	<p>Stipulation E-1. (continued)</p> <p>r. Kungok River: a ½-mile setback from each bank of the Kungok River downstream from section 35, T9N., R31W.,UM (fish and subsistence resources).</p> <p>s. Colville River: a 2-mile setback from the northern bluff (or bank if there is no bluff) of the Colville River extending the length of that portion of the river within the Planning Area and identified as raptor nesting and foraging habitat (raptor, fish, riparian, paleontological, subsistence, scenic, and recreational resources).</p> <p>t. Deep-water lakes: a ½-mile setback around the perimeter of any fish-bearing deep lake as determined to be in lake zone III, i.e., depth > 4m (Mellor 1985). If the fish-bearing status of the waterbody is unknown, the burden is on the lessee to demonstrate whether fish are present.</p> <p>u. Waterfowl nesting and brood-rearing areas: ½-mile setbacks from identified nesting colonies, nest sites, brood-rearing areas or molting areas.</p>	<p>IDA</p> <p>K-1(a) K-7</p> <p>K-2</p> <p>K-4</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>E. Facility Design and Construction (continued)</p>			<p>Stipulation E-1. (continued)</p> <p>v. Bays and Lagoons: ½-mile setbacks along Kasegaluk Lagoon, Kuk River, and Peard Bay, and coastal waters within NPR-A east of Barrow, including Elson Lagoon, Dease Inlet, and Admiralty Bay. (Note: Kasegaluk Lagoon would be unavailable for leasing under this alternative).</p>	<p>K-3 K-6 K-8 and IDA</p>
			<p>Stipulation E-2. Permanent roads (i.e. gravel, sand) connecting to a road system or docks outside the Planning Area are prohibited. Permanent roads necessary to connect pads within independent, remote oil fields are allowed but they must be designed and constructed to create minimal environmental impacts. Roads connecting production sites between separate oil fields may be considered.</p>	<p>E-1</p>
			<p>ROP E-1. All crude oil, produced water, seawater, and natural gas pipelines shall be designed, constructed, and operated under an approved Quality Assurance/Quality Control plan.</p>	<p>E-4</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
E. Facility Design and Construction (continued)	ROP E-2. The lessee shall minimize the development footprint.			E-5
	ROP E-3. Bridges, rather than culverts, shall be used for any allowed road crossings on all rivers identified by the AO to reduce the potential of ice-jam flooding and erosion. When necessary on smaller streams, culverts shall be large enough to avoid restricting fish passage or adversely affecting natural stream flow.			E-6
	ROP E-4. Design, locate, construct, and operate permanent oil and gas infrastructure to minimize adverse effects on caribou movement.			E-7(a)-(c)
	ROP E-5. Pipelines and roads shall be designed to facilitate caribou and subsistence user passage.	<p>ROP E-5. Aboveground pipelines shall be elevated at least 5 ft, as measured from the ground to the bottom of the pipe, except where the pipeline intersects a road, pad, or a ramp installed to facilitate wildlife passage and subsistence passage and access.</p> <p>Lessees shall separate elevated pipelines from roads by a minimum of 500 ft, if feasible. Separating roads from pipelines may not be feasible within narrow land corridors between lakes and where pipe and road converge on a drill pad.</p>	E-7(a) (b) (c)	

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
E. Facility Design and Construction (continued)	ROP E-6. Permanent oil and gas facilities upon or within 500 ft of shallow lakes, streams, lake beds, estuaries, and their active floodplain will only be approved if the applicant can demonstrate to the satisfaction of the AO that adverse impacts to fish, wildlife, vegetation, and the hydrologic condition are minimal. Essential pipeline and road crossings will be permitted on a case-by-case basis.		Stipulation E-3. For those waterbodies not listed in stipulation E-1, permanent oil and gas facilities, including roads, airstrips, and pipelines, are prohibited upon or within 500 ft as measured from the active floodplain. Essential pipeline and road crossings will be permitted on a case-by-case basis.	E-2
	ROP E-7. Gravel mine site reclamation will be in accordance with a plan approved by the AO.		Stipulation E-4. Gravel mine sites are prohibited within the active floodplain of a river, stream, or lake. Gravel mine site reclamation will be in accordance with a plan approved by the AO.	E-8
	ROP E-8. Coastal facilities shall be designed, sited, and constructed to prevent significant changes to nearshore oceanographic circulation patterns and water-quality characteristics (e.g., salinity, temperature, suspended sediments) that result in measurements exceeding water-quality criteria, and must maintain free passage of marine and anadromous fish.		Stipulation E-5. Causeways and docks are prohibited in river mouths or deltas. Artificial gravel islands and bottom-founded structures are prohibited in river mouths or active stream channels on river deltas, except as provided in the paragraphs below.	E-3

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
			<p>Approved causeways docks, artificial gravel islands, and bottom-founded structures, shall be designed, sited, and constructed to prevent significant changes to nearshore oceanographic circulation patterns and water-quality characteristics (e.g., salinity, temperature, suspended sediments) that result in measurements exceeding water-quality criteria, and must maintain free passage of marine and anadromous fish. A monitoring program will be required to address the objectives of water quality and free passage of fish. Additional mitigation shall be required where significant deviation from these objectives occurs.</p>	
F. Air Traffic*	ROP F-1. All aircraft use shall be conducted in a manner that will minimize impacts to wildlife and birds.		ROP F-1. Aircraft shall maintain an altitude of at least 1,500 ft AGL when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and within ½ mile of known gyrfalcon nest sites from March 15 to August 15, unless doing so would endanger human life or violate safe flying practices. Permittees shall obtain information from BLM necessary to plan flight routes when routes may go near falcon nests.	F-1(a)

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>H. Subsistence (continued)</p>	<p>ROP H-1. During exploration, development, and production the lessee shall develop and implement a plan, approved by the AO in consultation with the Research and Monitoring Team and the Subsistence Advisory Panel, to monitor the effects of activities on subsistence. The lessee shall provide biannual reports to BLM, the Research and Monitoring Team, and the Subsistence Advisory Panel.</p>			<p>H-1(c)(7)</p>
<p>I. Orientation Program</p>	<p>ROP I-1. The lessee shall include in any application for permit to drill a proposed orientation program for all personnel involved in exploration or development and production activities (including personnel of lessee's agents, contractors, and subcontractors) for review and approval by the AO. The program shall be designed in sufficient detail to inform individuals working on the project of specific types of environmental, social, and cultural concerns that relate to the Planning Area. The program shall address the importance of not disturbing archaeological and biological resources and habitats, including endangered species, fisheries, bird colonies, and marine mammals and provide guidance on how to avoid disturbance. Guidance shall include the production and distribution of information cards on endangered and/or threatened species in the Planning Area. The program shall be designed to increase sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which personnel will be operating. The orientation program shall also include information concerning avoidance of conflicts with subsistence, commercial fishing activities, and pertinent mitigation.</p> <p>The program shall be attended at least once a year by all personnel involved in on-site exploration or development and production activities (including personnel of lessee's agents, contractors, and subcontractors) and all supervisory and managerial personnel involved in lease activities of the lessee and its agents, contractors, and subcontractors. Individual training is transferable from one facility to another except for elements of the training specific to a particular site.</p> <p>Lessees shall maintain a record onsite of all personnel who attend the program for so long as the site is active, though not to exceed the 5 most recent years of operations. This record shall include the name and dates(s) of attendance of each attendee.</p>			<p>I-1</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

Activity	Alternative A	Alternative B	Alternative C	Preferred Alternative (Table II-03)
<p>J. Miscellaneous Activities</p>	<p>Stipulation J-1. If necessary to construct permanent facilities within the Colville River Special Area, all reasonable and practicable efforts shall be made to locate permanent facilities as far from raptor nests as practical and feasible, but consistent with the following: alteration of limited, high quality habitat that could significantly reduce prey availability shall be minimized. Of particular concern are ponds, lakes, wetlands, and riparian habitats.</p>		<p>Stipulation J-1. If necessary to construct permanent facilities within the Colville River Special Area, all reasonable and practicable efforts shall be made to locate permanent facilities as far from raptor nests as feasible, but consistent with the following: within 15 miles of nest sites, alteration of limited, high quality habitat that could significantly reduce prey availability shall be prohibited. Of particular concern are ponds, lakes, wetlands and riparian habitats.</p>	<p>K-7</p>
			<p>Stipulation J-2. Petroleum exploration and production activities are prohibited within ½ mile of occupied grizzly bear dens, identified by the ADF&G, unless alternative mitigation measures are approved by the AO in consultation with appropriate Federal, State, and NSB regulatory and resource agencies.</p>	<p>C-1(a)</p>
	<p>ROP J-1. Oil and gas lessees and their contractors and subcontractors will prepare and implement bear-interaction plans to minimize conflicts between bears and humans. These plans shall include measures to: (a) minimize attraction of bears to the drill sites; (b) organize layout of buildings and work areas to minimize human/bear interactions; (c) warn personnel of bears near or on drill sites and identify proper procedures to be followed; (d) if authorized, deter bears from the drill site; (e) provide contingencies in the event bears do not leave the site or cannot be deterred by authorized personnel; (f) discuss proper storage and disposal of materials that may be toxic to bears; and (g) provide a systematic record of bears on the site and in the immediate area. Lessees shall develop educational programs and camp layout and management plans as they prepare their lease operations plans.</p>			<p>A-8(a)-(g)</p>

Table II-02. Stipulations and Required Operating Procedures (ROP's) (continued)

New Stipulations and Required Operating Procedures (i.e., not in Draft IAP/EIS under any Alternative)		
<p>Endangered Species Act-Section 7 Consultation</p>	<p>Stipulation K. The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.</p>	<p>L</p>
<p>Various Activities</p>	<p>No corresponding stipulations or required operating procedures for Alternative A, B, or C.</p>	<p>B-2 (g) E-9 E-10 E-11 E-12 F-1(c) and (d) K-1(j) K-1(l) K-1(m) K-1(n) K-1(p) K-5</p>

**Table II-03
Stipulations and Required Operating Procedures for the Preferred Alternative**

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
A. Waste Prevention, Handling, Disposal; Spills, and Public Safety	<p>A-1 Required Operating Procedure Objective: Protect the health and safety of oil field workers and the general public by avoiding the disposal of solid waste and garbage near areas of human activity. Requirement/Standard: Areas of operation shall be left clean of all debris.</p> <hr/> <p>A-2 Required Operating Procedure Objective: Minimize impacts on the environment from non-hazardous waste generation. Encourage continuous environmental improvement. Protect the health and safety of oil field workers and the general public. Avoid human-caused changes in predator populations. Requirement/Standard: Lessees/permittees shall prepare and implement a comprehensive waste management plan for all phases of exploration and development, including seismic activities. The plan shall be submitted to the AO for approval, in consultation with Federal, State and North Slope Borough regulatory and resource agencies, as appropriate (based on agency legal authority and jurisdictional responsibility), as part of a plan of operations or other similar permit application. The plan shall consider and take into account the following requirements:</p> <p>a) Methods to avoid attracting wildlife to food and garbage: All feasible precautions shall be taken to avoid attracting wildlife to food and garbage. (A current list of approved precautions, specific to type of permitted use, can be obtained from the AO.)</p> <p>b) Disposal of putrescible waste: Current requirements prohibit the burial of garbage. Lessees and permitted users shall have a written procedure to ensure that the handling and disposal of putrescible waste will be accomplished in a manner that prevents the attraction of wildlife. All putrescible waste shall be incinerated, backhauled, or composted in a manner approved by the AO. All solid waste, including incinerator ash, shall be disposed of in an approved waste-disposal facility in accordance with U.S. Environmental Protection Agency (EPA) and Alaska Department of Environmental Conservation (ADEC) regulations and procedures. The burial of human waste is prohibited except as authorized by the AO.</p> <p>c) Disposal of pumpable waste products: Except as specifically provided, BLM currently requires all pumpable solid, liquid, and sludge waste be disposed of by injection in accordance with EPA, ADEC, and the Alaska Oil and Gas Conservation Commission regulations and procedures. On-pad temporary muds and cuttings storage, as approved by ADEC, will be allowed as necessary to facilitate annular injection and/or backhaul operations.</p> <p>d) Disposal of wastewater and domestic wastewater: BLM currently prohibits wastewater discharges or disposal of domestic wastewater into bodies of fresh, estuarine, and marine water, including wetlands, unless authorized by the National Pollution Discharge Elimination System (NPDES) or State permit.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>A. Waste Prevention, Handling, Disposal; Spills, and Public Safety (continued)</p>	<p>A-3 Required Operating Procedure Objective: Minimize pollution through effective hazardous-materials contingency planning. Requirement/Standard: For oil- and gas-related activities, a Hazardous-Materials Emergency-Contingency Plan shall be prepared and implemented before transportation, storage, or use of fuel or hazardous substances. The plan shall include a set of procedures to ensure prompt response, notification, and cleanup in the event of a hazardous substance spill or threat of a release. Procedures applicable to fuel and hazardous substances handling (associated with transportation vehicles) may consist of Best Management Practices if approved by the AO. The plan shall include a list of resources available for response (e.g., heavy-equipment operators, spill-cleanup materials or companies), and names and phone numbers of Federal, State, and NSB contacts. Other Federal and State regulations may apply and require additional planning requirements. All staff shall be instructed regarding these procedures.</p>
	<p>A-4 Required Operating Procedure Objective: Minimize the impact of contaminants on fish, wildlife, and the environment, including wetlands, marshes and marine waters, as a result of fuel, crude oil and other liquid chemical spills. Protect subsistence resources and subsistence activities. Protect public health and safety. Requirement/Standard: Before initiating any oil and gas or related activity or operation, including field research/surveys and/or seismic operations, lessees/permittees shall develop a comprehensive spill prevention and response contingency plan per 40 CFR 112 (OPA). The plan shall consider and take into account the following requirements: a) On-site clean-up materials. Sufficient oil-spill-cleanup materials (absorbents, containment devices, etc.) shall be stored at all fueling points and vehicle-maintenance areas and shall be carried by field crews on all overland moves, seismic work trains, and similar overland moves by heavy equipment. b) Storage Containers. Fuel and other petroleum products and other liquid chemicals shall be stored in proper containers at approved locations. Except during overland moves and seismic operations, fuel, other petroleum products, and other liquid chemicals designated by the AO in excess of 1,320 gallons in storage capacity, shall be stored within an impermeable lined and diked area or within approved alternate storage containers such as overpacks, capable of containing 110 percent of the stored volume. c) Liner Materials. Liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period. d) Permanent Fueling Stations. Permanent fueling stations shall be lined or have impermeable protection to prevent fuel migration to the environment from overfills and spills. e) Proper Identification of Containers. All fuel containers, including barrels and propane tanks, shall be marked with the responsible party's name, product type, and year filled or purchased. f) Notice of Reportable Spills. Notice of any reportable spill (as required by 40 CFR 300.125 and 18 AAC 75.300) shall be given to the AO as soon as possible, but no later than 24 hours after occurrence.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
A. Waste Prevention, Handling, Disposal; Spills, and Public Safety (continued)	A-5 Required Operating Procedure Objective: Minimize the impact of contaminants from refueling operations on fish, wildlife, and the environment. Requirement/Standard: Refueling of equipment within 500 ft of the active flood plain of any fish-bearing water body and 100 ft from non-fish-bearing water bodies is prohibited. Small caches (up to 210 gallons) for motorboats float planes, ski planes, and small equipment, e.g. portable generators and water pumps, will be permitted. The AO may allow storage and operations at areas closer than the stated distances if properly designed to account for local hydrologic conditions.
	A-6 Required Operating Procedure Objective: Minimize the impact on fish, wildlife, and the environment from contaminants associated with the exploratory drilling process. Standard/Requirement: Surface discharge of reserve-pit fluids is prohibited unless authorized by applicable NPDES, ADEC, and NSB permits (as appropriate) and approved by the AO.
	A-7 Required Operating Procedure Objective: Minimize the impacts to the environment of disposal of produced fluids recovered during the development phase on fish, wildlife, and the environment. Requirement/Standard: Procedures for the disposal of produced fluids shall meet the following requirements: a) In upland areas, including wetlands, disposal will be by subsurface-disposal techniques. The AO may permit alternate disposal methods if the lessee demonstrates that subsurface disposal is not feasible or prudent and the alternative method will not result in adverse environmental effects. b) In marine waters, approval of discharges by the AO will be based on a case-by-case review of environmental factors and consistency with the conditions of an NPDES permit. Discharge of produced fluids will be prohibited at locations where currents and water depths, in combination with other conditions, are not adequate to prevent impacts to known biologically sensitive areas. Alternate disposal methods will require an NPDES permit certified by the State.
	A-8 Required Operating Procedure Objective: Minimize conflicts resulting from interaction between humans and bears during leasing and associated activities. Requirement/Standard: Oil and gas lessees and their contractors and subcontractors will, as a part of preparation of lease operation planning, prepare and implement bear-interaction plans to minimize conflicts between bears and humans. These plans shall include measures to: a) Minimize attraction of bears to the drill sites. b) Organize layout of buildings and work areas to minimize human/bear interactions. c) Warn personnel of bears near or on drill sites and identify proper procedures to be followed. d) Establish procedures, if authorized, to deter bears from the drill site. e) Provide contingencies in the event bears do not leave the site or cannot be deterred by authorized personnel. f) Discuss proper storage and disposal of materials that may be toxic to bears. g) Provide a systematic record of bears on the site and in the immediate area.

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>B. Water Use for Permitted Activities</p>	<p>B-1 Required Operating Procedure Objective: Maintain populations of, and adequate habitat for, fish and invertebrates. Requirement/Standard: Water withdrawal from rivers and streams during winter is prohibited.</p>
	<p>B-2 Required Operating Procedure Objective: Maintain natural hydrologic regimes in soils surrounding lakes and ponds and maintain populations of, and adequate habitat for, fish and invertebrates. Requirement/Standard: Water withdrawal from lakes may be authorized on a site-specific basis depending on size, water volume, depth and fish population and species diversification. Current water withdrawal requirements specify: a) Water withdrawals from any fish bearing lake 7 ft or deeper shall be limited to 15 percent of the estimated free water volume located beneath the ice. b) Water withdrawals from lakes with depths between 5 and 7 ft that contain only ninespine stickleback and/or Alaska blackfish are limited to up to 30 percent of the under-ice volume. c) Water withdrawal may be authorized from any lake if the proponent demonstrates that no fish exist in the lake. d) A water-monitoring plan may be required to assess draw down and water quality changes before, during, and after pumping any fish-bearing lake. e) The removal of naturally grounded ice may be authorized from lakes and shallow rivers on a site-specific basis depending upon its size, water volume, depth, and fish population and species diversification. f) Removed ice aggregate shall be included in the 15 percent or 30 percent (whichever is the appropriate case) withdrawal limits, unless otherwise approved. g) Any water intake structures in fish-bearing waters shall be designed, operated and maintained to prevent fish entrapment, entrainment, or injury. h) Compaction of snow cover or snow removal from fish-bearing water bodies shall be prohibited except at approved ice road crossings, water pumping stations on lakes or areas of grounded ice.</p>
<p>C. Winter Overland Moves and Seismic Work</p>	<p>The following stipulations and ROP's apply to overland moves, seismic work, and any similar cross-country vehicle use of heavy equipment on non-roaded surfaces during the winter season. These restrictions do not apply to the use of such equipment on ice roads after they are constructed.</p> <p>C-1 Required Operating Procedure Objective: Protect grizzly bear, polar bear, and marine mammal denning and/or birthing locations. Requirement/Standard: a) Cross-country use of heavy equipment and seismic activities are prohibited within ½ mi of occupied grizzly bear dens identified by ADF&G unless alternative mitigation measures are approved by the AO in consultation with ADF&G. b) Cross-country use of heavy equipment and seismic activities are prohibited within 1 mi of known or observed polar bear dens or seal birthing lairs. Operators shall consult with the U.S. Fish and Wildlife Service (FWS) and/or NOAA Fisheries, as appropriate, before initiating activities in coastal habitat between October 30 and April 15.</p>

Table II-03
Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
Overland Moves and Seismic Work (continued)	<p>C-2 Required Operating Procedure Objective: Protect stream banks, minimize compaction of soils, and minimize the breakage, abrasion, compaction, or displacement of vegetation. Requirement/Standard: a) Ground operations shall be allowed only when frost and snow covers are at sufficient depths to protect the tundra. Ground operations shall cease when the spring snowmelt begins, approximately May 5 in the foothills area where elevations reach or exceed 500 ft, and approximately May 15 in the northern coastal areas. The exact dates will be determined by the AO. b) Only low-ground-pressure vehicles shall be used for on-the-ground activities off ice roads or pads. A current list of approved vehicles can be obtained from the AO. Limited use of tractors equipped with wide tracks or "shoes" will be allowed to pull trailers, sleighs, or other equipment with approved undercarriage. <u>Note: This provision does not include the use of heavy equipment such as front-end loaders and similar equipment required during ice road construction.</u> c) Bulldozing of tundra mat and vegetation, trails, or seismic lines is prohibited; however, on existing trails, seismic lines or camps, clearing of drifted snow is allowed to the extent that the tundra mat is not disturbed. d) To reduce the possibility of ruts, vehicles shall avoid using the same trails for multiple trips unless necessitated by serious safety or superseding environmental concern. This provision does not apply to hardened snow trails for use by low-ground-pressure vehicles such as Rolligons. e) The location of winter ice roads shall be designed and located to minimize compaction of soils and the breakage, abrasion, compaction, or displacement of vegetation. Offsets may be required to avoid using the same route or track in the subsequent year.</p> <p>C-3 Required Operating Procedure Objective: Maintain natural spring runoff patterns, avoid flooding, prevent streambed sedimentation, protect water quality and protect stream banks. Requirement/Standard: Snow and ice bridges shall be removed, breached or slotted before spring breakup. Ramps and bridges shall be substantially free of soil and debris.</p> <p>C-4 Required Operating Procedure Objective: Avoid additional freeze down of deep-water pools harboring over-wintering fish and invertebrates used by fish. Requirement/Standard: Rivers and streams shall be crossed at shallow riffles from point bar to point bar whenever possible.</p>
D. Oil and Gas Exploratory Drilling	<p>D-1 Lease Stipulation Objectives: Protect fish-bearing rivers, streams and lakes from blowouts, and minimize alteration of riparian habitat. Requirement/Standard: Exploratory drilling is prohibited in rivers and streams, as determined by the active floodplain, and fish-bearing lakes, except where the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
D. Oil and Gas Exploratory Drilling (continued)	<p>D-2 Lease Stipulation Objective: Minimize surface impacts from exploratory drilling. Requirement/Standard: Exploratory drilling shall be limited to temporary facilities such as ice pads, ice roads, ice airstrips, temporary platforms, etc., unless the lessee demonstrates that construction of permanent facilities such as gravel airstrips, storage pads, and connecting roads is environmentally preferable or necessary to carry out exploration more economically.</p>
E. Facility Design and Construction	<p>E-1 Required Operating Procedure Objective: Protect subsistence use and access to traditional subsistence hunting and fishing areas, and minimize the impact of oil and gas activities on air, land, water, fish and wildlife resources. Requirement/Standard: All roads must be designed, constructed, maintained and operated to create minimal environmental impacts and to protect subsistence use and access to traditional subsistence hunting and fishing areas. Subject to approval by the AO, the construction, operation and maintenance of oil field roads is the responsibility of the lessee. Note: This provision does not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes. This preserves the opportunity to plan, design and construct public transportation systems to meet the economic, transportation, and public health and safety needs of the State of Alaska and/or communities within NPR-A.</p> <p>E-2 Lease Stipulation Objective: Protect fish-bearing water bodies, water quality and aquatic habitats. Requirement/Standard: The design and location of permanent oil and gas facilities within 500 ft of fish-bearing or 100 ft of non-fish-bearing waterbodies will only be approved on a case-by-case basis if the lessee can demonstrate that impacts to fish, water quality, and aquatic and riparian habitats are minimal. (Note: Also refer to Area-Specific Stipulations and ROP's for Rivers (Stipulation K-1) and Deep Water Lakes (Stipulation K-2).)</p> <p>E-3 Lease Stipulation Objective: Maintain free passage of marine and anadromous fish, and protect subsistence use and access to traditional subsistence hunting and fishing. Requirement/Standard: Causeways and docks are prohibited in river mouths or deltas. Artificial gravel islands and bottom-founded structures are prohibited in river mouths or active stream channels on river deltas. Causeways, docks, artificial islands, and bottom-founded structures shall be designed to ensure free passage of marine and anadromous fish and to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics. A monitoring program may be required to address the objectives of water quality and free passage of fish.</p> <p>E-4 Required Operating Procedure Objective: Minimize the potential for pipeline leaks, the resulting environmental damage and industrial accidents. Requirement/Standard: All pipelines shall be designed, constructed, and operated under an AO-approved Quality Assurance/Quality Control plan that is specific to the product transported.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>E. Facility Design and Construction (continued)</p>	<p>E-5 Required Operating Procedure Objective: Minimize impacts of the development footprint. Requirement/Standard: Facilities shall be designed and located to minimize development footprint to the maximum extent practicable considering environmental, economic, and social impacts. Note: Where aircraft traffic is an issue, consideration shall be given to balancing gravel pad size and available supply storage capacity with potential reductions in the use of aircraft to support oil and gas operations.</p>
	<p>E-6 Required Operating Procedure Objective: Reduce the potential for ice-jam flooding, erosion, and restriction of fish passage. Requirement/Standard: Water crossings shall be designed and constructed to ensure free passage of fish, maintain natural drainage, and minimal adverse effects to natural stream flow. Note: Bridges, rather than culverts, are the preferred structures for crossing rivers. When necessary, culverts can be constructed on smaller streams, if they are large enough to avoid restricting fish passage or adversely affecting natural stream flow.</p>
	<p>E-7 Required Operating Procedure Objective: Minimize disruption of caribou movement and subsistence use. Requirement/Standard: Pipelines and roads shall be designed to allow the free movement of caribou and the safe, unimpeded passage of the public while participating in traditional subsistence activities. Listed below are the currently accepted design practices: a) Above ground pipelines shall be elevated an average of at least 7 ft as measured from the ground to the bottom of the pipeline (except where pipelines intersect a road, pad, in transition zones between buried and elevated pipelines, or at ramps installed to facilitate wildlife passage and subsistence passage and access). b) In areas where facilities or terrain may funnel caribou movement, ramps over pipelines, buried pipelines, or pipelines buried under roads may be required by the AO after consultation with Federal, State, and North Slope Borough regulatory and resource agencies (as appropriate, based on agency legal authority and jurisdictional responsibility). c) A minimum distance of 500 ft between pipelines and roads should be maintained when feasible. Separating roads from pipelines may not be feasible within narrow land corridors between lakes and where pipelines and roads converge on a drill pad.</p>
	<p>E-8 Required Operating Procedure Objective: Minimize the impact of mineral materials mining activities on air, land, water, fish, and wildlife resources. Requirement/Standard: Gravel mine site design and reclamation will be in accordance with a plan approved by the AO. The plan shall consider: a) Locations outside the active flood plain. b) Design and construction of gravel mine sites within active flood plains to serve as water reservoirs for future use. c) Potential use of site for enhancing fish and wildlife habitat.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
E. Facility Design and Construction (continued)	<p>E-9 Required Operating Procedure Objective: Avoidance of human-caused increases in populations of predators of ground nesting birds. Requirement/Standard: Lessee shall utilize best available technology to prevent facilities from providing nesting, denning, or shelter sites for ravens, raptors, and foxes. The lessee shall provide the AO with an annual report on the use of oil and gas facilities by ravens, raptors and foxes as nesting, denning, and shelter sites.</p>
	<p>E-10 Required Operating Procedure Objective: Prevention of migrating waterfowl, including species listed under the Endangered Species Act, from striking oil and gas and related facilities during low light conditions. Requirement/Standard: Except for safety lighting, illumination of higher structures shall be designed to direct artificial exterior lighting inward and downward, rather than upward and outward. All drilling structures, production facilities, and other structures that exceed 20 ft shall be illuminated as outlined above.</p>
	<p>E-11 Required Operating Procedure Objective: Minimize the take of species listed under the Endangered Species Act and minimize the disturbance of other species of interest from direct or indirect interaction with oil and gas facilities. Requirement/Standard: In accordance with the guidance below, before the approval of facility construction, aerial surveys of breeding pairs of the following species shall be conducted within any area proposed for development. Spectacled and/or Steller's Eiders a) Surveys shall be conducted by the lessee for at least three (3) years before authorization of construction, if such construction is within the FWS North Slope Eider survey area (Map 62), and at least one (1) year outside that area. Results of aerial surveys and habitat mapping may require additional ground nest surveys. Spectacled and/or Steller's eider surveys shall be conducted following accepted BLM-protocol during the second week of June. b) If spectacled and/or Steller's eiders are determined to be present within the proposed development area, the applicant shall consult with the FWS and BLM in the design and placement of roads and facilities in order to minimize impacts to nesting and brood-rearing eiders and their preferred habitats. Such consultation shall address timing restrictions and other temporary mitigating measures, construction of permanent facilities, placement of fill, alteration of eider habitat, aircraft operations, and introduction of high noise levels. c) To reduce the possibility of spectacled and/or Steller's eiders from striking above-ground utility lines (power and communication), such lines shall either be buried in access roads, or suspended on vertical support members, to the extend practical. Support wires associated with communication towers, radio antennas, and other similar facilities, shall be clearly marked along their entire length to improve visibility for low flying birds. Such markings shall be jointly developed through consultation with FWS.</p>

Table II-03
Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
E. Facility Design and Construction (continued)	<p>E-11 Required Operating Procedure (continued) Yellow-billed Loon a) Aerial surveys shall be conducted by the lessee for at least 3 years before authorization of construction of facilities proposed for development that are within 1 mi of a lake 25 acres or larger in size. These surveys along shorelines of large lakes shall be conducted following accepted BLM protocol during nesting in late June and during brood rearing in late August. b) Should yellow-billed loons be present, the design and location of facilities must be such that disturbance is minimized. Current accepted mitigation is a one-mile buffer around all recorded nest sites and a minimum 500-m buffer around the remainder of the lake shoreline. Development may be prohibited within buffers or activities curtailed while birds are present.</p> <p>E-12 Required Operating Procedure Objective: Use of ecological mapping as a tool to assess wildlife habitat before development of permanent facilities, to conserve important habitat types during development. Requirement/Standard: An ecological land classification map of the development area shall be developed before approval of facility construction. The map will integrate geomorphology, surface-form and vegetation at a scale, level of resolution, and level of positional accuracy adequate for detailed analyses of development alternatives. The map shall be prepared in time to plan one season of ground-based wildlife surveys, if deemed necessary by the AO, before approval of exact facility location and facility construction.</p>
F. Use of Aircraft for Permitted Activities	<p>F-1 Required Operating Procedure Objective: Minimize the effects of low-flying aircraft on wildlife, traditional subsistence activities, and local communities. Requirement/Standard: The lessee shall ensure that aircraft used for permitted activities maintain altitudes according to the following guidelines: a) Aircraft shall maintain an altitude of at least 1,500 ft above ground level (AGL) when within ½ mi of cliffs identified as raptor nesting sites from April 15 through August 15 and within ½ mi of known gyrfalcon nest sites from March 15 to August 15, unless doing so would endanger human life or violate safe flying practices. Permittees shall obtain information from BLM necessary to plan flight routes when routes may go near falcon nests. b) Aircraft shall maintain an altitude of at least 1,000 ft AGL (except for takeoffs and landings) over caribou winter ranges from December 1 through May 1, unless doing so would endanger human life or violate safe flying practices. Caribou wintering areas will be defined annually by the AO. c) The number of takeoffs and landings to support oil and gas operations with necessary materials and supplies should be limited to the maximum extent possible. During the design of proposed oil and gas facilities, larger landing strips and storage areas should be considered so as to allow larger aircraft to be employed, resulting in a fewer number of flights to the facility. d) Use of aircraft, especially rotary wing aircraft, near known subsistence camps and cabins or during sensitive subsistence hunting periods (spring goose hunting and fall caribou and moose hunting) should be kept to a minimum. e) Aircraft used for permitted activities shall maintain an altitude of at least 2,000 ft AGL (except for takeoffs and landings) over the Caribou Study Area (Map 91) from June 15 through July 31, unless doing so would endanger human life or violate safe flying practices.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>F. Use of Aircraft for Permitted Activities (continued)</p>	<p>F-1 Required Operating Procedure (Continued) f) Aircraft shall maintain an altitude of at least 2,000 ft AGL (except for takeoffs and landings) over the Caribou Coastal Insect-Relief Areas (Map 91) from June 15 through July 31, unless doing so would endanger human life or violate safe flying practices.</p>
<p>G. Oil Field Abandonment</p>	<p>G-1 Lease Stipulation Objective: Ensure the final disposition of the land meets the current and future needs of the public. Requirement/Standard: Upon abandonment or expiration of the lease, all oil- and gas-related facilities shall be removed and sites rehabilitated to as near the original condition as practicable, subject to the review of the AO. The AO may determine that it is in the best interest of the public to retain some or all facilities.</p>
<p>H. Subsistence Consultation for Permitted Activities</p>	<p>"Consultation" may take place by in-person meetings, teleconference, videoconference, and exchange of written documents, e-mail, or other means appropriate to the circumstances. Consultation does not include public meetings that are primarily for the purpose of information distribution, unless it is explained at the beginning of the meeting that there is an open dialogue, and that comments, concerns, or other information are being actively solicited.</p> <p>H-1 Required Operating Procedure Objective: Provide opportunities for participation in planning and decision-making to prevent unreasonable conflicts between subsistence uses and oil and gas and related activities. Requirement/Standard: Lessee/permittee shall consult directly with affected communities using the following guidelines. a) Before submitting an application to the BLM, the applicant shall consult with directly affected subsistence communities, the North Slope Borough, and the NPR-A Subsistence Advisory Panel to discuss the siting, timing and methods of proposed operations. Through this consultation, the applicant shall make every reasonable effort, including such mechanisms as conflict avoidance agreements and mitigating measures, to ensure that proposed activities will not result in unreasonable interference with subsistence activities. b) The applicant shall submit documentation of consultation efforts as part of its operations plan. Applicants should submit the proposed plan of operations to provide an adequate time for review and comment by the NPR-A Subsistence Advisory Panel and to allow time for formal government-to-government consultation with Native Tribal Governments. The applicant shall submit documentation of its consultation efforts and a written plan that shows how its activities, in combination with other activities in the area, will be scheduled and located to prevent unreasonable conflicts with subsistence activities. Operations plans must include a discussion of the potential effects of the proposed operation, and the proposed operation in combination with other existing or reasonably foreseeable operations. c) A subsistence plan addressing the following items must be submitted. 1. A detailed description of the activity(ies) to take place (including the use of aircraft). 2. A description of how the lessee/permittee will minimize and/or deal with any potential impacts identified by the AO during the consultation process.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>H. Subsistence Consultation for Permitted Activities (continued)</p>	<p>H-1 Required Operating Procedure (continued) 3. A detailed description of the monitoring effort to take place, including process, procedures, personnel involved and points of contact both at the work site and in the local community. 4. Communication elements to provide information on how the applicant will keep potentially affected individuals and communities up-to-date on the progress of the activities and locations of possible, short-term conflicts (if any) with subsistence activities. Communication methods could include holding community meetings, open house meetings, workshops, newsletters, radio and television announcements, etc. 5. Procedures necessary to facilitate access by subsistence users to conduct their activities. 6. In the event that no agreement is reached between the parties, the AO shall consult with the directly involved parties and determine which activities will occur, including the timeframes. 7. During development, monitoring plans must be established for new permanent facilities, including pipelines, to assess an appropriate range of potential effects on resources and subsistence as determined on a case-by-case basis given the nature and location of the facilities. The scope, intensity, and duration of such plans will be established in consultation with the AO and Subsistence Advisory Panel.</p>
	<p>H-2 Required Operating Procedure Objective: Prevent unreasonable conflicts between subsistence activities and geophysical (seismic) exploration. Requirement/Standard: In addition to the consultation process described above for permitted activities, before applying for permits to conduct geophysical (seismic) exploration, the applicant shall consult with local communities and residents: a) Because of the large land area covered by typical geophysical operations and the potential to impact a large number of subsistence users during the exploration season, the permittee/operator will notify, in writing, all potentially affected long-term cabin and camp users. b) The official recognized list of cabin and campsite users is the North Slope Borough's 2001 (or most current) inventory of cabins and campsites. c) For the purpose of this standard, potentially affected cabins and campsites are defined as any camp or campsite within the boundary of the area subject to proposed geophysical exploration and/or within 1,200 ft of actual or planned travel routes used to supply the seismic operations while it is in operation. d) A copy of the notification letter and a list of potentially affected users shall also be provided to the office of the appropriate Native Tribal Government. e) Based on that consultation, the AO may prohibit seismic work up to 1,200 ft of any known, long-term, cabin or campsite. Generally, the AO will allow wintertime seismic work to be conducted within 300 ft of a long-term cabin or campsite that is not in use.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>I. Orientation Programs Associated with Permitted Activities</p>	<p>I-1 Required Operating Procedure Objective: Minimize cultural and resource conflicts. Requirement/Standard: All personnel involved in oil and gas and related activities shall be provided information concerning applicable stipulations, required operating procedures, standards, and specific types of environmental, social, traditional, and cultural concerns that relate to the region. The lessee/permittee shall ensure that all personnel involved in permitted activities shall attend an orientation program at least once a year. The proposed orientation program shall be submitted to the AO for review and approval and should:</p> <ul style="list-style-type: none"> a) Provide sufficient detail to notify personnel of applicable stipulations and required operating procedures as well as inform individuals working on the project of specific types of environmental, social, traditional and cultural concerns that relate to the region. b) Address the importance of not disturbing archaeological and biological resources and habitats, including endangered species, fisheries, bird colonies, and marine mammals, and provide guidance on how to avoid disturbance. c) Include guidance on the preparation, production, and distribution of information cards on endangered and/or threatened species. d) Be designed to increase sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which personnel will be operating. e) Include information concerning avoidance of conflicts with subsistence, commercial fishing activities, and pertinent mitigation. f) Include information for aircraft personnel concerning subsistence activities and areas/seasons that are particularly sensitive to disturbance by low flying aircraft. Of special concern is aircraft use near traditional subsistence cabins and campsites, flights during spring goose hunting and fall caribou and moose hunting seasons, and flights near North Slope communities. g) Provide that individual training is transferable from one facility to another, except for elements of the training specific to a particular site. h) Include on-site records of all personnel who attend the program for so long as the site is active, though not to exceed the 5 most recent years of operations. This record shall include the name and dates(s) of attendance of each attendee. i) Include a module discussing bear interaction plans to minimize conflicts between bears and humans.
<p>K. Area-Specific Lease Stipulations and Required Operating Procedures</p>	<p>K-1 Lease Stipulation—Rivers Objective: Minimize the disruption of natural flow patterns and changes to water quality; the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of floodplain and riparian areas; the loss of spawning, rearing or over-wintering habitat for fish; the loss of cultural and paleontological resources; the loss of raptor habitat; impacts to subsistence cabin- and camp-sites; the disruption of subsistence activities; and impacts to scenic and other resource values. (See ROP D-1 for restrictions on exploration activities.) Requirement/ Standard: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited in the stream bed and adjacent to the rivers listed below at the distances identified. These setbacks are measured from the centerline of the river as determined by the current hydrology at the time of application. The standard setback is ½ mi and increased to ¾ mi where subsistence cabin- and camp-sites are numerous. Along the Colville River and a portion of the Ikpikpuk</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
K. Area-Specific Lease Stipulations and Required Operating Procedures (continued)	<p>K-1 Lease Stipulation—Rivers (continued) a 1-mi setback is required to protect important raptor habitat. (For locations along rivers where setback distances change, see Map 20.) On a case-by case basis, and in consultation with Federal, State, and North Slope Borough regulatory and resource agencies (as appropriate, based on agency legal authority and jurisdictional responsibility), essential pipeline and road crossings perpendicular to the main channel will be permitted (unless noted otherwise) through setback areas. The above setbacks may not be practical within river deltas. In these situations, permanent facilities shall be designed to withstand a 200-year flood event.</p> <p>a) Colville River: a 1-mi setback from the northern bluff (or bank if there is no bluff) of the Colville River extending the length of that portion of the river within the Planning Area. Road crossings intended to solely support oil and gas activities are prohibited. Note: This provision does not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes. This preserves the opportunity to plan, design, and construct public transportation systems to meet the economic, transportation, and public health and safety needs of the State of Alaska and/or communities within NPR-A.</p> <p>b) Ikpikpuk River: a ¾-mi setback from the centerline of the Ikpikpuk River extending from the mouth south to Sec. 19, T7N, R11W, UM. From Sec. 19, T7N, R11W, UM to Sec. 4 T3N, R12W, UM, a 1-mile setback is required. Beginning at Sec. 4 T3N, R12W, UM, a ½-mi setback will be required to the confluence of the Kigalik River and Maybe Creek. NOTE: setback distances only apply to the west bank where the Ikpikpuk River is the Planning Area boundary.</p> <p>c) Alaktak River: a ¾-mi setback from the centerline of the Alaktak River extending from the mouth to the Ikpikpuk River.</p> <p>d) Chipp River: a ¾-mi setback from the centerline of the Chipp River extending from the mouth to the Ikpikpuk River.</p> <p>e) Oumalik River: a ¾-mi setback from the centerline of the Oumalik River from the mouth upstream to Sec. 5, T8N, R14W, UM, and a ½-mi setback from Sec. 5, T8N, R14W, UM, upstream to Sec. 2, T5N, R15W, UM.</p> <p>f) Titaluk River: a ½-mi setback from the centerline of the Titaluk River from the confluence with the Ikpikpuk River upstream to Sec. 1, T2N, R22W, UM.</p> <p>g) Kigalik River: a ½-mi setback from the centerline of the Kigalik River from the confluence with the Ikpikpuk River upstream to the Planning Area boundary.</p> <p>h) Maybe Creek: a ½-mi setback from the centerline of the Maybe Creek from the confluence with the Ikpikpuk River upstream to Sec. 8, T2S R6W, UM.</p> <p>i) Topagoruk River: a ¾-mi setback from the centerline of the Topagoruk River from the mouth upstream to the confluence with Ishuktak Creek. A ½-mi setback from each bank upstream from the confluence with the Ishuktak to Sec. 3, T7N, R17W, UM.</p> <p>j) Ishuktak Creek: a ½-mi setback from the centerline of Ishuktak Creek from the confluence with the Topagoruk River to Sec. 24, T8N, R16W, UM.</p> <p>k) Meade River: a ¾-mi setback from the centerline of the Meade River upstream to Sec. 6, T6N, R21W, UM. A 1/2-mile setback from each bank upstream from Sec. 6, T6N, R21W, UM to the Planning Area boundary.</p> <p>l) Usuktuk River: a ¾-mi setback from the centerline of the Usuktuk River upstream from the confluence with the Meade River to Sec. 36, T10N, R19W, UM.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>K. Area-Specific Lease Stipulations and Required Operating Procedures (continued)</p>	<p>K-1 Lease Stipulation—Rivers (continued) m) Pikroka Creek a ¾-mi setback from the centerline of the Pikroka Creek upstream from the confluence with the Meade River to Sec. 11, T8N, R23W, UM. n) Nigisakturik River: a ¾-mi setback from the centerline of the Nigisakturik River upstream from the confluence with the Meade River to Sec. 1, T11N, R25W, UM. o) Inaru River: a ¾-mi setback from the centerline of the Inaru River from the mouth upstream to Sec. 17, T15N, R25W, UM. p) Kucheak Creek: a ¾-mi setback from the centerline of Kucheak Creek from the confluence with the Inaru River upstream to Sec. 20, T13N, R24W, UM. q) Avalik River: a ½-mi setback from the centerline of the Avalik River along that portion of the river within the Planning Area.</p>
	<p>K-2 Lease Stipulation—Deep Water Lakes Objective: Minimize the disruption of natural flow patterns and changes to water quality; the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of deep water lakes; the loss of spawning, rearing or over wintering habitat for fish; the loss of cultural and paleontological resources; impacts to subsistence cabin- and camp-sites; and the disruption of subsistence activities. Requirement/ Standard: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited on the lake or lakebed and within ¼ mi of the ordinary high water mark of any deep lake as determined to be in lake zone III, i.e., depth > 4m (Mellor, 1985). On a case-by case basis, and in consultation with Federal, State and North Slope Borough regulatory and resource agencies (as appropriate based on agency legal authority and jurisdictional responsibility), essential pipeline, road crossings and other permanent facilities may be permitted through or in these areas where the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative.</p>
	<p>K-3 Lease Stipulation—Dease Inlet, Admiralty Bay, Elson Lagoon, and Associated Barrier Islands Lease stipulations for Dease Inlet, Admiralty Bay, Elson Lagoon, and the Barrier Islands, contain specific criteria that have been incorporated into stipulation language. Because of sensitive biological resources and/or subsistence concerns of Dease Inlet, Admiralty Bay, Elson Lagoon, and inland of the Barrier Islands, the standard(s) for exploration and development activities are set high with the burden of proof resting with the lessee to demonstrate to the AO that granting an approval is warranted. Objective: Protect fish and wildlife habitat, preserve air and water quality, and minimize impacts to traditional subsistence activities and historic travel routes on Dease Inlet, Admiralty Bay, and Elson Lagoon. Requirement/Standard (Exploration): Oil and gas exploration operations (e.g., drilling, seismic exploration, and testing) are not allowed on Dease Inlet, Admiralty Bay, and Elson Lagoon (including natural and barrier islands), between May 15 and October 15 of each season. Requests for approval of any activities must be submitted in advance and must be accompanied by evidence and documentation that demonstrates to the satisfaction of the Authorized Office that the actions or activities meet all of the following criteria: a) Exploration activities will not unreasonably conflict with traditional subsistence uses or significantly impact seasonally concentrated fish and wildlife resources.</p>

**Table II-03
Stipulations and Required Operating Procedures for the Preferred Alternative (continued)**

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>K. Area-Specific Lease Stipulations and Required Operating Procedures (continued)</p>	<p>K-3 Lease Stipulation–Dease Inlet, Admiralty Bay, Elson Lagoon, and Associated Barrier Islands (continued)</p> <p>b) There is adequate spill response capability to effectively respond during periods of broken ice and/or open water, or the availability of alternative methods to prevent well blowouts during periods when adequate response capability cannot be demonstrated. Such alternative methods may include improvements in blowout prevention technology, equipment and/or changes in operational procedures and "top-setting" of hydrocarbon-bearing zones.</p> <p>c) Reasonable efforts will be made to avoid or minimize impacts related to oil spill response activities, including vessel, aircraft, and pedestrian traffic will be conducted to minimize additional impacts or further compounding of "direct spill" related impacts on area resources and subsistence uses.</p> <p>d) The location of exploration and related activities shall be sited so as to not pose a hazard to navigation by the public using high-use traditional subsistence-related travel routes into and through Dease Inlet, Admiralty Bay and Elson Lagoon, as identified by the North Slope Borough, recognizing that marine and nearshore travel routes change over time, subject to shifting environmental conditions.</p> <p>e) Before conducting open water activities, the lessee shall consult with the Alaska Eskimo Whaling Commission and the North Slope Borough to minimize impacts to the fall and spring subsistence whaling activities of the communities of the North Slope.</p> <p>Requirement/Standard (Development): With the exception of linear features such as pipelines, no permanent oil and gas facilities are permitted on or under the water within ¾ mi seaward of the shoreline (as measured from mean high tide) of Dease Inlet, Admiralty Bay, and Elson Lagoon or the natural islands (excluding Barrier Islands). Elsewhere, permanent facilities within Dease Inlet, Admiralty Bay, and Elson Lagoon will only be permitted on or under the water if they can meet all the following criteria:</p> <p>f) Design and construction of facilities shall minimize impacts to traditional subsistence uses, travel corridors, seasonally concentrated fish and wildlife resources.</p> <p>g) Daily operational activities, including use of support vehicles, watercraft, and aircraft traffic, alone or in combination with other past, present, and reasonably foreseeable activities, shall be conducted to minimize impacts to traditional subsistence uses, travel corridors, and seasonally concentrated fish and wildlife resources.</p> <p>h) The location of oil and gas facilities, including artificial islands, platforms, associated pipelines, ice or other roads, bridges or causeways, shall be sited and constructed so as to not pose a hazard to navigation by the public using traditional high-use subsistence-related travel routes into and through Dease Inlet, Admiralty Bay and Elson Lagoon as identified by the North Slope Borough.</p> <p>i) Demonstrated year-round oil spill response capability, including the capability of adequate response during periods of broken ice or open water, or the availability of alternative methods to prevent well blowouts during periods when adequate response capability cannot be demonstrated. Such alternative methods may include seasonal drilling restrictions, improvements in blowout prevention technology, equipment and/or changes in operational procedures, and "top-setting" of hydrocarbon-bearing zones.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>K. Area-Specific Lease Stipulations and Required Operating Procedures (continued)</p>	<p>K-3 Lease Stipulation—Dease Inlet, Admiralty Bay, Elson Lagoon, and Associated Barrier Islands (continued) j) Reasonable efforts will be made to avoid or minimize impacts related to oil spill response activities, including vessel, aircraft, and pedestrian traffic that add to impacts or further compound "direct spill" related impacts on area resources and subsistence uses. k) Before conducting open water activities, the lessee shall consult with the Alaska Eskimo Whaling Commission and the North Slope Borough to minimize impacts to the fall and spring subsistence whaling activities of the communities of the North Slope.</p>
	<p>K-4 Required Operating Procedure—Brant Survey Area Objective: Minimize the loss or alteration of habitat for, or disturbance of, nesting and brood rearing brant in the Brant Survey Area. Requirement/Standard: a) Aerial surveys for brant nesting colonies and brood-rearing areas shall be conducted for a minimum of 2 years before authorization of construction of permanent facilities. At a minimum, the survey area shall include the proposed development site(s) (i.e., the footprint) and the surrounding ½-mi area. These surveys shall be conducted following accepted BLM protocol. b) Development may be prohibited or activities curtailed within ½ mi of all identified brant nesting colonies and brood-rearing areas identified during the 2-year survey.</p>
	<p>K-5 Required Operating Procedure—Caribou Study Area Requirement/Standard: Before authorization of construction of permanent facilities, the lessee shall design and implement a study of caribou movement, especially during the insect season. The study would include a minimum of 3 years of current data on caribou movements. The study design shall be approved by the AO and should provide information necessary to determine facility (including pipeline) design and location. Lessees may submit individual study proposals or they may combine with other lessees in the area to do a single, joint study for the entire Caribou Study Area. Study data may be gathered concurrently with other activities.</p>
	<p>K-6 Lease Stipulation—Coastal Areas Objective: Minimize hindrance or alteration of caribou movement within caribou coastal insect-relief areas; to prevent contamination of marine waters; loss of important bird habitat; alteration or disturbance of shoreline marshes; and impacts to subsistence resources activities. Requirement/Standard: In the Coastal Area, permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines established to support exploration and development activities shall be located at least ¾ mi inland from the coastline to the extent practicable. Where, as a result of technological limitations, economics, logistics, or other factors, a facility must be located within ¾ mi inland of the coastline, the practicality of locating the facility at previously occupied sites, such as the former Cape Simpson, Peard Bay, or Wainwright DEW-line sites, shall be considered. Use of existing sites within ¾ mi of the coastline shall also be acceptable where it is demonstrated that use of such sites will reduce impacts to shorelines or otherwise be environmentally preferable. All lessees/permittees involved in activities in the immediate area must coordinate use of these new or existing sites with all other prospective users.</p>

Table II-03

Stipulations and Required Operating Procedures for the Preferred Alternative (continued)

Activity	Stipulations and Required Operating Procedures for the Preferred Alternative
<p>K. Area-Specific Lease Stipulations and Required Operating Procedures (continued)</p>	<p>K-7 Required Operating Procedure—Colville River Special Area Objective: Prevent or minimize loss of raptor foraging habitat. Requirement/Standard: If necessary to construct permanent facilities within the Colville River Special Area, all reasonable and practicable efforts shall be made to locate permanent facilities as far from raptor nests as feasible. Within 15 mi of raptor nest sites, significant alteration of high quality foraging habitat shall be prohibited unless the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative. Of particular concern are ponds, lakes, wetlands, and riparian habitats. Note: On a case-by case basis, and in consultation with appropriate Federal and State regulatory and resource agencies, essential pipeline and road crossings will be permitted through these areas where no other options are available.</p> <hr/> <p>K-8 Lease Stipulation—Kasegaluk Lagoon Special Area Objective: Protect the habitat of the fish, waterfowl, and terrestrial and marine wildlife resources of Kasegaluk Lagoon, and protect traditional subsistence uses and public access to and through Kasegaluk Lagoon for current and future generations of North Slope residents. Requirement/Standard: Within the Kasegaluk Lagoon Special Area, oil and gas leasing is approved subject to the decision to defer the implementation of oil and gas leasing in the "Leasing Deferral Area." When leasing is implemented, no permanent oil and gas facilities are permitted within the boundary of the Special Area. Geophysical (seismic) exploration is authorized subject to the terms and conditions provided in other applicable ROP's. No restrictions are imposed on traditional subsistence activities and access for subsistence purposes.</p>
<p>L. Endangered Species Act Section 7 Consultation Stipulation</p>	<p>L Lease Stipulation The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.</p>

Note:
ROP = Required Operating Procedure

